

The Psychology of Emotion

— Focusing on the Function of Emotion —

Toshihiko Endo

(Department of Educational Psychology/
Graduate School of Education)

The figures, photos and moving images with † marks attached belong to their copyright holders. Reusing or reproducing them is prohibited unless permission is obtained directly from such copyright holders.

Figure removed
due to copyright restrictions

http://www.snoopy.com/comics/peanuts/meet_the_gang/meet_linus.html

- Nurturing, parent-child relationships and childhood development
- Focusing on subjectivity in nurturers
- Studying the meaning of subjectivity scientifically

What Are the Hidden Functions of Emotion?

- ① Changing views on emotion_*
- ② Where intelligence that lacks emotion ends up_*
- ③ The importance of emotion_*
- ④ Emotion as a double-edged sword*

Changing Views on Emotion

* The mind in Ancient Greece and Rome

Passion vs. *Reason*

Heart vs. *Mind*

Plato → The human soul is like a chariot drawn by two horses, one obedient, the other rebellious.

Stoicism → Stoic

In the confrontation between emotion and cognition : the primacy of cognition
→ The fundamental view of emotion in Western philosophy
(Exceptions : 18C Smith, Hume / Rousseau, etc.)

* Conventional psychology

→ postulates the independence of emotion and cognition since the time of Plato

Emotion = chaotic, unregulated, animal-like, irrational, disruptive, etc.

* Development = Getting out of the world of **passion**
(Reduction of animal-like elements)
Getting into the world of **reason**
(Increase in human factors)

- 1) Emotion → essentially functionless and disruptive
- 2) Emotion → It once functioned well, but is becoming obsolete over time
- 3) Emotion → various biological and social functions

“out”-law → “in”-law (1+2→3)

- “Disorganizer” → “Organizer”
- “Irrational” → “Rational”

- **Emotion and intelligence**

The correlation between emotional and intellectual aspects of the mind

- **Intelligence over emotion**

[Emotional intelligence]

Controlling and adjusting emotion and its malfunction

- **Intelligence of emotion**

[Emotional intelligence]

Wisdom and functions inherent in emotion and emotional inhibition

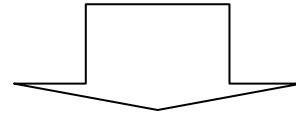


‡ Goleman, D. (1996). *Emotional Intelligence: Why It Can Matter More Than IQ*. Japanese translation by K. Tsuchiya. Kodansha Ltd.



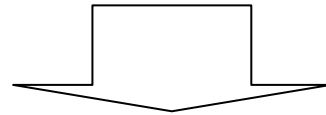
‡ Goleman, D. (2007). *Social Intelligence: The New Science of Human Relationships*. Japanese translation by K. Tsuchiya. Nikkei Publishing Inc.

Controlling emotions with intelligence



Complementing emotions with intelligence

Balancing emotions and intelligence



Complementing intelligence with emotions

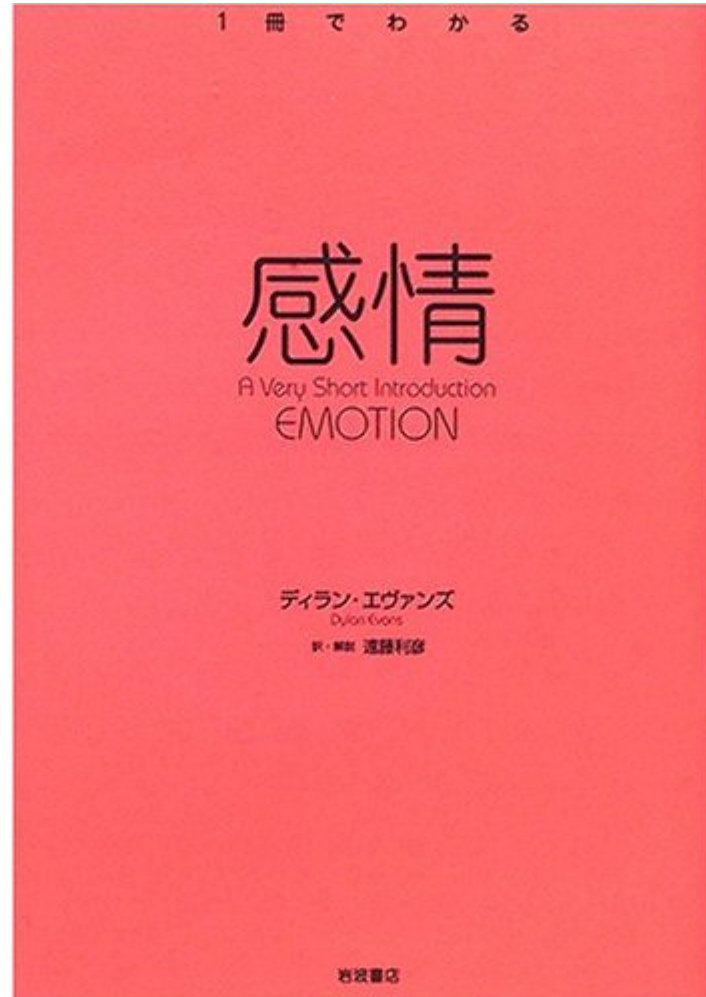
Making good use of emotional intelligence*

Where intelligence that lacks
emotion ends up

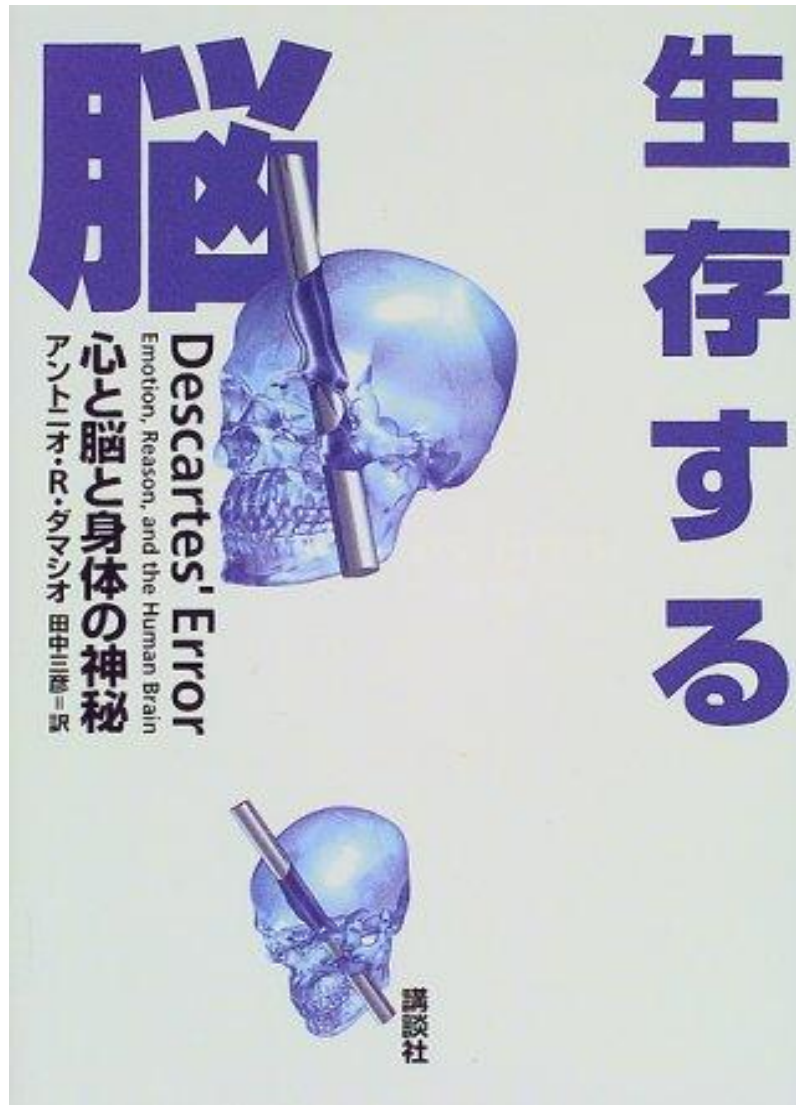
Figure removed
due to copyright restrictions

<http://www.startrek-dvd.jp/tos/archives/cast/>

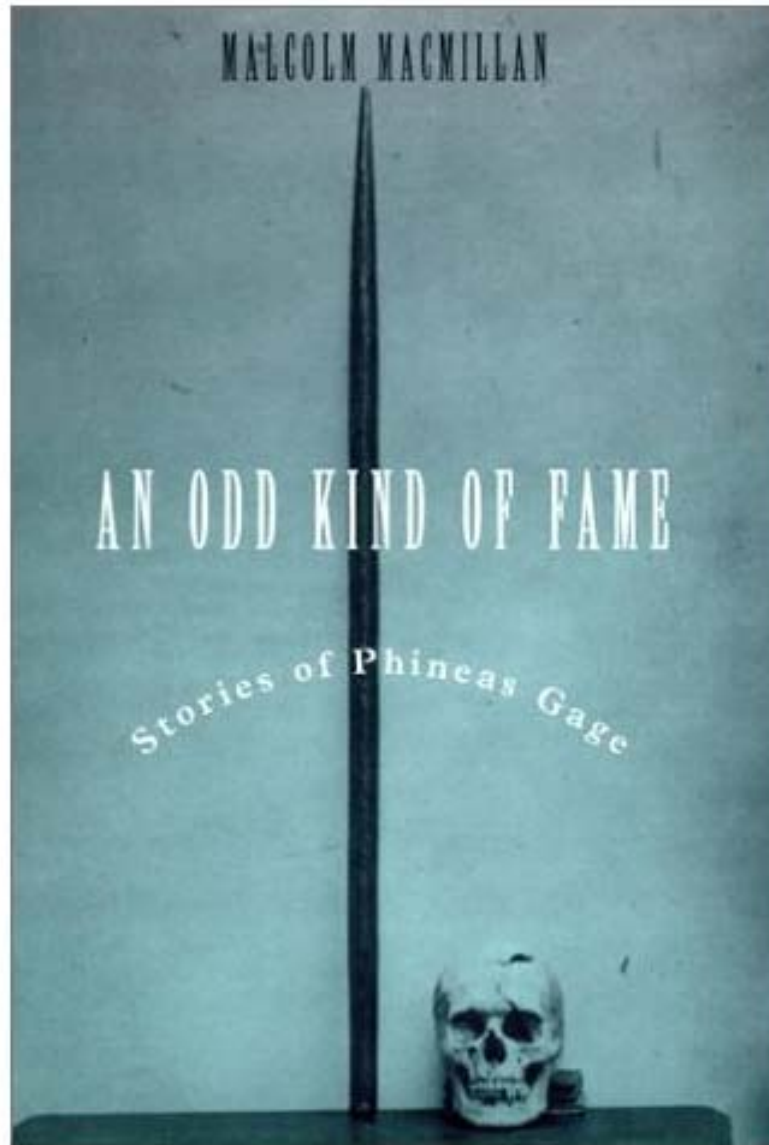
Figure removed
due to copyright
restrictions



‡ Evans, D. (2005). *Emotion: A Very Short Introduction*, Japanese translation by T. Endo. Iwanami Shoten, Publishers.



‡ Damasio, A.R. (2000). *Descartes' Error: Emotion, Reason, and the Human Brain*. Japanese translation by M. Tanaka. Kodansha Ltd.



‡ MacMillan, M. (2000). *Odd kind of fame: Stories of Phineas Gage*.
Bradford Books MIT Press
<http://mitpress.mit.edu/9780262632591/>

- Phineas Gage

- In 1848: He had an accident while doing railroad construction work
- An iron rod blasted through his brain's frontal lobe.

(His ventromedial prefrontal cortex and orbitofrontal cortex were severely damaged.)

- He made a dramatic recovery.
- Intellectual aspects : little change
- Sensory and motor : little change
- Personality and emotion : big change

He became Irresponsible, impulsive, short-tempered, moody, and had great difficulty in planning and decision-making on a daily basis.

*Damasio : paying attention to patients like Gage

Emotional disorders + impulsivity + indifference to planning
Occurred in more than a few cases where no decline in IQ was observed.

While maintaining cognitive function, these people experienced difficulties in social life

Eliot's case: Iona, a gambling game

*Emotions are essential to planning and decision-making

Emotion is not opposed to reason.

Emotion guides and controls thought and decision making.

Emotion complements thought. *

Important Functions of Emotion (1)

Emotions as **intrapersonal** phenomena

a) Guidance and motivation for action (gut feeling)

The function of preferential allocation of interruption and attention
Preparing the mind and body for adaptive action and maintaining this state

(→e.g. the sorrow and pain of separation: rebuilding attachment relationships)

b) Enhancing learning and memory (emotions functioning as an amplifier)

Strong emotions experienced amplify the importance of events and situations encountered and feed this back to the brain and body.

→ The somatic-marker hypothesis (Damasio)

- “It’s better than doing nothing.”
- “It’s better than being too late due to being lost in thought.”
- “It’s better than doing something haphazardly.”



“Emergencies measures systems under pressure”

* **Johnson-Laird & Oatley(1992):**

Emotions fill the gap between “God” and “insects.”

→ **Default mechanisms** that flexibly and swiftly lead us to perform probabilistically the most rational actions

* Because of their undeveloped cognitive functions, children gain relatively large benefits from the guidance and planning function of emotions.

* **Ledoux(1994):**

Neurologically, the development of emotional systems precedes that of cognitive systems. → There is a possibility that choices of actions guided by emotions consequently support and accelerate development.

Important Functions of Emotion (2)

Emotions as **interpersonal** phenomena

a) The communication function of emotions (emotions = a universal language)

Emotions displayed (facial expression and voice) <+ eye gaze> have a definite effect on others.

→e.g. The Fore people in New Guinea; Wernicke's aphasia ("the President's speeches"); the case of Monica; lack of emotional expression in premature infants, etc.

*
_

Utilizing emotional expression of others → social referencing (efficient learning)*
_

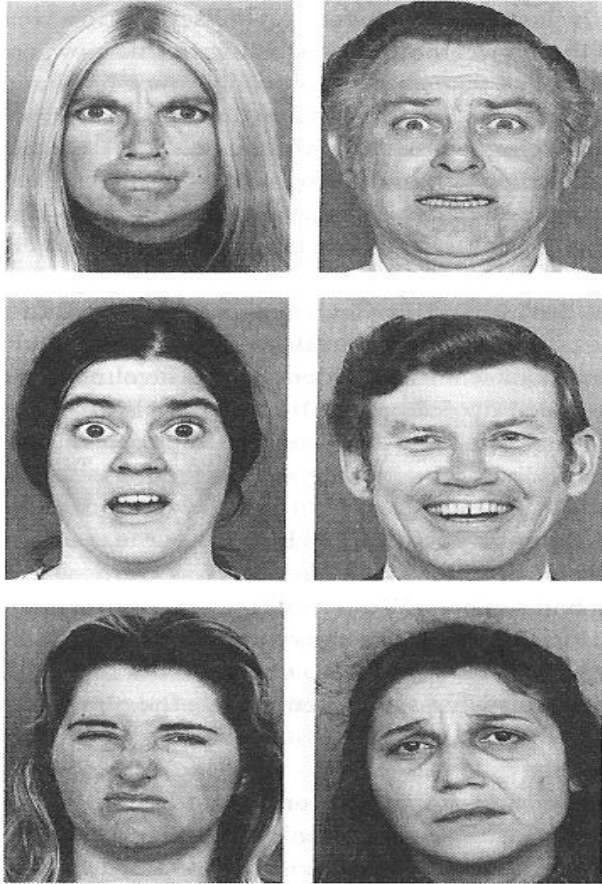
b) The function of emotions in long-term relationships

The principle of "mutual benefit" "The longest way round is the shortest way home."

The balance of profit and loss between the present and the future

→e.g. Emotion as a "commitment" ; The emotional principle of "tit for tat"*
_

(Reason within Passion / Passion within Reason)*_
_



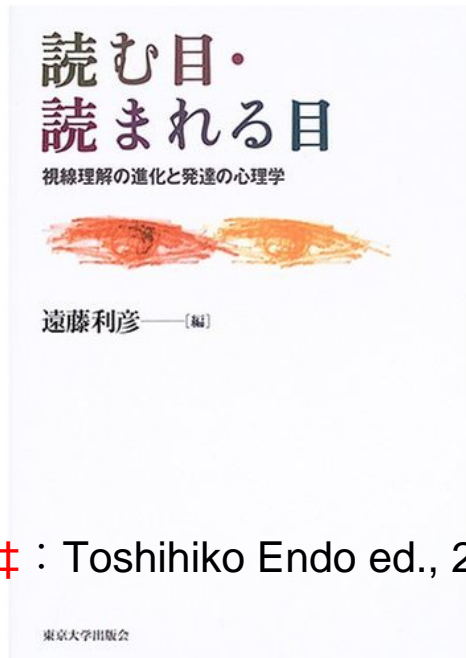
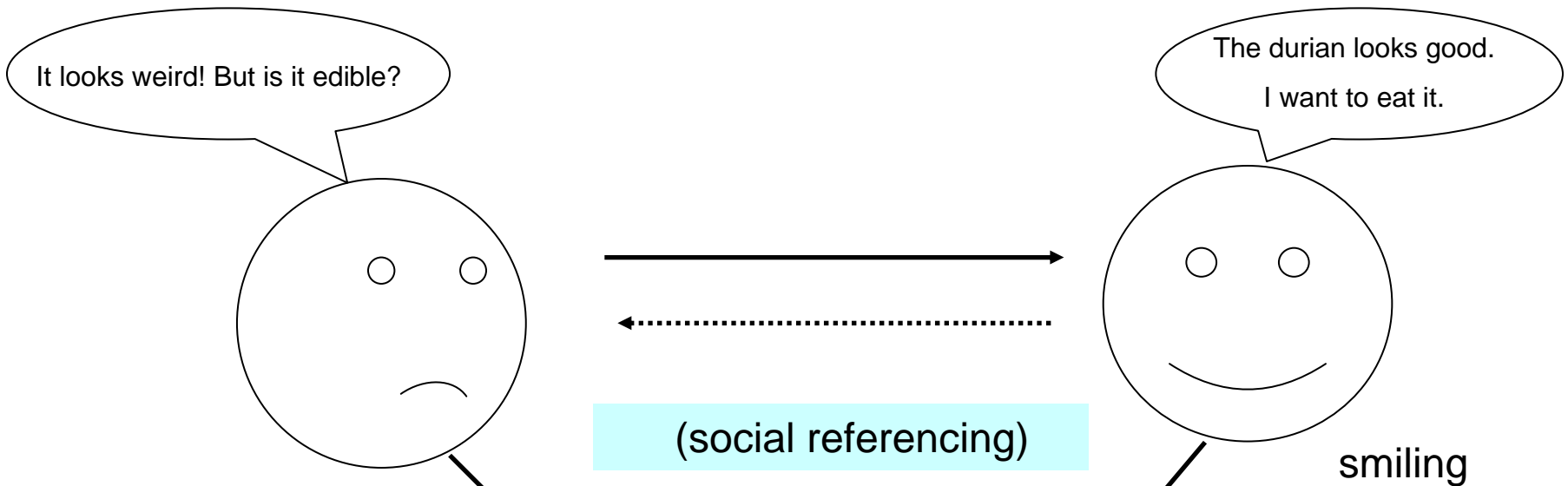
‡ Fig. 3.2 of Ekman, P., & Friesen, W.V. (1975). *Unmasking the face: A guide to recognizing emotions from facial expressions* (p. 63). Englewood Cliffs, NJ: Prentice-Hall.

Figure removed
due to copyright
restrictions

Ekman, P. (2003). *Emotion revealed: Recognizing faces and feelings to improve communication and emotional life* (pp.11-12). New York: Time Books.

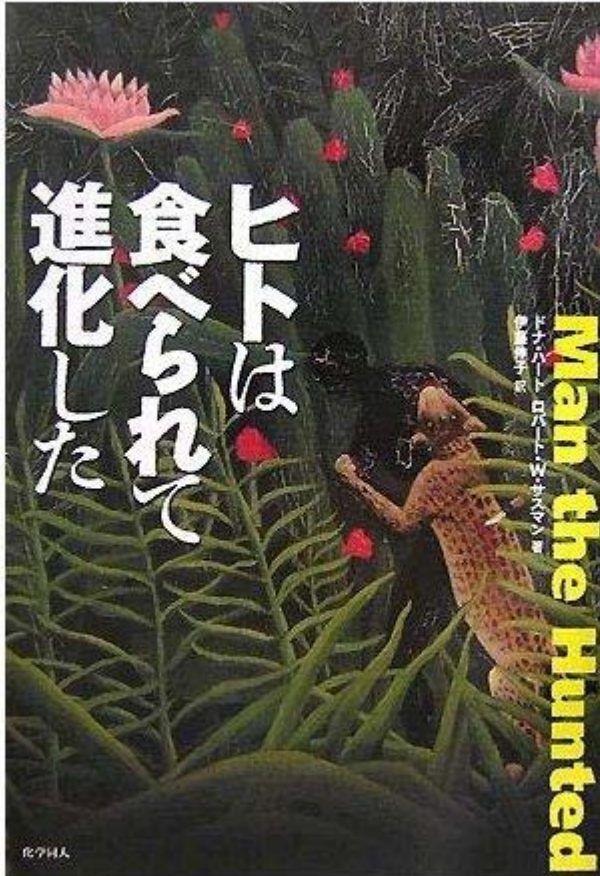


‡ Sacks, O. (1992). *The Man Who Mistook His Wife For A Hat: And Other Clinical Tales*. Japanese translation by Y. Takami and Y. Kanazawa. Shobunsha

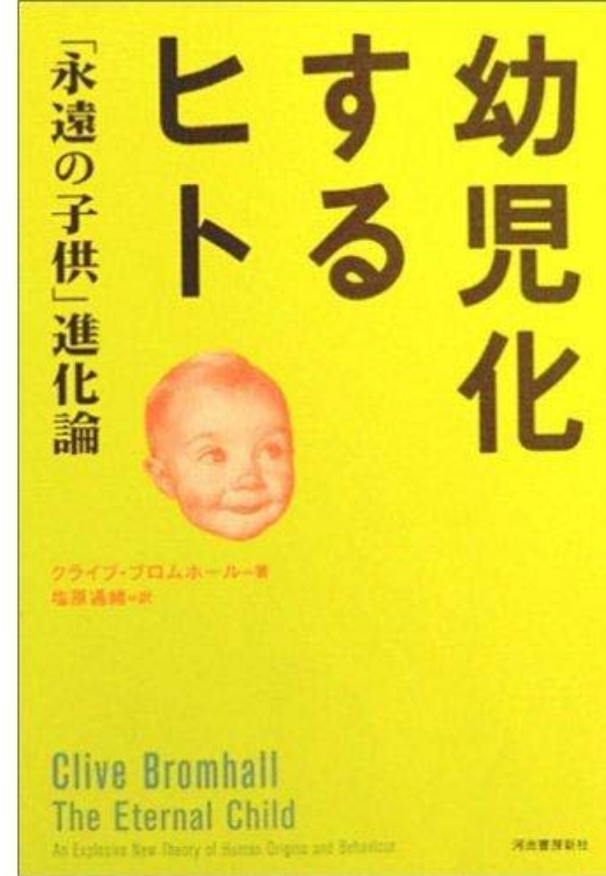


‡ : Toshihiko Endo ed., 2005, "Eye looking, Eye looked", Tokyo University Press.





‡ Hart, D. and Sussman, R. W. (2007). *Man the Hunted: Primates, Predators, and Human Evolution*. Japanese translation by N. Ito. Kagaku-Dojin Publishing Co., Inc.



‡ Bromhall, C. (2005). *The Eternal Child: An Explosive New Theory of Human Origins Behaviour*. Japanese translation by M. Shiobara. Kawade Shobo Shinsha, Publishers.

- A kind friend of yours, sensing that you are hungry, offered to share his lunch with you. Before you know it, his lunch box is nearly half empty. Are you taking advantage of his kindness? Most of you will feel guilty, thinking “I’ve taken too much. I feel sorry for him,” and say “I’ve had enough. I’m full,” even though you are still hungry. (You could take more from him, but limit your own self-interest.)

- Having eaten almost half of his lunch, you may feel gratitude as well as guilt. And you may think you will save up your allowance and return the favor to him. (You reduce your own self-interest.)
- Then, how will you feel if you find another lunch box that is almost twice as big in his bag? Will the feeling of gratitude be weakened, if not entirely lost? (You become highly sensitive to a balance between self-interest and altruism: cf. the ultimatum game)

Figure removed
due to copyright restrictions

Frank, R. H. (1995). *Passions within Reason: The Strategic Role of the Emotions*. Translation supervised by T. Yamagishi. Saiensu-sha Co., Ltd. Publishers.

- A's family has been bothered by B's family's dog, which frequently enters A's yard and tears it up. On top of that, the dog ruined A's prized *bonsai* plants. A demanded that B pay 100,000 yen in compensation. But B dismissed the claim, saying it was not B but the dog who was responsible for the damage. A is thinking about filing a suit, but it will cost him 100,000 yen. If you were in A's shoes, what would you do?

Public Good Game ①

(Fehl & Gaechter, 2002)

- There are four players. Each player has 1 million yen. The players can take the money home, but they may be able to get more money by placing a bet: if each player deposits some of his money in a “cash pool” the bank will double the deposited amount and return it to all four players equally. If all players deposit 1 million yen each, the bank will double the total amount of 4 million yen to 8 million yen, divide it equally by four, and return 2 million yen to each player. That means, in this bet, it is in the best interest of the group that all the players deposit as much money as possible in the bank. If you are one of the four players, how will you behave?

- If three of the players deposit 1 million yen in the bank and one player keeps 1 million yen in his pocket, 6 million yen ($3 \text{ million} \times 2$) will be divided by four and 1.5 million yen will be returned to each player. In this case, the player who didn't deposit his money will earn 2.5 million yen ($1 \text{ million} + 1.5 \text{ million}$).
- If two of the players deposit 1 million yen in the bank and the other two players keep 1 million yen in their pockets, 4 million yen ($2 \text{ million} \times 2$) will be divided by four and 1 million yen will be returned to each player. In this case, two players who deposited their money can barely get back the principal of 1 million yen. By contrast, the other two players, who didn't deposit their money, will earn 2 million yen ($1 \text{ million} + 1 \text{ million}$).
- If only one player deposits 1 million yen in the bank and the other three players keep 1 million yen in their pockets, 2 million yen ($1 \text{ million} \times 2$) will be divided by four and 0.5 million yen will be returned to each player. In this case, the player who deposited his money will earn only 0.5 million yen. The other three players, on the contrary, will earn 1.5 million yen ($1 \text{ million} + 0.5 \text{ million}$).

Public Good Game ②

- In the same bet, what will happen if you can fine players who didn't deposit their money in the bank 150,000 yen – where the fine would not be distributed to players who deposited their money. On the contrary, any player who decides to punish players who refuse to deposit their money has to pay 50,000 yen to the leader of the experiment.

(→ altruistic punishment) *

Fehr, E. & Gächter, S. (2002). Altruistic punishment in humans. *Nature*, **415** : 137-140.