



WHEYVOLUTION  
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## **Why a leading food producer uses whey**

**Translating science to diet and health:  
Creating, renovating and enhancing health  
value of brands**

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# Our roots



## Henri Nestlé

**1838**

First chemical analysis of human and cow's milk by J. F Simon



**1867**

First complete powdered infant formula with wheat and malt flour, cow's milk and sugar developed by H. Nestlé



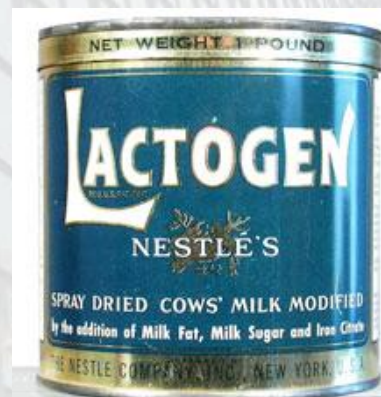
**1915**

"Synthetic milk adapted" formula with skim cow's milk, lactose and vegetable oils developed by Gerstenberger and Ruh (around 2.0 g prot/100 kcal)



**1961**

Process for demineralization of whey protein  
1976: Protein content in infant formulas 1.8 g/100 kcal. Whey:casein ratio similar to human milk



18<sup>th</sup>

19<sup>th</sup>

20<sup>th</sup>

21<sup>st</sup>



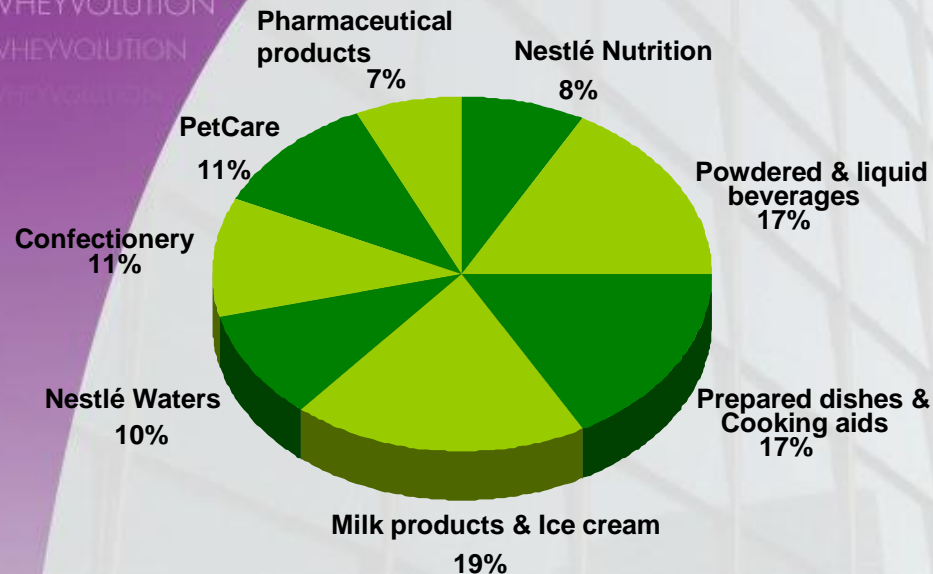
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- Sales of CHF 107.6 billion in 2007
- 276'000 employees
- 93% of sales is food and beverages
- 480 factories in 86 countries



NESCAFÉ

Nestlé

NESTEA

Maggi

PURINA

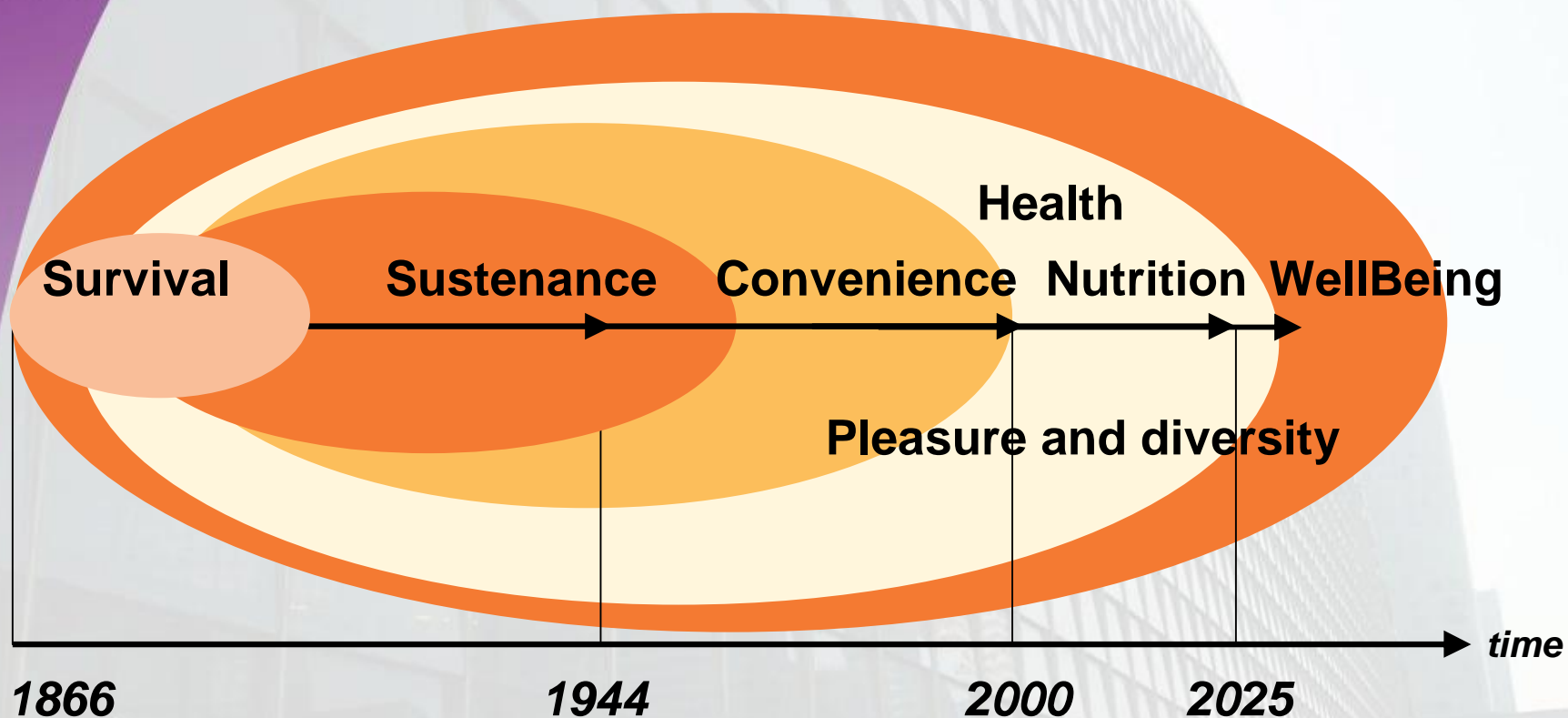
Buitoni





# Nutrition, Health, Wellness

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Good Food, Good Life



# Health and Nutrition

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## ~ Paradox:

- è Good and plentiful food in developed countries
- è Rising incidence of non-communicable degenerative diseases

## ~ WHO:

### è Seven risk factors for NCD

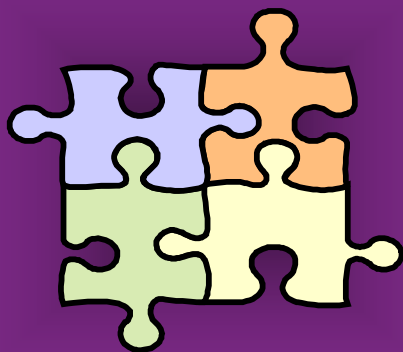
- 4 high blood pressure; tobacco; alcohol; overweight; low intake of fruits and vegetables; high cholesterol; low physical activity

## ~ Translation of public health needs for diet

# Translational nutrition

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**Nutrition  
knowledge**



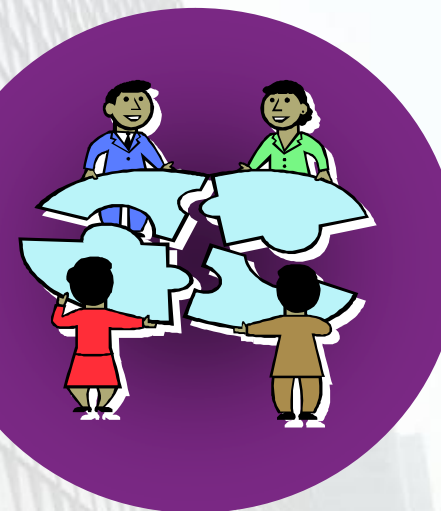
**Science  
discoveries**

**New product development  
Food for health and wellness**

**TRANSLATIONAL  
NUTRITION**

**Consumer insights  
Gaps in nutrition knowledge  
Priorities for future research**

**Society**



**Consumers**



# Translation for Health

- ~ 1 Health Benefits
  - è Reducing risk
  - è Realizing opportunity, enhancing performance
- ~ 2 Clinical Demonstration
  - è No product without human clinical trial
- ~ 3 Market Preference
  - è Consumer appreciation and preference



# Foods AND Values

## Drugs are 'OR' product Foods are 'AND' products



**Nutrition:** How does food affect *all* aspects of health in each individual

**Quality:** How does it taste, smell, and crunch; foods must delight each individual

**Safety:** Free from pathogens, toxins, poisons; alerted for allergies and intolerances

**Processing:** Stable, convenient, cost competitive

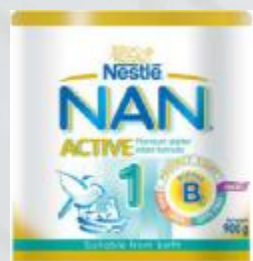


# Why a leading food producer uses whey

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**Hydrolyzed protein**



**Low protein  
AA to breast milk**



**Immune  
enhancing**



**Hydrolyzed protein**



**Good  
tolerance**



**Micellar protein**



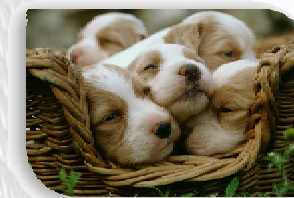
**Micellar protein**



**Wolfberry  
On milk**



**Lycopene  
biofunctionality**



**Colostrum  
Whey bioactives**