



Nutrition as an integral part of behavioural management of zoo animals



Marcus Clauss

Clinic for Zoo Animals, Exotic Pets and Wildlife, Vetsuisse Faculty, University of Zurich, Switzerland
Apenheul 2022



**University of
Zurich**^{UZH}



Clinic
of Zoo Animals, Exotic Pets and Wildlife



Semantics

words matter



Don't believe names, think for yourself

What is an 'omnivore'?

Mammal Review



Mammal Review ISSN 0305-1838

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.*

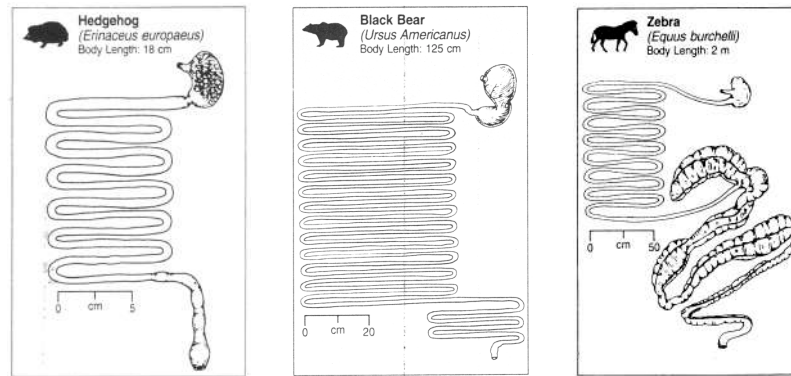
The wild boar *Sus scrofa* is an omnivore

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



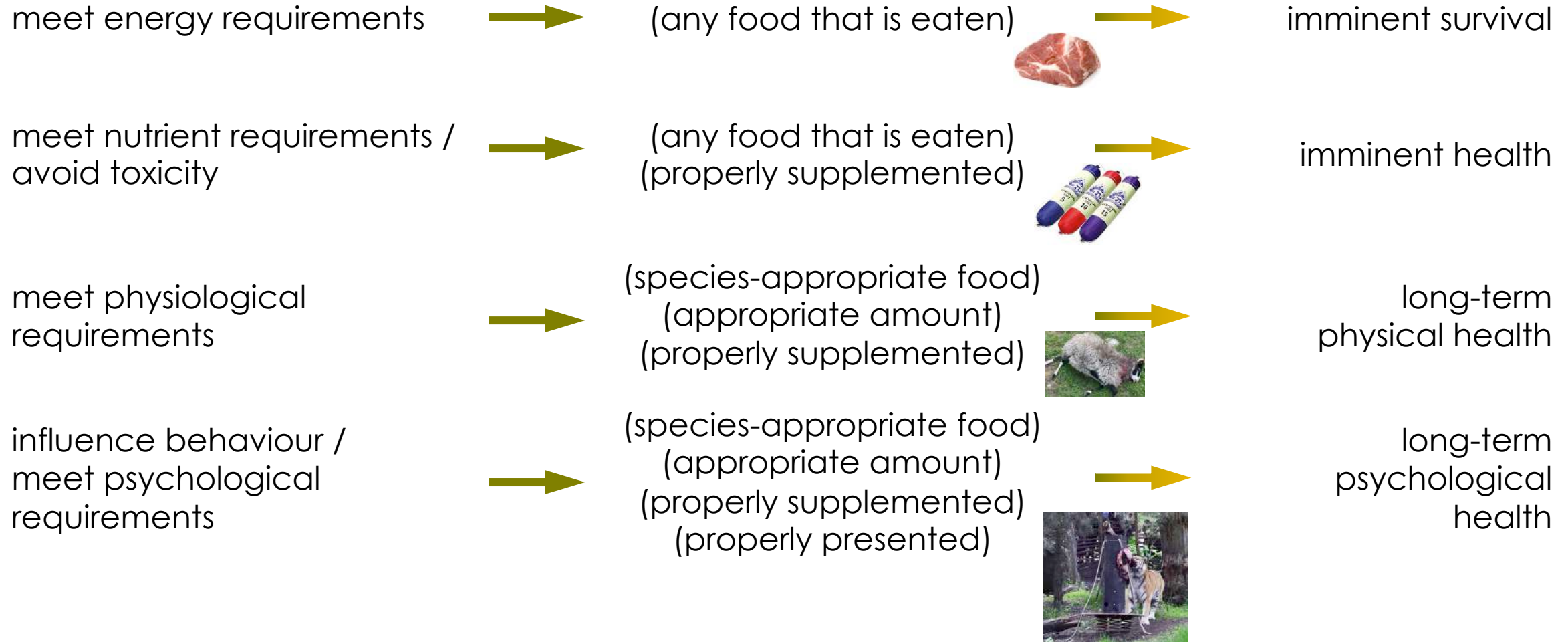
*if you dedicate yourself to
the husbandry of a species,
you **MUST** be ready to read
up on its specialities*



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



We feed zoo animals and we ...

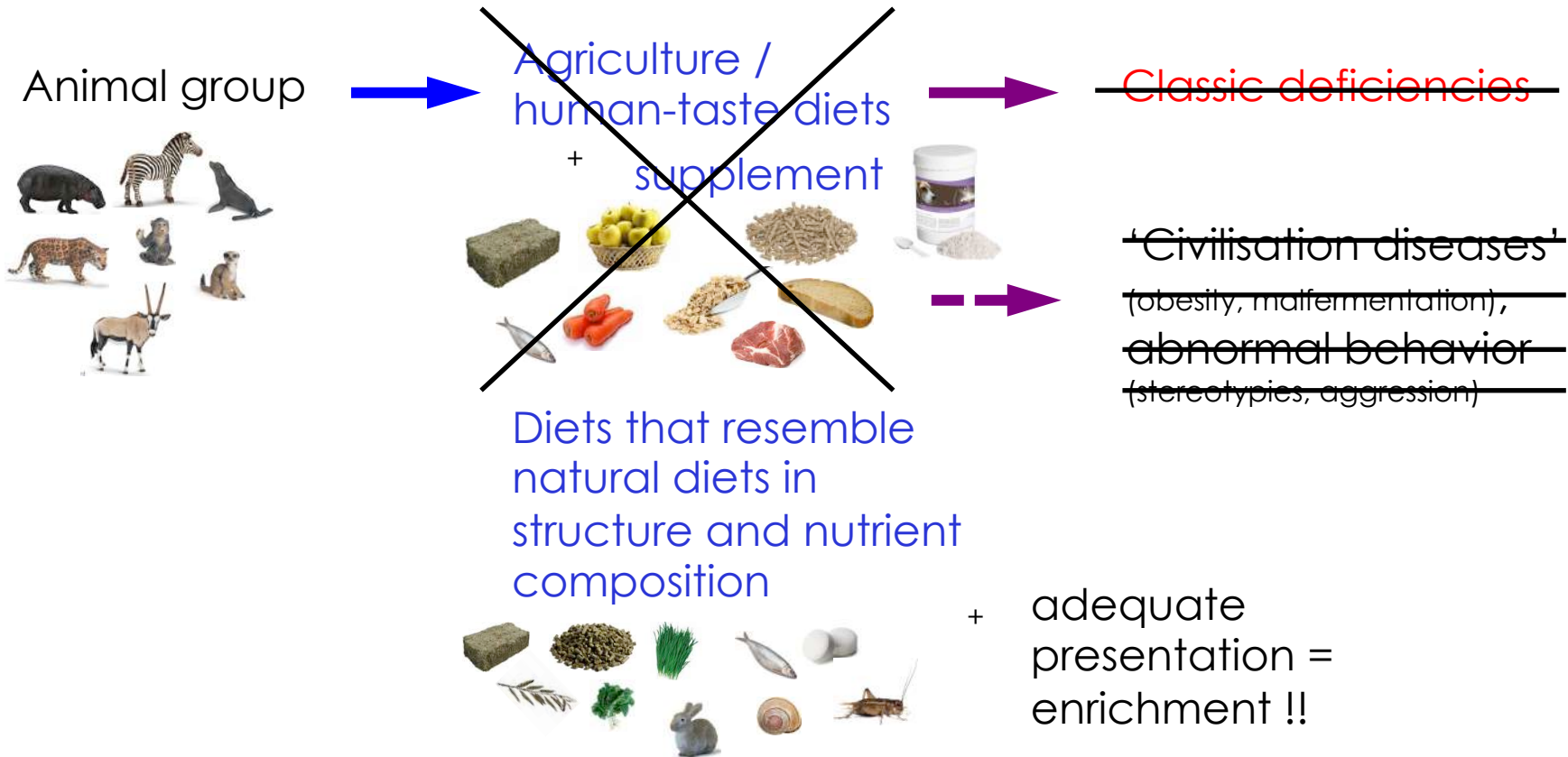




Superfast zoo animal nutrition history



The basic feeding approach



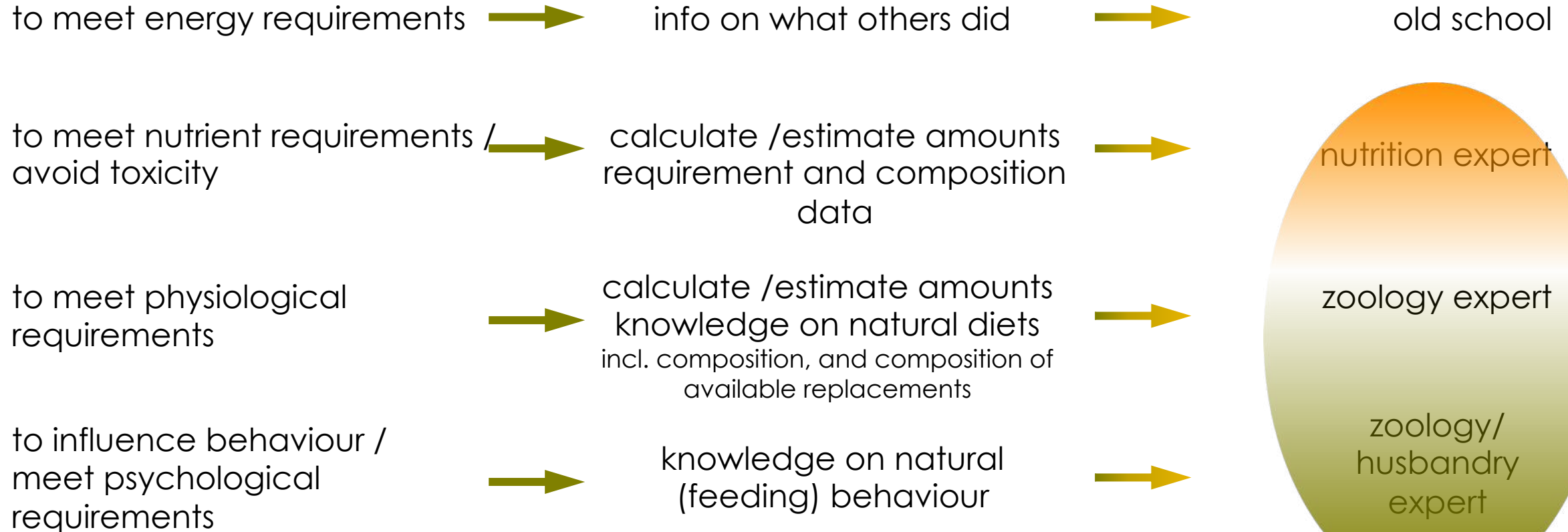
Enrichment should **not** be the **addition** of something (like human-taste items) but **the presentation of the diet in a challenging and meaningful way !**



*What do we need to achieve our
aims ?*



We feed zoo animals and we need ...

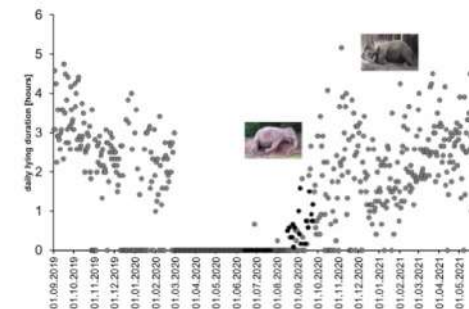
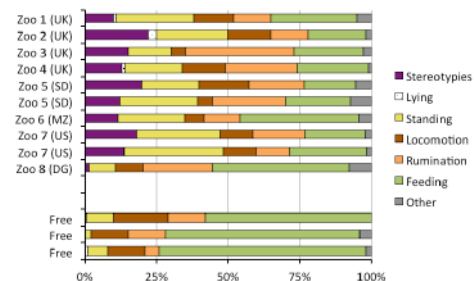
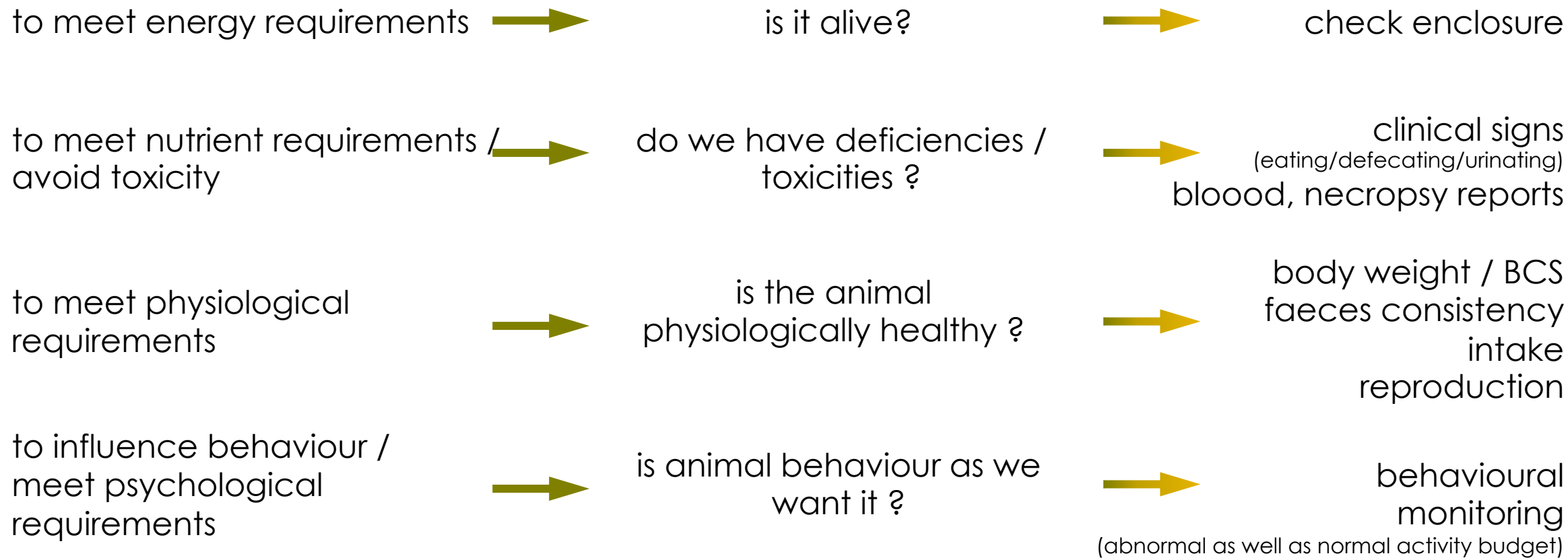




*How do we monitor whether we
achieve our aims ?*



We monitor ...





Imagine an interview

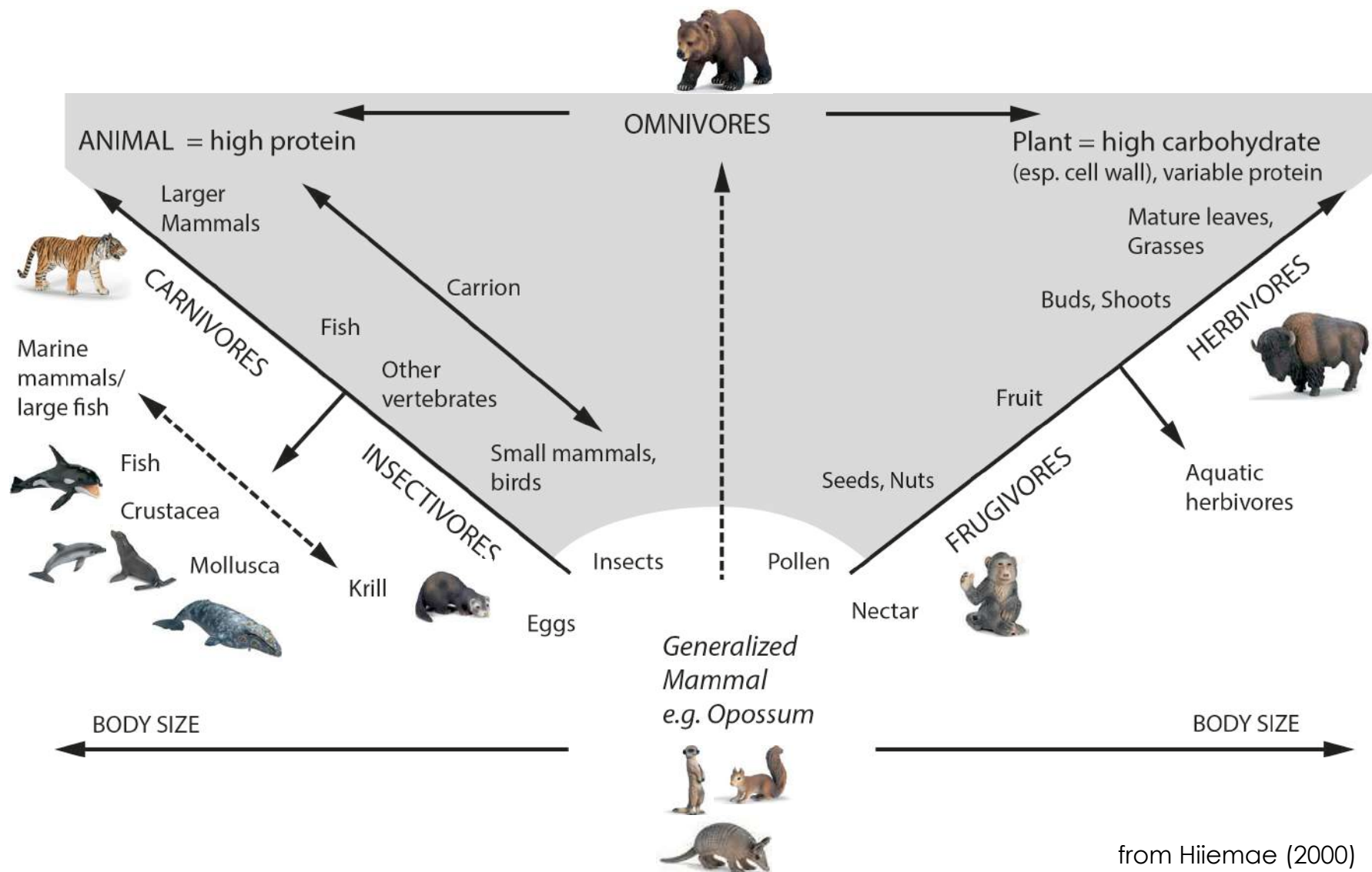
“We have no concrete idea how our animals should spend their day.”



*Diet niche,
feeding behaviour
&
feeding frequency*



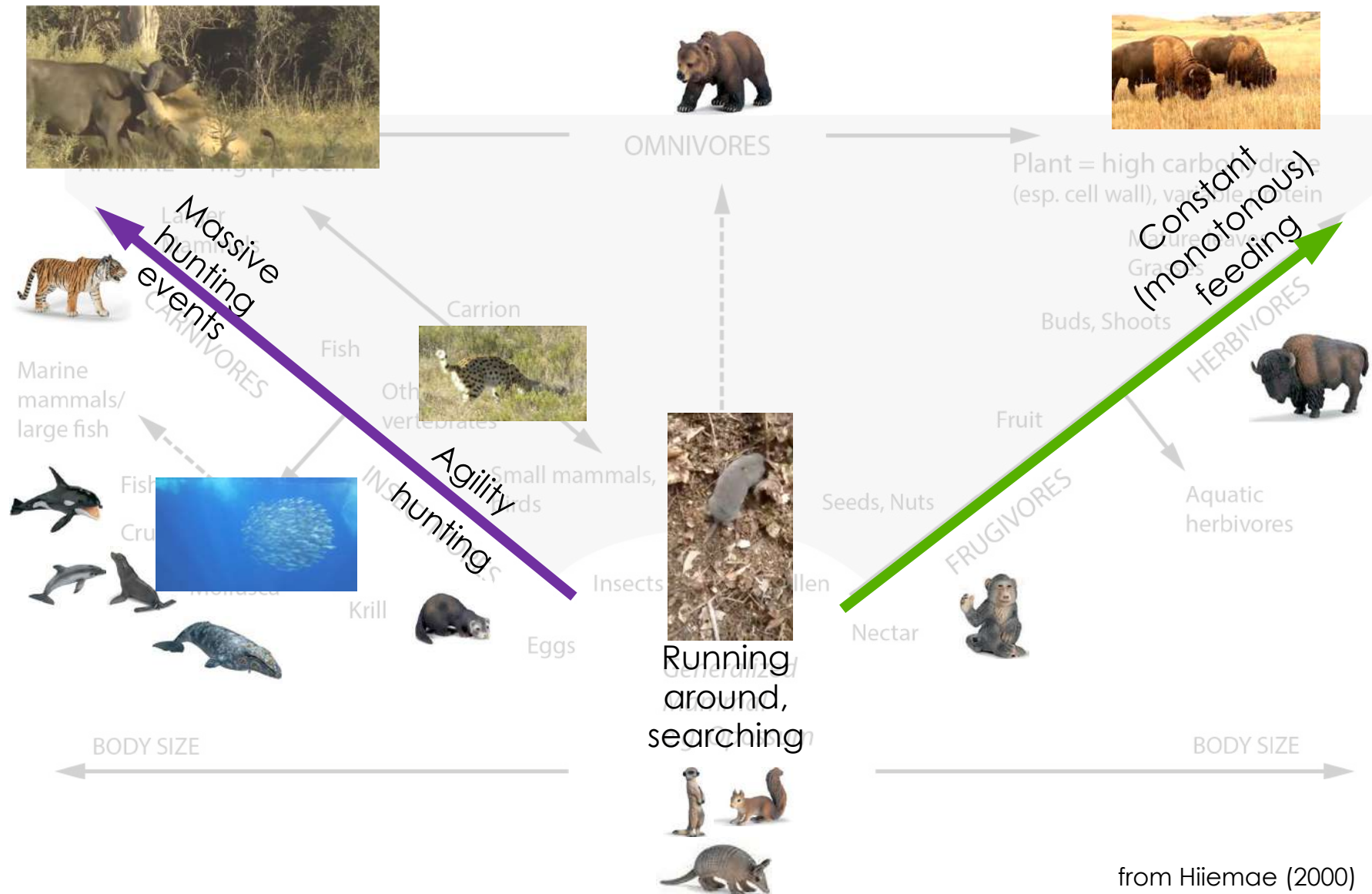
Sufficient amounts of available packages



from Hiimae (2000)



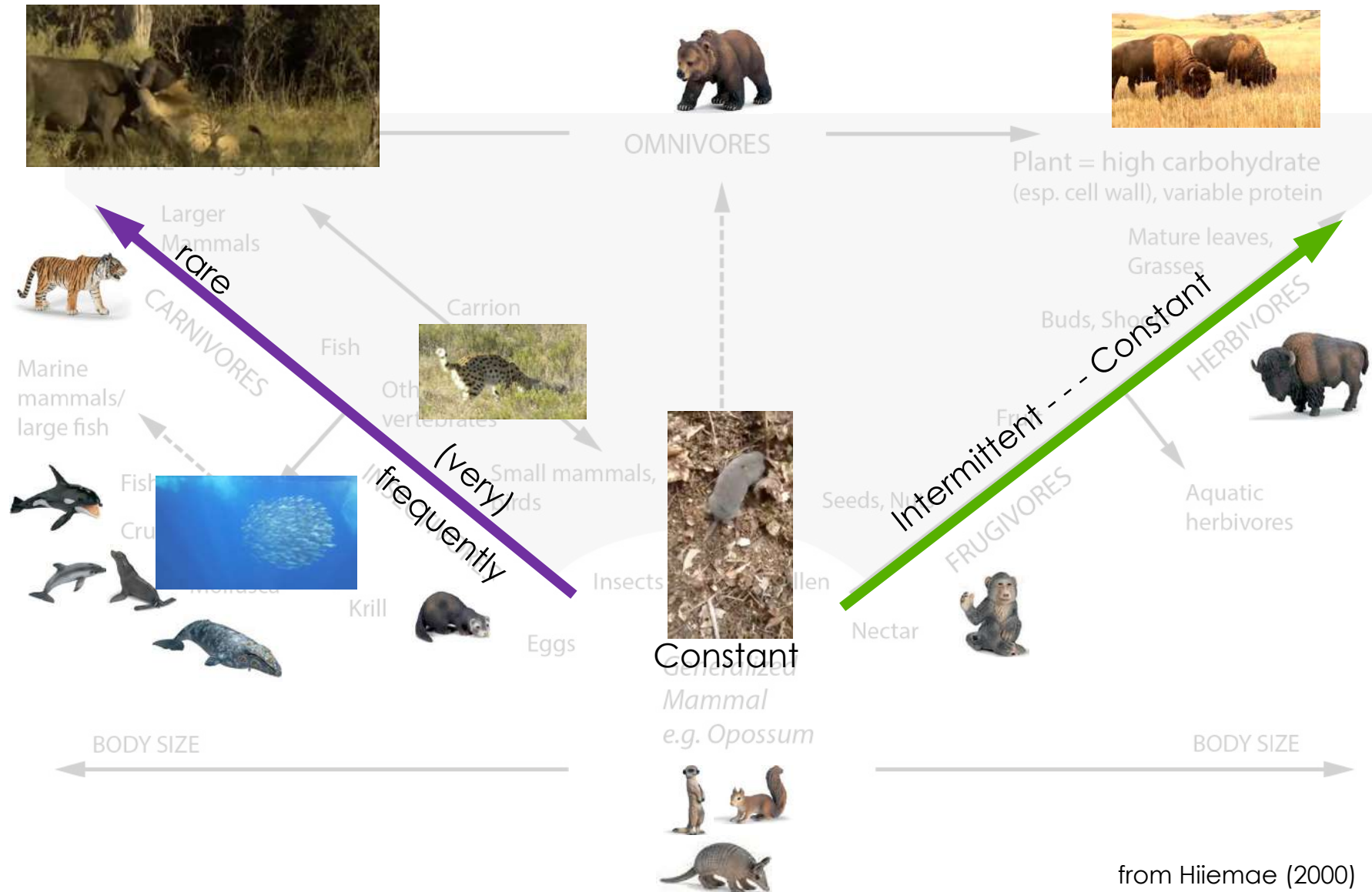
Foraging mode



from Hiimae (2000)



Feeding frequency

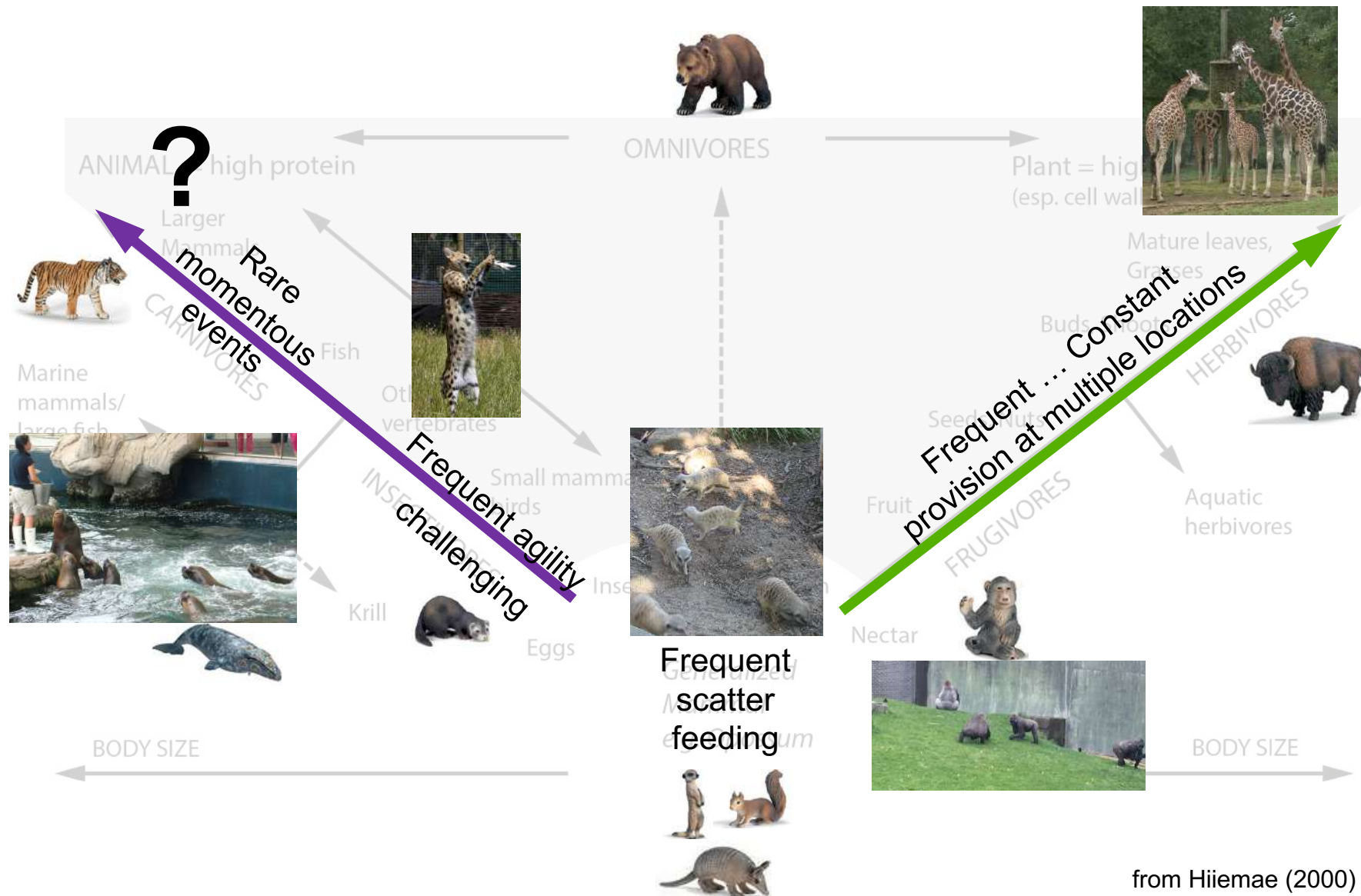




Feeding frequency in human care



Zoo feeding frequency





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	Frequency	Quantity	Notes
Elephant	Hay	3 times	10kg	
Donkey	Hay	2 times	5kg	
Goat	Hay	2 times	5kg	
Sheep	Hay	2 times	5kg	
Cattle	Hay	2 times	10kg	
Horse	Hay	2 times	10kg	
Deer	Hay	2 times	5kg	
Antelope	Hay	2 times	5kg	
Pronghorn	Hay	2 times	5kg	
Kudu	Hay	2 times	5kg	
Impresso	Hay	2 times	5kg	
Topi	Hay	2 times	5kg	
Reedbuck	Hay	2 times	5kg	
Nilgai	Hay	2 times	5kg	
Sambar	Hay	2 times	5kg	
Chital	Hay	2 times	5kg	
Axis	Hay	2 times	5kg	
Spotted deer	Hay	2 times	5kg	
Sambar deer	Hay	2 times	5kg	
Chital deer	Hay	2 times	5kg	
Axis deer	Hay	2 times	5kg	
Spotted deer	Hay	2 times	5kg	



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





Thank you for your attention