

# Old causes, new behavior:

Sustainability in an evolutionary context  
(but followed by modern day suggestions)

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Henk Staats

Social and Organizational Psychology, Leiden University

# Structure of the lecture

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- What is environmental psychology
- How ultimate lead to proximate causes of behavior and how scientific knowledge can be instrumental in inducing pro-environmental change
- Interest in options for improving household sustainability: main outcomes of a recent study

# Environmental Psychology

- The study of the *reciprocal* relations between persons and environments
  1. Can we understand behavior of individuals, households, greenhouse growers, car mechanics, office workers that affects the environment? Can we develop interventions for behavioral change towards sustainability?
  2. How does the physical environment affect thoughts, feelings, behavior and health? Can we design 'better' environments?

# Environmental Psychology

An *empirical* science employing all kinds of measures to collect data: Interviews, questionnaires, observations of behavior, physiological measures, brain scans, performance tests, and more



# Understanding environmental behavior

- Evolutionary perspective, focusing on:
  - Ultimate vs proximate explanations
  - Adaptation to circumstances
  - Stone Age Brain in 21st century world
- Survival and reproduction
  - Not of individuals but of genes
- Manifest in 5 “ancestral” tendencies
- Important to understand, also for effective interventions

- See: Griskevicius, V., Cantú, S. M., and van Vugt, M. (2012). The evolutionary bases for sustainable behavior: implications for marketing, policy, and social entrepreneurship. *Journal of Public Policy and Marketing*, 31, 115-128

# Five “ancestral” tendencies

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- **1. Propensity for *self-interest***
  - Ensure survival and replication of genes of self and family (inclusive fitness)
  - Reciprocal altruism (in small, stable, interdependent groups)
- **2. Desire for *relative status***
  - Costly signalling: spending->resourceful->attractive
  - Competitive altruism/environmentalism: sacrificing increases status (visibility important) -> attraction (“*people worldwide are willing to engage in self-sacrificing behavior to avoid appearing at the bottom of a status-hierarchy*” *ibid.*, p.121)

# Five “ancestral” tendencies

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- **3. Unconsciously *copying* the behavior of others;**
  - adaptive value in the many situations where trial and error is too costly
  - Effective for change when majority is seen to go along
- **4. Valuing the *present* over the future**
  - time discounting
- **5. Disregarding *impalpable* concerns:**
  - difficult to appreciate environmental problems when there are no clear sensory (visual, audible, olfactory) cues

# 1. Propensity for self-interest

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**Environment as common good.**

- Collectively owned
- . indivisible
- Important for every individual,
- At the same time:
  - . No one can be excluded from use
  - . Individual (ab)use has very limited effects
  - . Environmental consequences:
    - . Long term
    - . Uncertain

# Environment as common good

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==> concern for the environment is not a private interest in decision making:  
short term private interests determine decision making and behavior

==> if private interests  $\neq$  environmental interests,  
generally no behavioral change in favor of the environment:

==> ==> **Social Dilemma**

Choice situation with a conflict between maximizing private interest and maximizing group interest

# Potential payoff distribution in social dilemma from MY perspective

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		OTHER(S)	
		B (Coop)	A(defect.)
ME	B (cooperation)	6	2
	A(defection)	8	4

# Defection enhanced by

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- Importance of common good to actor
- Abundance
- Uncertainty
  - Environmental
  - Social

# NEVERTHELESS: private interest is not always decisive

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- Cooperative behavior behavior that is not clearly in the individual's private interest
  - . Recycling household waste
  - . Installing solar panels
  - . Buying ecologically grown vegetables
- What conditions enhance cooperative behavior in a social dilemma?

# Social dilemma research

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Cooperative choice enhanced by:

- establishing norm (social function of behavior)
  - . Mutual identification
  - . Information about choice others
  - . Possibilities of sanctions/disapproval
  - .
- education (group interest => personal interest)
  - . Seriousness of problem
  - . Link individual behavior-> collective outcome
  - . Efficacy behavioral change

## 2. Desire for *relative* status

‘Going green to be seen’ (Griskevicius & van den Bergh, 2010)



# 3. Unconsciously *copying* the behavior of others: Hotel Linen Reuse as a challenge for environmental psychologists

Be a part of the solution.  
Save water and energy.

Please reuse your linens.  
Place this card on your pillow if you  
would like your sheets changed.

At The Courtyard Newark UD  
We are trying to make a difference.  
We appreciate your help.



# Invoking Social Norms

(Goldstein, Griskevicius, & Cialdini, 2007)

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- A charming, and very practical study based on Cialdini's work on the functioning of norms.
- Main concepts:
  - **reciprocity**
  - **descriptive norm**
    - (what do other people do in a situation like this)
    - Especially effective under uncertainty (Festinger, 1954)

# Invoking Social Norms: Results

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- Results Reciprocation appeal:
  - 45% cooperation (vs 30% earlier appeals)
- Next idea: apply descriptive norm
- “75% of our guests have participated”
- 44% cooperation
- Last idea: whose descriptive norm exactly?
  - People with
    - Similar characteristics
    - Sharing environment where decision has to be made (Festinger, 1954)

# Invoking Social Norms: Results descriptive norm according to Festinger

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- “75% of the guests **who stayed in this room** participated in our resource saving program...”
  
- Result:     **49% cooperation**

## 4. Valuing the *present* over the future

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- Showing in success to combat ozone layer depletion
- vs
- Global warming
  
- Strategies: emphasize current, local manifestations of environmental problems vs distant, long term effects when possible

# Hurricane Sandy and climate change

- “One thing, though, seems likely: This will be perceived as a climate-change-related event by much of the public. Weird, extreme weather makes people worry, makes them think the world is changing.
- They aren't wrong about that”

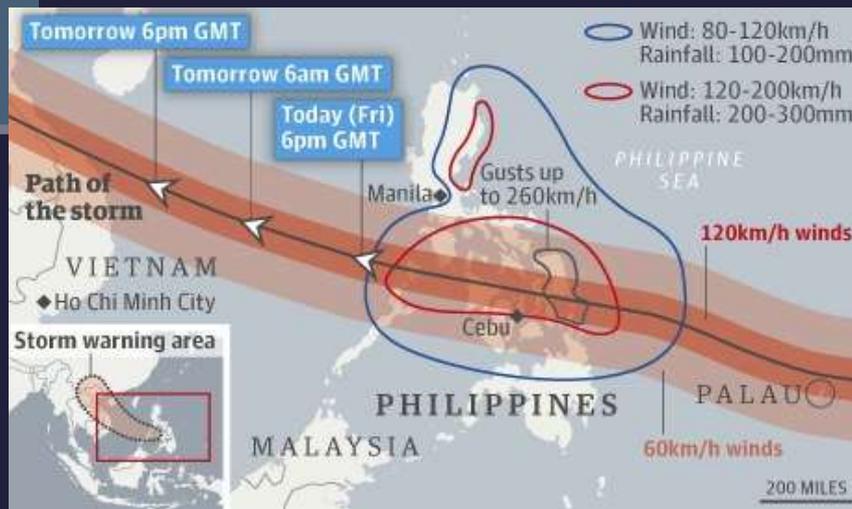


Guardian, October 31,  
2012

# Super Typhoon Haiyan

Guardian, November 11,  
2013

“To anyone who continues to deny the reality that is climate change, I dare them to get off their ivory towers and away from the comfort of their armchairs. I dare them to go to the islands of the Pacific, the islands of the Caribbean and the islands of the Indian ocean and see the impacts of rising sea levels”

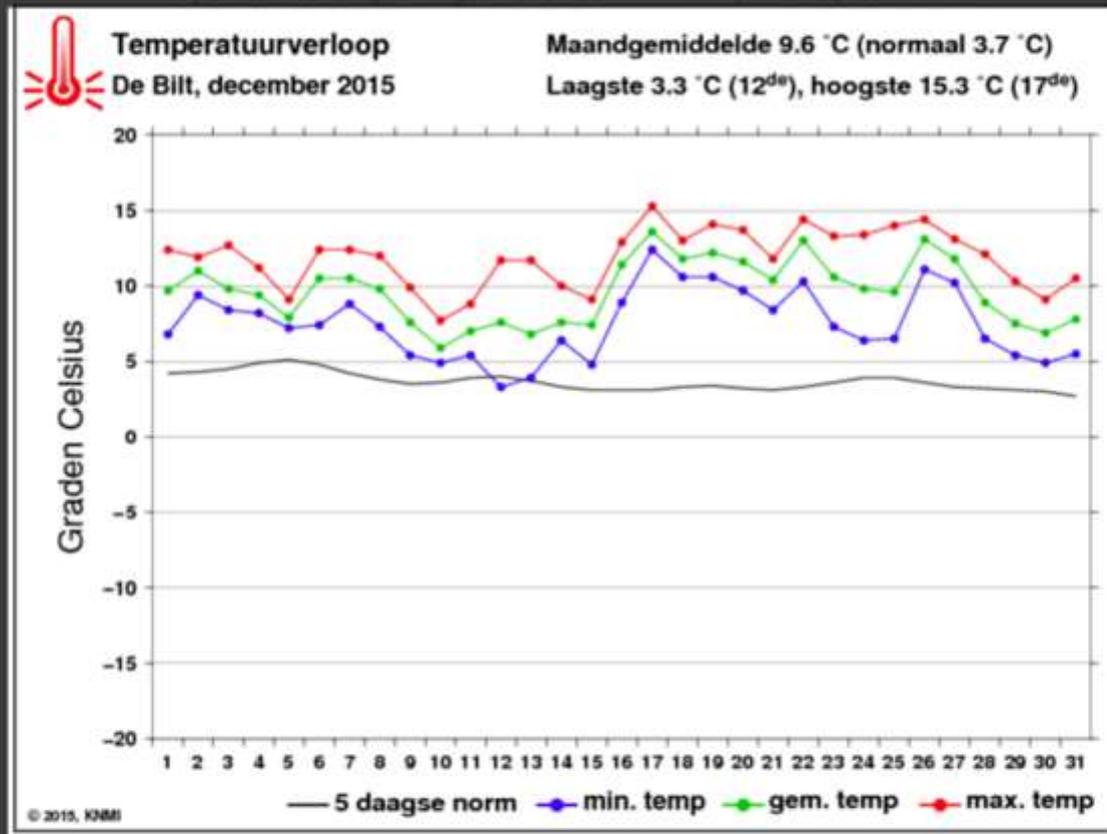


# France, November 2014



"We have an enormous amount of damage, with walls collapsing onto roads," said deputy mayor of an Ardeche village Michel Aymard, who said it was **the third time in two months the region had been hit by devastating floods.**

# Temperature in December 2015: highest recorded ever



De Bilt: Zuidoostelijk part in Maand met 50 mm regen

December was een zonnige maand met gemiddeld over het land 75 zonuren tegen een langjarig

# 5. Disregarding *impalpable* concerns:

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- Unawareness leads to neglect:

“Flowing water purifies itself every 10 miles.”

(Hardin, G., The Tragedy of the commons. 1968, *Science*, 162, 1243-1248)

# Making things visible: 10.000 people at the same time

- Citizen Science Experiment (Leiden U.):

10.000 people simultaneously measuring PM (fijn stof) in 2013



# Direct behavioral information:

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FEEDBACK (information about past behavior and/or effects of behavior)

Effective if:

- Communicated soon after behavior
- In meaningful units
- Compared to relevant standard
- Goal present (implicit/explicit)

<http://www.opower.com/what-is-opower/reports/>

# And one person on his own.....

- One person on his own designing and attaching stickers on bike traffic light poles, in his own words “to raise awareness”.

