



Nutrition as an integral part of behavioural management of zoo animals



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Semantics

words matter



Don't believe names, think for yourself

What is an 'omnivore'?

Mammal Review



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REVIEW



A review of wild boar *Sus scrofa* diet and factors affecting food selection in native and introduced ranges

Sebastián A. BALLARI* *Departamento de Diversidad Biológica y Ecología, Universidad Nacional de Córdoba-CONICET, Avenida Vélez Sársfield 299, 3er. Piso, Córdoba 5000, Argentina.*

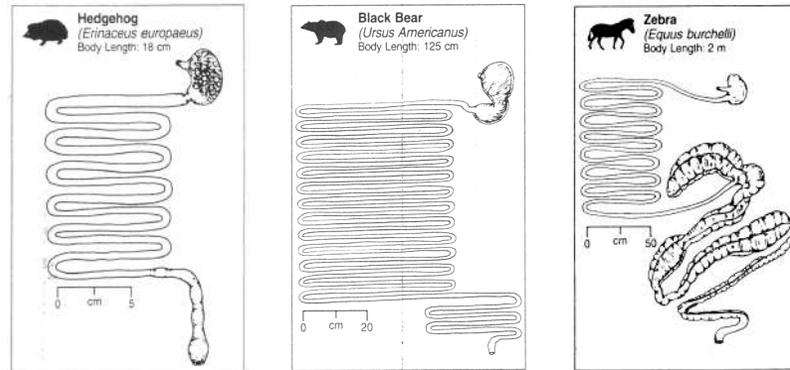
The wild boar *Sus scrofa* is an omnivore

Wild boar diet is dominated by plant material (~90%)



Don't believe names, think for yourself

Sometimes we need generalisations
- for large-scale comparative studies



- but not for keeping a species over many years



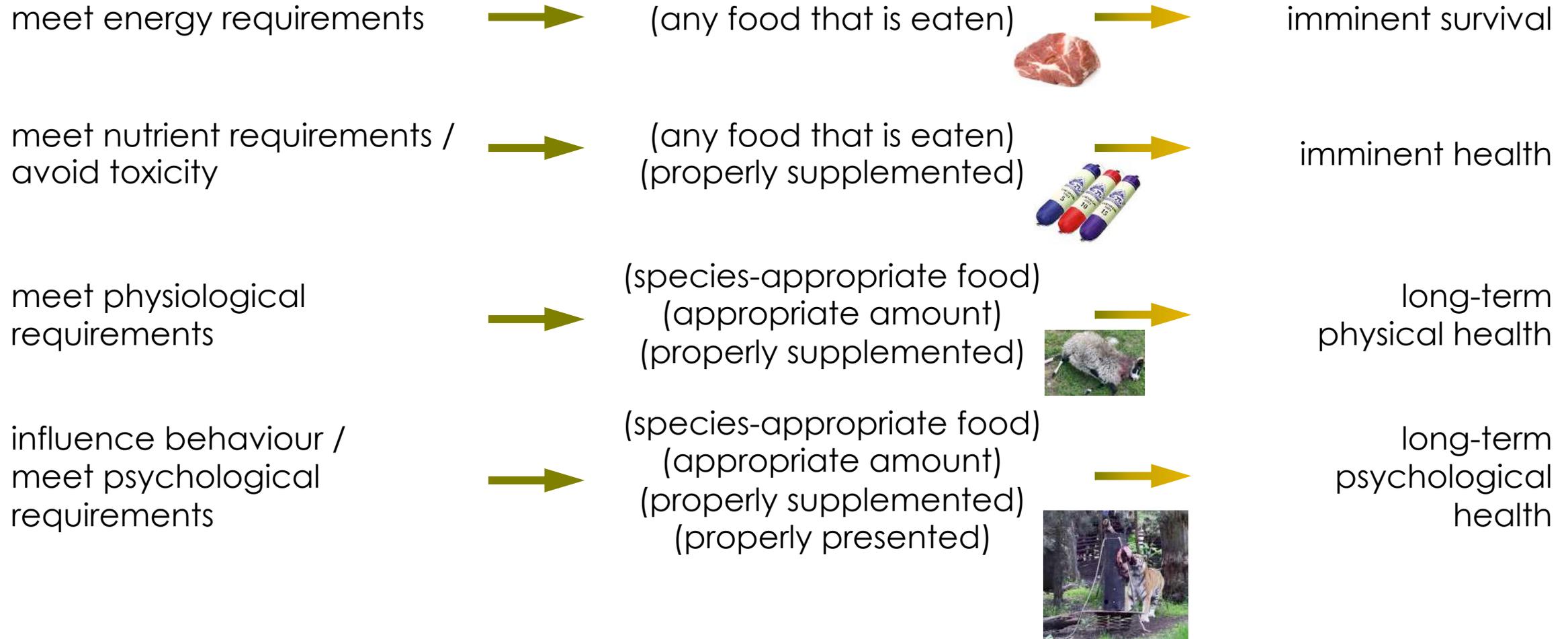
*if you dedicate yourself to the husbandry of a species, you **MUST** be ready to read up on its specialities*



*Feeding has implications:
why do we feed ...
... and what happens when we feed*



We feed zoo animals and we ...

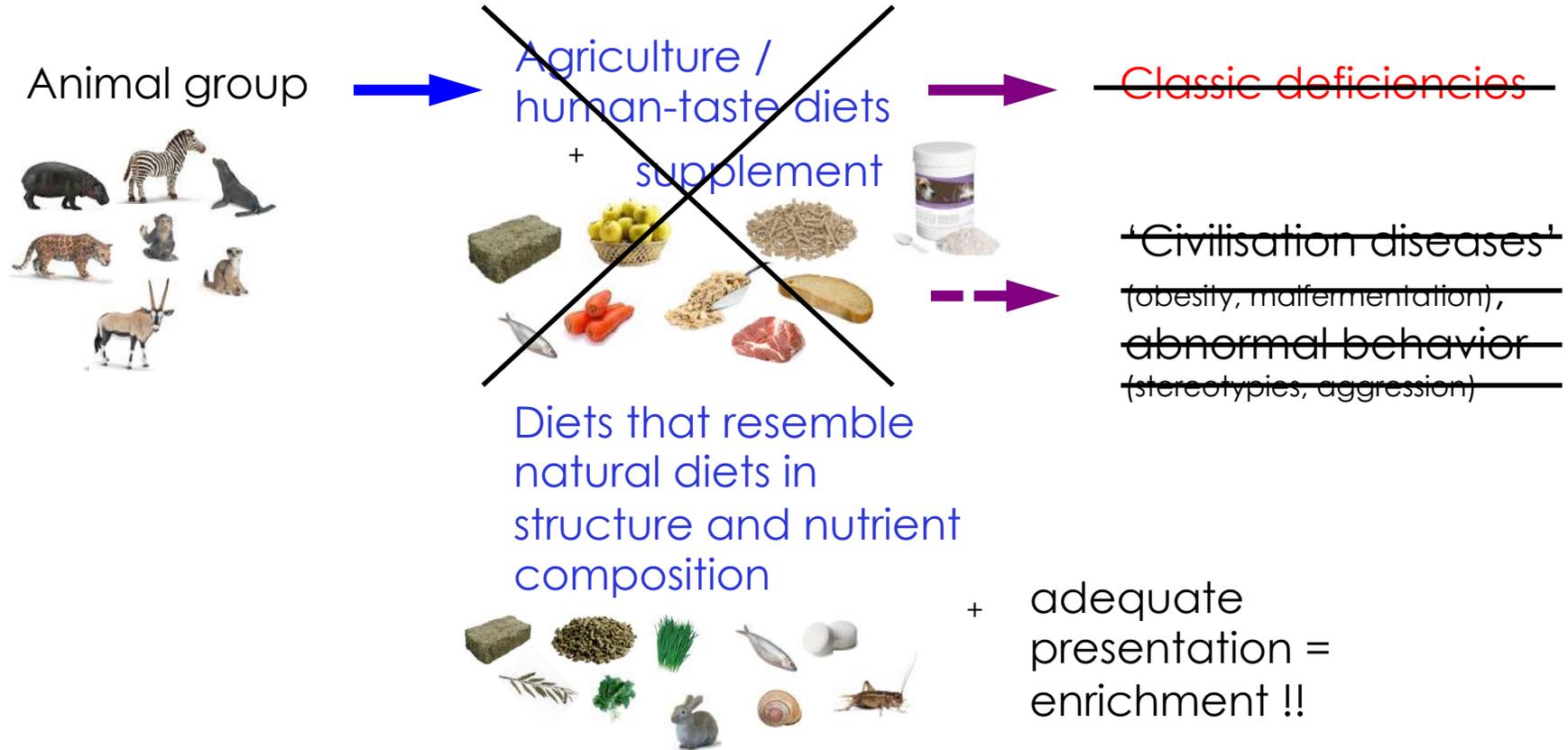




*Superfast
zoo animal nutrition
history*



The basic feeding approach



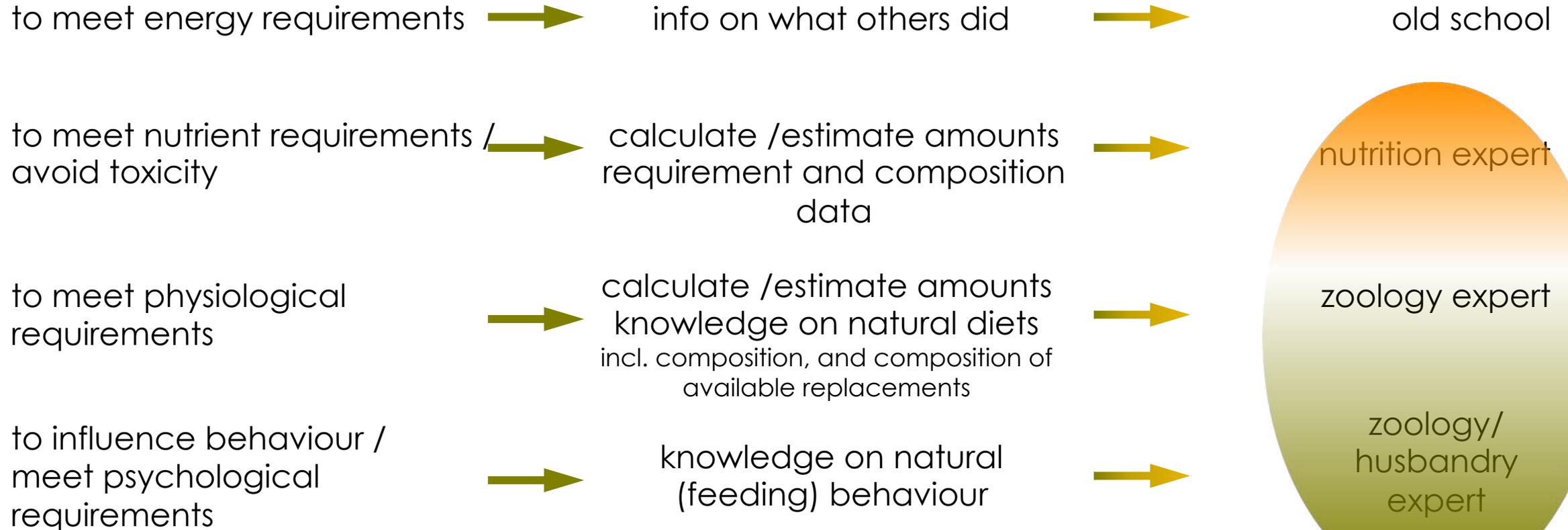
Enrichment should **not** be the **addition** of something (like human-taste items) but **the presentation of the diet in a challenging and meaningful way !**



*What do we need to achieve our
aims ?*



We feed zoo animals and we need ...

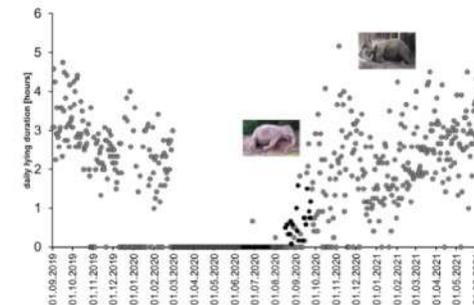
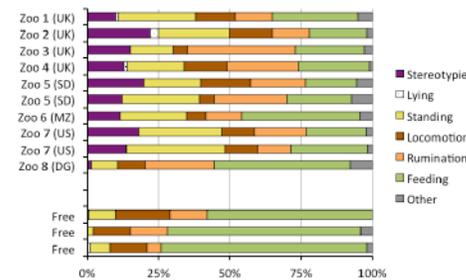
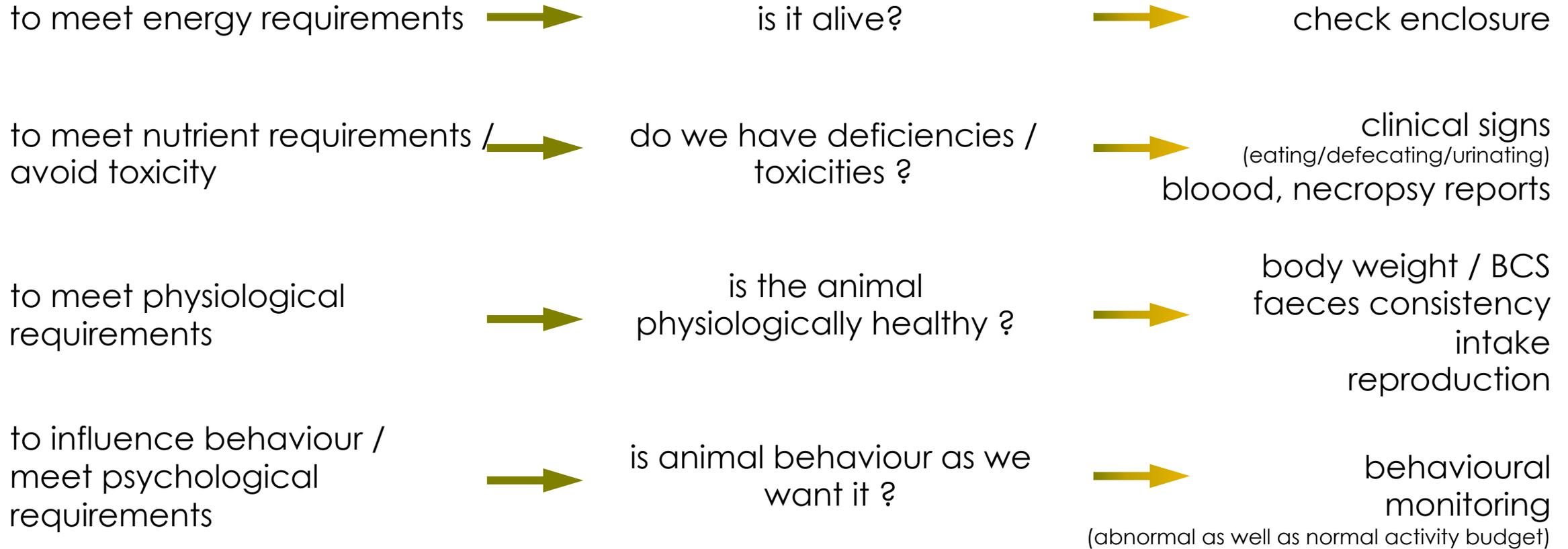




*How do we monitor whether we
achieve our aims ?*



We monitor ...





Imagine an interview

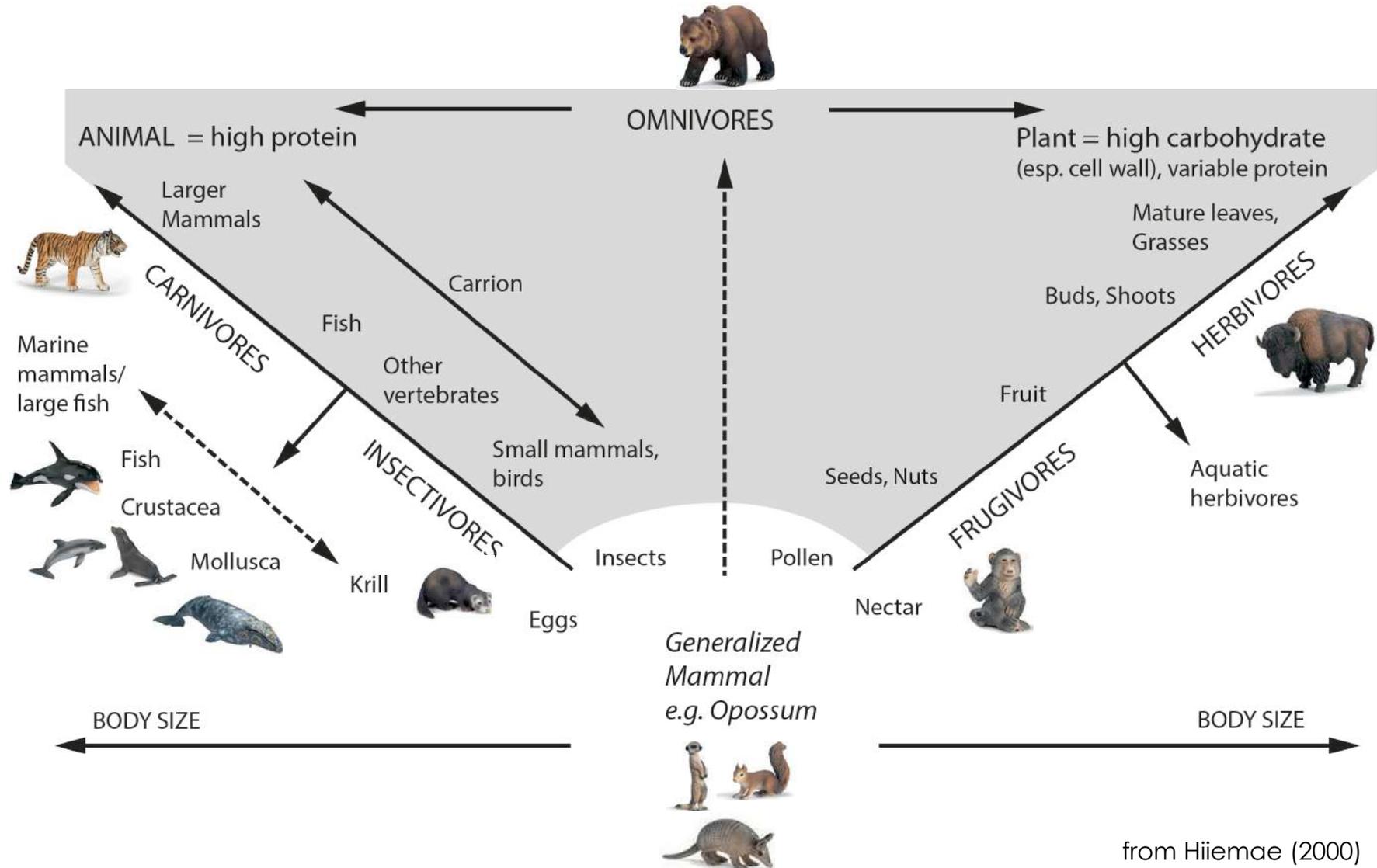
“We have no concrete idea how our animals should spend their day.”



*Diet niche,
feeding behaviour
&
feeding frequency*

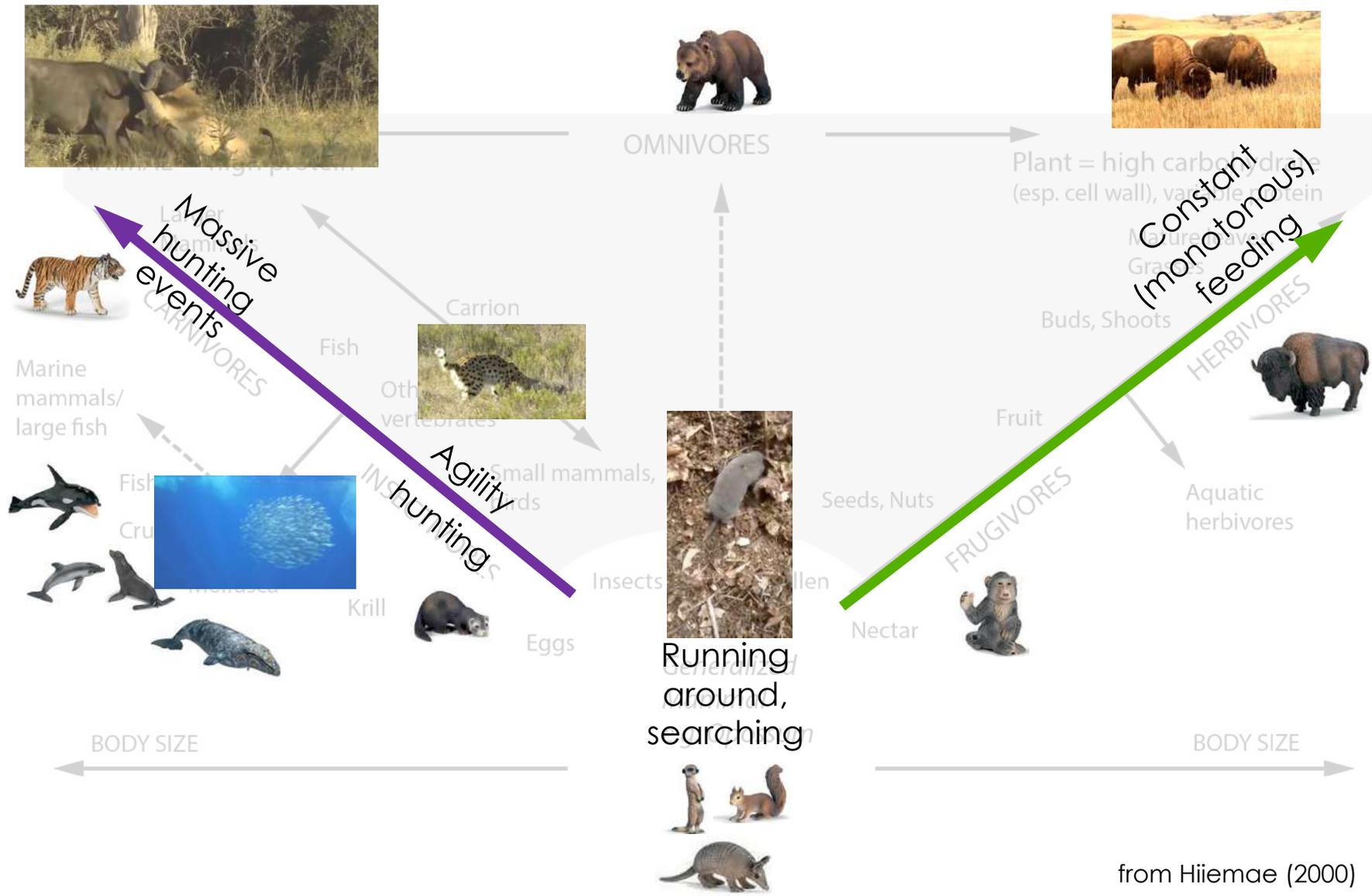


Sufficient amounts of available packages





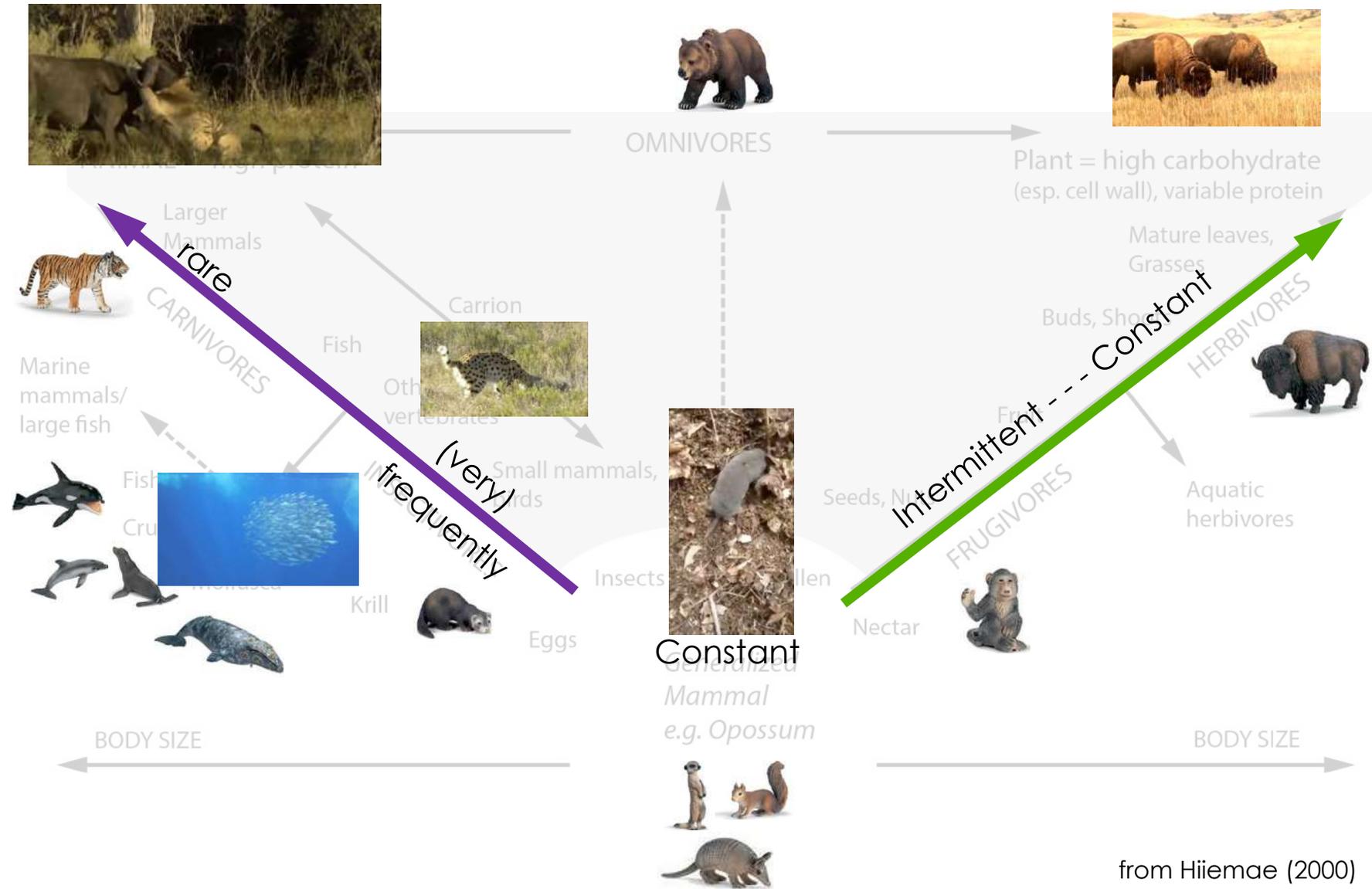
Foraging mode



from Hiemae (2000)



Feeding frequency



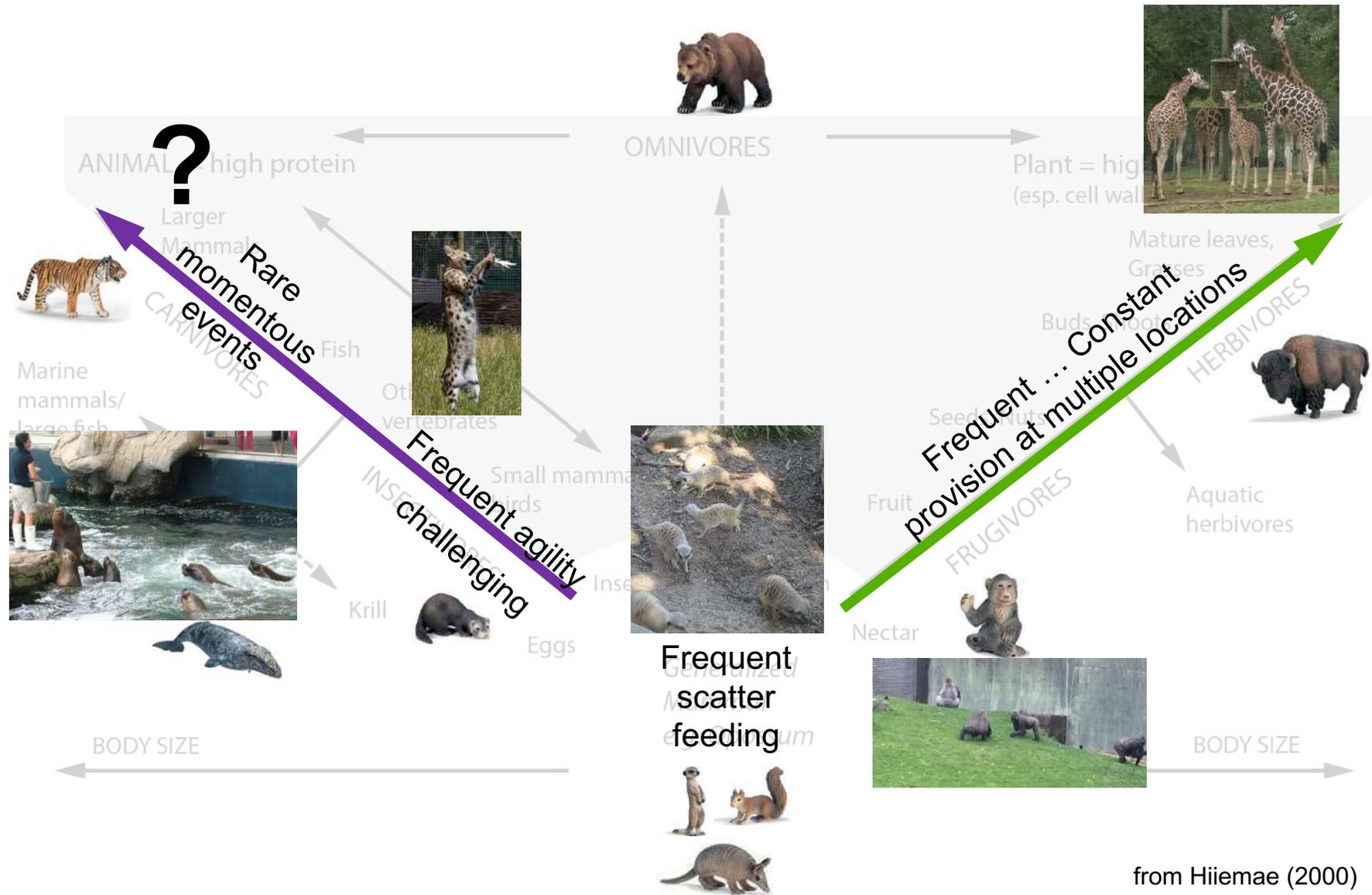
from Hiemae (2000)



*Feeding frequency
in
human care*



Zoo feeding frequency



from Hiemae (2000)



Semantics

words matter



Euphemisms

'Shellshock'	↔	'Combat fatigue'
'Global warming'	↔	'Climate change'
'Pornography'	↔	'Adult content'
'Prison'	↔	'Correctional facility'
'Standard decency'	↔	'Enrichment'

Frequent scatter feeding is not 'enrichment'.
Lump feeding in 1-2 meals is pauperization.





Contingency plan ?

If you feed your tiger like this ...



... you deprive it of 0.5-3 hours of hunt/ chase/ strain/ effort every day.

What is your plan to compensate for that ?



Contingency plan ?

If you feed your meerkat like this ...



... you deprive it of 3-4 hours of searching effort every day.

What is your plan to compensate for that ?



Contingency plan ?

If you feed your herbivore like this ...



... you deprive it of a lot of locomotion and searching effort every day.

What is your plan to compensate for that ?



Checklist

What is the natural food?

What are the (assumed) requirements?

What is the natural foraging mode?

What is the natural feeding frequency?

What is the appropriate surrogate food?

What safety feeds do I need?

What feeding behaviour should be evoked?

How often should food be provided?



Species	Food	Foraging mode	Feeding frequency	Appropriate surrogate food	Safety feeds	Feeding behaviour	Frequency
Primate	Fruit	Foraging	Multiple times	Fruit	None	Foraging	Multiple times
Canine	Meat	Foraging	Multiple times	Meat	None	Foraging	Multiple times
Equine	Grass	Foraging	Multiple times	Grass	None	Foraging	Multiple times
Ungulate	Grass	Foraging	Multiple times	Grass	None	Foraging	Multiple times
Reptile	Prey	Foraging	Multiple times	Prey	None	Foraging	Multiple times
Bird	Seeds	Foraging	Multiple times	Seeds	None	Foraging	Multiple times
Amphibian	Insects	Foraging	Multiple times	Insects	None	Foraging	Multiple times
Mollusk	Prey	Foraging	Multiple times	Prey	None	Foraging	Multiple times
Invertebrate	Prey	Foraging	Multiple times	Prey	None	Foraging	Multiple times



How can this be combined with management, education and entertainment aims?





Thank you for your attention