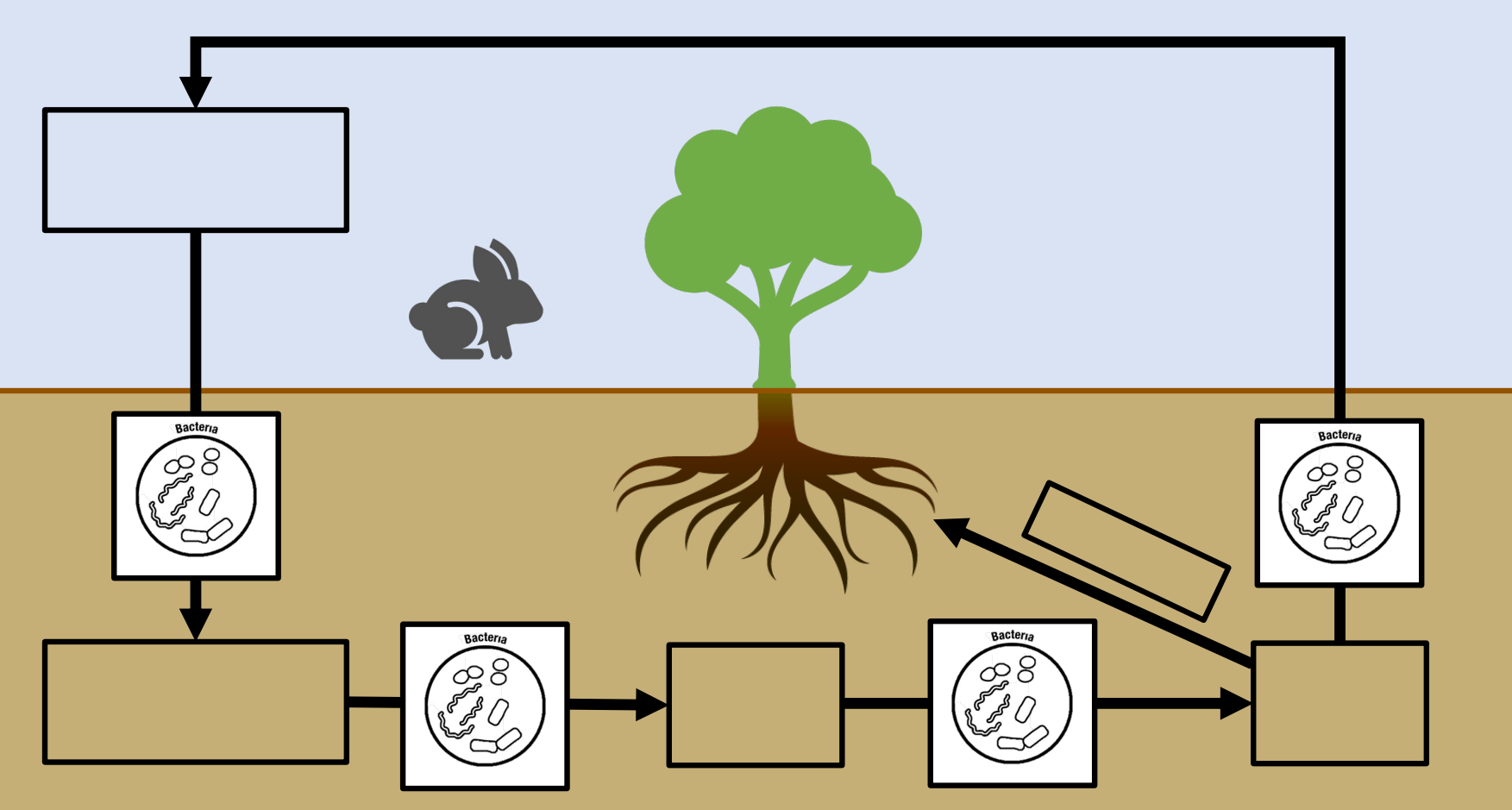


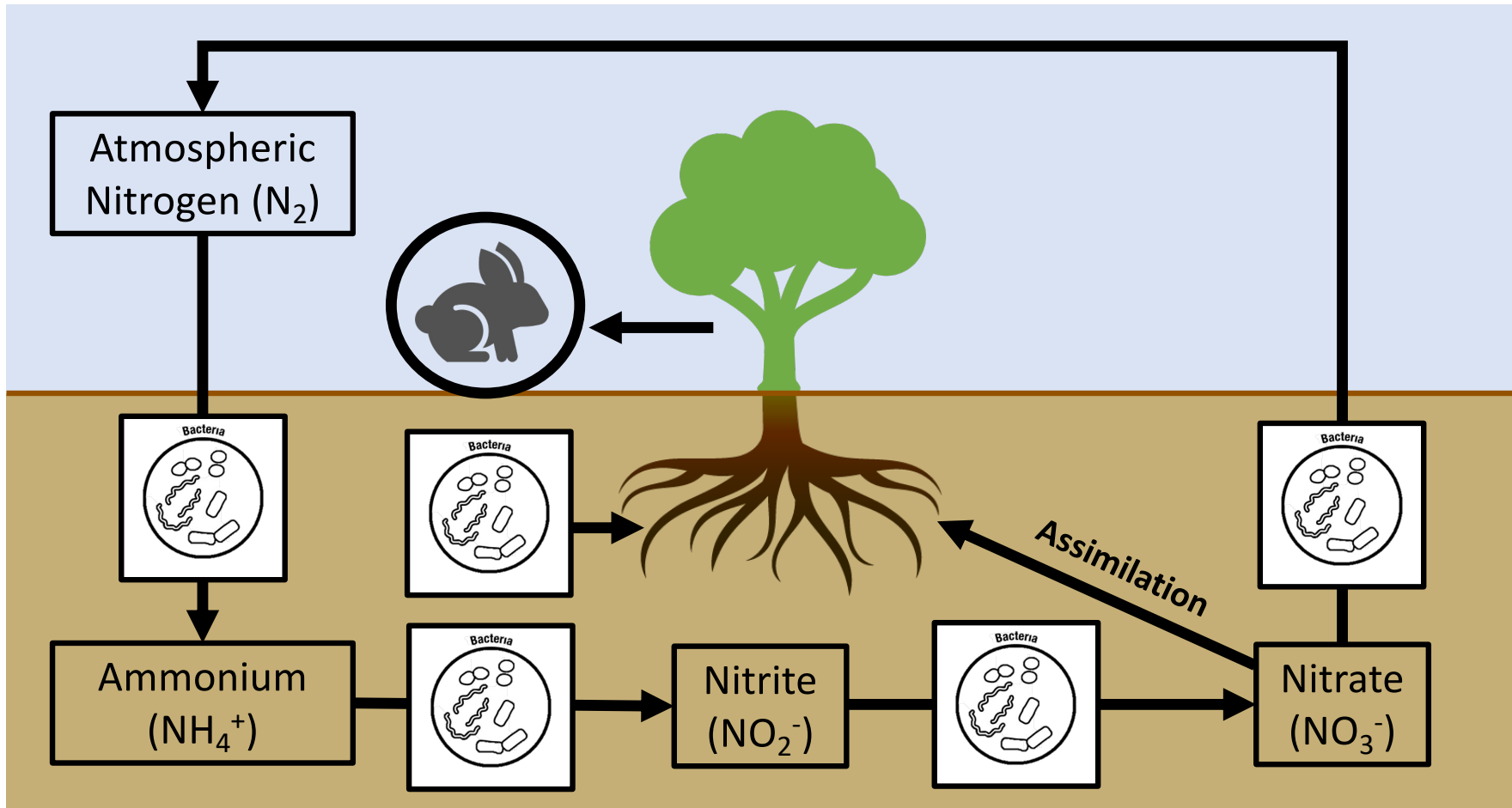
A close-up, front-facing portrait of a wolf's head. The wolf has thick, multi-colored fur in shades of brown, tan, and grey. Its eyes are a striking amber or orange-brown color, looking directly at the camera. The wolf's nose is black and prominent. The background is a soft, out-of-focus grey. The text "Nitrogen in Animals" is centered over the lower half of the wolf's face in a white, sans-serif font.

Nitrogen in Animals

Nitrogen Cycle:

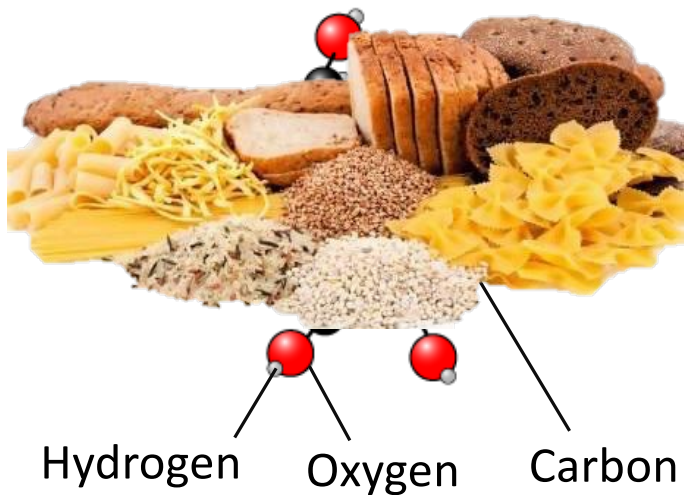


Nitrogen Cycle:



Where do animals get their Nitrogen?

Carbohydrates?



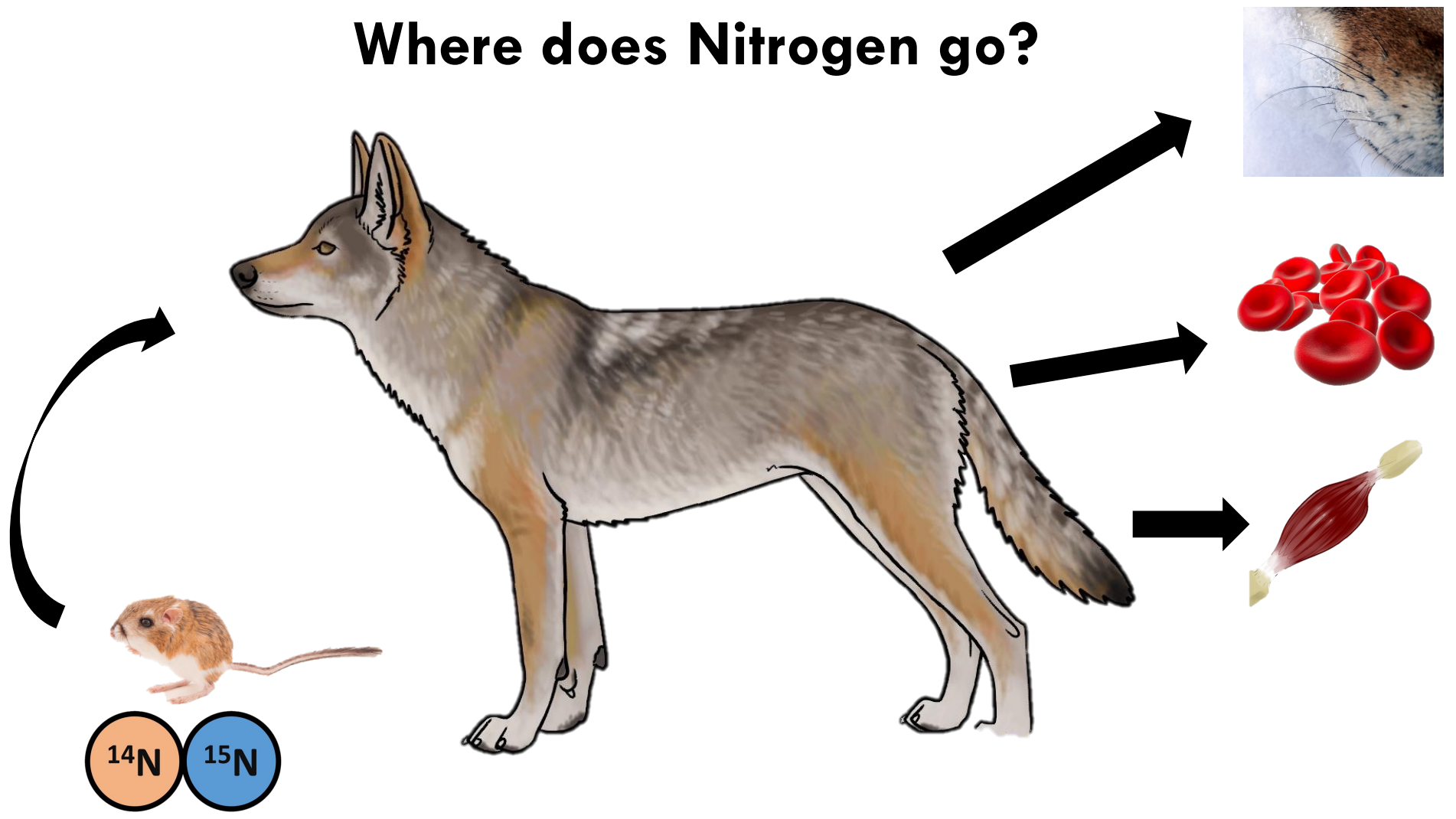
Lipids?



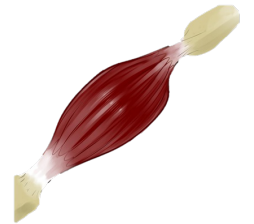
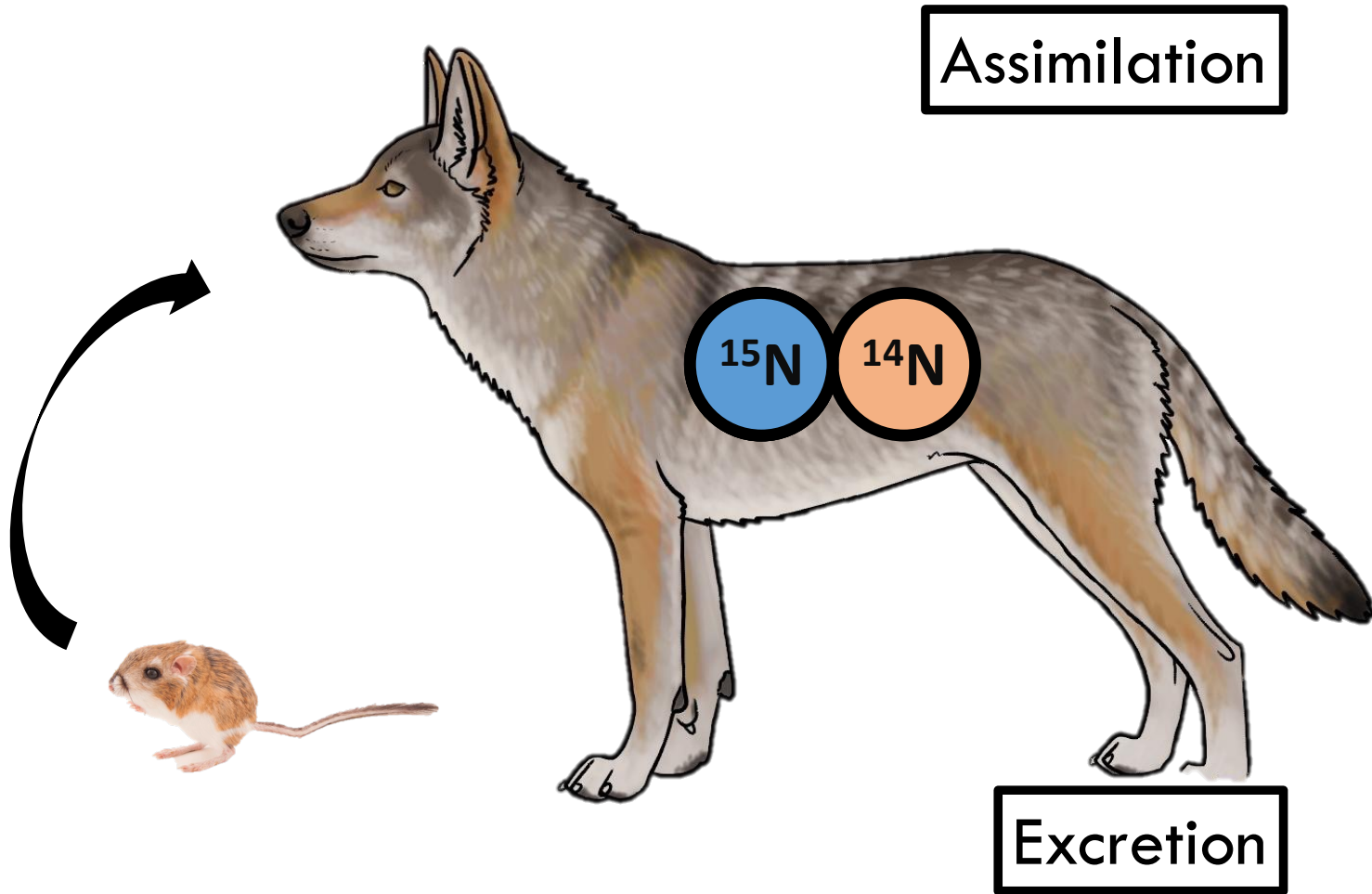
Proteins?



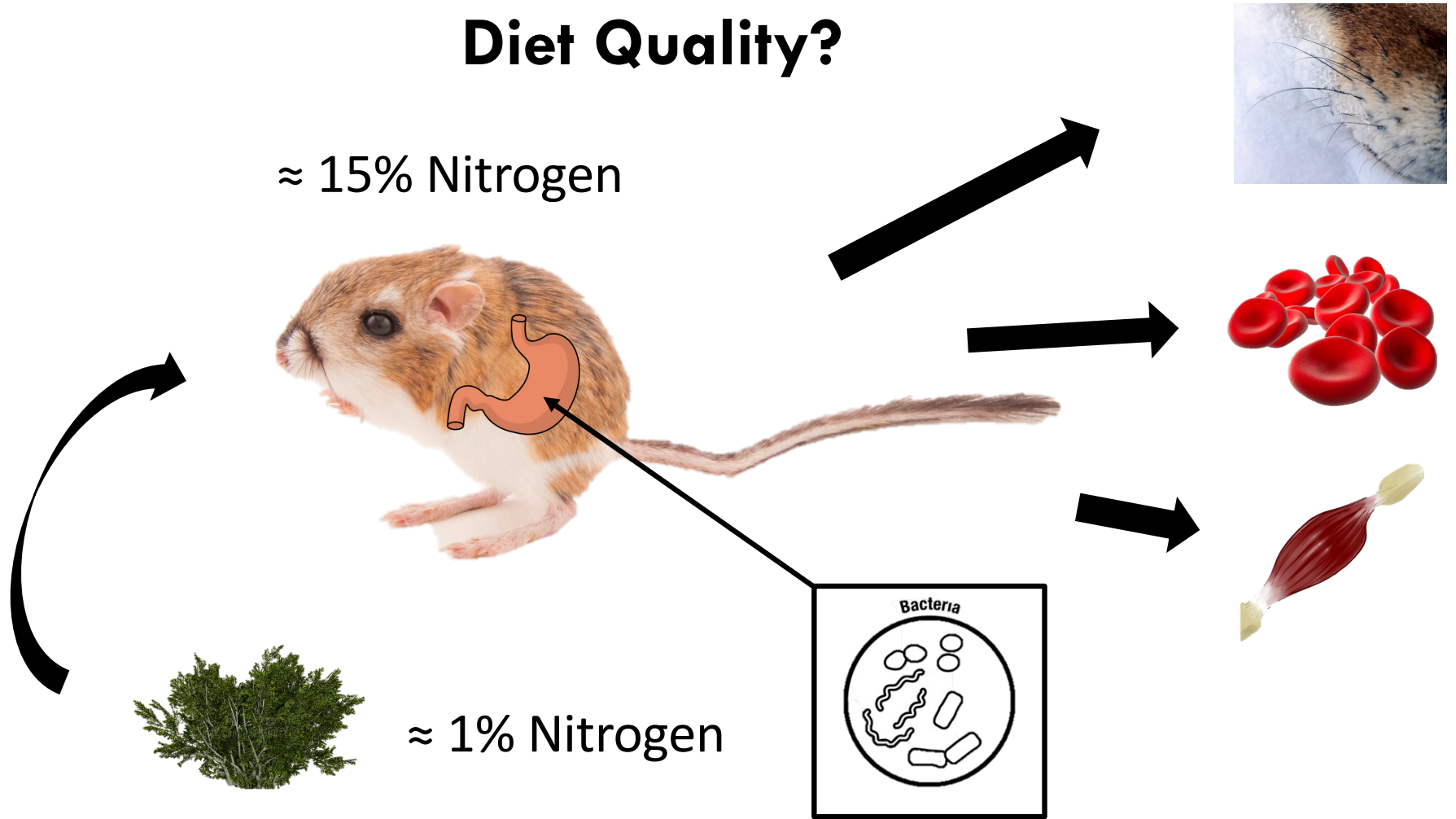
Where does Nitrogen go?



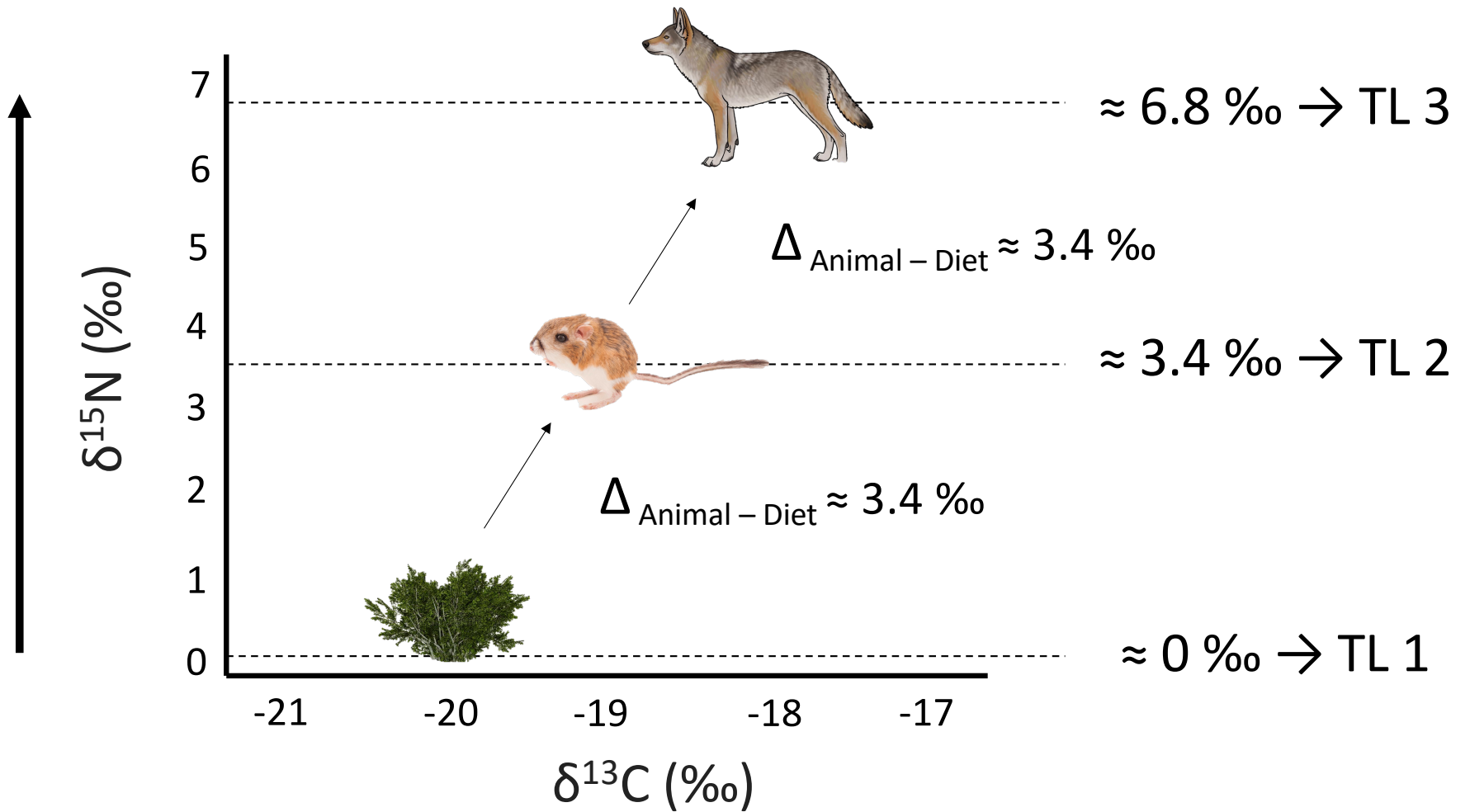
Nitrogen Processing



Diet Quality?



Nitrogen in food chains



Take Home Points

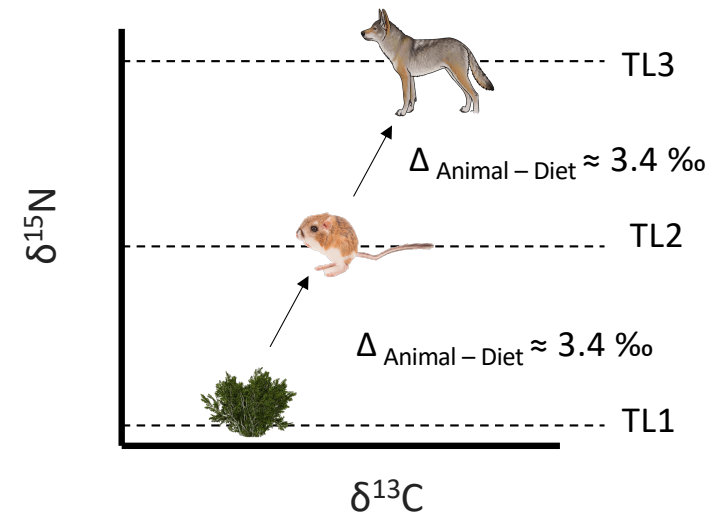
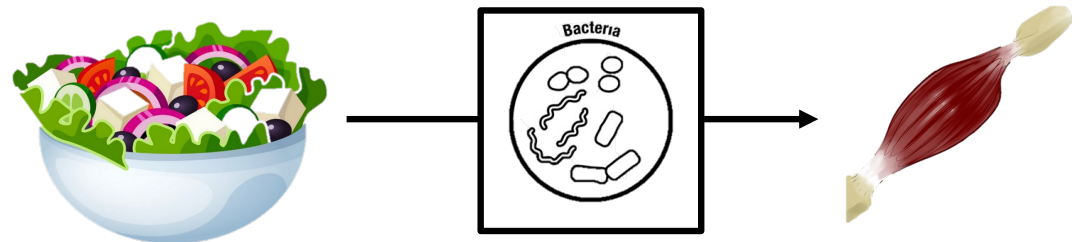
- Nitrogen is found in all proteins.
- Nitrogen tells us...
 - Trophic Level of the organism

- We can tell this because...

- You are what you eat + discrimination

- If you eat a salad, how does your body turn it into protein?

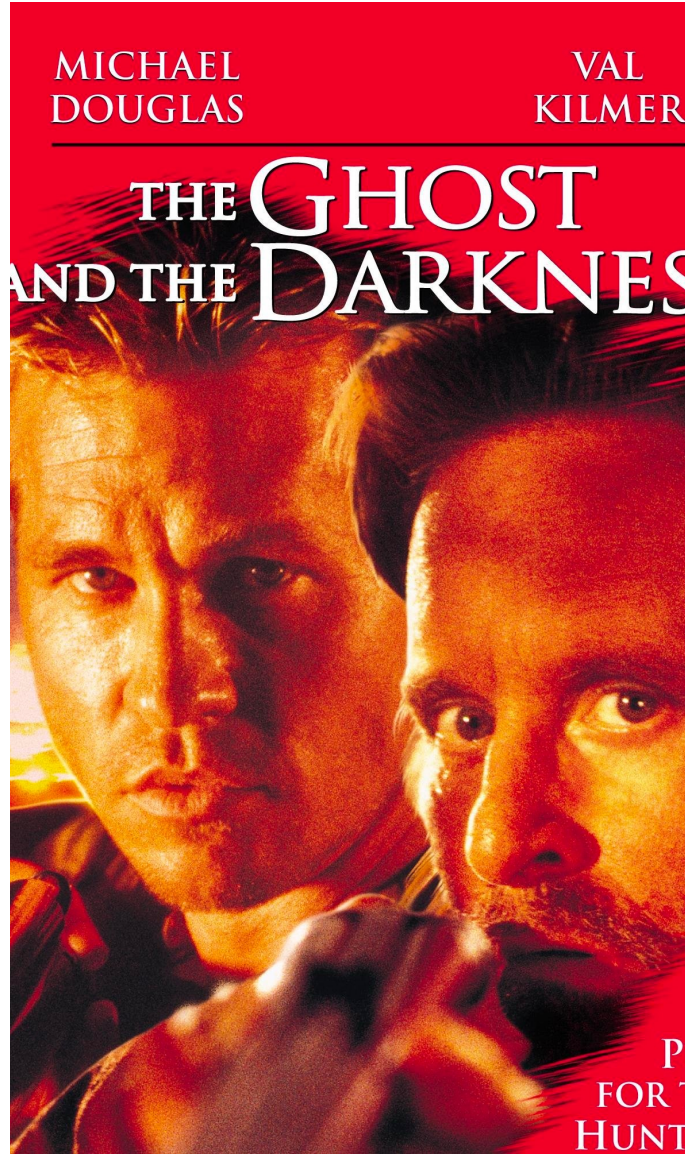
- Gut microbes!





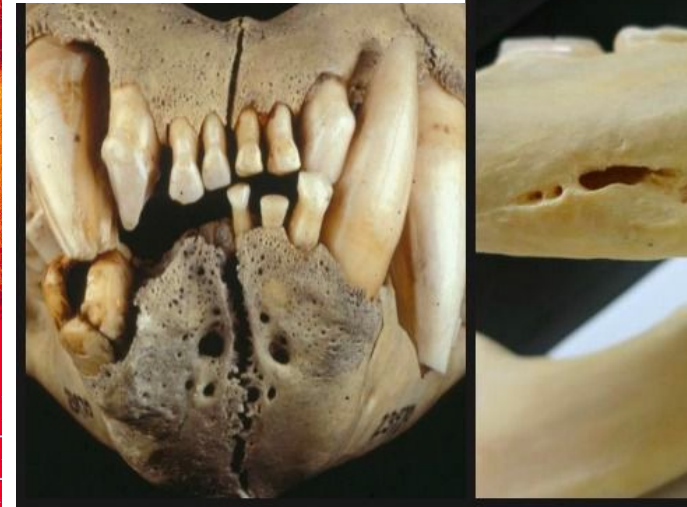
Field Museum of Natural History (Chicago)

"Man-eaters of Tsavo", Kenya

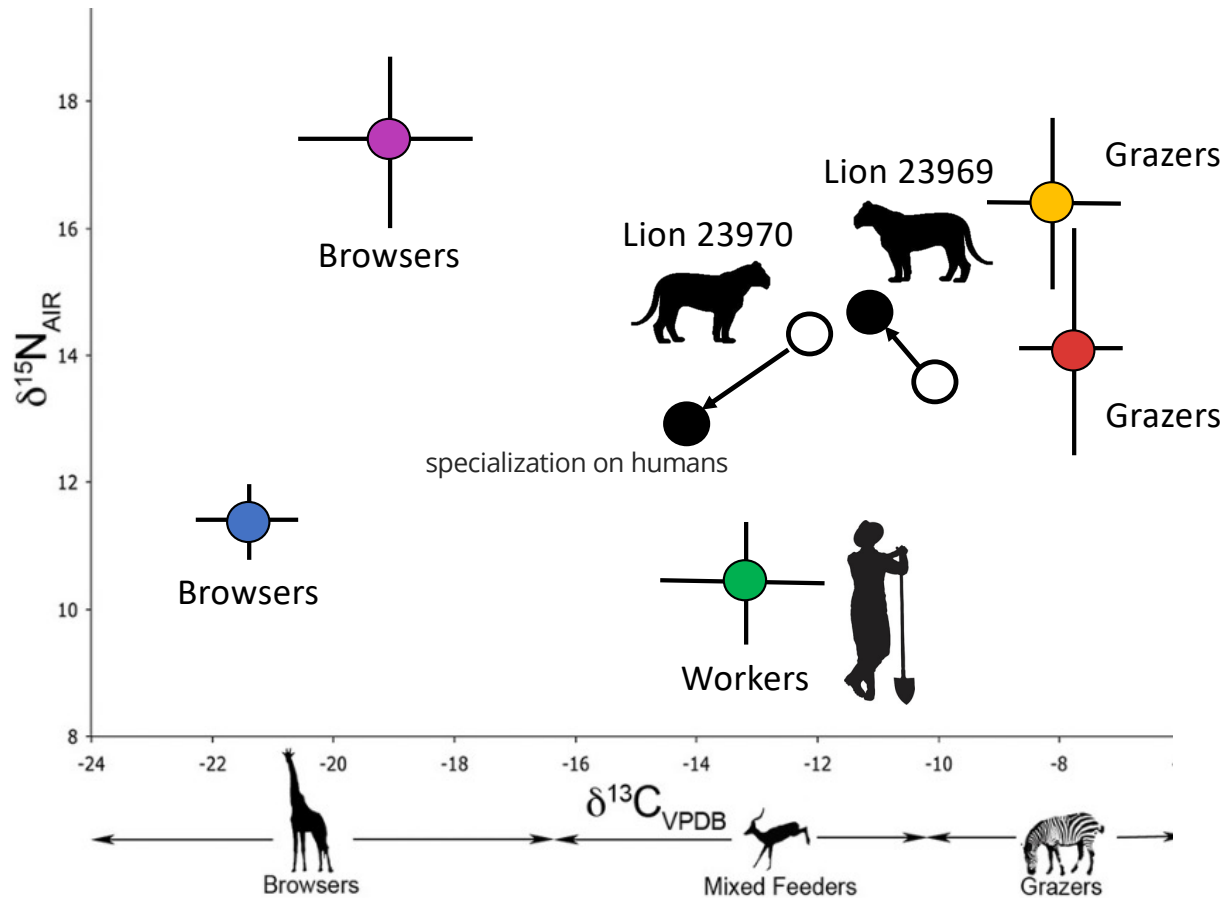


1898

Craniodental infirmities



What did the lions of Tsavo really eat?



Bone (open circles)

Lion 23969	Lion 23970
70% Grazers	55% Grazers
10% Browsers	26% Browsers
18% People	16% People

Hair

Lion 23969	Lion 23970
67% Grazers	32% Grazers
18% Browsers	34% Browsers
13% People	30% People

Estimates range widely from 28 to 135 victims

What happens to $\delta^{15}\text{N}$ during fasting or during starvation?

Endogenous
(skeletal muscle)



Exogenous
(dietary protein)

Endogenous
+
 $\delta^{15}\text{N}$
-
Exogenous

