

Excerpt from “Do Animals Think and Reflect?”

from *Ways of Nature* by John Burroughs

1 When we see the animals going about, living their lives in many ways as we live ours, seeking their food, avoiding their enemies, building their nests, digging their holes, laying up stores, migrating, courting, playing, fighting, showing cunning, courage, fear, joy, anger, rivalry, grief, profiting by experience, following their leaders, — when we see all this, I say, what is more natural than that we should ascribe to them powers akin to our own, and look upon them as thinking, reasoning, and reflecting. A hasty survey of animal life is sure to lead to this conclusion. An animal is not a clod, nor a block, nor a machine. It is alive and self-directing, it has some sort of psychic life, yet the more I study the subject, the more I am persuaded that with the probable exception of the dog on occasions, and of the apes, animals do not think or reflect in any proper sense of those words. As I have before said, animal life shows in an active and free state that kind of intelligence that pervades and governs the whole organic world, — intelligence that takes no thought of itself. Here, in front of my window, is a black raspberry bush. A few weeks ago its branches curved upward, with their ends swinging fully two feet above the ground; now those ends are thrust down through the weeds and are fast rooted to the soil. Did the raspberry bush think, or choose what it should do? Did it reflect and say, Now is the time for me to bend down and put my ends into the ground? To all intents and purposes yes, yet there was no voluntary mental process, as in similar acts of our own. We say its nature prompts it to act thus and thus, and that is all the explanation we can give. Or take the case of the pine or the spruce tree that loses its central and leading shoot. When this happens, does the tree start a new bud and then develop a new shoot to take the place of the lost leader? No, a branch from the first ring of branches below, probably the most vigorous of the whorl, is promoted to the leadership. Slowly it rises up, and in two or three years it reaches the upright position and is leading the tree upward. This, I suspect, is just as much an act of conscious intelligence and of reason as is much to which we are so inclined to apply those words in animal life. I suppose it is all foreordained in the economy of the tree, if we could understand that economy. It is in this sense that Nature thinks in the animal, and the vegetable, and the mineral worlds. Her thinking is more flexible and adaptive in the vegetable than in the mineral, and more so in the animal than in the vegetable, and the most so of all in the mind of man. . . .

2 See how the mice begin to press into our buildings as the fall comes on. Do they know winter is coming? In the same way the vegetable world knows it is coming when it prepares for winter, or the insect world when it makes ready, but not as you and I know it. The woodchuck “holes up” in late September; the crows flock and select their rookery about the same time, and the small wood newts or salamanders soon begin to migrate to the marshes. They all know winter is coming, just as much as the tree knows, when in August it forms its new buds for the next year, or as the flower knows that its color and

perfume will attract the insects, and no more. The general intelligence of nature settles all these and similar things.

3 When a bird selects a site for its nest, it seems, on first view, as if it must actually think, reflect, compare, as you and I do when we decide where to place our house. I saw a little chipping sparrow trying to decide between two raspberry bushes. She kept going from one to the other, peering, inspecting, and apparently weighing the advantages of each. I saw a robin in the woodbine on the side of the house trying to decide which particular place was the best site for her nest. She hopped to this tangle of shoots and sat down, then to that, she turned around, she readjusted herself, she looked about, she worked her feet beneath her, she was slow in making up her mind. Did she make up her mind? Did she think, compare, weigh? I do not believe it. When she found the right conditions, she no doubt felt pleasure and satisfaction, and that settled the question. An inward, instinctive want was met and satisfied by an outward material condition. In the same way the hermit crab goes from shell to shell upon the beach, seeking one to its liking. Sometimes two crabs fall to fighting over a shell that each wants. Can we believe that the hermit crab thinks and reasons? It selects the suitable shell instinctively, and not by an individual act of judgment. Instinct is not always inerrant, though it makes fewer mistakes than reason does. The red squirrel usually knows how to come at the meat in the butternut with the least gnawing, but now and then he makes a mistake and strikes the edge of the kernel, instead of the flat side. The cliff swallow will stick her mud nest under the eaves of a barn where the boards are planed so smooth that the nest sooner or later is bound to fall. She seems to have no judgment in the matter. Her ancestors built upon the face of high cliffs, where the mud adhered more firmly. . . .

4 If you have a tame chipmunk, turn him loose in an empty room and give him some nuts. Finding no place to hide them, he will doubtless carry them into a corner and pretend to cover them up. You will see his paws move quickly about them for an instant as if in the act of pulling leaves or mould over them. His machine, too, must work in that way. After the nuts have been laid down, the next thing in order is to cover them, and he makes the motions all in due form. Intelligence would have omitted this useless act. . . .

5 Animals have keen perceptions, — keener in many respects than our own, — but they form no conceptions, have no powers of comparing one thing with another. They live entirely in and through their senses.

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1. The following item has two parts. Answer Part A and then answer Part B.

Part A

Which sentence **best** expresses an important part of the author's claim about animals?

- A. Some animals' actions are more voluntary than others.
- B. Animals' actions are often governed by the seasons.
- C. Animals' actions are not always regular or habitual.
- D. Sometimes animals' actions are not logical or sensible.

Part B

Select **two** animals' actions that best support the correct answer to Part A.

- A. the robin's, because she experiences happiness and contentment
- B. the hermit crab's, because he may fight over a desirable shell
- C. the red squirrel's, because he sometimes tries to eat a nut the wrong way
- D. the cliff swallow's, because its nest will eventually fall
- E. the chipmunk's, because his movements accomplish nothing

2. The following item has two parts. Answer Part A and then answer Part B.

Part A

Which sentence best expresses the central idea of the passage?

- A. Animals learn behavior through observation.
- B. Intelligence in plants is different from that in animals.
- C. Animals make decisions based on instinct rather than logical thinking.
- D. Animals are capable of far greater intelligence than humans suspect.

Part B

Which quotation best supports the correct answer to Part A?

- A. "An animal is not a clod, nor a block, nor a machine. It is alive and self-directing, it has some sort of psychic life. . . ." (paragraph 1)
- B. "Did the raspberry bush think, or choose what it should do? Did it reflect and say, Now is the time for me to bend down and put my ends into the ground?" (paragraph 1)
- C. "The woodchuck 'holes up' in late September; the crows flock and select their rookery about the same time, and the small wood newts or salamanders soon begin to migrate to the marshes. They all know winter is coming. . . ." (paragraph 2)
- D. "I saw a robin in the woodbine on the side of the house trying to decide which particular place was the best site for her nest. . . . Did she think, compare, weigh? I do not believe it. When she found the right conditions, she no doubt felt pleasure and satisfaction, and that settled the question." (paragraph 3)

3. Which sentence best describes the author's view toward animals?
- A. He asserts that animals' reason for existence is to benefit humans.
 - B. He has little respect for animals since he regards them as inferior to humans.
 - C. He believes animals are capable of using their intelligence if they have human encouragement and direction.
 - D. He admires animals in many respects but does not give them credit for reasoning out their decisions.
4. Select the portion of paragraph 2 that **best** expresses the author's main argument in the passage.
- A. See how the mice begin to press into our buildings as the fall comes on. Do they know winter is coming?
 - B. In the same way the vegetable world knows it is coming when it prepares for winter, or the insect world when it makes ready, but not as you and I know it.
 - C. The woodchuck "holes up" in late September; the crows flock and select their rookery about the same time, and the small wood newts or salamanders soon begin to migrate to the marshes.
 - D. They all know winter is coming, just as much as the tree knows, when in August it forms its new buds for the next year, or as the flower knows that its color and perfume will attract the insects, and no more. The general intelligence of nature settles all these and similar things.
5. Read this list of actions from the first sentence of the passage.

“. . . seeking their food, avoiding their enemies, building their nests, digging their holes, laying up stores, migrating, courting, playing, fighting, showing cunning, courage, fear, joy, anger, rivalry, grief, profiting by experience, following their leaders. . . .”

What is the author's purpose for providing the list of actions in this sentence?

- A. to describe actions taken by animals that are similar to those taken by humans
- B. to compare and contrast actions taken by animals to actions taken by humans
- C. to show the order of importance of actions taken by animals and humans
- D. to demonstrate that animals and humans take actions requiring thought

6. Read the quotation from paragraph 1.

“. . . what is more natural than that we should ascribe to them powers akin to our own . . .”

What does the phrase "ascribe to them" mean as it is used in this quotation?

- A. supply them with
- B. credit them with
- C. respect them for
- D. appreciate them for

7. The following item has two parts. Answer Part A and then answer Part B.

Part A

Read this sentence from paragraph 3.

“Instinct is not always inerrant, though it makes fewer mistakes than reason does.”

What is the meaning of inerrant in this sentence?

- A. correct
- B. honest
- C. clever
- D. visible

Part B

Which word in the sentence best helps the reader determine the meaning of inerrant?

- A. “instinct”
- B. “always”
- C. “mistakes”
- D. “reason”

8. What is the main contrast the author uses in paragraph 5 to help develop the central idea of the passage?

- A. the contrast between opinion and fact
- B. the contrast between shallowness and substance
- C. the contrast between indifference and sensitivity
- D. the contrast between awareness and thought

- 9.** Which sentence gives the best critical summary of the passage?
- A. The author explains that animals think and reflect by providing numerous examples of animal and plant behavior, but he does not sufficiently discuss humans.
 - B. The author demonstrates that animals do not think and reflect by using examples from his personal observations, but he does not provide evidence from scientific studies.
 - C. The author shows similarities and differences among plants, animals, and humans but he fails to maintain a consistent point of view about the ability to think and reflect.
 - D. The author argues that animals have an ability to think and reflect that is in some ways superior to humans' ability, but he uses an insufficient number of examples.