



INFORMATION AND BEHAVIOR



RMATION AND BEHAVIOR



HAVIOR

Man: A Course of Study

Developed by Education Development Center, Inc., under grants from the National Science Foundation.

First commercial edition 1970

Disseminated and produced by Curriculum Development Associates, Inc., Suite 414, 1211 Connecticut Avenue, Washington, D.C. 20036.

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INFORMATION AND BEHAVIOR

In order for an animal to survive, it must be able to get important information from its environment.





It must act on this
information . . .



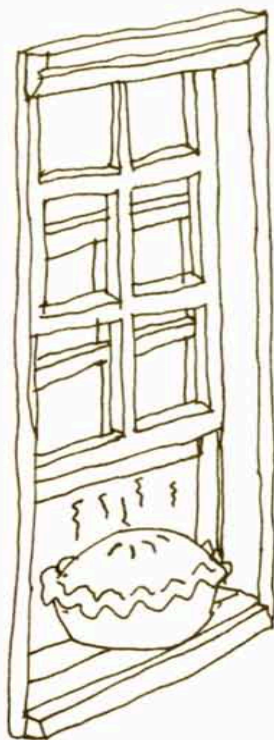


. . . and be able to
change its behavior
quickly if it gets
some new
information.





Information from the environment can come in a number of ways. It can come through smelling or seeing.





It can come
through touching
or tasting.



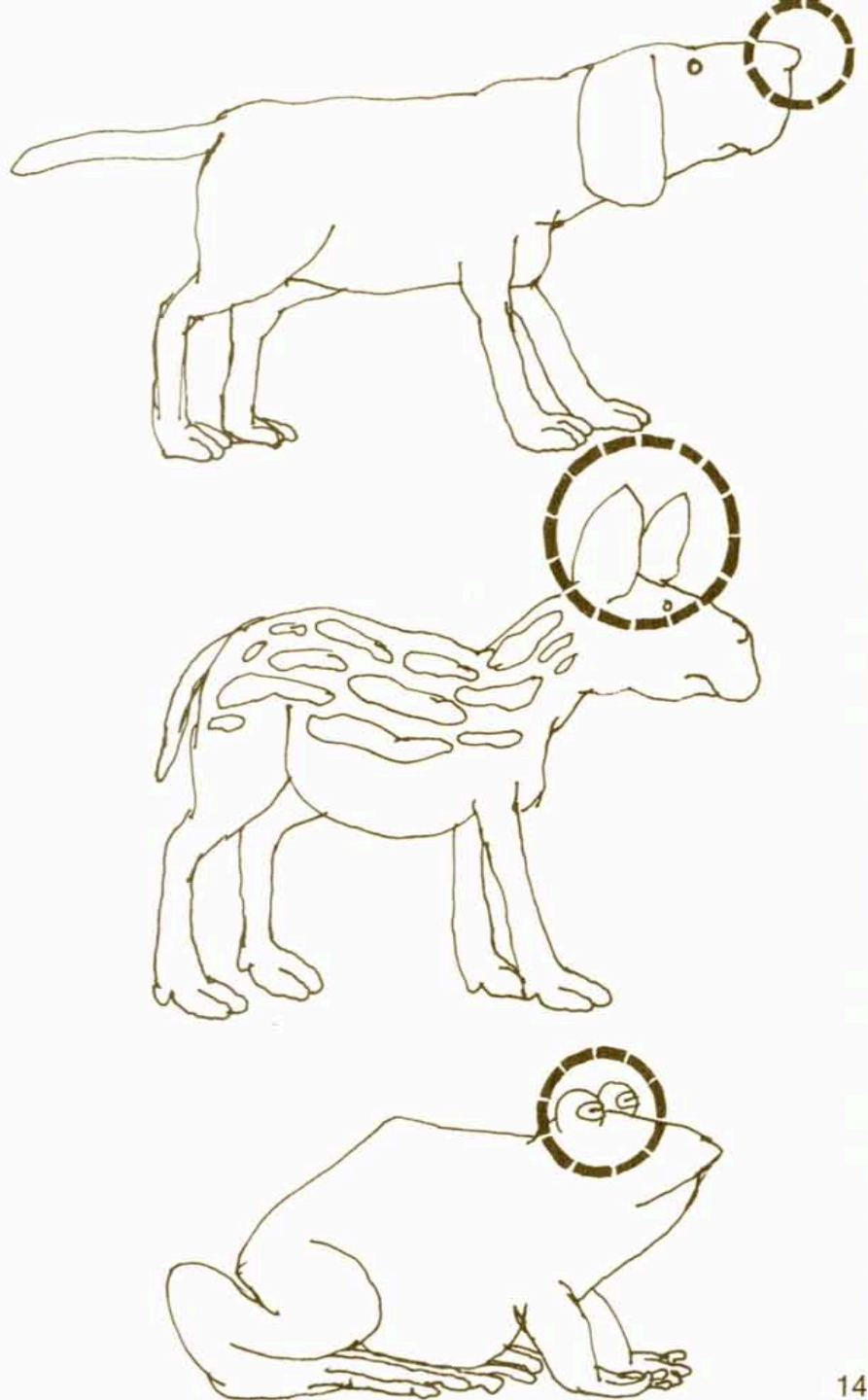


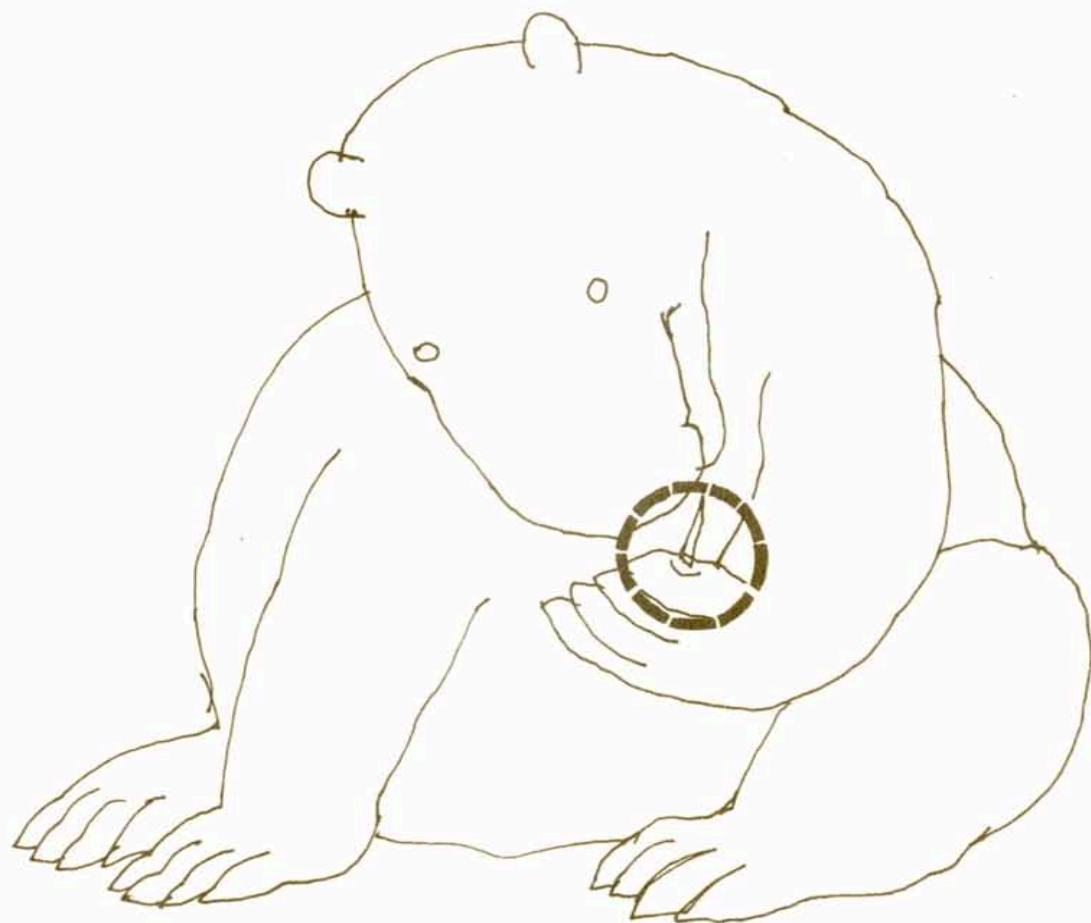
It can come
through hearing.



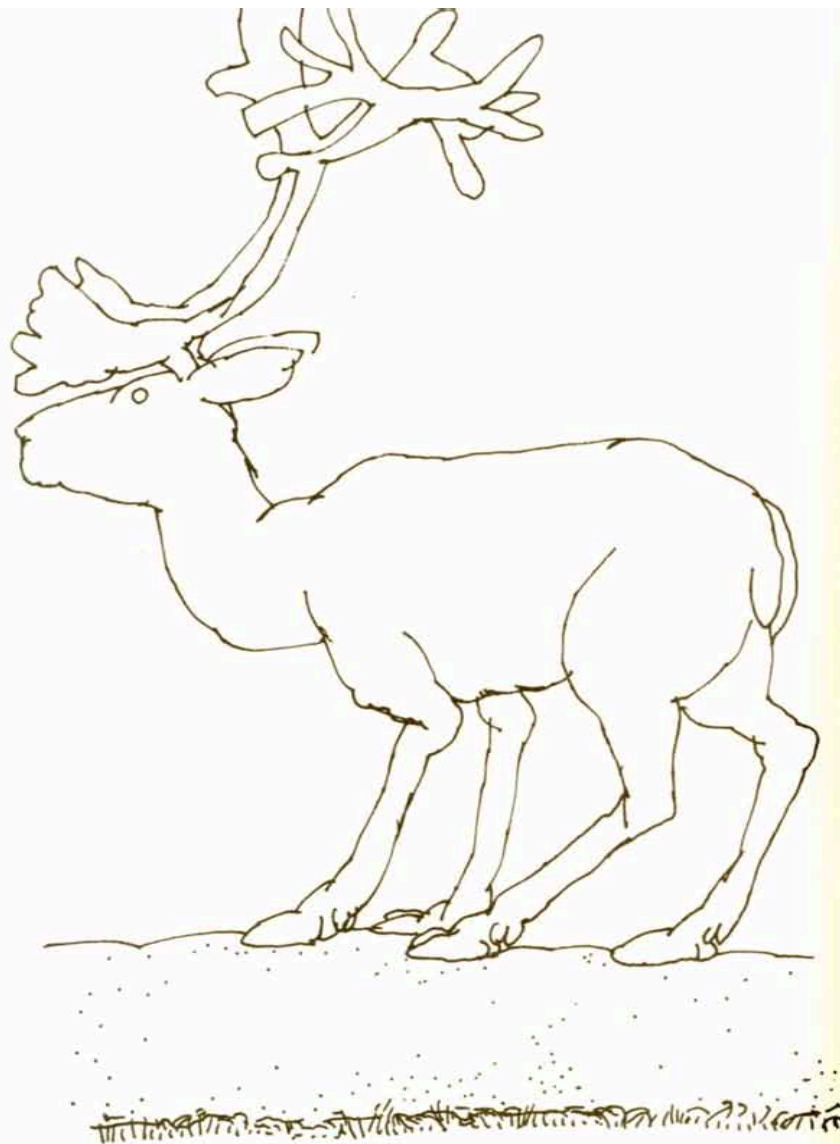


Different parts of an animal's body gather information from the environment. These parts are located on the surface of the body and are called sense organs.





Not all animals depend on the same sense organs. Sense organs are adapted to the type of information an animal needs.



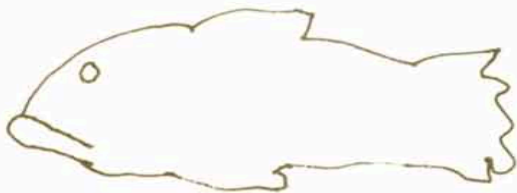
This animal must pound through snow to get at the plant it eats. What sense might it use to find the plants before it begins pounding?

If you were an animal that lived in trees and you often jumped from branch to branch, which sense organ would be most important to you?

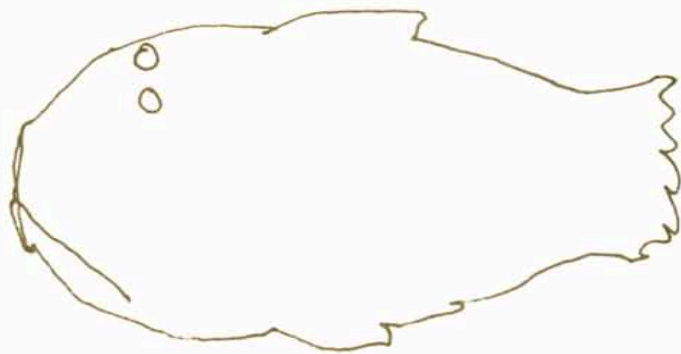
Would you be more active during the day or at night?

If you were a small tasty mammal that other animals liked to eat, and you ran around at night, which senses would be most important to you?

This fish is born with eyes on each side of its body



but as it grows older, one eye joins the other eye
on one side of the body.



Why might this be?

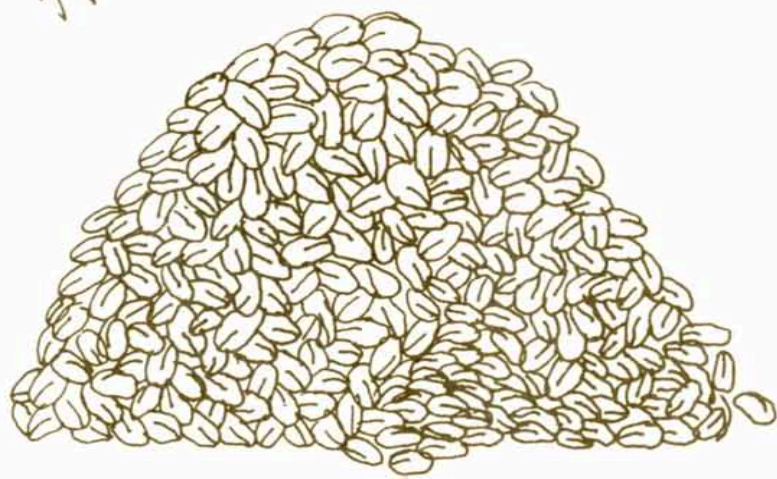
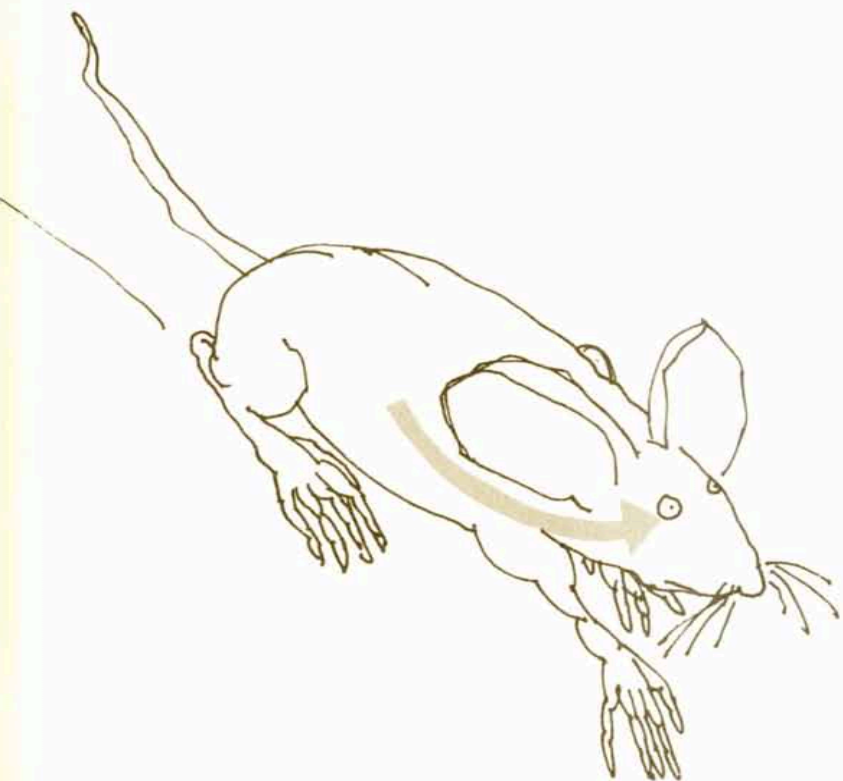
The environment
does more than
provide
information.
It stirs up feelings
inside an animal's
body.





These feelings
push an animal to
do something.

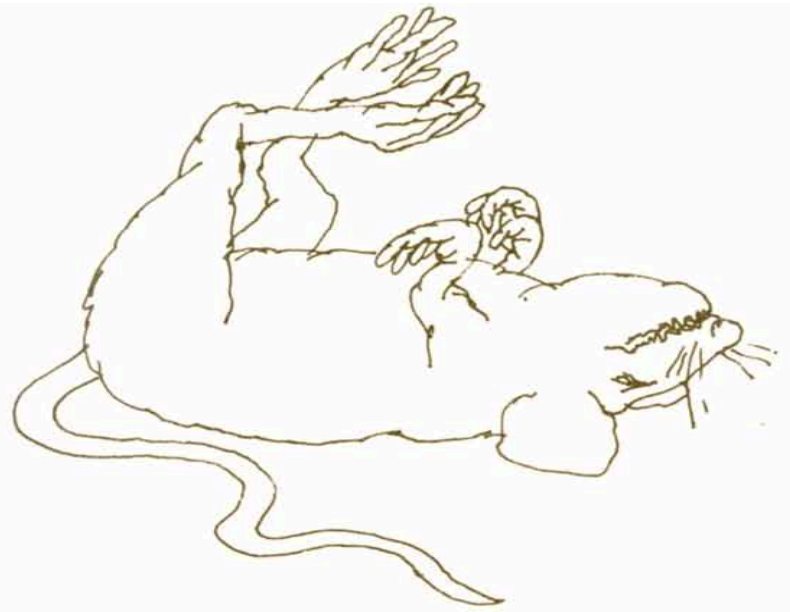




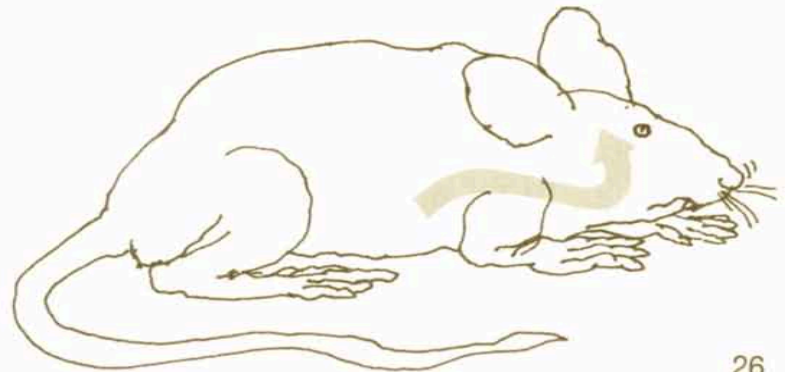
They push it
to act in ways that
help it survive.

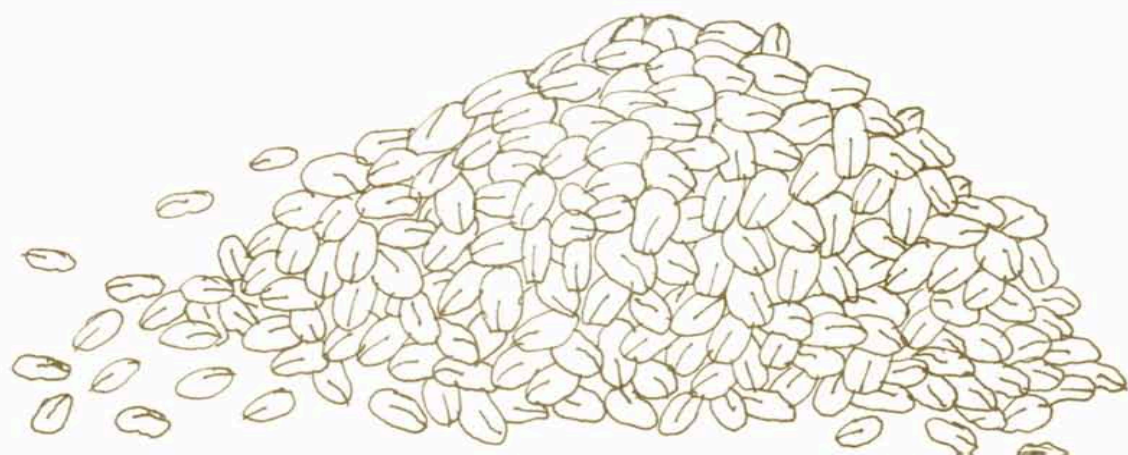


An animal needs food to keep its body going. It cannot wait until its body stops working before it looks for food.

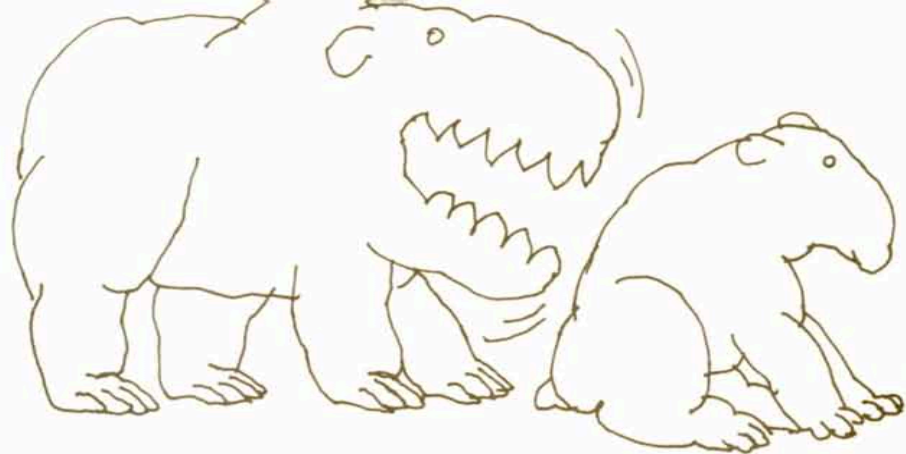


Feelings of hunger push an animal to eat before its needs become too great.

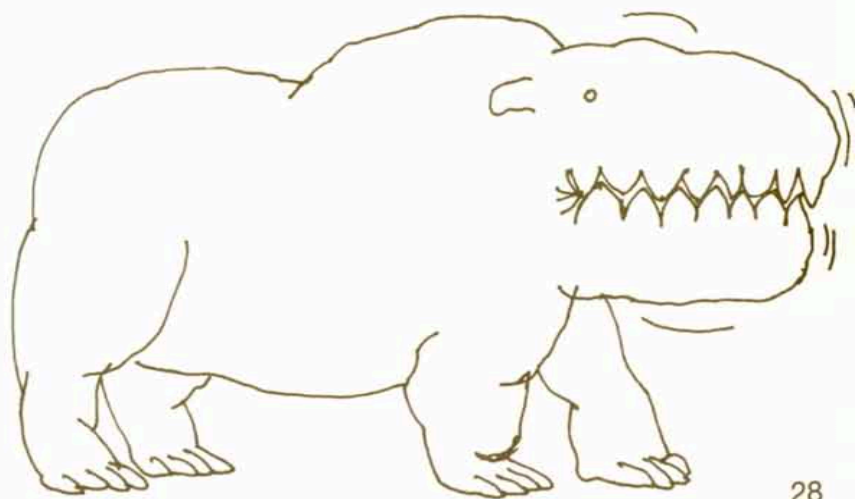




An animal must
avoid being eaten.

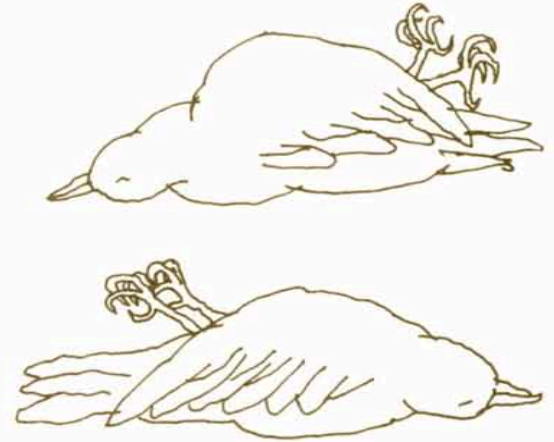


Feelings of fear
push an animal to
act before it is
too late.

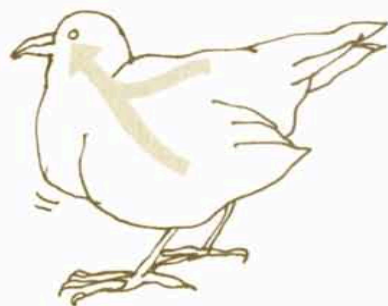




An animal must reproduce before all the other members of its species are gone.



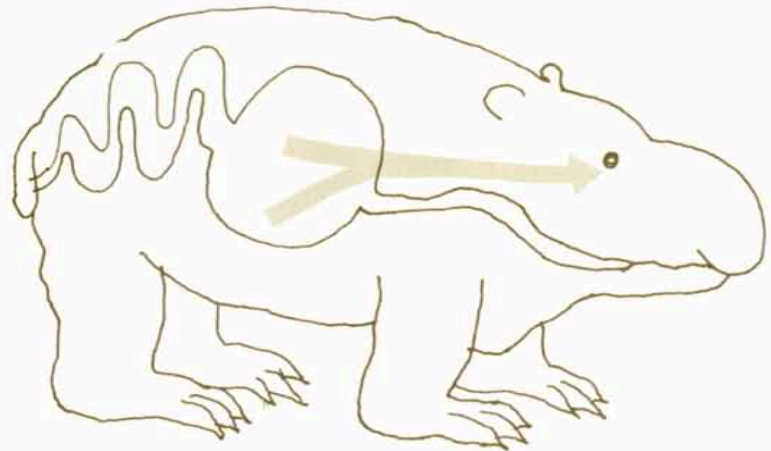
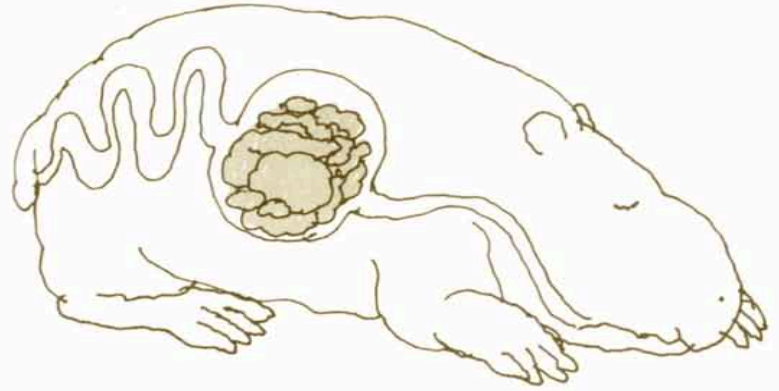
Feelings like the urge to mate must be stirred up to push the animal to act when the time is right, or the species will not survive.



Feelings like hunger can arise without being stirred up by the environment. They come from changes inside an animal's body.

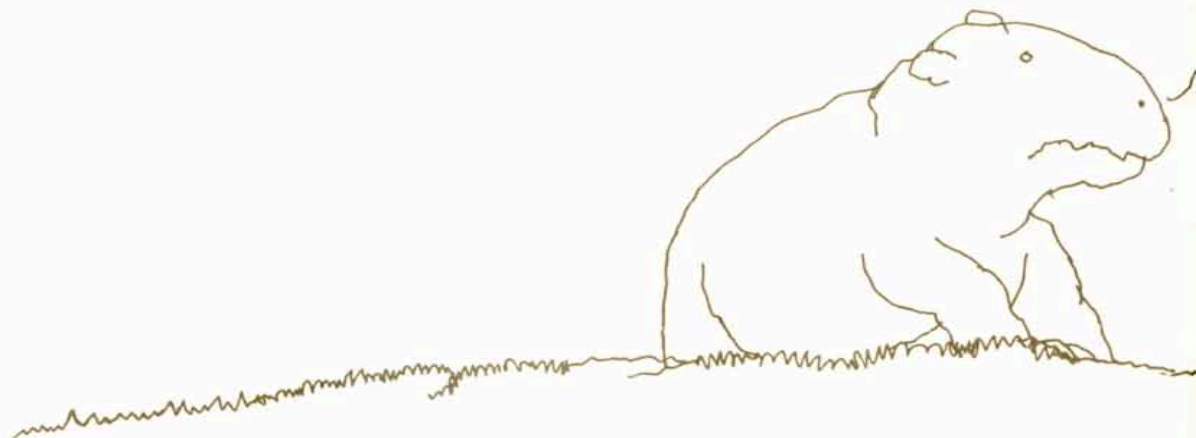
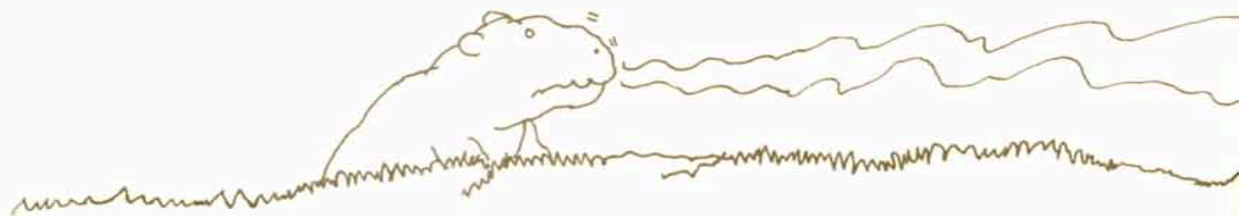
These feelings are sent as a warning that it is necessary to do something.

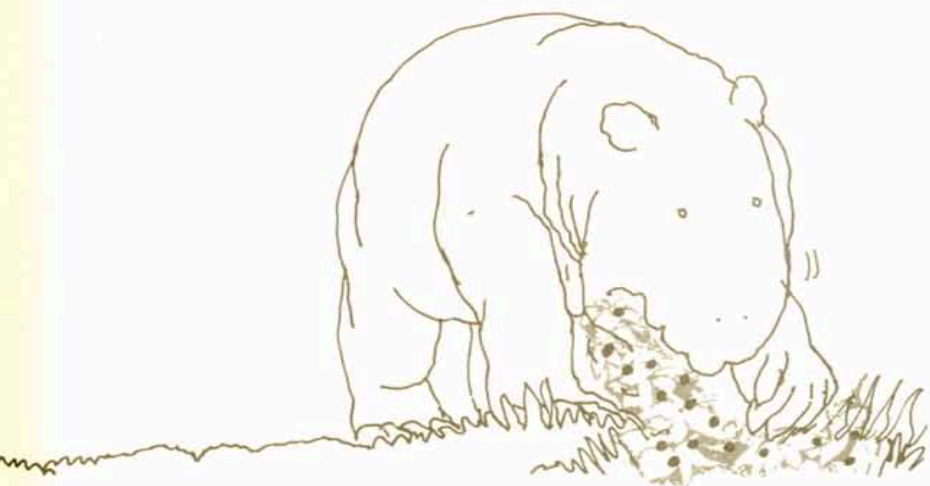
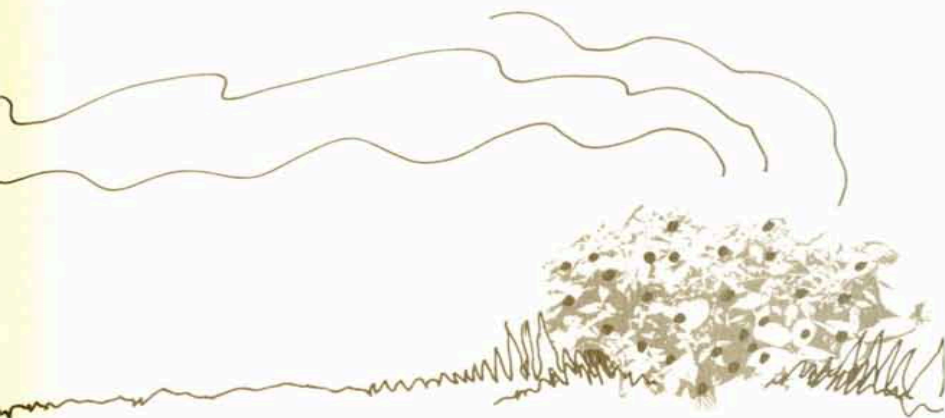
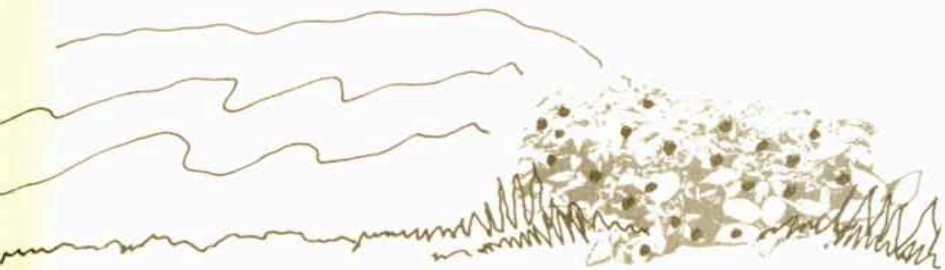
The animal begins to explore its environment.





It searches for
information that
will lead it to food.



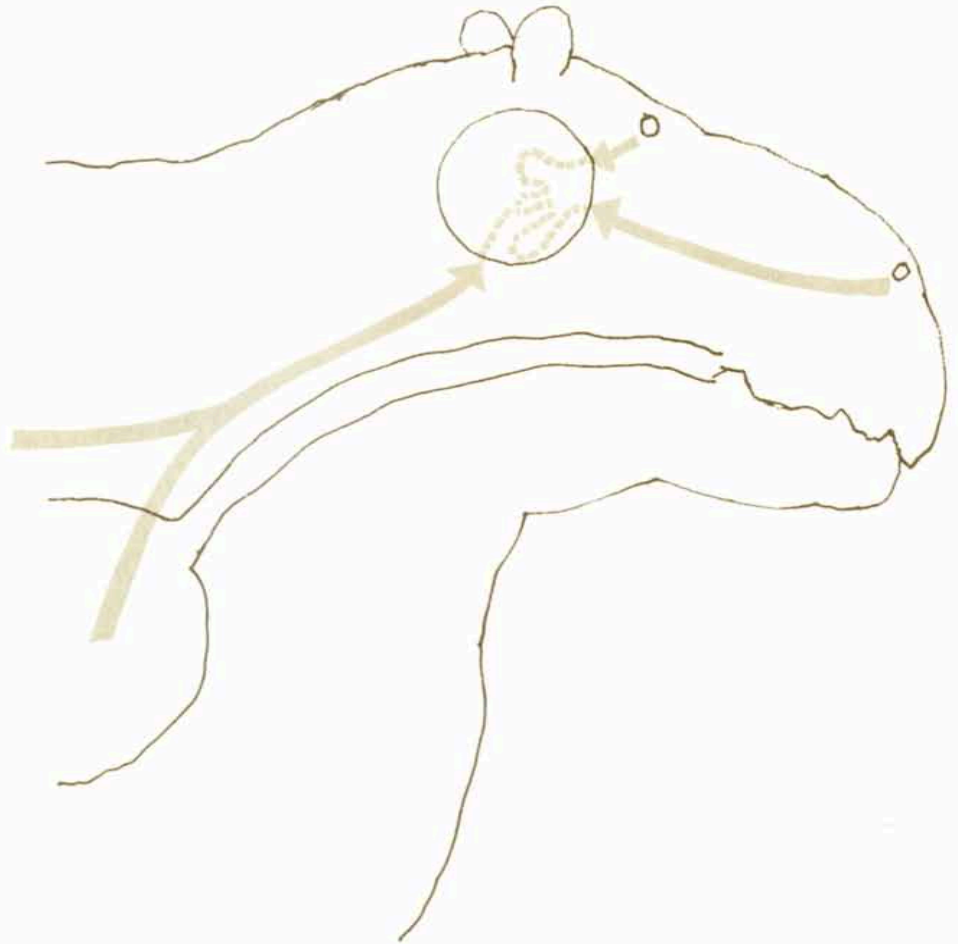


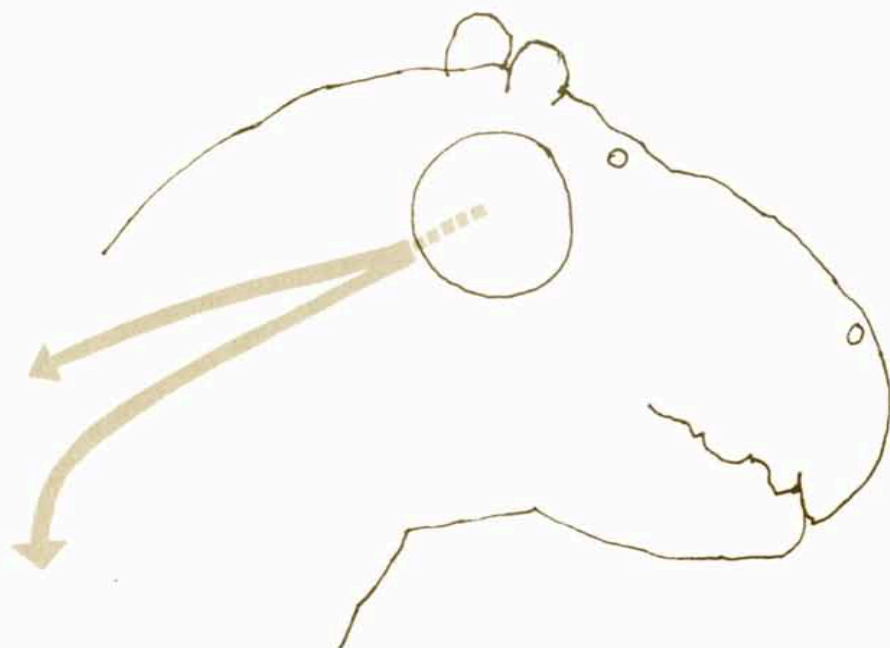
In order for an
animal to use
information from
its environment
and feelings from
its body . . .



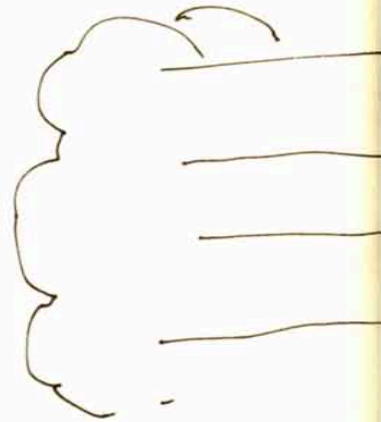


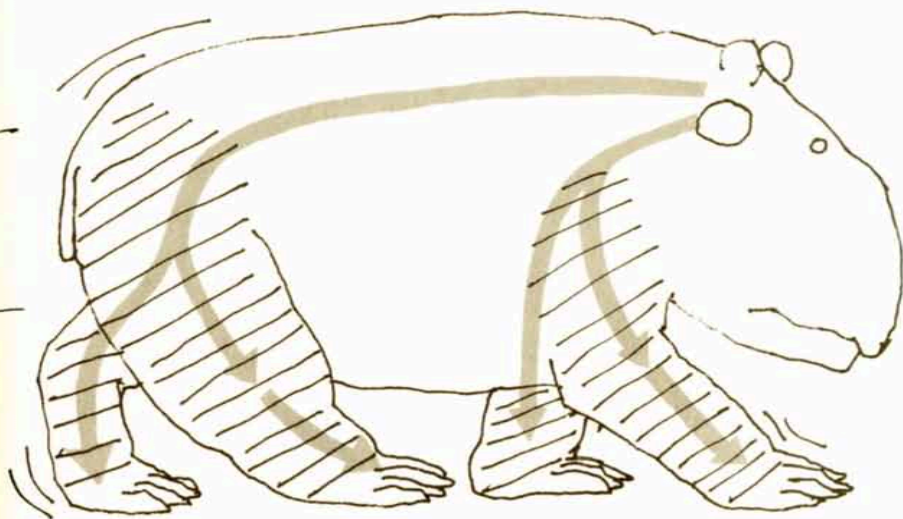
. . . it must combine
the information and
feelings and
change them into
outgoing signals .





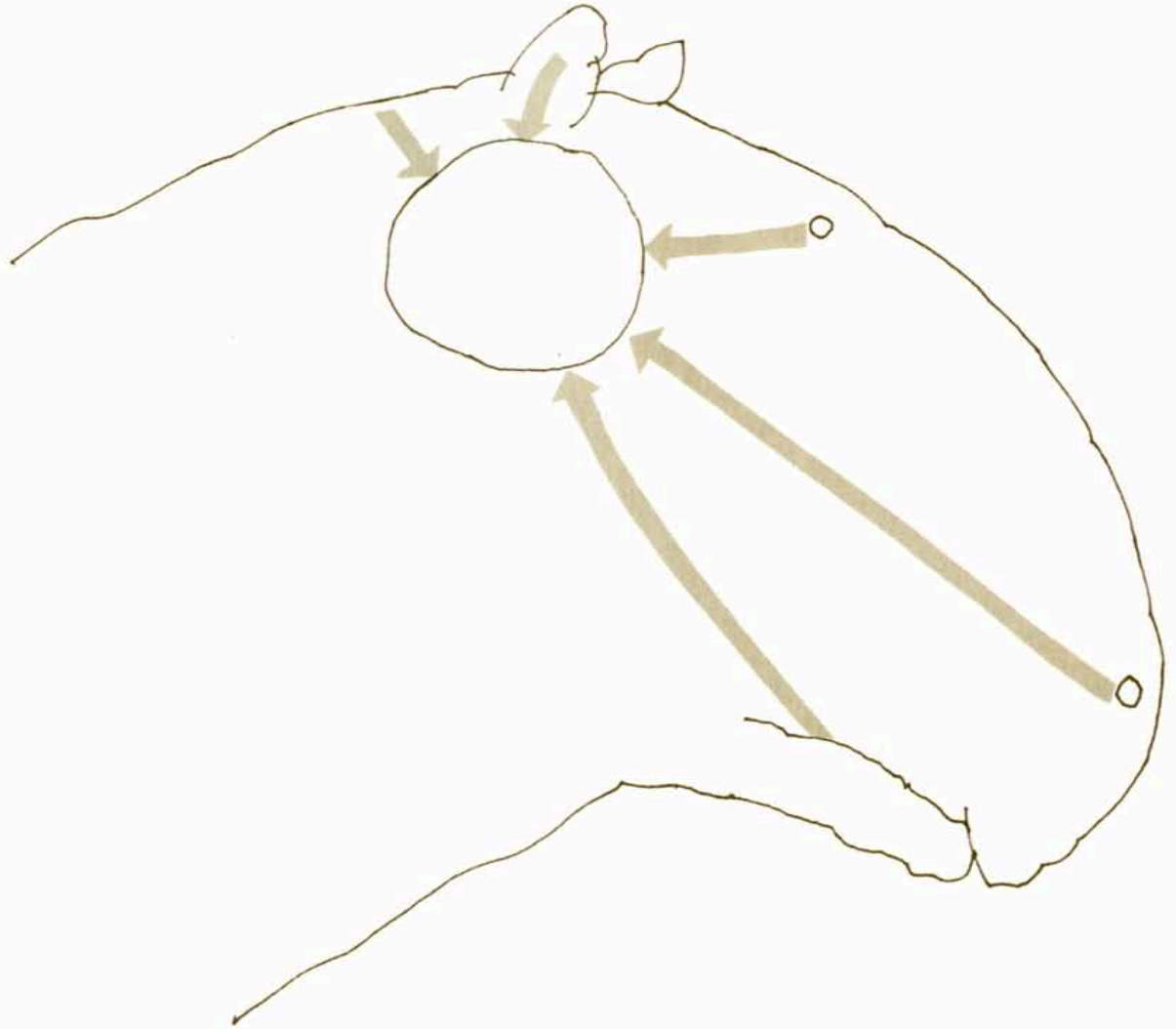
The outgoing signals travel to muscles in different parts of the body. When the signals reach the muscles, the animal begins to act.



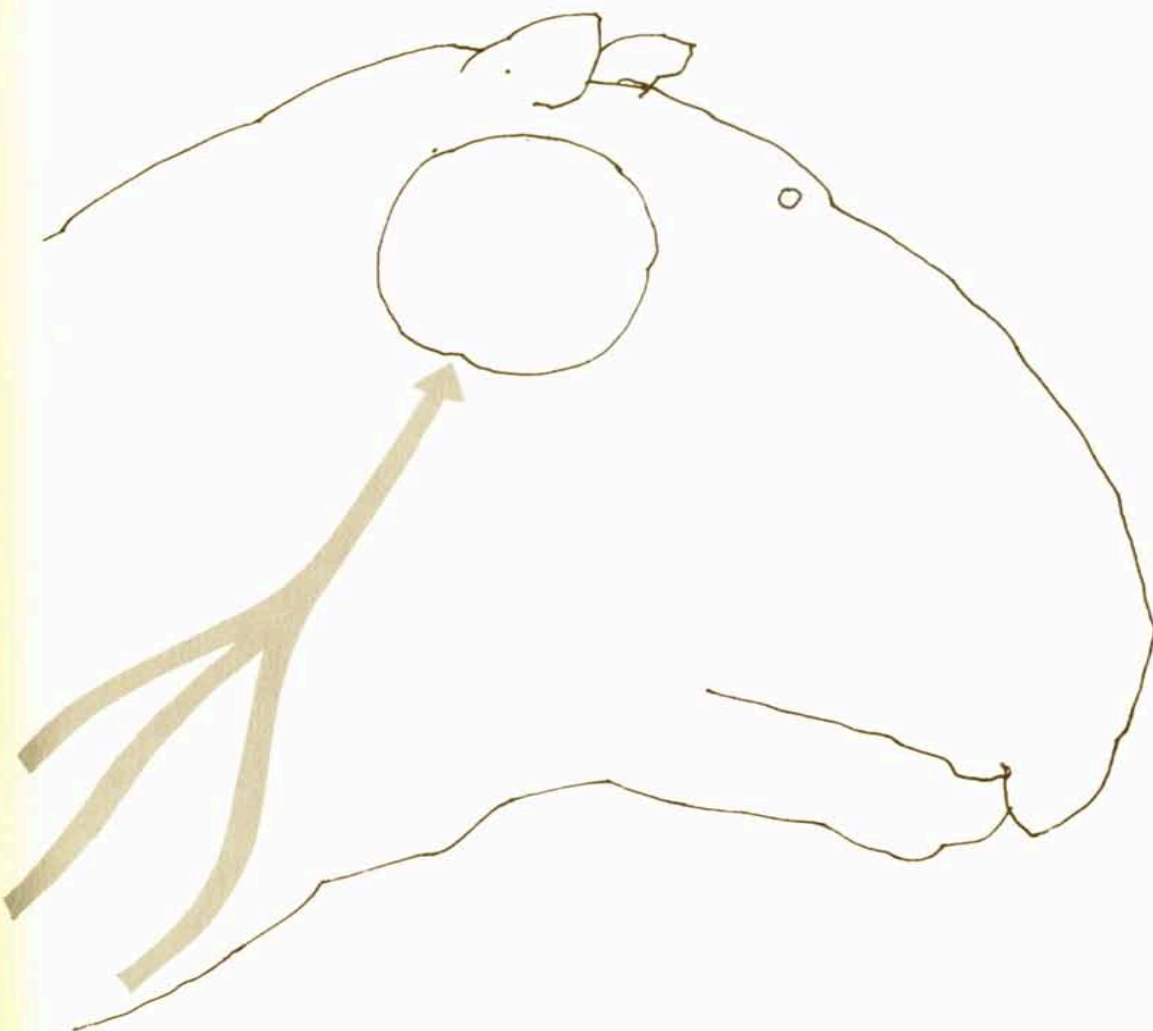


To combine information and feelings and to change them into signals that go to the muscles, every animal has a special structure called a brain.

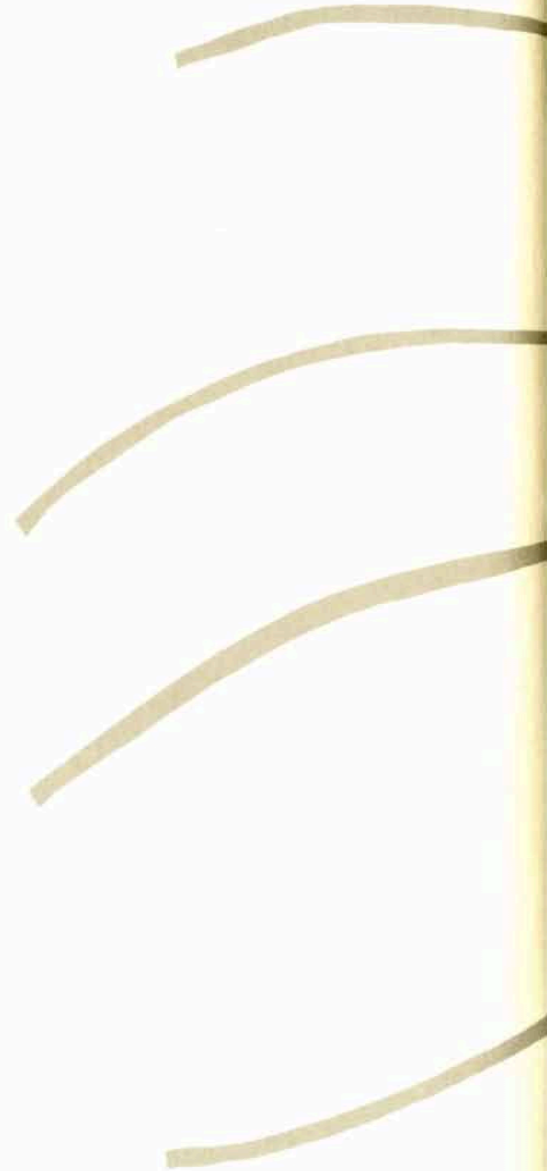
The brain receives information from the environment,

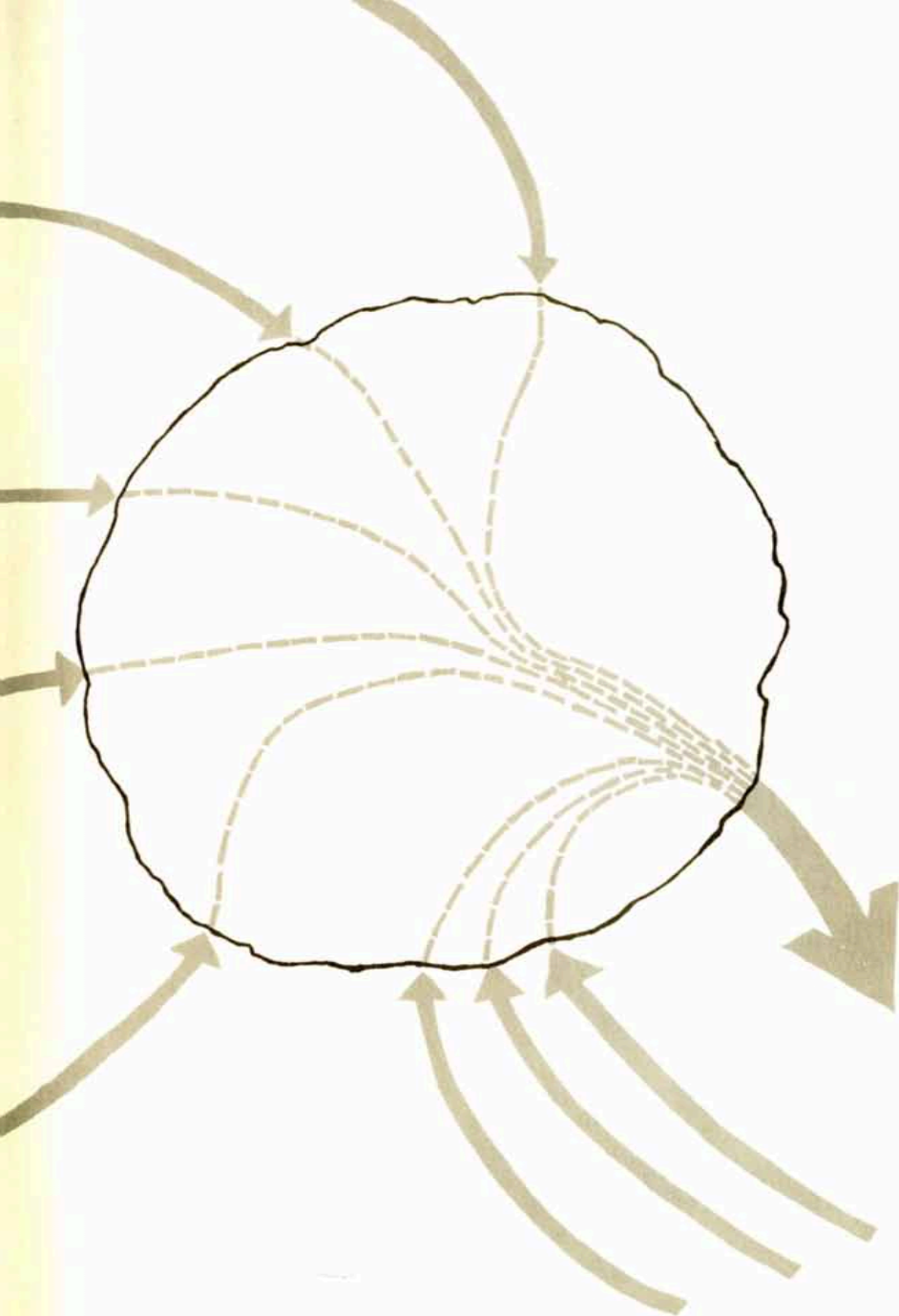


and feelings from
changes inside
the animal's body.

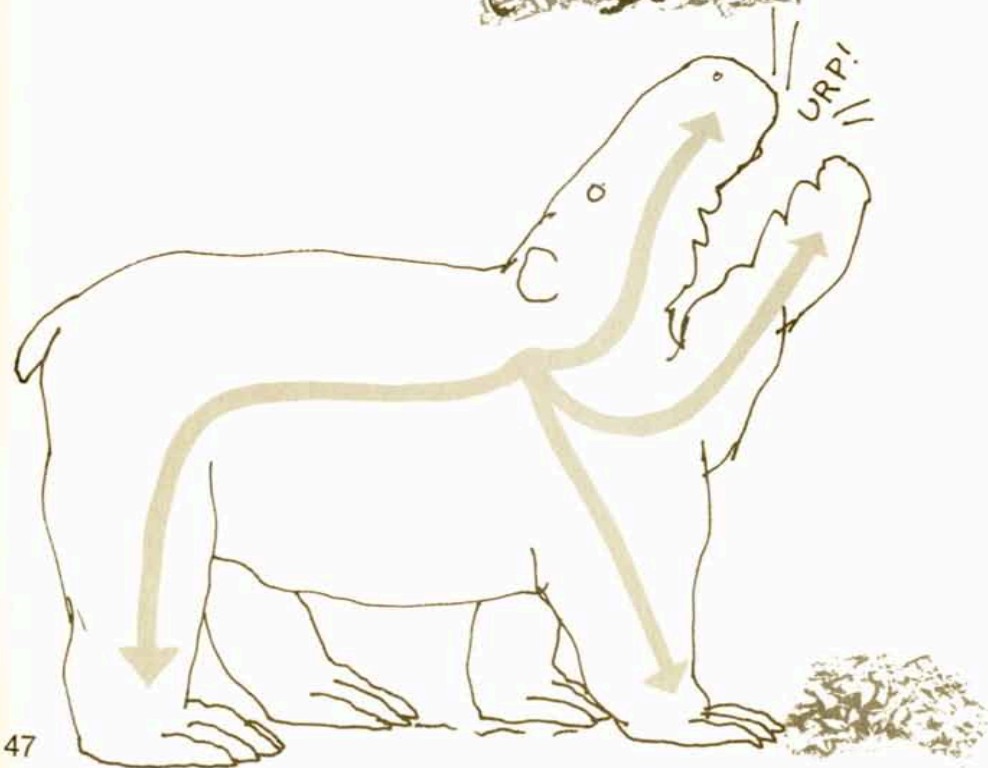
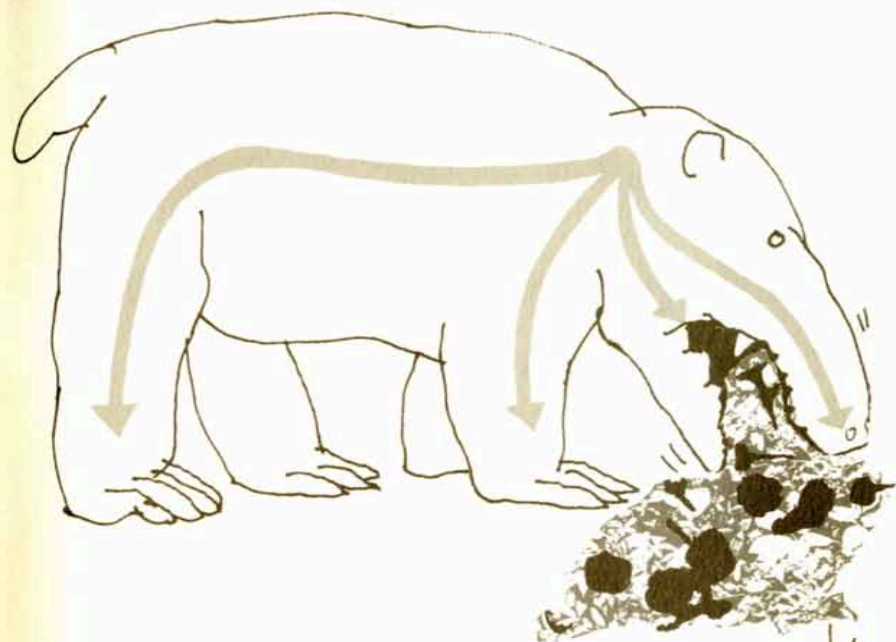


The brain
takes feelings
and information
and changes
them into
outgoing signals.





The brain sends a constant stream of signals to the muscles.



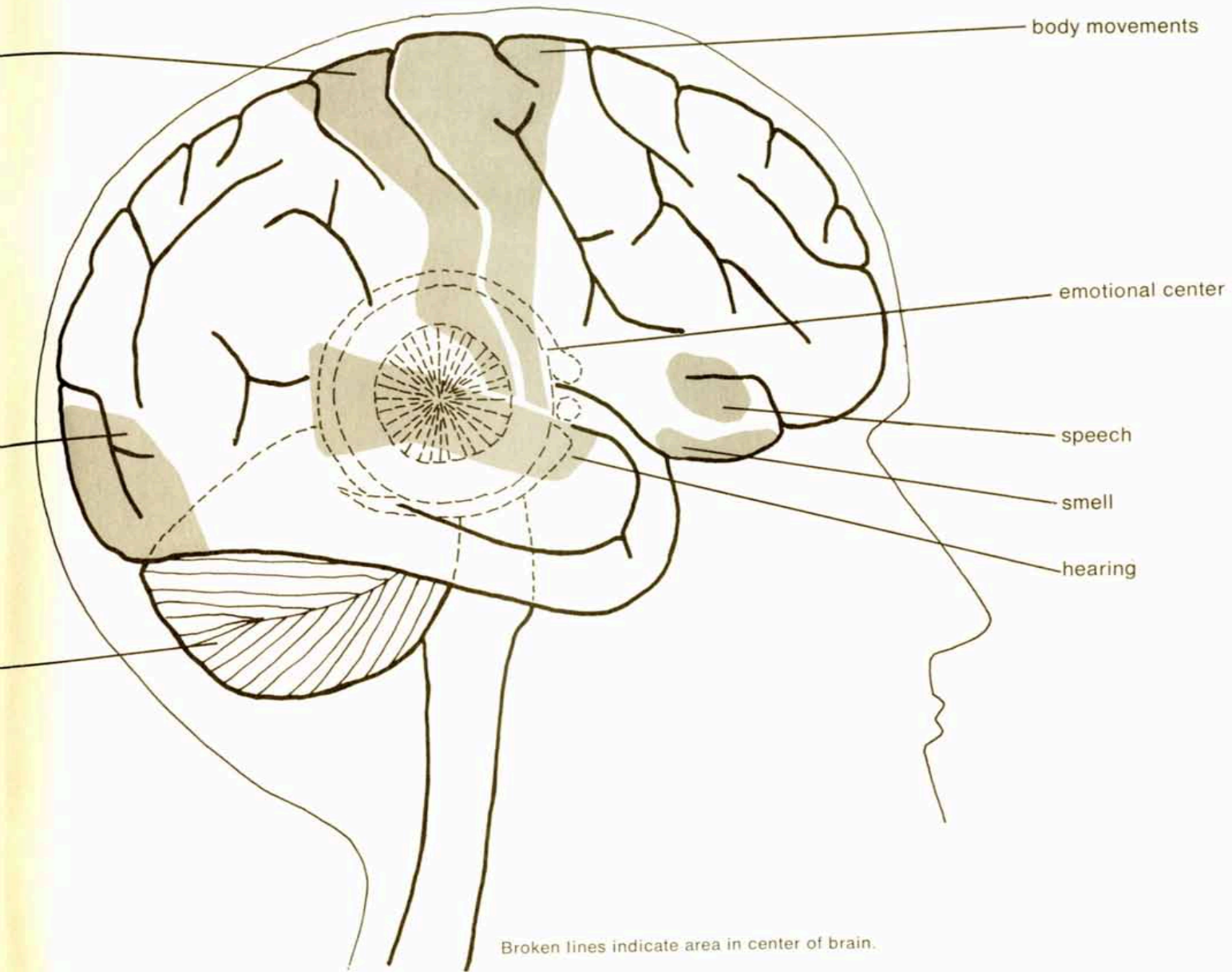
No one knows exactly how a brain works, but we do know that brains have parts adapted to do special work.

For example, a human brain has a section for incoming information from each of the senses. It has sections for feelings and sections for outgoing signals to the muscles.

body sensations

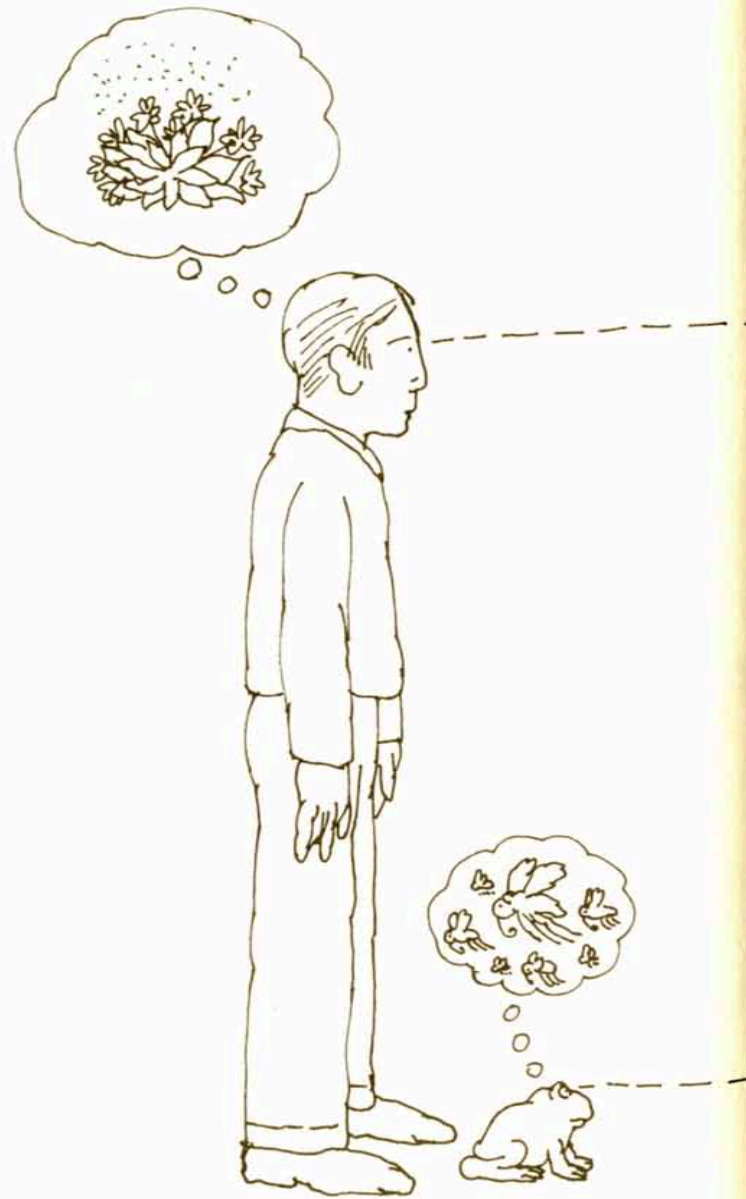
vision

muscular coordination



Different kinds of animals have different brains. The brains of different animals receive different incoming information, and send different outgoing signals.

A human being and a frog looking at the same place may see very different things.



A frog's brain and a man's brain are specialized to see whatever is important for a man or a frog to see.

