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The Other Animals

American journalism has its moments of fantastic hysteria, and when it is on the rampage the only thing for a rational man to do is to climb a tree and let the cataclysm go by. And so, some time ago, when the word *nature-faker* was coined, I, for one, climbed into my tree and stayed there. I happened to be in Hawaii at the time, and a Honolulu reporter elicited the sentiment from me that I thanked God I was not an authority on anything. This sentiment was promptly cabled to America in an Associated Press dispatch, whereupon the American press (possibly annoyed because I had not climbed down out of my tree) charged me with paying for advertising by cable at a dollar per word — the very human way of the American press, which, when a man refuses to come down and be licked, makes faces at him.

But now that the storm is over, let us come and reason together. I have been guilty of writing two animal-stories — two books about dogs. The writing of these two stories, on my part, was in truth a protest against the “humanizing” of animals, of which it seemed to me several “animal writers” had been profoundly guilty. Time and again, and many times, in my narratives, I wrote, speaking of my dog-heroes: “He did not think these things; he merely did them,” etc. And I did this repeatedly, to the clogging of my narrative and in violation of my artistic canons; and I did it in order to hammer into the average human understanding that these dog-heroes of mine were not directed by abstract reasoning, but by instinct, sensation, and emotion, and by simple reasoning. Also, I endeavored to make my stories in line with the facts of evolution; I hewed them to the mark set by scientific research, and awoke, one day, to find myself bundled neck and crop into the camp of the nature-fakers.

President Roosevelt was responsible for this, and he tried to condemn me on two counts. (1) I was guilty of having a big, fighting bull-dog whip a wolf-dog. (2) I was guilty of allowing a lynx to kill a wolf-dog in a pitched battle. Regarding the second count, President Roosevelt was wrong in his field observations taken while reading my book. He must have read it hastily, for in my story I had the wolf-dog kill the lynx. Not only did I have my wolf-dog kill the lynx, but I made him eat the body of the lynx as well. Remains only the first count on which to convict me of nature-faking, and the first count does not charge me with diverging from ascertained facts. It is merely a statement of a difference of opinion. President Roosevelt does not think a bull-dog can lick a wolf-dog. I think a bull-dog can lick a wolf-dog. And there we are. Difference of opinion may make, and does make, horse-racing. I can understand that difference of opinion can make dog-fighting. But what gets me is how difference of opinion regarding the relative fighting merits of a bull-dog and a wolf-dog makes me a nature-faker and President Roosevelt a vindicated and triumphant scientist.

Then entered John Burroughs to clinch President Roosevelt’s judgments. In this alliance there is no difference of opinion. That Roosevelt can do no wrong is Burroughs’s opinion; and that Burroughs is always right is Roosevelt’s opinion. Both are agreed that animals do not reason. They assert that all animals below man are automatons and perform actions only of two

sorts — mechanical and reflex — and that in such actions no reasoning enters at all. They believe that man is the only animal capable of reasoning and that ever does reason. This is a view that makes the twentieth-century scientist smile. It is not modern at all. It is distinctly mediaeval. President Roosevelt and John Burroughs, in advancing such a view, are homocentric in the same fashion that the scholastics of earlier and darker centuries were homocentric. Had the world not been discovered to be round until after the births of President Roosevelt and John Burroughs, they would have been geocentric as well in their theories of the Cosmos. They could not have believed otherwise. The stuff of their minds is so conditioned. They talk the argot of evolution, while they no more understand the essence and the import of evolution than does a South Sea Islander or Sir Oliver Lodge understand the noumena of radioactivity.

Now, President Roosevelt is an amateur. He may know something of statecraft and of big-game shooting; he may be able to kill a deer when he sees it and to measure it and weigh it after he has shot it; he may be able to observe carefully and accurately the actions and antics of tomtits and snipe, and, after he has observed it, definitely and coherently to convey the information of when the first chipmunk, in a certain year and a certain latitude and longitude, came out in the spring and chattered and gamboled — but that he should be able, as an individual observer, to analyze all animal life and to synthesize and develop all that is known of the method and significance of evolution, would require a vaster credulity for you or me to believe than is required for us to believe the biggest whopper ever told by an unmitigated nature-faker. No, President Roosevelt does not understand evolution, and he does not seem to have made much of an attempt to understand evolution.

Remains John Burroughs, who claims to be a thorough-going evolutionist. Now, it is rather hard for a young man to tackle an old man. It is the nature of young men to be more controlled in such matters, and it is the nature of old men, presuming upon the wisdom that is very often erroneously associated with age, to do the tackling. In this present question of nature-faking, the old men did the tackling, while I, as one young man, kept quiet a long time. But here goes at last. And first of all let Mr. Burroughs's position be stated, and stated in his words.

“Why impute reason to an animal if its behavior can be explained on the theory of instinct?” Remember these words, for they will be referred to later. “A goodly number of persons seem to have persuaded themselves that animals do reason.” “But instinct suffices for the animals . . . they get along very well without reason.” “Darwin tried hard to convince himself that animals do at times reason in a rudimentary way; but Darwin was also a much greater naturalist than psychologist.” The preceding quotation is tantamount, on Mr. Burroughs's part, to a flat denial that animals reason even in a rudimentary way. And when Mr. Burroughs denies that animals reason even in a rudimentary way, it is equivalent to affirming, in accord with the first quotation in this paragraph, that instinct will explain every animal act that might be confounded with reason by the unskilled or careless observer.

Having bitten off this large mouthful, Mr. Burroughs proceeds with serene and beautiful satisfaction to masticate it in the following fashion. He cites a large number of instances of purely instinctive actions on the part of animals, and triumphantly demands if they are acts of reason. He tells of the robin that fought day after day its reflected image in a window-pane; of the birds in South America that were guilty of drilling clear through a mud wall, which they mistook for a solid clay bank; of the beaver that cut down a tree four times because it was held at the top by the branches of other trees; of the cow that licked the skin of her stuffed calf so affectionately that it came apart, whereupon she proceeded to eat the hay with which it was stuffed. He tells of the phoebe-bird that betrays her nest on the porch by trying to hide it with

moss in similar fashion to the way all phoebe-birds hide their nests when they are built among rocks. He tells of the highhole that repeatedly drills through the clap-boards of an empty house in a vain attempt to find a thickness of wood deep enough in which to build its nest. He tells of the migrating lemmings of Norway that plunge into the sea and drown in vast numbers because of their instinct to swim lakes and rivers in the course of their migrations. And, having told a few more instances of like kidney, he triumphantly demands: "Where now is your much-vaunted reasoning of the lower animals?"

No schoolboy in a class debate could be guilty of unfaier argument. It is equivalent to replying to the assertion that $2+2=4$, by saying: "No; because $12/4=3$; I have demonstrated my honorable opponent's error." When a man attacks your ability as a foot-racer, promptly prove to him that he was drunk the week before last, and the average man in the crowd of gaping listeners will believe that you have convincingly refuted the slander on your fleetness of foot. On my honour, it will work. Try it some time. It is done every day. Mr. Burroughs has done it himself, and, I doubt not, pulled the sophistical wool over a great many pairs of eyes. No, no, Mr. Burroughs; you can't disprove that animals reason by proving that they possess instincts. But the worst of it is that you have at the same time pulled the wool over your own eyes. You have set up a straw man and knocked the stuffing out of him in the complacent belief that it was the reasoning of lower animals you were knocking out of the minds of those who disagreed with you. When the highhole perforated the icehouse and let out the sawdust, you called him a lunatic

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But let us be charitable — and serious. What Mr. Burroughs instances as acts of instinct certainly are acts of instincts. By the same method of logic one could easily adduce a multitude of instinctive acts on the part of man and thereby prove that man is an unreasoning animal. But man performs actions of both sorts. Between man and the lower animals Mr. Burroughs finds a vast gulf. This gulf divides man from the rest of his kin by virtue of the power of reason that he alone possesses. Man is a voluntary agent. Animals are automatons. The robin fights its reflection in the window-pane because it is his instinct to fight and because he cannot reason out the physical laws that make this reflection appear real. An animal is a mechanism that operates according to fore-ordained rules. Wrapped up in its heredity, and determined long before it was born, is a certain limited capacity of ganglionic response to eternal stimuli. These responses have been fixed in the species through adaptation to environment. Natural selection has compelled the animal automatically to respond in a fixed manner and a certain way to all the usual external stimuli it encounters in the course of a usual life. Thus, under usual circumstances, it does the usual thing. Under unusual circumstances it still does the usual thing, wherefore the highhole perforating the ice-house is guilty of lunacy — of unreason, in short. To do the unusual thing under unusual circumstances, successfully to adjust to a strange environment for which his heredity has not automatically fitted an adjustment, Mr. Burroughs says is impossible. He says it is impossible because it would be a non-instinctive act, and, as is well known animals act only through instinct. And right here we catch a glimpse of Mr. Burroughs's cart standing before his horse. He has a thesis, and though the heavens fall he will fit the facts to the thesis. Agassiz, in his opposition to evolution, had a similar thesis, though neither did he fit the facts to it nor did the heavens fall. Facts are very disagreeable at times.

But let us see. Let us test Mr. Burroughs's test of reason and instinct. When I was a small boy I had a dog named Rollo. According to Mr. Burroughs, Rollo was an automaton, responding to external stimuli mechanically as directed by his instincts. Now, as is well known, the development of instinct in animals is a dreadfully slow process. There is no known case of the

development of a single instinct in domestic animals in all the history of their domestication. Whatever instincts they possess they brought with them from the wild thousands of years ago. Therefore, all Rollo's actions were ganglionic discharges mechanically determined by the instincts that had been developed and fixed in the species thousands of years ago. Very well. It is clear, therefore, that in all his play with me he would act in old-fashioned ways, adjusting himself to the physical and psychical factors in his environment according to the rules of adjustment which had obtained in the wild and which had become part of his heredity.

Rollo and I did a great deal of rough romping. He chased me and I chased him. He nipped my legs, arms, and hands, often so hard that I yelled, while I rolled him and tumbled him and dragged him about, often so strenuously as to make him yelp. In the course of the play many variations arose. I would make believe to sit down and cry. All repentance and anxiety, he would wag his tail and lick my face, whereupon I would give him the laugh. He hated to be laughed at, and promptly he would spring for me with good-natured, menacing jaws, and the wild romp would go on. I had scored a point. Then he hit upon a trick. Pursuing him into the woodshed, I would find him in a far corner, pretending to sulk. Now, he dearly loved the play, and never got enough of it. But at first he fooled me. I thought I had somehow hurt his feelings and I came and knelt before him, petting him, and speaking lovingly. Promptly, in a wild outburst, he was up and away, tumbling me over on the floor as he dashed out in a mad scurry around the yard. He had scored a point.

After a time, it became largely a game of wits. I reasoned my acts, of course, while his were instinctive. One day, as he pretended to sulk in the corner, I glanced out of the woodshed doorway, simulated pleasure in face, voice, and language, and greeted one of my schoolboy friends. Immediately Rollo forgot to sulk, rushed out to see the newcomer, and saw empty space. The laugh was on him, and he knew it, and I gave it to him, too. I fooled him in this way two or three times; then he became wise. One day I worked a variation. Suddenly looking out the door, making believe that my eyes had been attracted by a moving form, I said coldly, as a child educated in turning away bill-collectors would say: "No my father is not at home." Like a shot, Rollo was out the door. He even ran down the alley to the front of the house in a vain attempt to find the man I had addressed. He came back sheepishly to endure the laugh and resume the game.

And now we come to the test. I fooled Rollo, but how was the fooling made possible? What precisely went on in that brain of his? According to Mr. Burroughs, who denies even rudimentary reasoning to the lower animals, Rollo acted instinctively, mechanically responding to the external stimulus, furnished by me, which led him to believe that a man was outside the door.

Since Rollo acted instinctively, and since all instincts are very ancient, tracing back to the pre-domestication period, we can conclude only that Rollo's wild ancestors, at the time this particular instinct was fixed into the heredity of the species, must have been in close, long-continued, and vital contact with man, the voice of man, and the expressions on the face of man. But since the instinct must have been developed during the pre-domestication period, how under the sun could his wild, undomesticated ancestors have experienced the close, long-continued, and vital contact with man?

Mr. Burroughs says that "instinct suffices for the animals," that "they get along very well without reason." But I say, what all the poor nature-fakers will say, that Rollo reasoned. He was born into the world a bundle of instincts and a pinch of brain-stuff, all wrapped around in a framework of bone, meat, and hide. As he adjusted to his environment he gained experiences. He

remembered these experiences. He learned that he mustn't chase the cat, kill chickens, nor bite little girls' dresses. He learned that little boys had little boy playmates. He learned that men came into back yards. He learned that the animal man, on meeting with his own kind, was given to verbal and facial greeting. He learned that when a boy greeted a playmate he did it differently from the way he greeted a man. All these he learned and remembered. They were so many observations — so many propositions, if you please. Now, what went on behind those brown eyes of his, inside that pinch of brain-stuff, when I turned suddenly to the door and greeted an imaginary person outside? Instantly, out of the thousands of observations stored in his brain, came to the front of his consciousness the particular observations connected with this particular situation. Next, he established a relation between these observations. This relation was his conclusion, achieved, as every psychologist will agree, by a definite cell-action of his grey matter. From the fact that his master turned suddenly toward the door, and from the fact that his master's voice, facial expression, and whole demeanor expressed surprise and delight, he concluded that a friend was outside. He established a relation between various things, and the act of establishing relations between things is an act of reason — of rudimentary reason, granted, but none the less of reason.

Of course Rollo was fooled. But that is no call for us to throw chests about it. How often has every last one of us been fooled in precisely similar fashion by another who turned and suddenly addressed an imaginary intruder? Here is a case in point that occurred in the West. A robber had held up a railroad train. He stood in the aisle between the seats, his revolver presented at the head of the conductor, who stood facing him. The conductor was at his mercy.

But the conductor suddenly looked over the robber's shoulder, at the same time saying aloud to an imaginary person standing at the robber's back: "Don't shoot him." Like a flash the robber whirled about to confront this new danger, and like a flash the conductor shot him down. Show me, Mr. Burroughs, where the mental process in the robber's brain was a shade different from the mental processes in Rollo's brain, and I'll quit nature-faking and join the Trappists. Surely, when a man's mental process and a dog's mental process are precisely similar, the much-vaunted gulf of Mr. Burroughs's fancy has been bridged.

I had a dog in Oakland. His name was Glen. His father was Brown, a wolf-dog that had been brought down from Alaska, and his mother was a half-wild mountain shepherd dog. Neither father nor mother had had any experience with automobiles. Glen came from the country, a half-grown puppy, to live in Oakland. Immediately he became infatuated with an automobile. He reached the culmination of happiness when he was permitted to sit up in the front seat alongside the chauffeur. He would spend a whole day at a time on an automobile debauch, even going without food. Often the machine started directly from inside the barn, dashed out the driveway without stopping, and was gone. Glen got left behind several times. The custom was established that whoever was taking the machine out should toot the horn before starting. Glen learned the signal. No matter where he was or what he was doing, when that horn tooted he was off for the barn and up into the front seat.

One morning, while Glen was on the back porch eating his breakfast of mush and milk, the chauffeur tooted. Glen rushed down the steps, into the barn, and took his front seat, the mush and milk dripping down his excited and happy chops. In passing, I may point out that in thus forsaking his breakfast for the automobile he was displaying what is called the power of choice — a peculiarly lordly attribute that, according to Mr. Burroughs, belongs to man alone. Yet Glen made his choice between food and fun.

It was not that Glen wanted his breakfast less, but that he wanted his ride more. The toot was only a joke. The automobile did not start. Glen waited and watched. Evidently he saw no signs of an immediate start, for finally he jumped out of the seat and went back to his breakfast. He ate with indecent haste, like a man anxious to catch a train. Again the horn tooted, again he deserted his breakfast, and again he sat in the seat and waited vainly for the machine to go.

They came close to spoiling Glen's breakfast for him, for he was kept on the jump between porch and barn. Then he grew wise. They tooted the horn loudly and insistently, but he stayed by his breakfast and finished it. Thus once more did he display power of choice, incidentally of control, for when that horn tooted it was all he could do to refrain from running for the barn.

The nature-faker would analyze what went on in Glen's brain somewhat in the following fashion. He had had, in his short life, experiences that not one of all his ancestors had ever had. He had learned that automobiles went fast, that once in motion it was impossible for him to get on board, that the toot of the horn was a noise that was peculiar to automobiles. These were so many propositions. Now reasoning can be defined as the act or process of the brain by which, from propositions known or assumed, new propositions are reached. Out of the propositions which I have shown were Glen's, and which had become his through the medium of his own observation of the phenomena of life, he made the new proposition that when the horn tooted it was time for him to get on board.

But on the morning I have described, the chauffeur fooled Glen. Somehow and much to his own disgust, his reasoning was erroneous. The machine did not start after all. But to reason incorrectly is very human. The great trouble in all acts of reasoning is to include all the propositions in the problem. Glen had included every proposition but one, namely, the human proposition, the joke in the brain of the chauffeur. For a number of times Glen was fooled. Then he performed another mental act. In his problem he included the human proposition (the joke in the brain of the chauffeur), and he reached the new conclusion that when the horn tooted the automobile was *not* going to start. Basing his action on this conclusion, he remained on the porch and finished his breakfast. You and I, and even Mr. Burroughs, perform acts of reasoning precisely similar to this every day in our lives. How Mr. Burroughs will explain Glen's action by the instinctive theory is beyond me. In wildest fantasy, even, my brain refuses to follow Mr. Burroughs into the primeval forest where Glen's dim ancestors, to the tooting of automobile horns, were fixing into the heredity of the breed the particular instinct that would enable Glen, a few thousand years later, capably to cope with automobiles.

Dr. C. J. Romanes tells of a female chimpanzee who was taught to count straws up to five. She held the straws in her hand, exposing the ends to the number requested. If she were asked for three, she held up three. If she were asked for four, she held up four. All this is a mere matter of training. But consider now, Mr. Burroughs, what follows. When she was asked for five straws and she had only four, she doubled one straw, exposing both its ends and thus making up the required number. She did not do this only once, and by accident. She did it whenever more straws were asked for than she possessed. Did she perform a distinctly reasoning act? or was her action the result of blind, mechanical instinct? If Mr. Burroughs cannot answer to his own satisfaction, he may call Dr. Romanes a nature-faker and dismiss the incident from his mind.

The foregoing is a trick of erroneous human reasoning that works very successfully in the United States these days. It is certainly a trick of Mr. Burroughs, of which he is guilty with distressing frequency. When a poor devil of a writer records what he has seen, and when what he has seen does not agree with Mr. Burroughs's mediaeval theory, he calls said writer a nature-

faker. When a man like Mr. Hornaday comes along, Mr. Burroughs works a variation of the trick on him. Mr. Hornaday has made a close study of the orang in captivity and of the orang in its native state. Also, he has studied closely many other of the higher animal types. Also, in the tropics, he has studied the lower types of man. Mr. Hornaday is a man of experience and reputation. When he was asked if animals reasoned, out of all his knowledge on the subject he replied that to ask him such a question was equivalent to asking him if fishes swim. Now Mr. Burroughs has not had much experience in studying the lower human types and the higher animal types. Living in a rural district in the state of New York, and studying principally birds in that limited habitat, he has been in contact neither with the higher animal types nor the lower human types. But Mr. Hornaday's reply is such a facer to him and his homocentric theory that he has to do something. And he does it. He retorts: "I suspect that Mr. Hornaday is a better naturalist than he is a comparative psychologist." Exit Mr. Hornaday. Who the devil is Mr. Hornaday, anyway? The sage of Slabsides has spoken. When Darwin concluded that animals were capable of reasoning in a rudimentary way, Mr. Burroughs laid him out in the same fashion by saying: "But Darwin was also a much greater naturalist than psychologist"—and this despite Darwin's long life of laborious research that was not wholly confined to a rural district such as Mr. Burroughs inhabits in New York. Mr. Burroughs's method of argument is beautiful. It reminds one of the man whose pronunciation was vile, but who said: "Damn the dictionary; ain't I here?"

And now we come to the mental processes of Mr. Burroughs — to the psychology of the ego, if you please. Mr. Burroughs has troubles of his own with the dictionary. He violates language from the standpoint both of logic and science. Language is a tool, and definitions embodied in language should agree with the facts and history of life. But Mr. Burroughs's definitions do not so agree. This, in turn, is not the fault of his education, but of his ego. To him, despite his well-exploited and patronizing devotion to them, the lower animals are disgustingly low. To him, affinity and kinship with the other animals is a repugnant thing. He will have none of it. He is too glorious a personality not to have between him and the other animals a vast and impassable gulf. The cause of Mr. Burroughs's mediaeval view of the other animals is to be found, not in his knowledge of those other animals, but in the suggestion of his self-exalted ego. In short, Mr. Burroughs's homocentric theory has been developed out of his homocentric ego, and by the misuse of language he strives to make the facts of life agree with his theory.

After the instances I have cited of actions of animals which are impossible of explanation as due to instinct, Mr. Burroughs may reply: "Your instances are easily explained by the simple law of association." To this I reply, first, then why did you deny rudimentary reason to animals? and why did you state flatly that "instinct suffices for the animals"? And, second, with great reluctance and with overwhelming humility, because of my youth, I suggest that you do not know exactly what you do mean by that phrase "the simple law of association." Your trouble, I repeat, is with definitions. You have grasped that man performs what is called *abstract* reasoning, you have made a definition of abstract reason, and, betrayed by that great maker of theories, the ego, you have come to think that all reasoning is abstract and that what is not abstract reason is not reason at all. This is your attitude toward rudimentary reason. Such a process, in one of the other animals, must be either abstract or it is not a reasoning process. Your intelligence tells you that such a process is not abstract reasoning, and your homocentric thesis compels you to conclude that it can be only a mechanical, instinctive process.

Definitions must agree, not with egos, but with life. Mr. Burroughs goes on the basis that a definition is something hard and fast, absolute and eternal. He forgets that all the universe is in

flux; that definitions are arbitrary and ephemeral; that they fix, for a fleeting instant of time, things that in the past were not, that in the future will be not, that out of the past become, and that out of the present pass on to the future and become other things. Definitions cannot rule life. Definitions cannot be made to rule life. Life must rule definitions or else the definitions perish.

Mr. Burroughs forgets the evolution of reason. He makes a definition of reason without regard to its history, and that definition is of reason purely abstract. Human reason, as we know it to-day, is not a creation, but a growth. Its history goes back to the primordial slime that was quick with muddy life; its history goes back to the first vitalized inorganic. And here are the steps of its ascent from the mud to man: simple reflex action, compound reflex action, memory, habit, rudimentary reason, and abstract reason. In the course of the climb, thanks to natural selection, instinct was evolved. Habit is a development in the individual. Instinct is a race-habit. Instinct is blind, unreasoning, mechanical. This was the dividing of the ways in the climb of aspiring life. The perfect culmination of instinct we find in the ant-heap and the beehive. Instinct proved a blind alley. But the other path, that of reason, led on and on even to Mr. Burroughs and you and me.

There are no impassable gulfs, unless one chooses, as Mr. Burroughs does, to ignore the lower human types and the higher animal types, and to compare human mind with bird mind. It was impossible for life to reason abstractly until speech was developed. Equipped with swords, with tools of thought, in short, the slow development of the power to reason in the abstract went on. The lowest human types do little or no reasoning in the abstract. With every word, with every increase in the complexity of thought, with every ascertained fact so gained, went on action and reaction in the grey matter of the speech discoverer, and slowly, step by step, through hundreds of thousands of years, developed the power of reason.

Place a honey-bee in a glass bottle. Turn the bottom of the bottle toward a lighted lamp so that the open mouth is away from the lamp. Vainly, ceaselessly, a thousand times, undeterred by the bafflement and the pain, the bee will hurl himself against the bottom of the bottle as he strives to win to the light. That is instinct. Place your dog in a back yard and go away. He is your dog. He loves you. He yearns toward you as the bee yearns toward the light. He listens to your departing footsteps. But the fence is too high. Then he turns his back upon the direction in which you are departing, and runs around the yard. He is frantic with affection and desire. But he is not blind. He is observant. He is looking for a hole under the fence, or through the fence, or for a place where the fence is not so high. He sees a dry-goods box standing against the fence. Presto! He leaps upon it, goes over the barrier, and tears down the street to overtake you. Is that instinct?

Here, in the household where I am writing this, is a little Tahitian "feeding-child." He believes firmly that a tiny dwarf resides in the box of my talking-machine and that it is the tiny dwarf who does the singing and the talking. Not even Mr. Burroughs will affirm that the child has reached this conclusion by an instinctive process. Of course, the child reasons the existence of the dwarf in the box. How else could the box talk and sing? In that child's limited experience it has never encountered a single instance where speech and song were produced otherwise than by direct human agency. I doubt not that the dog is considerably surprised when he hears his master's voice coming out of a box.

The adult savage, on his first introduction to a telephone, rushes around to the adjoining room to find the man who is talking through the partition. Is this act instinctive? No. Out of his limited experience, out of his limited knowledge of physics, he reasons that the only explanation possible is that a man is in the other room talking through the partition.

But that savage cannot be fooled by a hand-mirror. We must go lower down in the animal scale, to the monkey. The monkey swiftly learns that the monkey it sees is not in the glass, wherefore it reaches craftily behind the glass. Is this instinct? No. It is rudimentary reasoning. Lower than the monkey in the scale of brain is the robin, and the robin fights its reflection in the window-pane. Now climb with me for a space. From the robin to the monkey, where is the impassable gulf? and where is the impassable gulf between the monkey and the feeding-child? between the feeding-child and the savage who seeks the man behind the partition? ay, and between the savage and the astute financiers Mrs. Chadwick fooled and the thousands who were fooled by the Keeley Motor swindle?

Let us be very humble. We who are so very human are very animal. Kinship with the other animals is no more repugnant to Mr. Burroughs than was the heliocentric theory to the priests who compelled Galileo to recant. Not correct human reason, not the evidence of the ascertained fact, but pride of ego, was responsible for the repugnance.

In his stiff-necked pride, Mr. Burroughs runs a hazard more humiliating to that pride than any amount of kinship with the other animals. When a dog exhibits choice, direction, control, and reason; when it is shown that certain mental processes in that dog's brain are precisely duplicated in the brain of man; and when Mr. Burroughs convincingly proves that every action of the dog is mechanical and automatic — then, by precisely the same arguments, can it be proved that the similar actions of man are mechanical and automatic. No, Mr. Burroughs, though you stand on the top of the ladder of life, you must not kick out that ladder from under your feet. You must not deny your relatives, the other animals. Their history is your history, and if you kick them to the bottom of the abyss, to the bottom of the abyss you go yourself. By them you stand or fall. What you repudiate in them you repudiate in yourself — a pretty spectacle, truly, of an exalted animal striving to disown the stuff of life out of which it is made, striving by use of the very reason that was developed by evolution to deny the possession of evolution that developed it. This may be good egotism, but it is not good science.

*Papeete, Tahiti.
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