

Introduction of Psychological Laboratory



History of Psychological Laboratory

1907 Establishment of Tohoku University

1922 Establishment of our laboratory



The first professor: Chiba, T. (1884-1972)

Prof. Chiba bought the *Library of Wundt* when he studied in Germany.



Guest editorial essay 165

and while he was there he learned that Wundt's heirs were selling a large part (about 60%) of his personal library; the sale was handled by the Lorentz bookshop in Leipzig. Chiba believed that the books would represent a potent symbol for his new department. His purchase of the library, however, was not uneventful because four American universities, including Harvard and Yale, were competitors, and this was used by the bookseller to boost the price. Despite the rising cost, Chiba was able to purchase the library for 20,000 yen (equivalent to about 70,000 US dollars now) because he received financial support from a charitable Saito family in Sendai. Chiba's calligraphic memorandum about this whole story still survives in a Japanese style Sami ink notebook called 'Daifukacho' (figure 3) with his critical comment that "Money circulates in the world temporarily, but the books would be treasure over thousands of years".

Prc

Particulars on our *Laboratory Chronicle*.

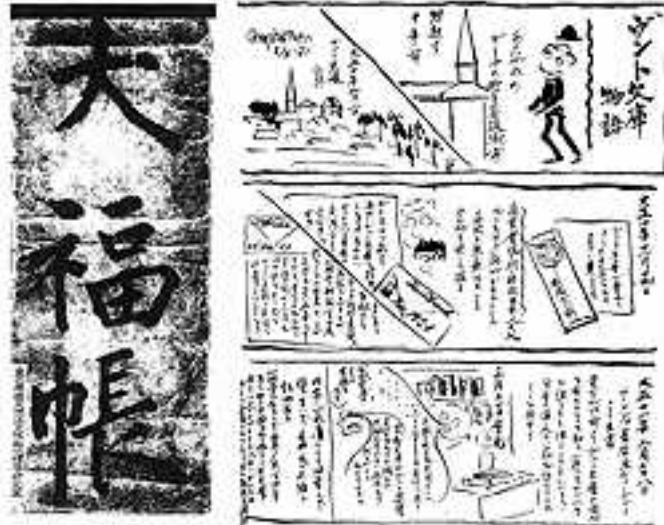


Figure 3. The cover and three pages from Chiba's Daifukacho, his notebook of journeys through Germany in 1921 and 1922. The pages describe (from the top) Chiba's visit to Grossbothen where he met Wundt's daughter, 8 months after Wundt's death; a letter from his Japanese friend in Freiburg informing him about the sale of Wundt's library; and his correspondence with Hans Driesch who suggested that Chiba should contact the Lorentz bookshop; and his discussions with Herr Wegand at the Lorentz bookshop in Leipzig, who was trying to boost the price of Wundt's library by showing some telegrams from US universities.

Following Chiba's proposal, the Psychological Laboratory at Tohoku University was modelled on Wundt's laboratory in Leipzig, and the principal topic of study was consciousness. Wundt's library of nearly 36,000 books and papers is now housed in the University Library. A carbon copy of the catalogue of the collection, typed in the 1920s, indicates the vast scope of Wundt's interests. Amongst the books is a first edition of Helmholtz's *Handbuch der physiologischen Optik*. Figure 4 shows one of the authors (in disguise) holding it in the protective atmosphere of the library. Unlike Wundt's ideas, his books have not withered.



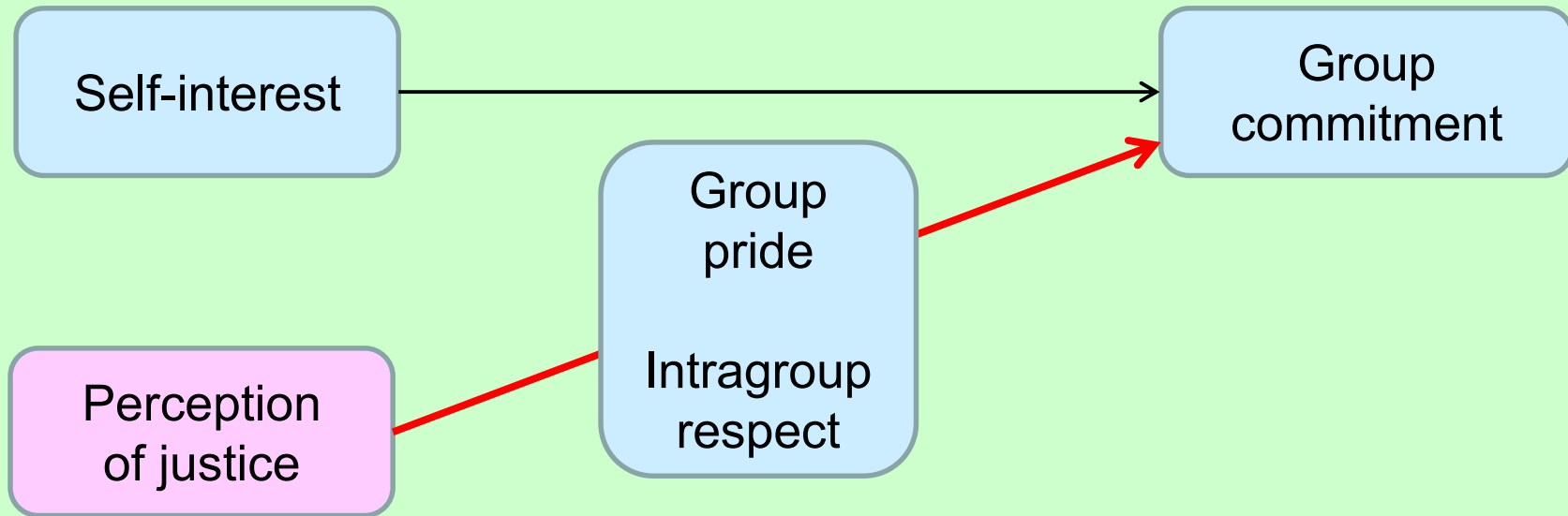
Introduced by Perception (2007) The latest *Wundt Library*

The present staff

Professor Ken-ichi OHBUCHI, Ph.D.	Social psychology
Professor Jiro GYOBA, Ph.D.	Perception
Professor Tsuneyuki ABE, Ph.D.	Emotion
Associate Professor Nobuyuki SAKAI, Ph.D.	Applied psychology
Associate Professor Masahiro TSUJIMOTO, Ph.D.	Social psychology
Research Assistant Hiroshi SHIBATA, Ph.D.	Cognition

+ 27 graduate students and 57 students.

The justice bond theory



Survey research on justice bond with the Japanese

The citizen : Justice ⇒ Support to the government

Law suit parties : Justice ⇒ Support to the legal system

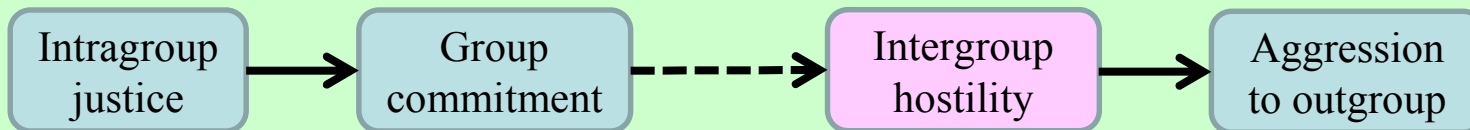
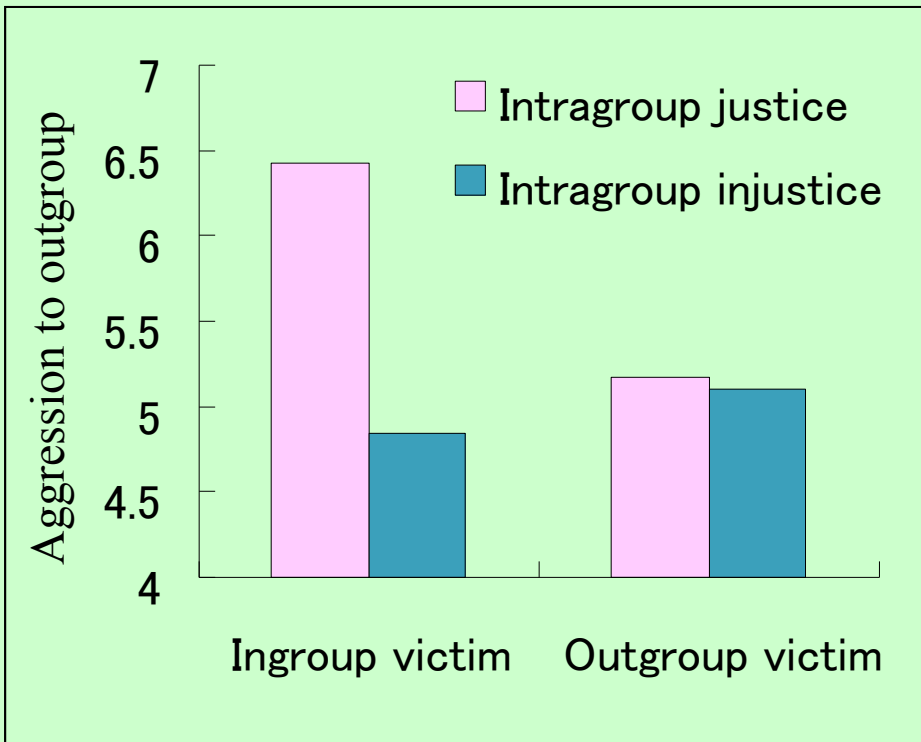
Employees : Justice ⇒ Loyalty with companies

A dark side of justice

Justice sometimes plays a negative role in intergroup situations.

Perception of justice enhances positive attitude toward ingroup.

And, a laboratory experiment showed that it leads to aggression against outgroup in intergroup conflict.



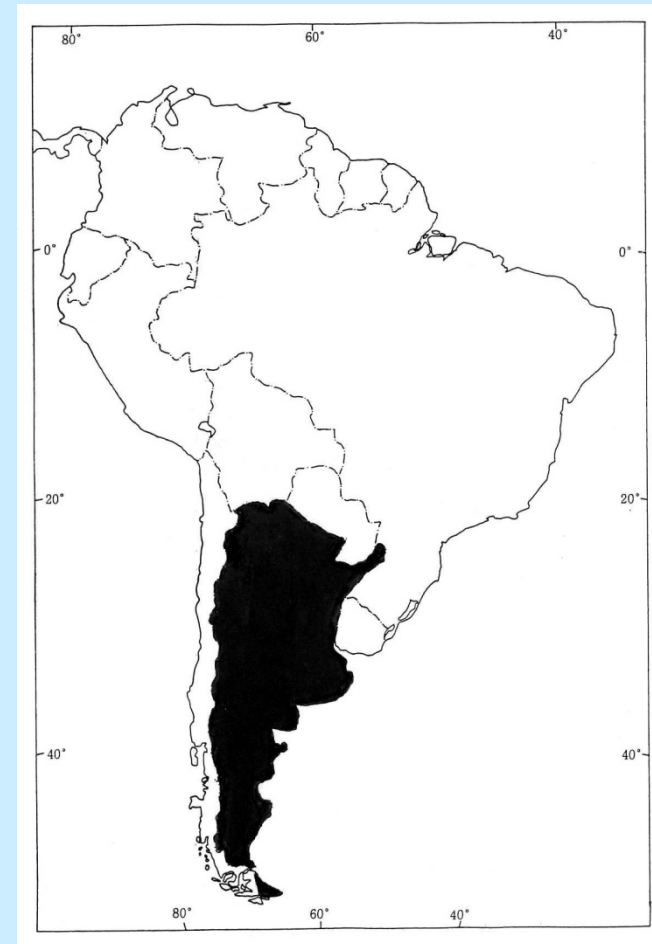
Why does group commitment lead to intergroup aggression?

Social identity theory: People strongly committed to ingroup tend to want to enhance the status of the ingroup over outgroups, so they become competitive and hostile (Tajfel & Turner, 1986)

Social psychology **Tsujimoto's work**

Key words: migration, acculturation, mutual aid, social dilemma, ethnic identity

- Field research of the Japanese in Argentina focusing on:
 - Mutual aid associations of the Japanese immigrants
 - Ethnic identity of the second-generation Japanese

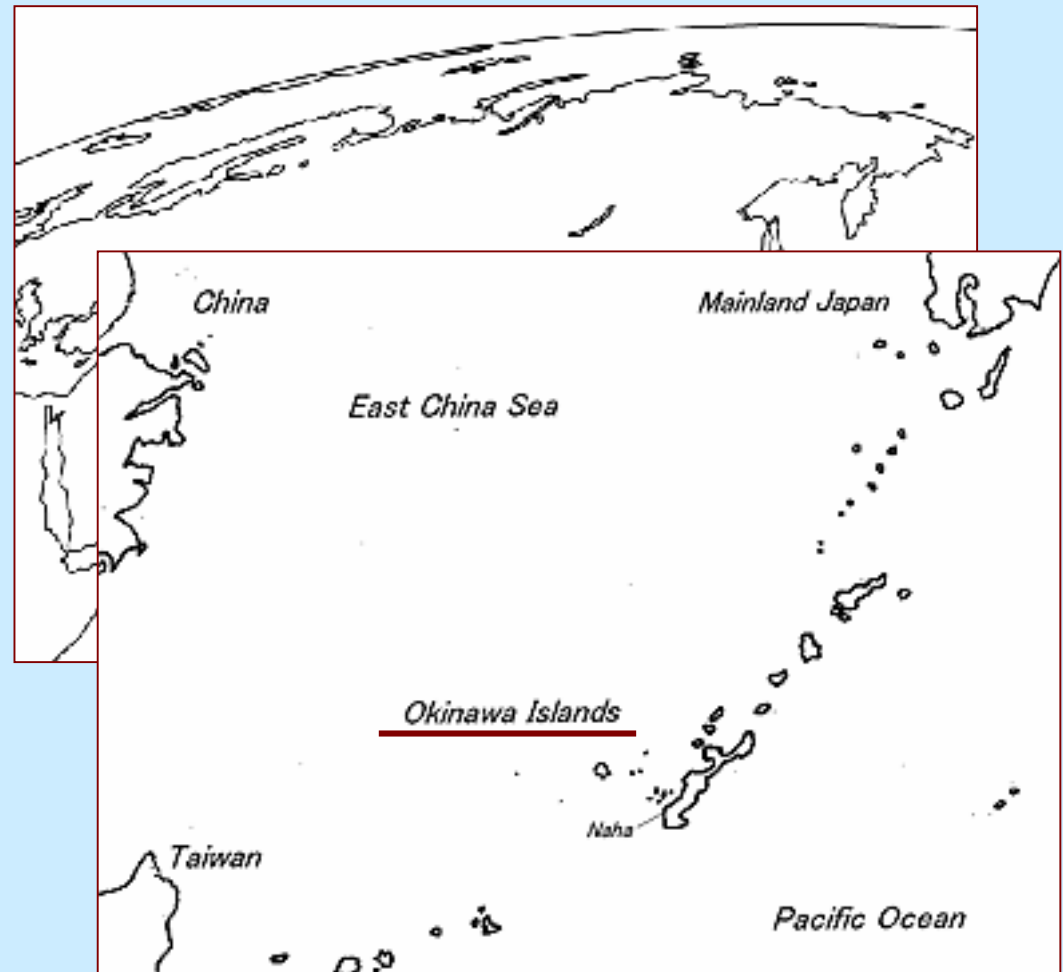


Social psychology **Tsujimoto's work**

- Field research in the Okinawa (island group to the southwest of Japan) focusing on traditional mutual aid associations

Okinawan people...

- Have struggled against social disadvantages associated with relative poverty
- Have utilized traditional mutual aid associations to survive difficult situations



Perception

Gyoba's work

My favorite visual illusion
(Gyoba, 1997)

Research interests

- Figure-ground
- Apparent motion
- Gestalt perception
- Event perception
- Spatial frequency
- Geometrical illusions
- Pattern psychophysics
- Perceptual completion
- Fading effect
- Prolonged viewing
- Audio-visual interaction
- Audio-tactile perception
- Bodily perception
- Sense of presence
- Object recognition
- Face perception
- Visual memory
- Visual attention
- Perceptual preference
- Aesthetic perception

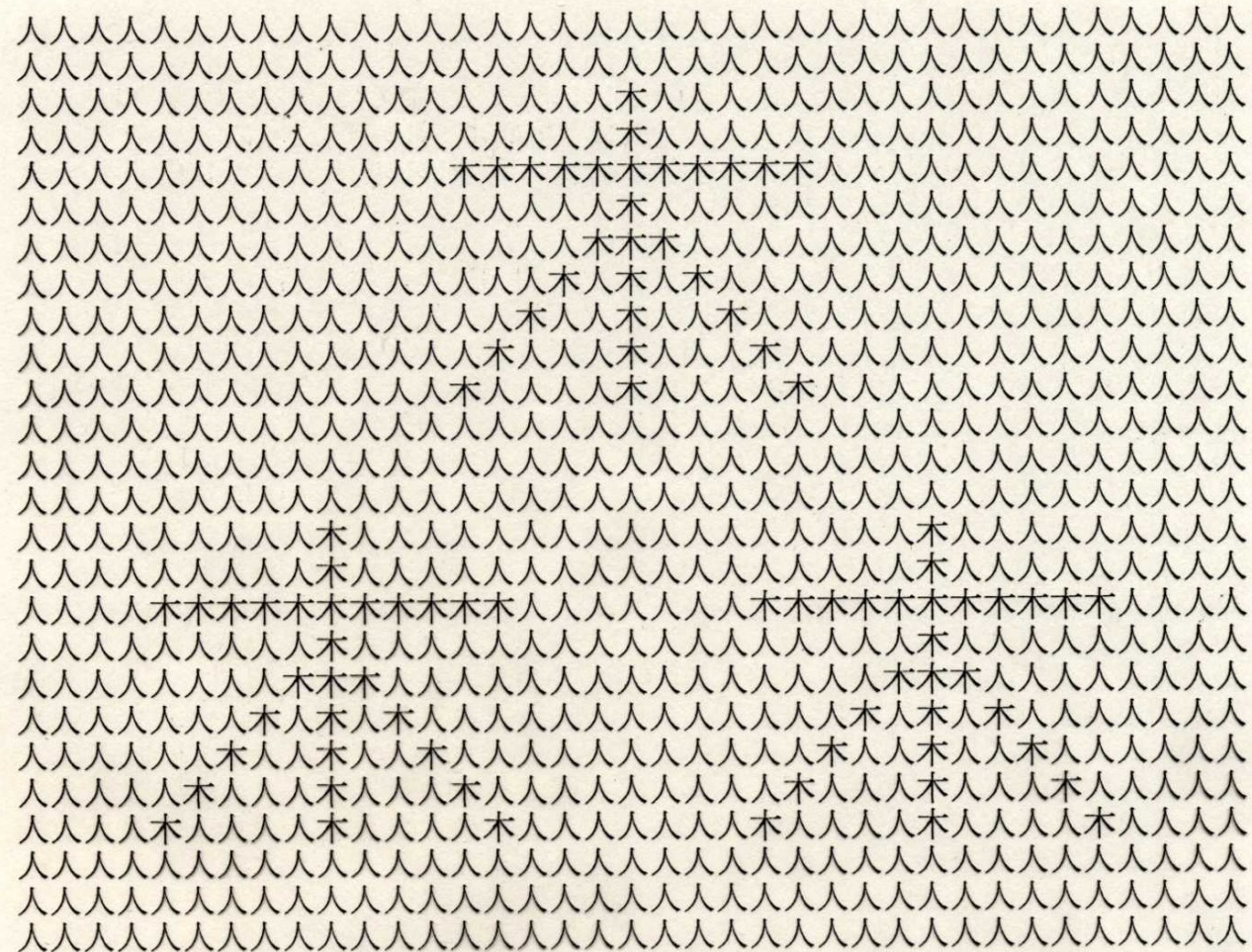
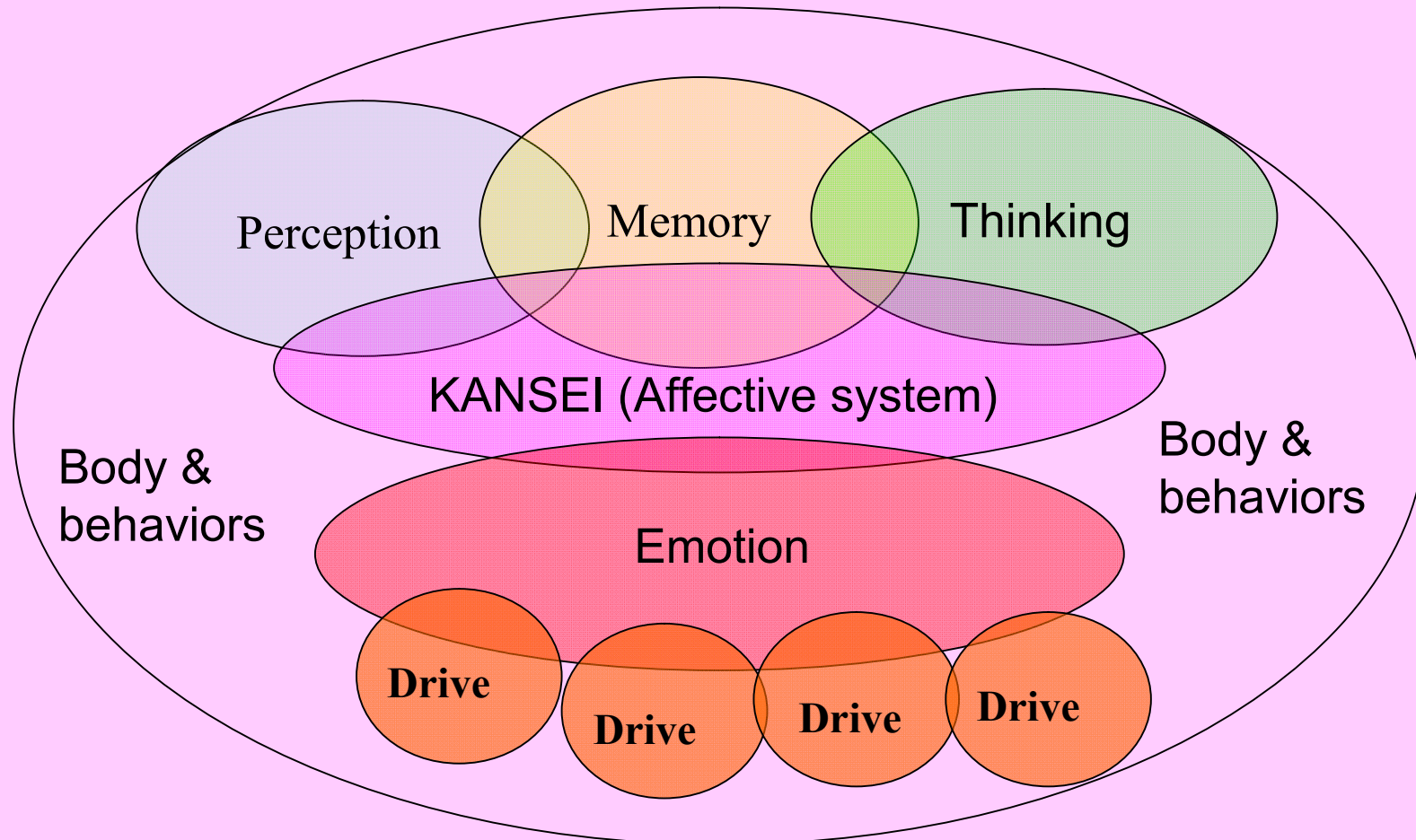


Figure 1. Loss of a forest. A Chinese character "人" means people and "木" means a tree. A large letter "森" signifies a forest. If the central portion of this figure is stared at steadily, "森" will soon disappear, replaced by "人s".

Perception (*Kansei*)

Gyoba's work



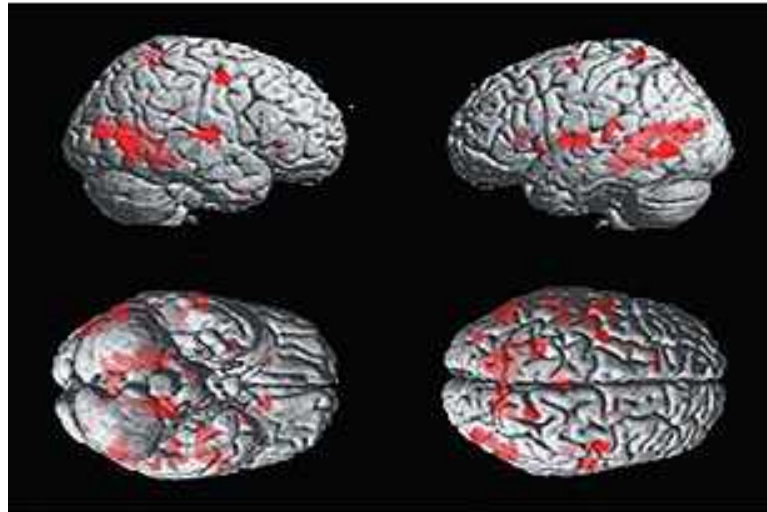
My View: Kansei may work as a buffer or an interface among perception, memory, thinking and emotion.

Kansei

Gyoba's work

Brain activities corresponding to three main factors in Kansei (affective) processing.

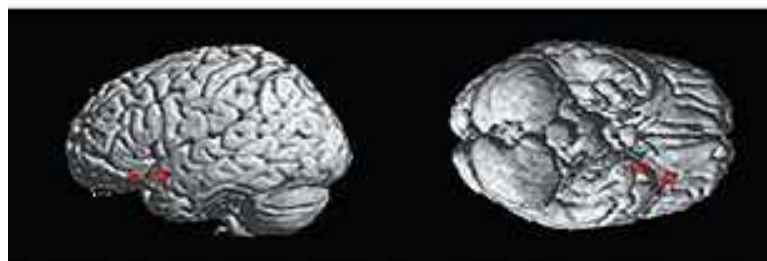
Activity ($p < 0.005$, uncorrected)



Potency ($p < 0.005$, uncorrected)



Evaluation ($p < 0.01$, uncorrected)



Activity		Potency		Evaluation	
High	Low	High	Low	High	Low

Activity		Potency		Evaluation	
High	Low	High	Low	High	Low

Activity elicited brain activations in the STG (superior temporal gyrus), known to be related to auditory and timing processing.

Potency activated the SFG (superior frontal gyrus), responsible for producing motor/tactile imageries and representations.

Evaluation related to the orbitofrontal cortex, that has been reported to be linked to hedonic experience.

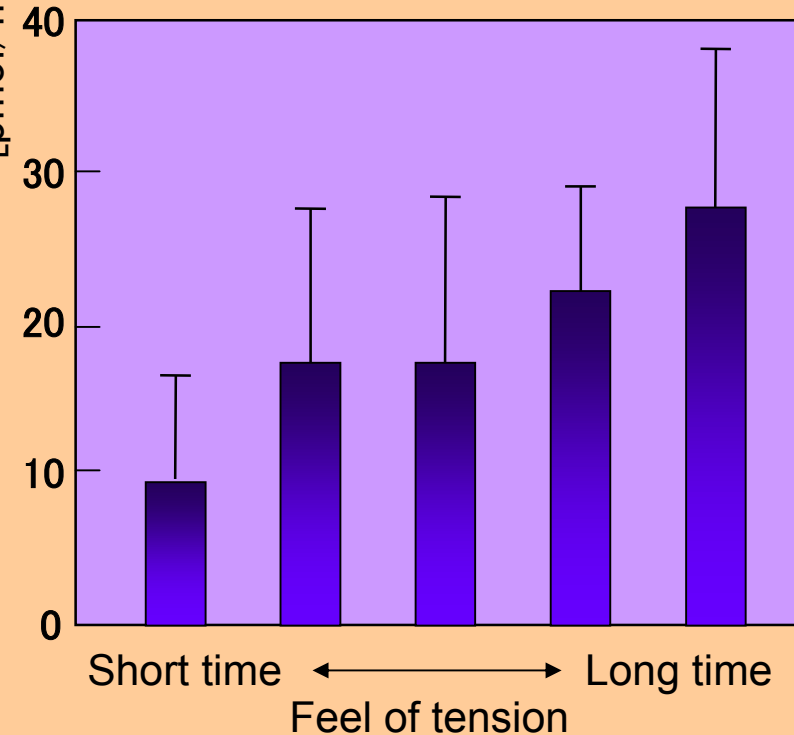
Emotion

Abe's work

Key words: psychophysiology, salivary cortisol, stress, cosmetic behavior, & manner of disaster victims



Mean difference of salivary cortisol [pmol/ml]

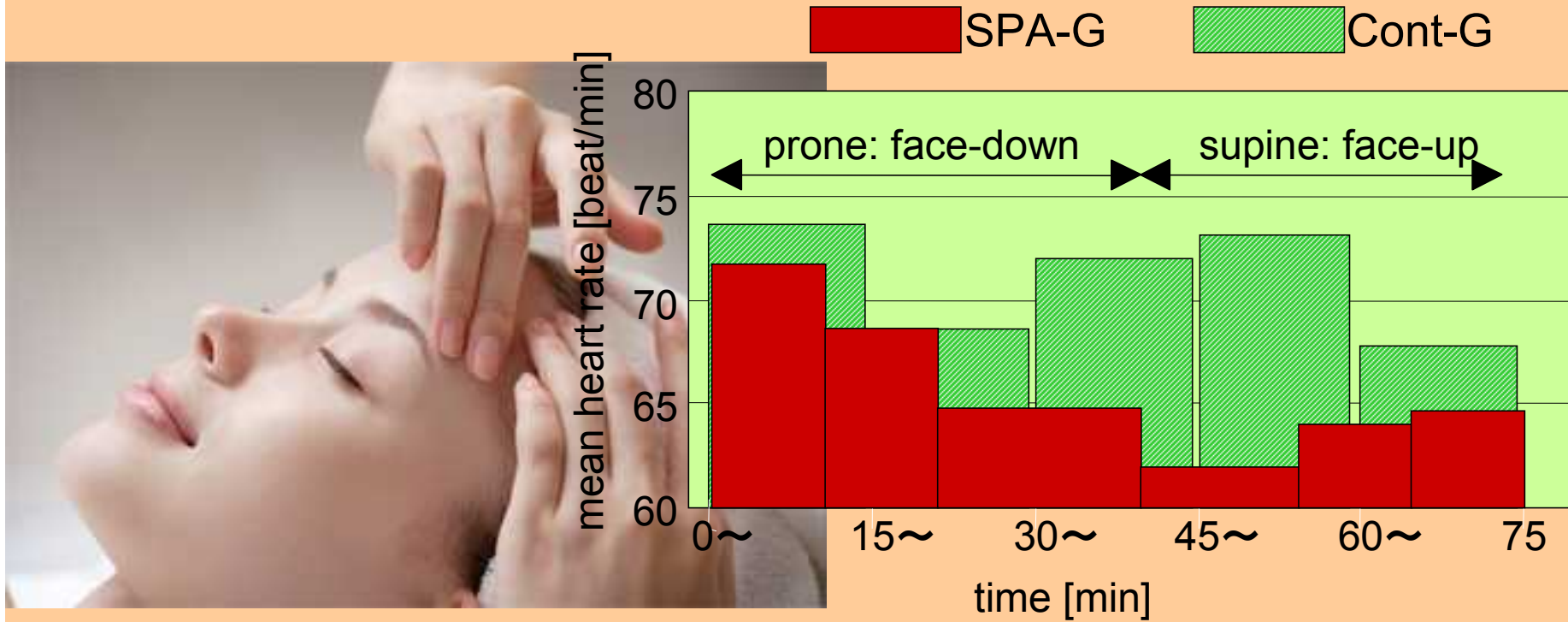


High performance liquid chromatography for measuring salivary cortisol.

The effect of the time of feeling tension on difference of cortisol concentration between speech day and next day. (Abe, 2002)

Emotion

Abe's work



Heart rate change of SPA group and control group.
(Abe, 2002, 2004)

Emotion

Abe's work



Emotional effect on body and behavior.

Applied psychology **Sakai's work**

Key words: Health (Eating Behavior), Hedonics,
Human Ergonomics, Consumer Behavior



Applied psychology

Sakai's work

