

# Basics of Nutritional Epidemiology

Ulrich Oltersdorf, BFEL

Outline

Definition of Nutritional Epidemiology

The Model

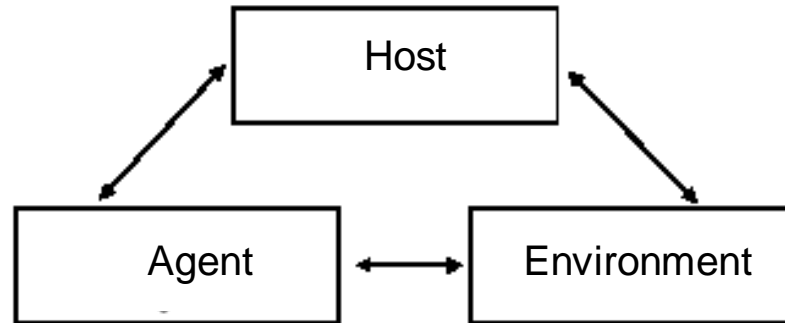
The Method

Evaluation of Results

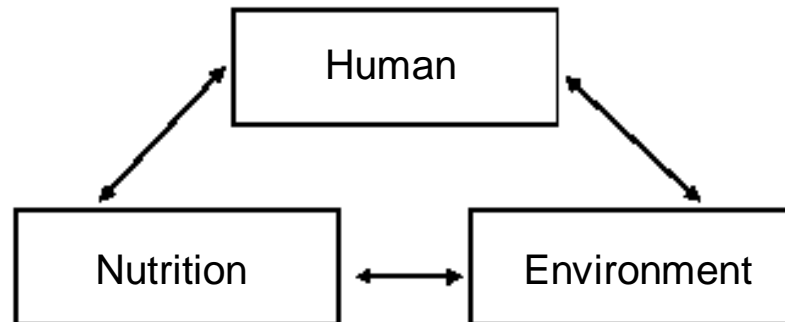
# Traditional (nutritional) Wisdom

## The Origin of Epidemiology as a Science

## Koch-Model and Nutrition Epidemiology



## Model of Nutrition Epidemiology



# **Definition of Nutritional Epidemiology**

**The collection, arrangement and evaluation of information on observable human nutrition behaviour, their determinants (internal parameters) and their outcomes (Health- and Nutritional Status).**

# **The Space of Nutrition Epidemiology**

## Dimension Environment

Social environment

- groups
- stratum, class

Cultural Environment

- norms

Technological Environment

- tools
- flat
- factory

Physical Environment

- climate
- materials

Biological Environment

- vegetation
- microorganism/hygienic conditions

## Dimension „Time“

life cycle, social time

## Dimension Nutrition

Food habit, cuisine

dish

food

nutrients

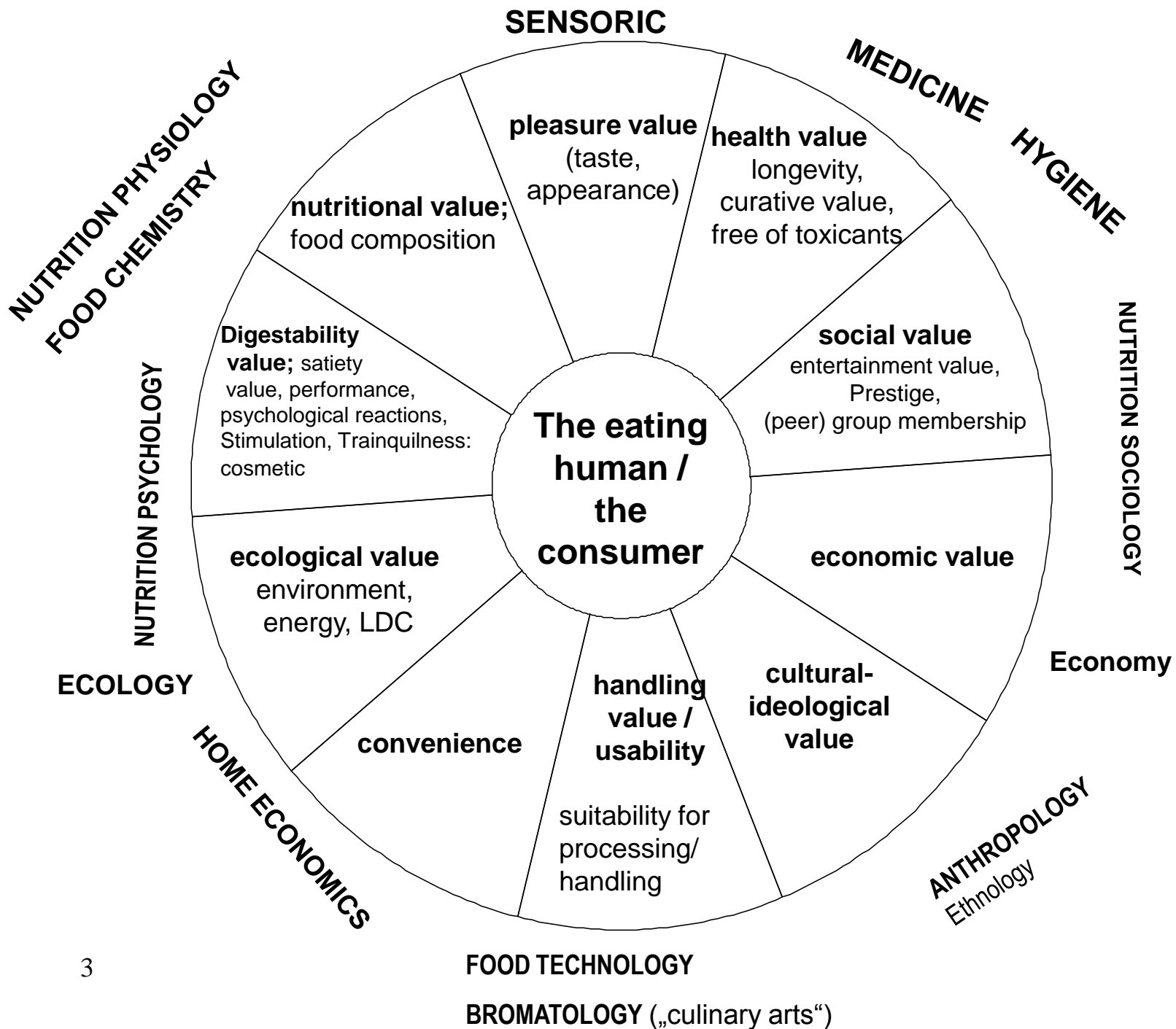
age, genetic, sex  
status (health. disease)  
performance, exposure,  
knowledge

## Dimension Human beings

# **The Research Strategies to Build Models for Nutrition Epidemiology**

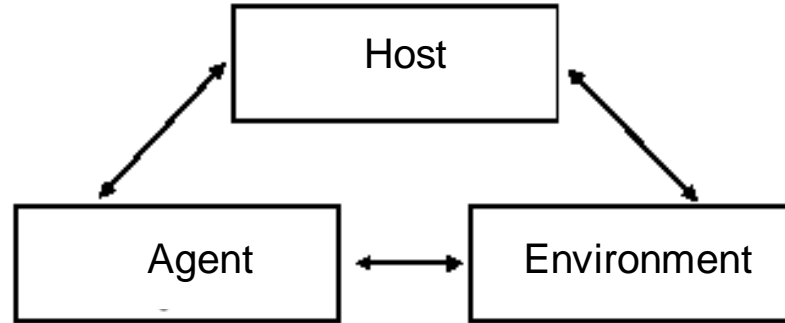
The View of different Sciences -  
the different constructs - variables



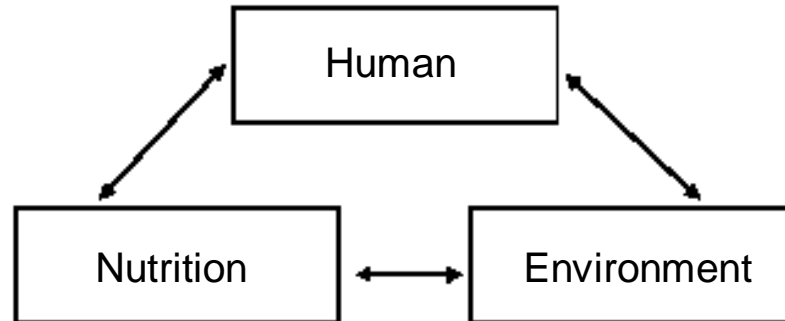


# Simple Model

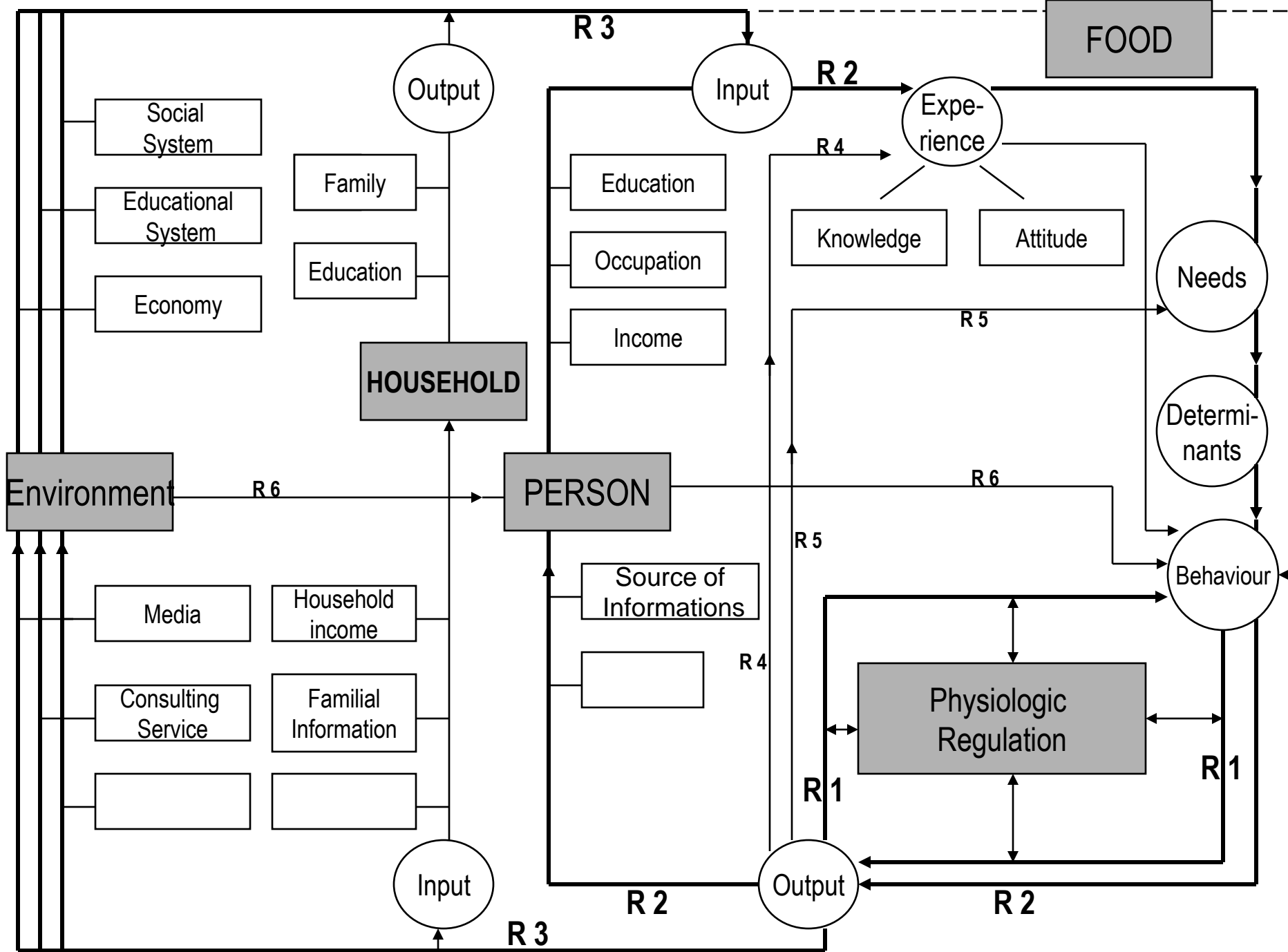
## Koch-Model and Nutrition Epidemiology



## Model of Nutrition Epidemiology



- Advanced Model
- Bio-psycho-socio-ecological Model



# From Model to Method

## The Design

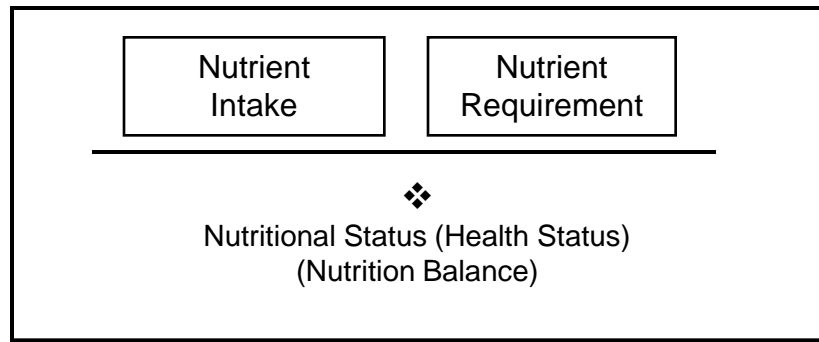
- **Time** - retrospective
  - prospective
- **Strategic** - descriptive
  - analytic
  - experimental
- **Space** - the „field“

Methods

Sampling

Methods

Selections according  
the chosen model

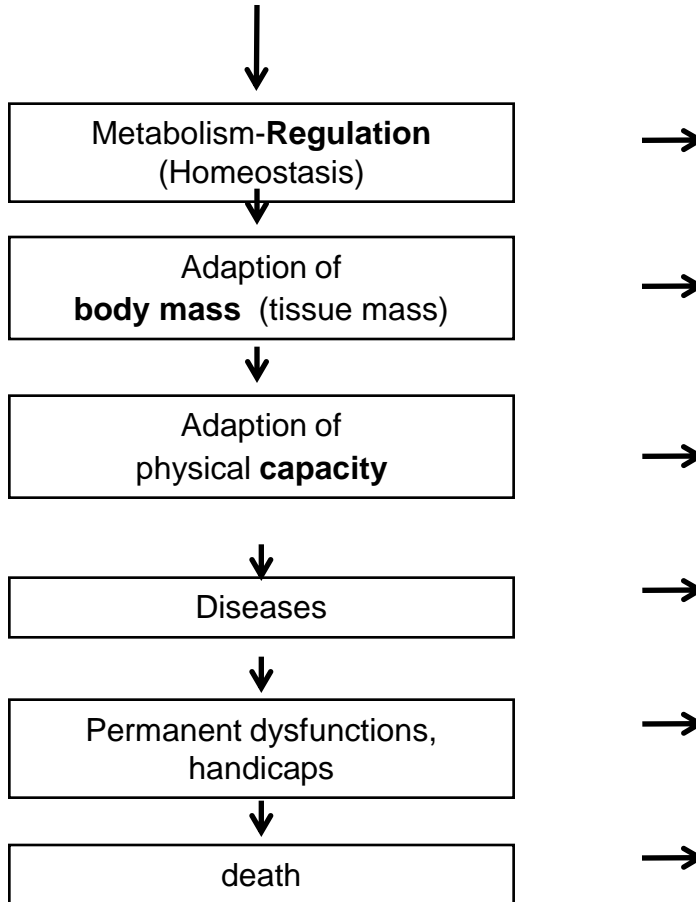


**„Input“**

(factors determining nutritional status)

**„Output“**

(Indikatoren, die den Ernährungszustand charakterisieren, aber auch die Folgen bzw. die Nutzen einer Veränderung in Ernährungsbilanz anzeigen)



**Biochemical Measurements**

in blood, urin etc. (nutrients, metabolites, enzymes, hormones, etc..)

anthropometry

working physiological tests (fitness tests)

clinical diagnosis

physical and mental capacity

mortality rates

**Overview on indicators diagnosing nutritional status**

# **Evaluation of Data - Use of Information gained by Nutrition Surveys**

- Problem of Reference Values
- Tool for Nutrition Planning