

# Image of Geriatric Technology

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**The medium is the message.**  
Marshall McLuhan

**Only strength can cooperate.  
Weakness can only beg.  
Dwight D. Eisenhower**

# Thesis

The product should give a message:

**The user is one of us or of some group  
above us and possesses strength,  
which is augmented or indicated by the  
product**

# Design for All

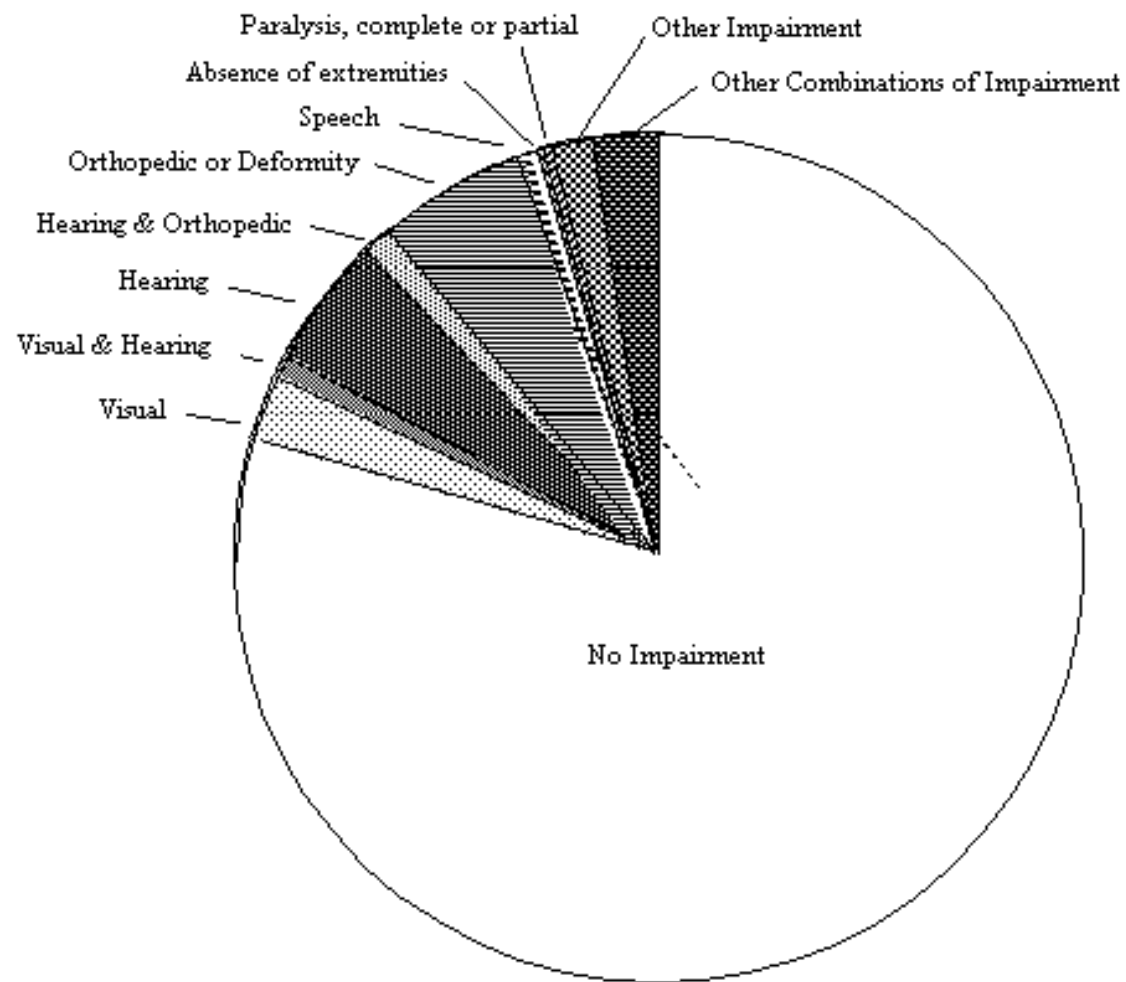
- Who is All?
- All is 0 - 100+ years old
- All is female and male
- All speaks all languages
- All lives around the world
- All has all kind of abilities and disabilities

# Prevalence of Selected Impairments in the United States

	All	Over 65
Impairments (vision, hearing, etc.)	20,3%	50,1
Circulatory conditions	21,7%	63,8%
Respiratory conditions	26,2%	35,0%
Skin and musculoskeletal conditions	25,5%	57,4%
Other chronic conditions (diabetes, urinary, other)	27,8%	30,5%

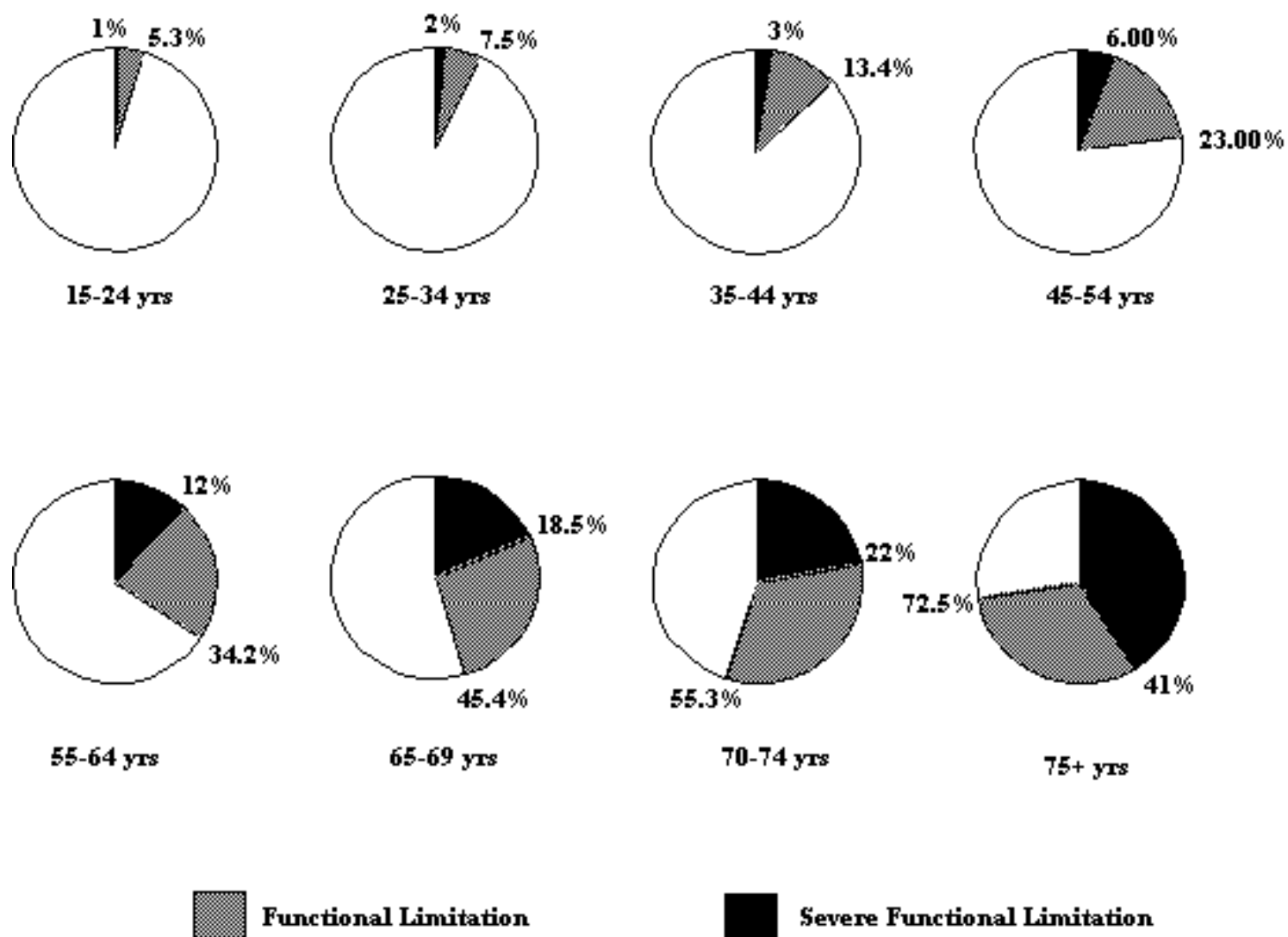
**Figure 1**  
**Percent of U.S. Population with Selected Impairments**

(all ages ; non-institutionalized population)



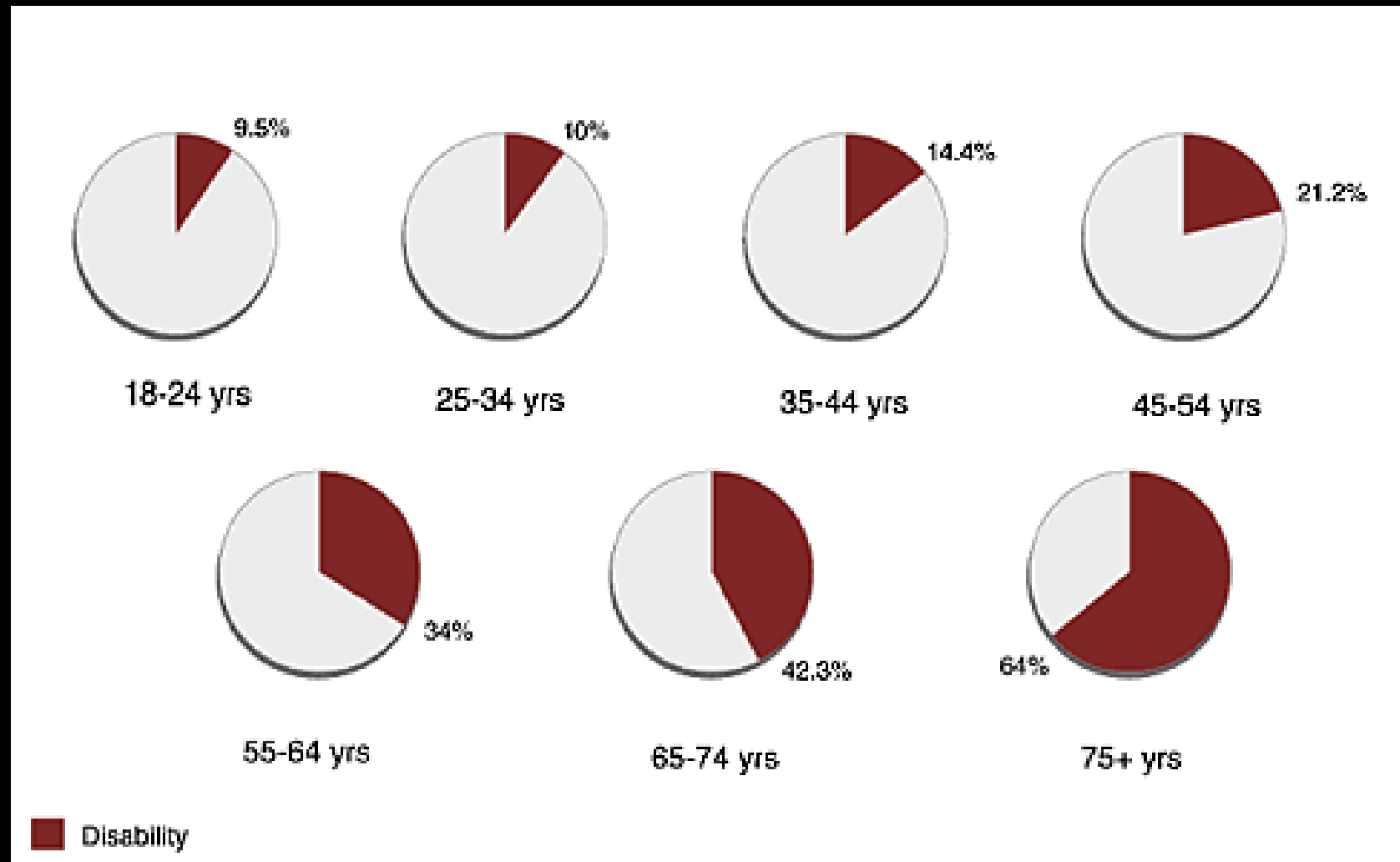
**Source: 1979 National Health Interview Survey (NHIS)**  
**Data categories are exclusive**

**Figure 4**  
**Functional Limitation as a Function of Age**



Source: Bureau of the Census, Series P-70, #8  
 Survey: SIPP, 1984

# Disability as a Function of Age



Source: U.S. Census Bureau Report on Americans with Disabilities: 1994-95, P70-61 (August 1997)

# Wearable computing



# Home Diagnosis and Monitoring for the Elderly Patient

In cooperation with Ortivus



Umeå Institute of Design



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heart rate monitors

# Wrist units



Watch phone



Watch camera

# Well-being wrist units

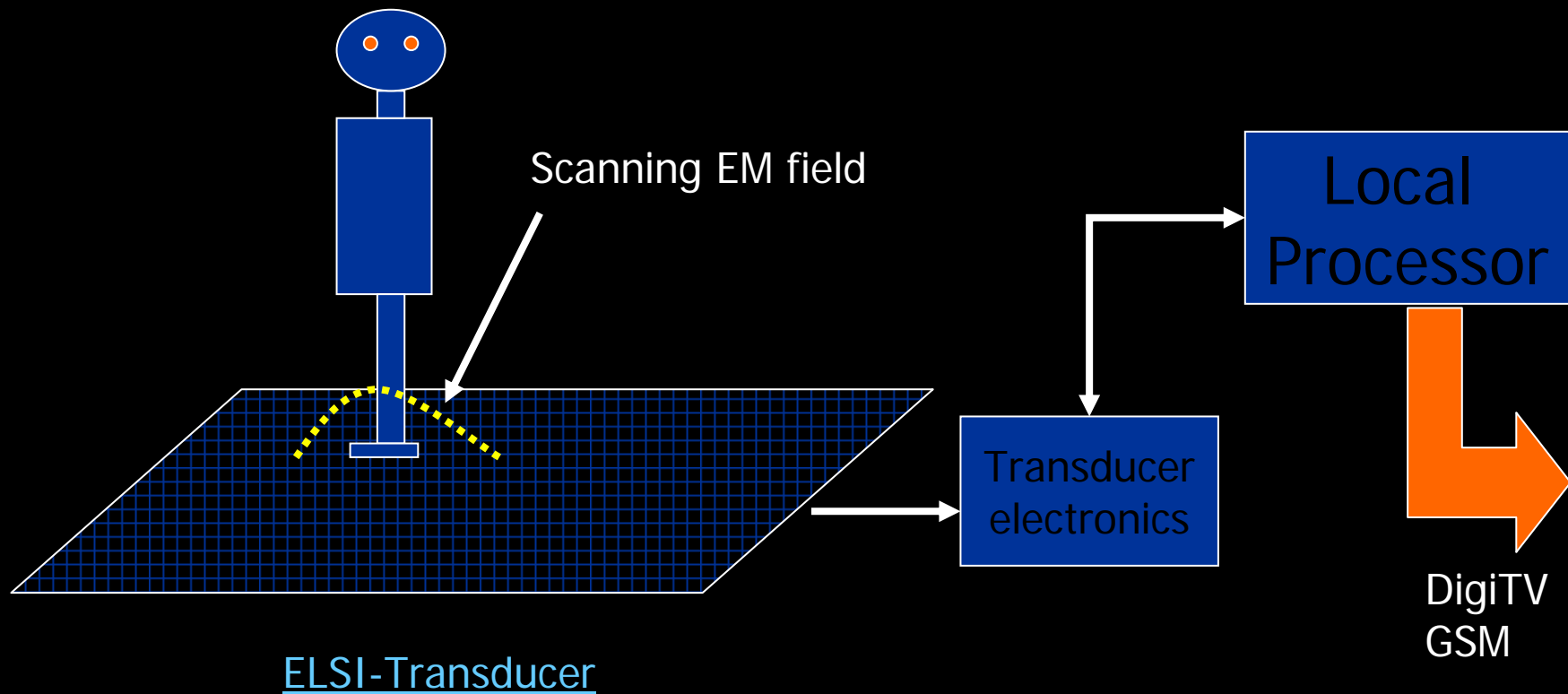


Strength



Weakness – “Dementia Watch”

# ELSI – system – “Dementia Floor!!”



# ELSI: Health information

- **Presence** (Number of persons and locations,
  - A special group: deaf-blind couples))
- **Daily activities** (waking periods, Toilet visits ...)
- **Level of activity** (Quantity and quality)
- **Fall alarm**
- **Door alarm** (exit alarm, burglar alarm)

# ELSI: Home automation

- Control of lighting
- Control of air conditioning
- Control of AV-systems
- Control of home robotics
- Localization of items (keys, wallet ...)
- Quality control of services

# Golf – Affluence, Strength

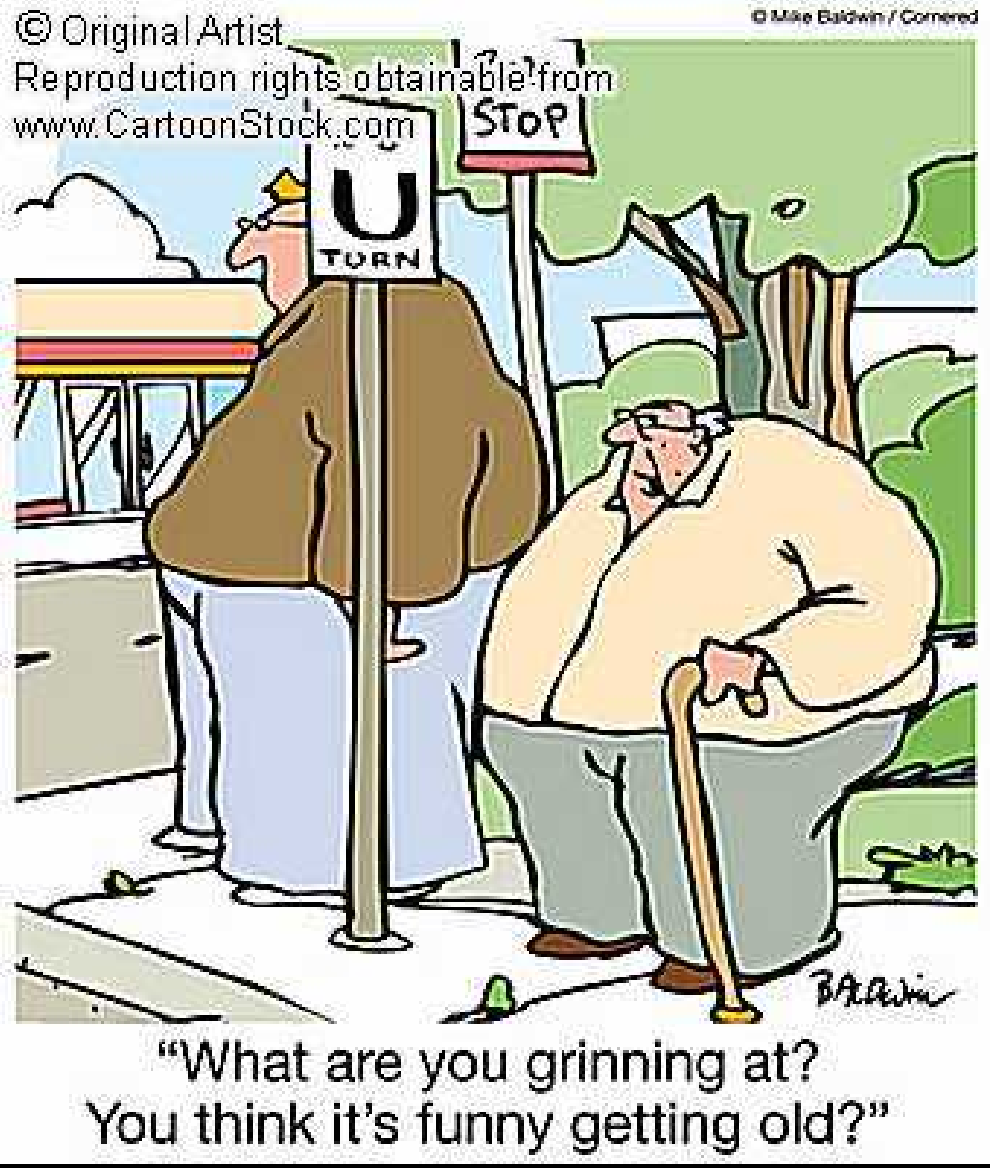


# Nordic Walking – Dementia Walking?



# Conclusions – Geriatric technology

- A product should be designed so that it could be used at any age (e.g. eyeglasses)
  - Important: How to introduce the product – top down approach
- The types of weaknesses are not age related – the number and severity are
- The product should not be a stigma – this is a challenge for designers and marketing people  
One solution: Conceal the characteristics, which are indicating weaknesses
  - additional functional features –  
(avoid hyperinnovation!!)
  - “decorative” features



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“What are you grinning at?  
You think it’s funny getting old?”