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## CHANGES IN HUMAN CONSUMPTION PATTERNS

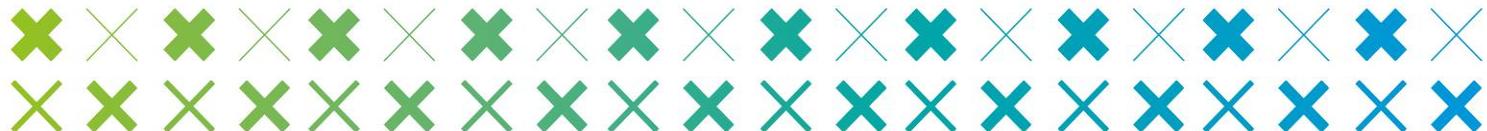
The increasing of proteins in our diets and the  
emergence of flexitarianism





# CHANGE IN HUMAN CONSUMPTION PATTERNS

The growing role of vegetable proteins in  
our diets and the appearance of  
flexitarianism.



# The growing role of vegetable proteins in our diets

- Do we eat “proteins”?
- The changes in consumption of **food products made from animal and plant materials**
- The main motivations for the consumption of meat
- The **beginning of a reverse trend** supported by the wealthy, urban population and women
- What will be the **consumption of vegetable proteins in the future?**



# Eat « Proteins »

“ The day before, soak 500gr. of bars of dry carbohydrate-protein in a pot of water.  
Then add:

- 600gr. of pieces of protein & fat,
- 300gr. of fresh carbohydrates,
- 50 gr. of pieces of lipids and 3 tablespoons of liquid fats,

Fill the pot with water, sprinkle with a pinch of mineral salts.  
Simmer on a low heat for 3 hours.

## **Nutritional value per 100g :**

proteins 12.7 g / carbohydrates 9.9 g / fats 9.3 g / fibre 2.7g / salt 1g ”

*Source: Péhenne Ernest, Les recettes du bien-manger [Recipes for Eating Well].*

# Proteins ?

**We eat foodstuffs, products, recipes, but not NUTRIENTS**  
(proteins, lipids, carbohydrates)

**➔ Very vague ideas for the vast majority of the population**

**Some diets emphasise Proteins consumption:**

- High-protein diets for athletes, bodybuilders
- Dukan diet (lose the fat while keeping the muscle)
- Diets for older people suffering from sarcopenia



# Sources of proteins: Animal or Vegetal ?

Animal

**69 %**

Is from Animal source  
acc. To CREDOC ,  
CCAF 2013

<b>MEAT</b>	<b>38 %</b>
DAIRY PRODUCTS	18 %
SEA PRODUCTS	8,5 %
EGGS	2,5 %
BREAD	13 %
CEREALS & others	8 %

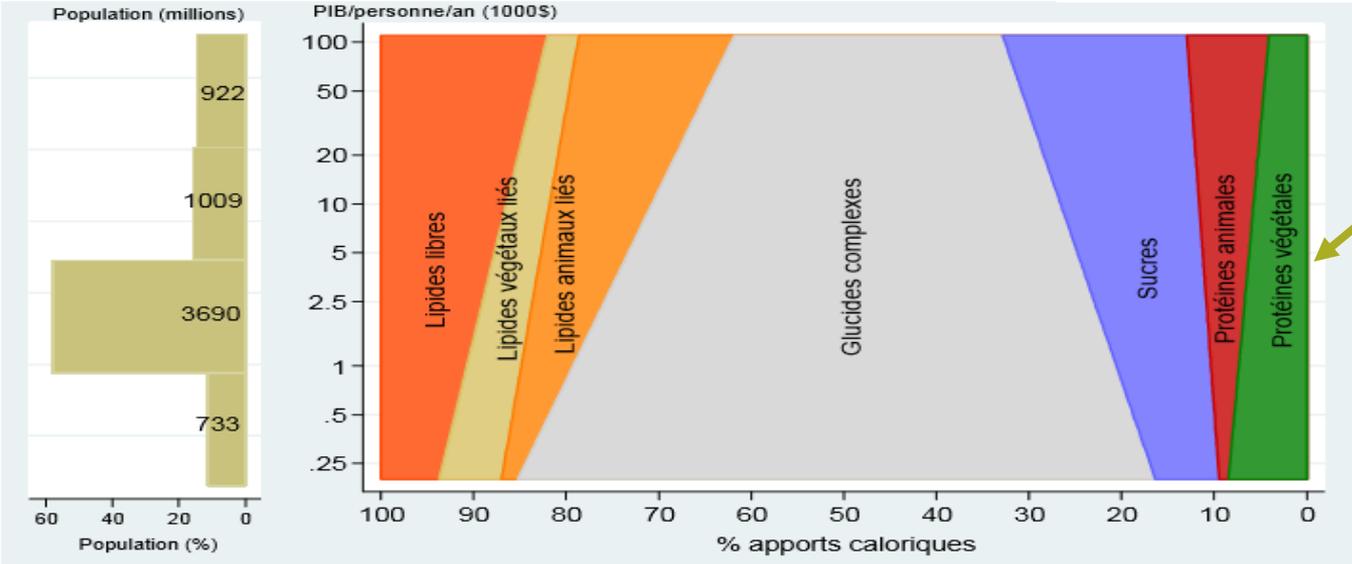
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Estimations include ready to eat dishes, pizzas...etc

Source : INCA 2 , 2006-2007

# Animal protein part in our diet is linked to GDP

## Structure de la ration alimentaire en fonction du PIB (2007-2009)

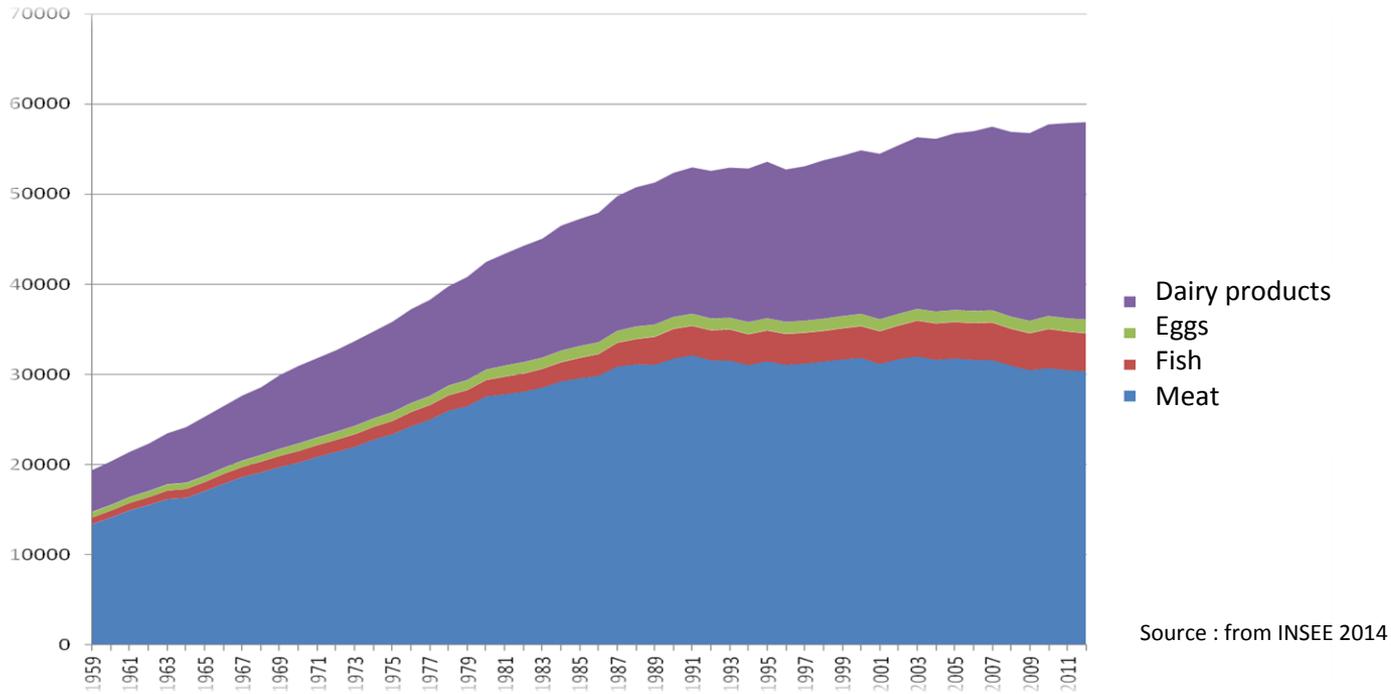


Ajustements semi-log sur 163 pays

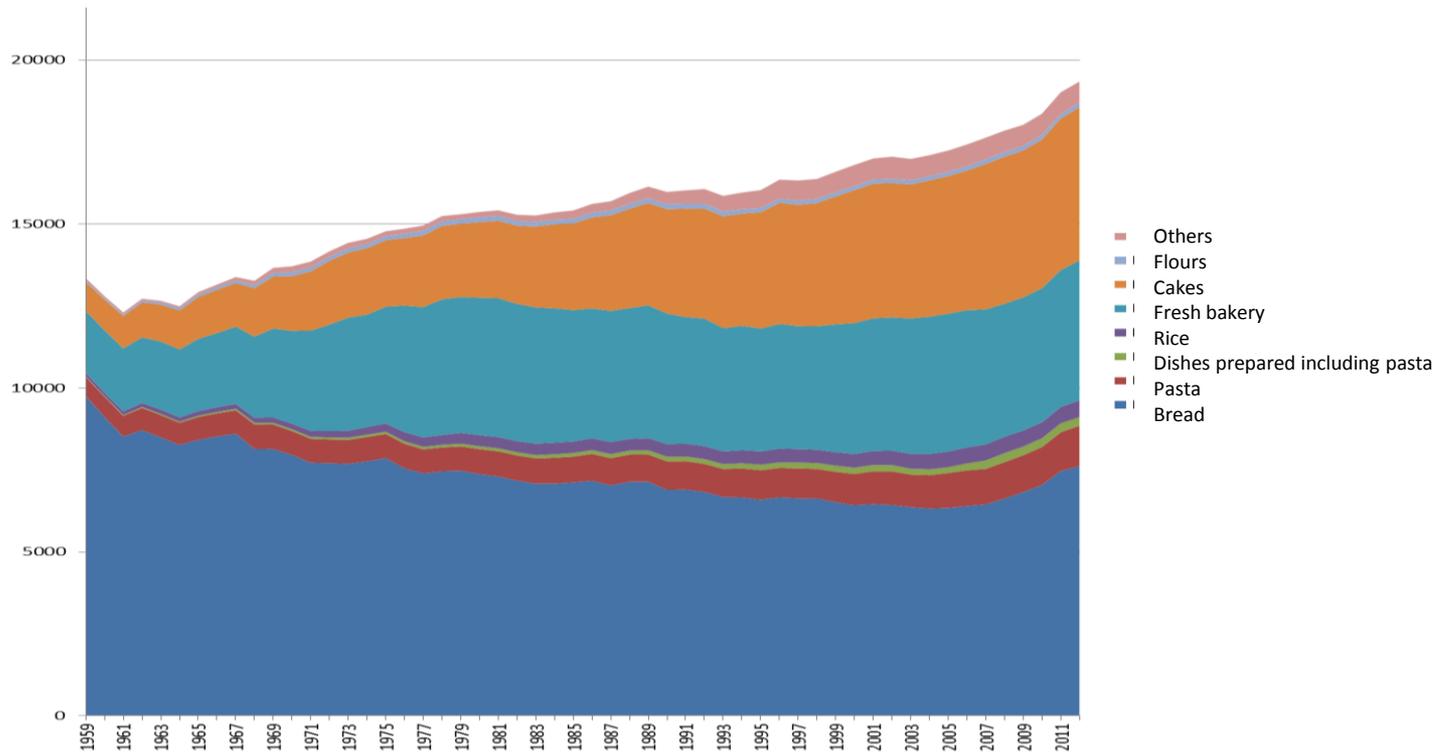
Source : P. Combris, P. Martin d'après FAO Stat



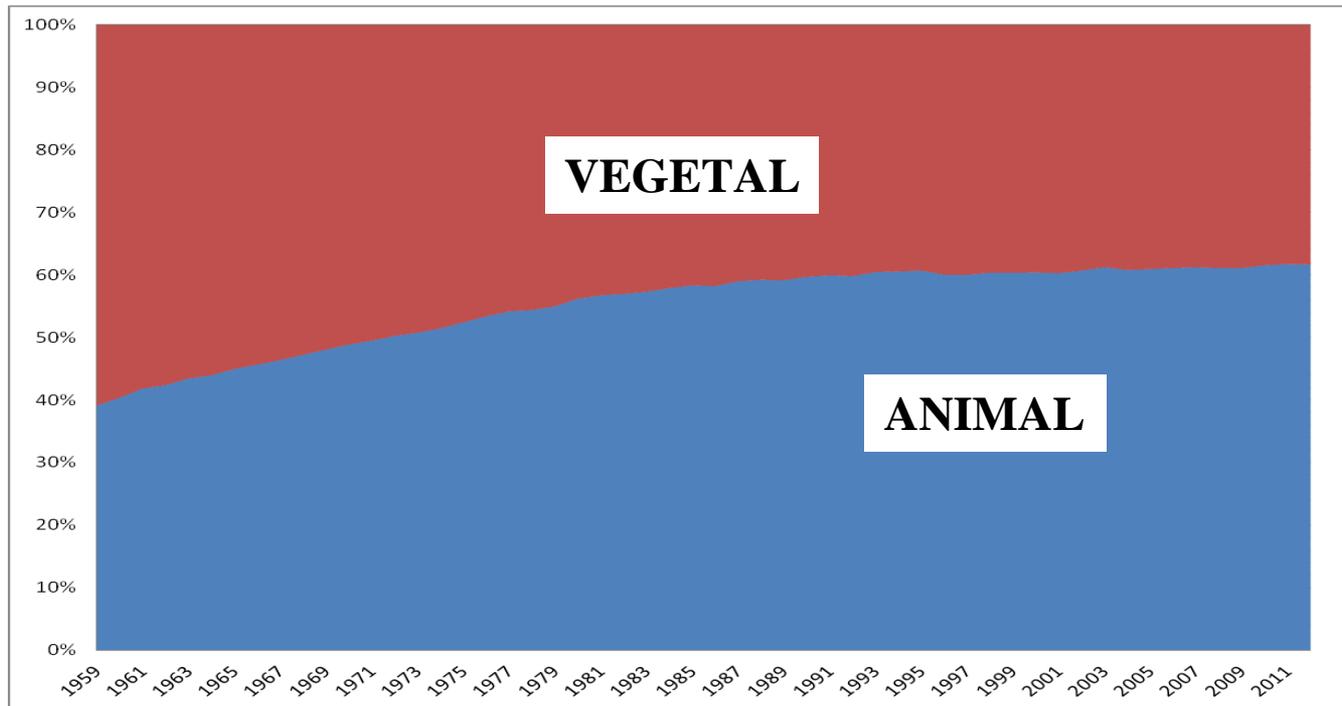
# Slowing-down of MEAT type products in our daily grocery expenses (data: France; 2014; in Millions euros)



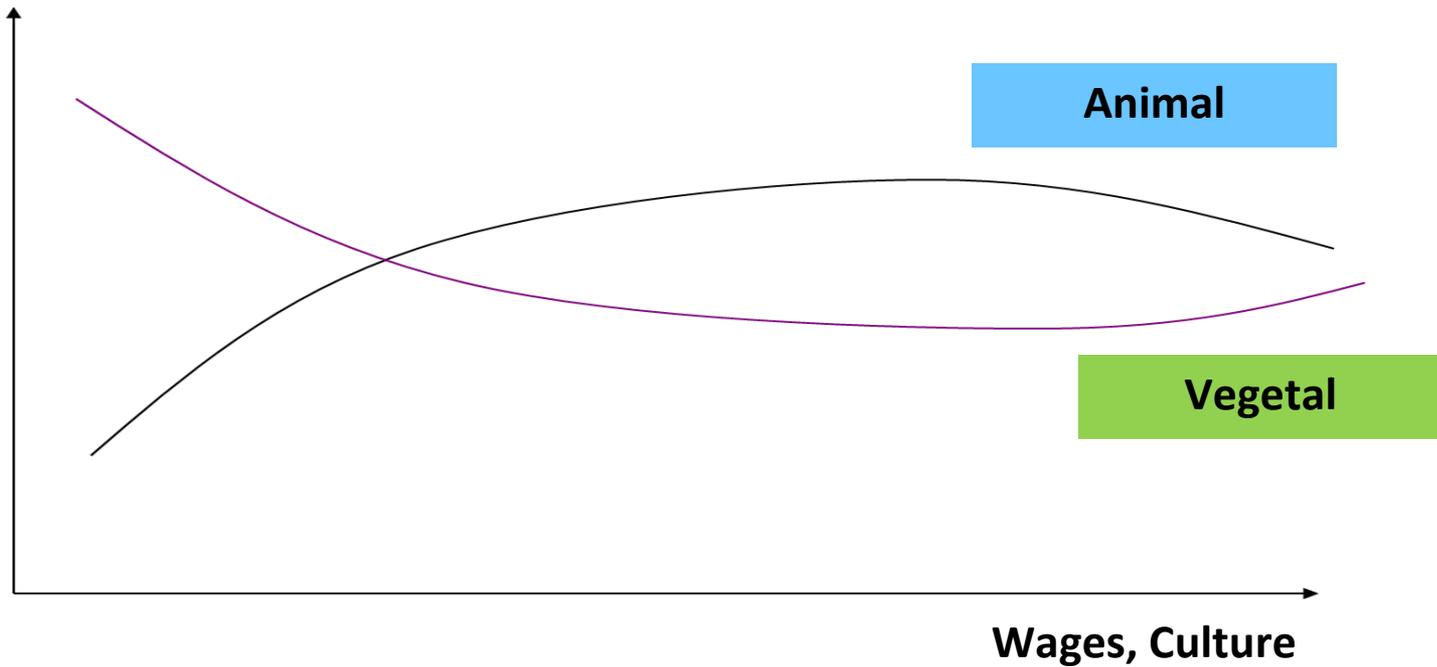
# Increasing part of VEGETAL type products in our daily grocery expenses (data: France; 2005; in Millions euros)



# French consumption of food products made from animal and vegetal sources (data: France; 2005; in Millions euros)



# The beginning of a reverse trend



# The sociological appeal of meat

## **Meat is costlier to produce than plants:**

Between three and eight vegetable proteins are needed to obtain one animal protein.

## **It is consumed more by the wealthy:**

it symbolises improvement in living standards.

**But for almost half a century, the wealthiest all over the world have begun to reduce their consumption of meat.**



# The physiological appeal of meat

- Omnivores seem to prefer food of animal origin.
  - Humans have been scavengers, hunters and livestock farmers.
  - Products of animal origin, especially meat, produce **more intense and longer-lasting feelings of fullness** than plants and have associated fats, and thus calories.
- ➔ **They are sought after by people experiencing shortages and want to feel satisfied.**

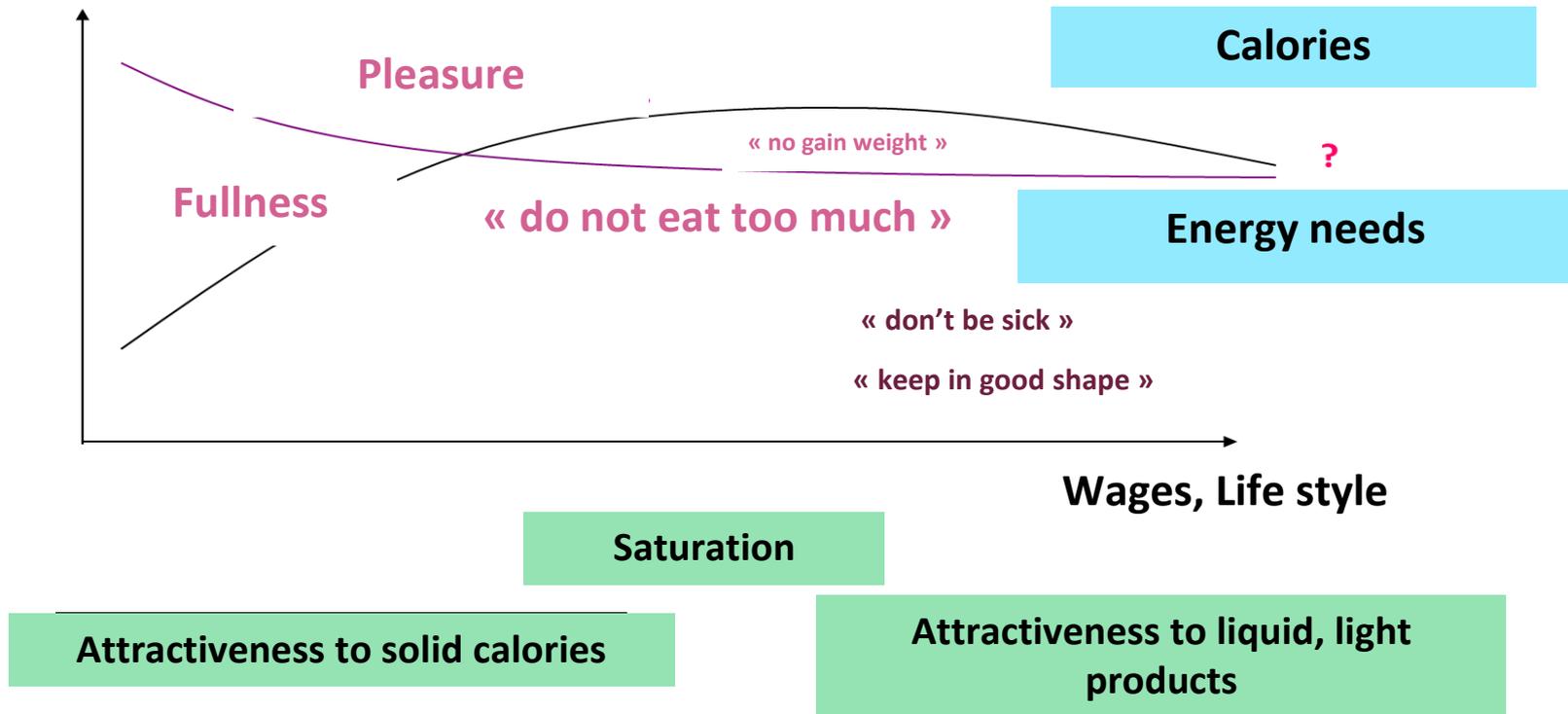


# The pleasure of eating meat

- The attraction and positive feelings are probably **related to the essential nutritional** features of meat.
- Heavy consumers of meat cite **the pleasure** and are more **gourmet** overall.
- Following the information on the carcinogenic risks of meat in 2015, many reactions from France have defended **the pleasure**.



# Feeding purposes are evolving



# The evolution in lifestyles and nutritional needs

- Changes in the organisation of work: mechanisation, automation, robotisation, comfort
  - The increase in leisure time (mostly low-energy activities)
  - + Mechanisation and comfort of the means of transport
  - + Increased comfort of housing
- = Reduction in physical activities and energy expenditures
- = Reduction in caloric intake needs

***Bipedal humans are becoming sedentary***



# Saturation in the wealthy countries

- Less energy is burned
- Food availability has increased

➔ The *wealthy* no longer look for food that “fills the belly”, but **light food**

- Increased awareness of "eating too much"



# Increased awareness of "eating too much"

- A beginning of a trend reversal of substitutions between foods
- A new appeal for products of
  - ✓ plant origin
  - ✓ “white” meat products (meat and fish /without the image of blood)

→ a sort of **neo-vegetarianism**



# Animals : providers of meat?

The growth of the “inorganic” urban environment leads to an attraction **for living things** in proximity to living areas:

**pets**, indoor plants, green areas in the neighbourhood, zoos, etc.

➔ **Animals seen rather as life companions**



# The growing “sarcophagy” (VIALLES, 1987)

Two main attitudes with regard to consumption of meat:

- **zoophages** eat animals without being disturbed by the resemblance to the animal,
- **sarcophages** accept meat only if it no longer resembles the animals.

➔ **rejection of whole animals and of parts identifying the animal (skin, head, feet, offal, blood)**



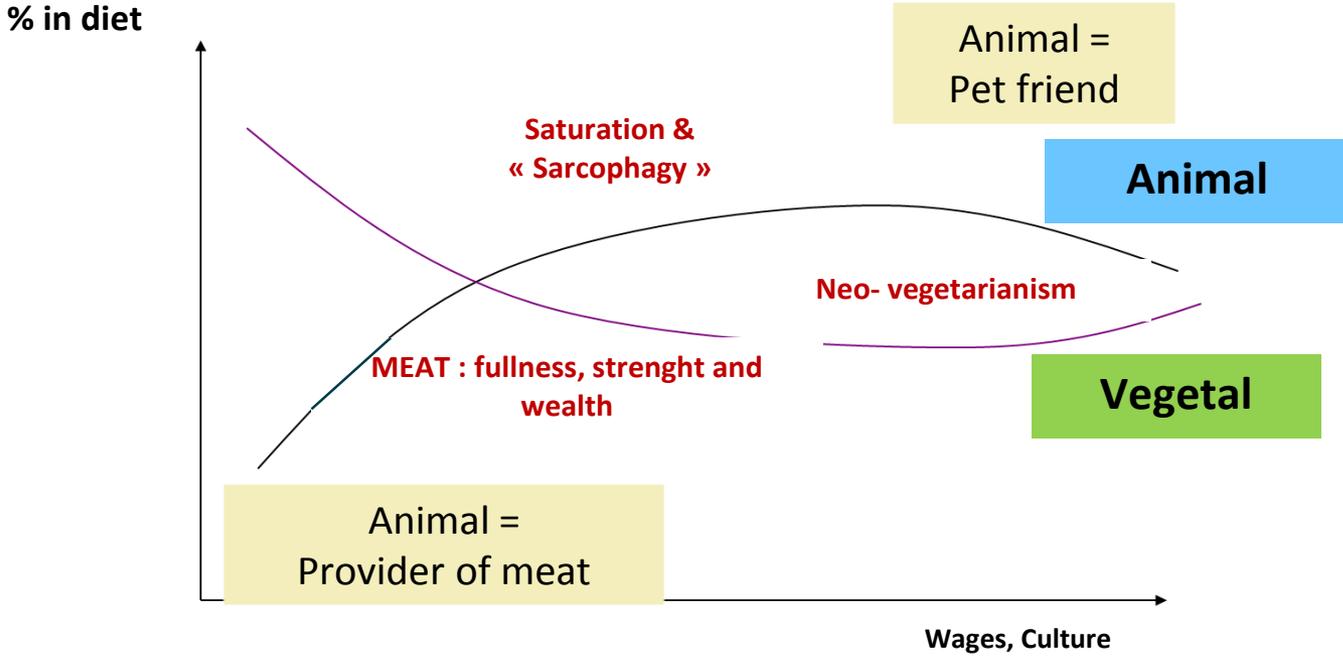
# The development of ecological concerns

**Foods of animal origin have been preferred to those of plant origin.**

- **Vegetarianism** has been limited to **religious grounds**: the sins and pleasures of the flesh (asceticism, fasting), prohibition of killing animals, reincarnation, etc.
- But **defenders of the environment** (The Planet, Mother Earth, Gaia?) advance arguments in favour of reduction in livestock farming and reduction in the consumption of meat : **becoming vegetarian, not eating meat one day a week.**



# Eat vegetable or meat?



Large gaps depending on level of development

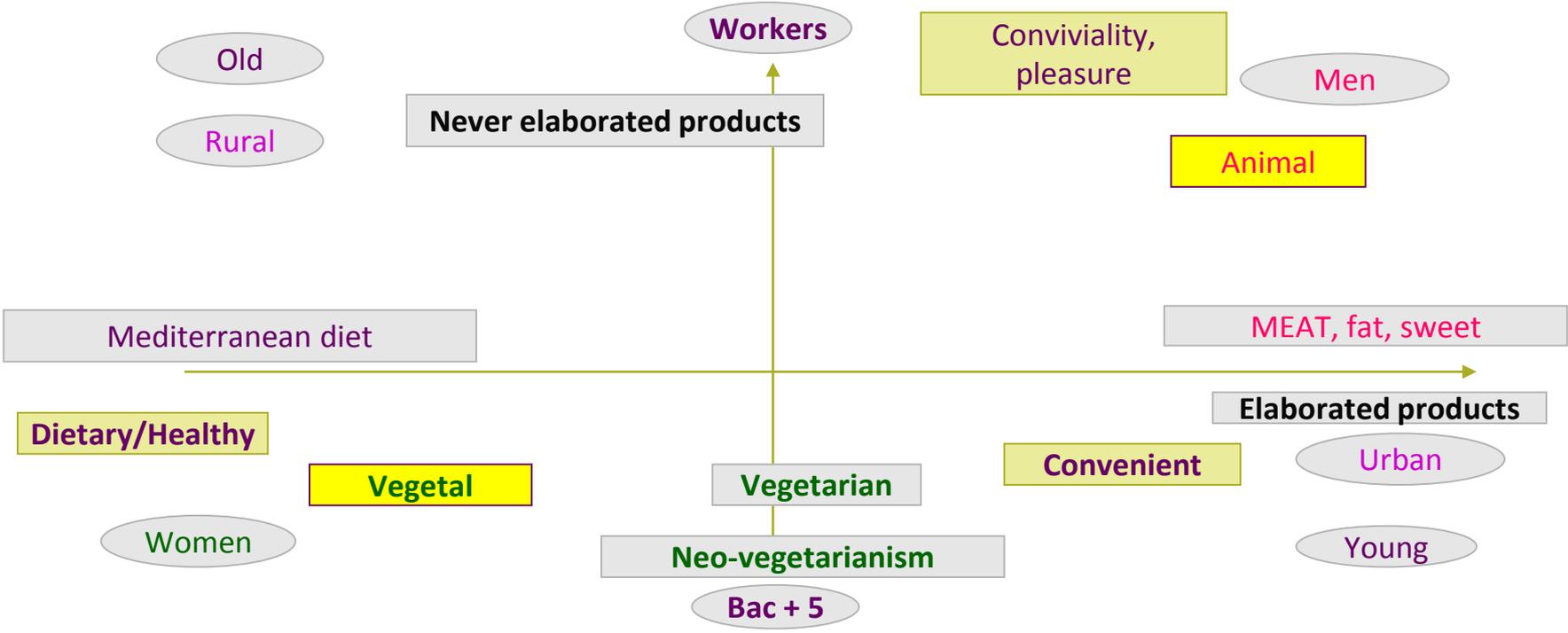
# “Flexitarianism”

- For a single eater, **dietary behaviour is flexible** according to time and place, depending on constraints and concerns related to other activities.
  - “**Flexitarianism**”: a flexible dietary practice between vegetarian and carnivore
- ➔ **More or less rich in vegetable proteins depending on the occasion**

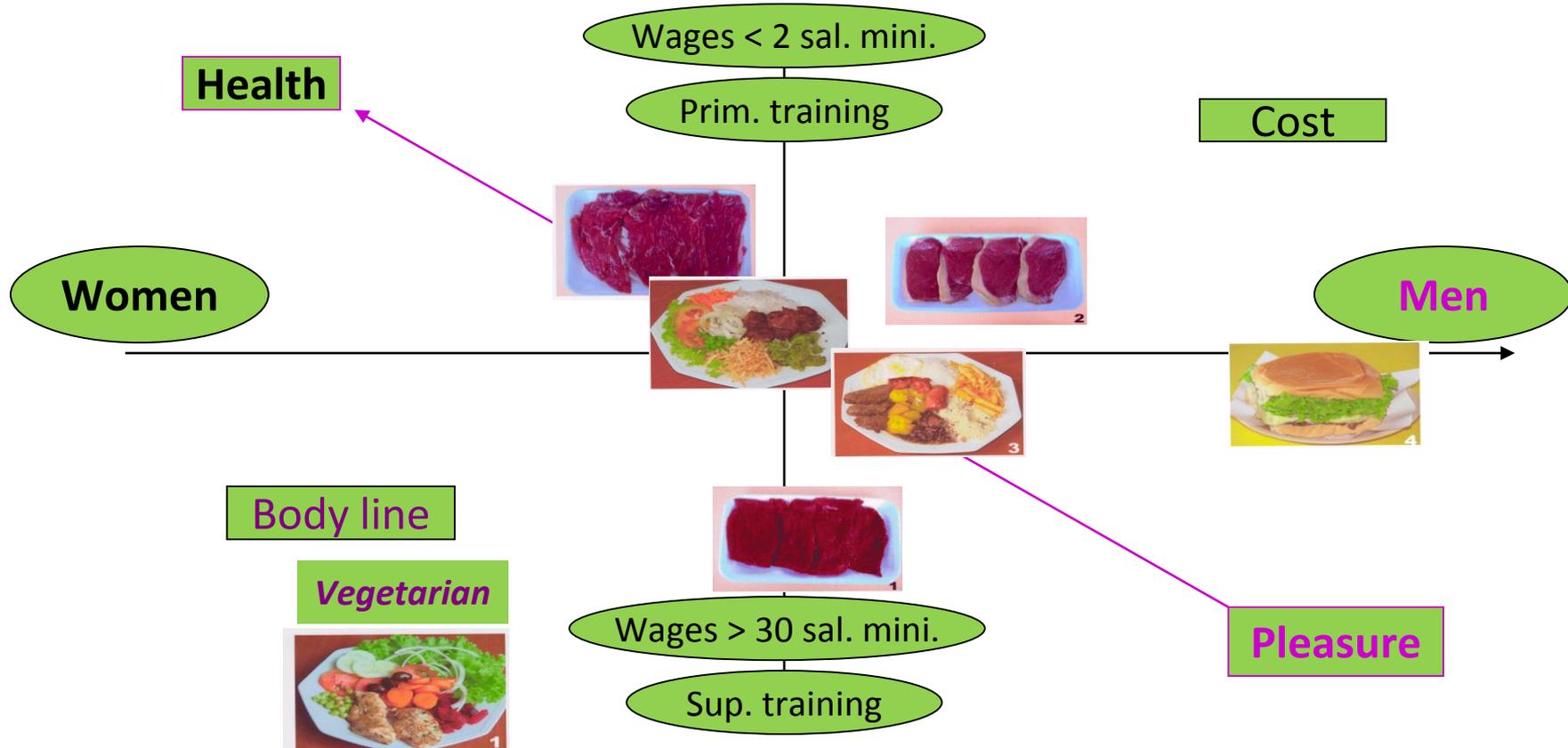


# Food models in France

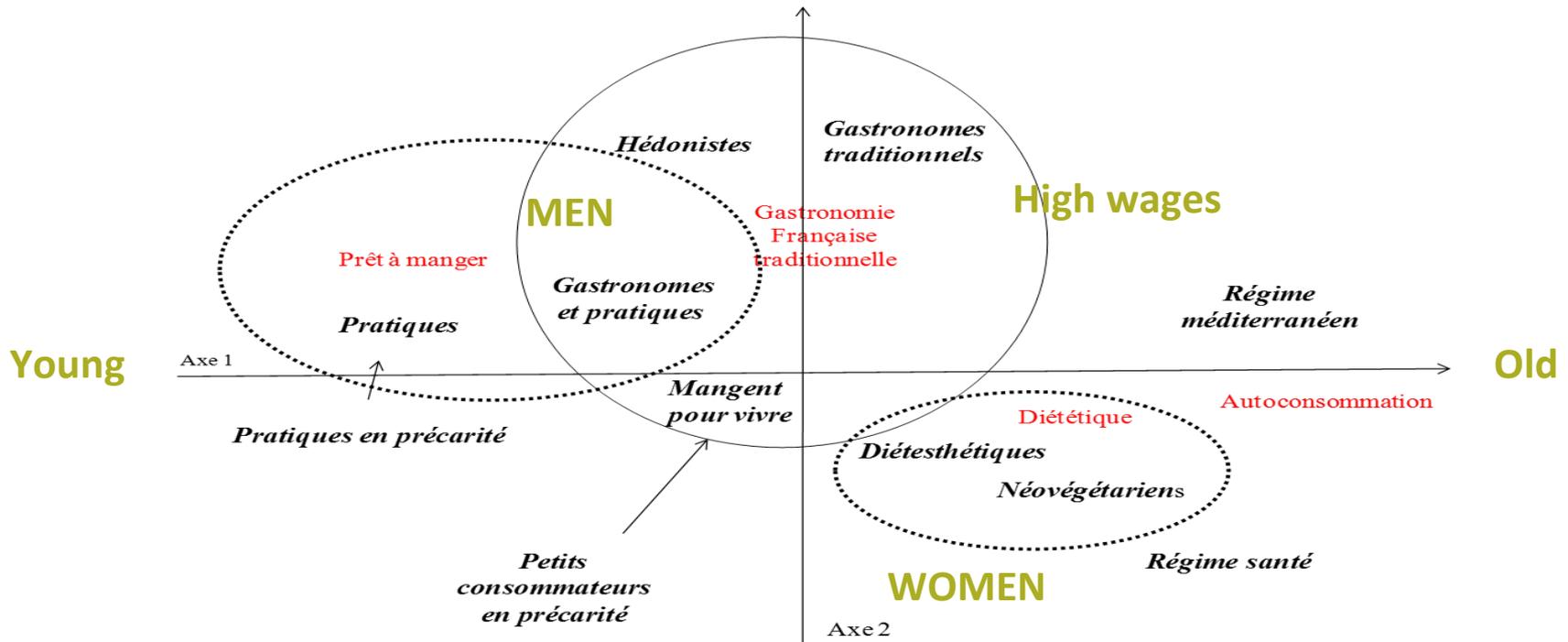
Source : ENITIAA, 2003



# Food models in Brazil (2003)



# Men are meat eaters, Women are vegetable eaters



Source : Lambert J.L., Baromètre santé nutrition 2008, INPES



# New trends : **neo-vegetarianism, flexitarianism**

## **Supported by the wealthy, urbanites and women**

These trends will be accentuated by

- the development of urbanisation (which leads to a new image of animals)
- the rise in nutritional and environmental concerns.

## **But strict vegetarianism will remain limited.**

The consumption of vegetable proteins will thus increase in these populations : **1 to 2 billion by 2050**



# In developing countries:

4 to 6 billion consumers

- Consumption of meat products will continue to increase.
- It will be limited by the rise in prices.
- To reduce costs, **new products** combining animal and **vegetable proteins** will be added to traditional recipes.



# Conclusion

- ✓ The decline in consumption of meat products by the wealthy will be less than the increase in developing countries: 3 times more people.
- ✓ 100 million of wealthy new vegetarians, but 300 to 400 million Hindus who will no longer be vegetarians

The main increase in consumption of vegetable proteins will take place in animal feed.



# Vegetable proteins in our diets?

But the vast majority of the world population will continue to choose and to think that they **eat meat, vegetables, grains** (or recipes that combine them) **but not proteins.**





THANK YOU  
MERCI

