The Final Report of

MEXT 21st Century COE Program

Center of Excellence for Psychological Studies
(Kyoto University Psychology Union)

Program Number D-10
Kyoto University (Institution Number 14301)

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Program Leader
Kazuo Fujita, Professor
Department of Psychology
Graduate School of Letters
Kyoto University

CONTENTS

DESCRIPTION OF THE PROGRAM

Purpose and Plan of the Program

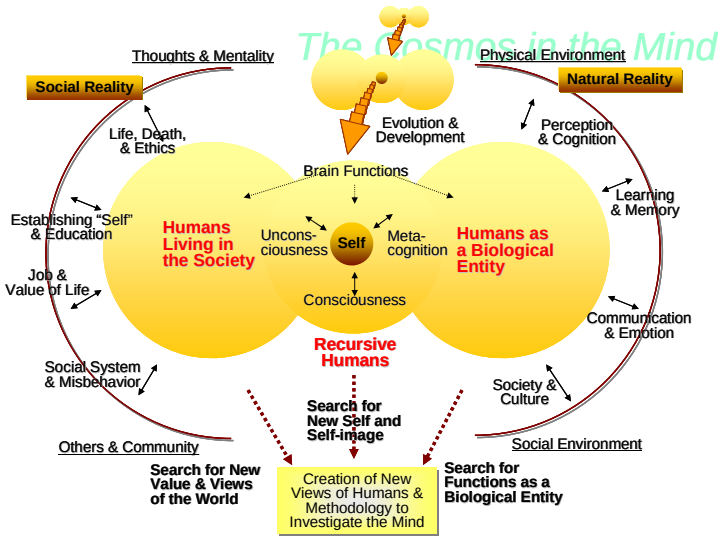
The Center of Excellence for Psychological Studies (Kyoto University Psychology Union) was selected as one of the 21st Century COE Programs in 2002 by the Ministry of Education, Culture, Sport, Science and Technology (MEXT), Japan. We have worked to establish an excellent base for comprehensive studies of mind for the last 4 and a half years. Now we have just completed the program and this report is a summary of our activities and results of the program finally attained.

In this program, we have aimed at a comprehensive understanding of mental functions and at resolving problems faced by the highly information-oriented and aging society of the present days, by combining the powers of experimental, field, and clinical approaches to mind. Our goal has been "*to know the mind* and *to foster the mind*."

People today suffer from various problems caused by the sudden arrival of a flood of electronic information represented by the internet, and a society with an increasingly aged population due to advancement of medical science. Global warming and loss of nature threaten the survival of all living organisms. Material civilization has been questioned and a vague anxiety has spread among people. People can be said to feel almost lost about where to go next and they need a compass for guidance. We have aimed to meet the demands of the time by moving toward a new science of mind that integrates experimental, field, and clinical approaches. In other words, we have looked for ways to improve well-being of the earth by establishing a new science of mind.

In Kyoto University, we psychologists are located in several different schools. We work in various study areas ranging from cognitive psychology, comparative cognition, developmental psychology, social psychology, cultural psychology, qualitative psychology, brain science, and clinical practices. Despite this diversity, we have worked in harmony for many years, being encouraged by the tradition of Kyoto University that respects uniqueness and variation in all activities including science and education. We have taken advantage of this COE program to expand this tradition by developing the "Psychology Union", which works like one unified graduate school.

Because we are so diverse, we developed a problem space symbolically named the



The Cosmos in the Mind

"*Cosmos in the Mind,*" in which we placed all of the studies we planned. This problem space has three subspaces, namely interaction with natural reality, interaction with social reality, and interaction with internal reality (self). These three types of interactions, their genetic processes and their neural backgrounds have been the actual targets of our investigation. The first subspace is essential for organisms to adapt to external environments, and has been most likely to be the subject of experimental psychology in general. The second subspace has been the major targets of social and clinical approaches to the mind. The third subspace functions to know the self and has a critical importance for understanding humans. Each single piece of work can be placed somewhere in this space, and integrating even tiny pieces of work should contribute to establish a grand theory of how and why the mind is as it is now. It is certainly a long way until we can even start to construct such an inclusive theory. However, we believe that accumulating and locating various works within this space should be the way to understanding the mind as a whole.

To start with, we set four major sub-projects of our program. The first was *Team A*: *Nature and functions of mental images and representations*. In this sub-project, we have analyzed the nature, genetic process, functions, and brain mechanisms of mental images and representations. Mental images and representations form a basis for all mental activities and they are not only formed by external stimuli but are also transformed or even created by the brain itself. Thus they not only operate in recognizing the external world but also in thought, inference, and various creative activities. Images and representations may sometimes correctly reflect the physical and social reality, but at other times they may not. Such contradiction can give rise to various non-adaptive and anti-social behaviors. Thus the topic is spread among all three subspaces we set in the *Cosmos in the Mind*, and must be tackled by various approaches

The second was *Team B*: *Embodied mind*. In this sub-project, we have studied interrelations between body and mind in recognizing physical and social environments. The mind goes together with the body it is installed in. Our mind is as it is now because our body is as it is now. If we had 2 additional eyes in our back and/or 8 arms like an octopus, our perception of the world would not be like that we experience now. Simple reaching for an object must be programmed to fit bodily constraints. Sometimes the interrelationship between body and mind is strained by a sudden loss of bodily parts. At other times gender and sex contradict. Sometimes people are told that they have bad, or even possibly fatal, genes. We have also looked for input into medicine through counseling practices for problems involving this body-mind relationship.

The third was *Team C*: *Interaction with cultural and social milieu*. In this sub-project, we have studied interrelations between cultural and social milieu and mental functions. Minds of people form culture and society, and culture and society form the minds. Culture and society also provide the framework in which the mind works. Recent findings suggest that culture and society can even change very fundamental ways of recognizing the external world. We analyze this interrelationship by cross-cultural and cross-society comparisons and action researches in the field where people live their lives. These days, when culture and society are rapidly changing, people sometimes fail to follow the current situation of the social environment, which can in turn lead to misbehavior. It is an urgent matter to seek a solution to mental problems arising from such maladjustment, through clinical practices.

The fourth was *Team D*: *Evolution and life-span development*. In this sub-project, we have investigated genetic aspects of the mind in learning, ontogeny, and phylogeny using

comparative approaches. The mind changes along the axis of time. Evolution has created diversity of mind among dozens of millions of species. Ontogeny also creates various minds that should fit each stage of the lifespan from birth to death. Understanding such dynamic aspects and resulting diversity are one of the most important keys to understand the mind. Also, knowing the life history of a person is often essential for understanding the person. Careful analyses of narratives focusing on qualitative aspects are sometimes useful in clinical practices.

In 2003, we added the study of affect as one of the focal topics. Affect, or emotion, is a strong controlling drive in humans and nonhumans and is a key to understanding both behavior and misbehavior, but it is one of the least investigated aspects of the mind. We started aiming to establish “affective science” as an integrated science that incorporates diverse perspectives from neural mechanisms to clinical practices. We collected several research proposals from this perspective, as well as other in-depth collaborations in experimental, observational, and clinical studies. These were to further enhance integration of fundamental and practical sciences of mind.

Improving education of graduate students has also been a point of focus for us. Our principal policy was to give them opportunities to learn about diverse aspects of studies of mind. In particular, we have opened several new classes and seminars, cross-school scholarly advising, integration of different curricula across different schools, and unifying relevant introductory classes for undergraduates. Some of these had already been done before we started this program, but we planned to expand this to larger-scale unification. This plan has materialized as a virtual course for psychology provided by the Psychology Union.

We have also promoted research activities of graduate students. We created a competitive funding system for them. We also funded their research activities outside Japan and also supported invitations of active young scientists from all over the world to encourage international collaboration among graduate students. We also organized international workshops for young scientists.

Results of the activities and the external evaluation are described on separate pages. We believe that we have obtained satisfactory results in both quality and quantity, in both research and educational activities.

Funded Budget

	Direct Expenses	Indirect Expenses	Total	
2002	182,000,000	0	182,000,000	(yen)
2003	135,000,000	0	135,000,000	
2004	108,300,000	0	108,300,000	
2005	99,000,000	9,900,000	108,900,000	
2006	91,620,000	9,162,000	100,782,000	
Total	615,620,000	19,062,000	634,682,000	

Members

Name	Position	Course & School	Major Field	Part	Fiscal Years
Fujita, Kazuo	Professor	Course of Behavioral Studies, Graduate School of Letters	Comparative Cognition	Program Leader, Teams D, A	2002 -2006
Osaka, Naoyuki	Professor	Course of Behavioral Studies, Graduate School of Letters	Psychology of Perception	Leader of Team A	2002 -2006
Sakurai, Yoshio	Professor	Course of Behavioral Studies, Graduate School of Letters	Cognitive Neuroscience	Team A	2002 -2006
Kusumi, Takashi	Associate Professor	Deaprtment of Education, Graduate School of Letters	Cognitive Psychology	Teams A, B	2002 -2006
Saito, Satoru	Associate Professor	Deaprtment of Education, Graduate School of Education	Cognitive Psychology	Team A	2002 -2006
Kawai, Toshio	Professor	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Teams A, B	2002 -2006
*Okada, Yasunobu	Professor	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team A	2002 -2006
*Kaito, Akira	Associate Professor	Department of Clinical Education, Graduate School of Education	Clinical Education	Team A	2002 -2006
*Fujiwara, Katsuki	Professor	Praxis & Research Center for Clinical Psychology and Education, Graduate School of Education	Clinical Studies of Psychology	Team A	2002 -2006
*Tsuruta, Hideya	Research Associate	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team A	2002 -2003
*Ishihara, Hiroshi	Research Associate	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team A	2004 -2005
*Kawabe, Tetsuya	Research Associate	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team A	2006
Funahashi, Shintaro	Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cognitive Neuroscience	Teams A, B	2002 -2006
Saiki, Jun	Associate Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cognitive Science	Team A	2002 -2006
*Ejima, Yoshimichi	Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Psychology of Vision	Team A	2002 -2003
*Yamamoto, Hiroki	Research Associate	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cognitive Psychology	Team A	2002 -2006
*Kushiro, Keisuke	Research Associate	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cognitive Neuroscience	Team A	2004 -2005
*Oyama, Yasuhiro	Associate Professor	Center for the Promotion of Excellence in Higher Education	Clinical Pedagogy	Team A	2002 -2006
†Nakamoto, Takako	PD	Graduate School of Education	Cognitive Psychology	Team A	2003 -2006
†Sato, Wataru	PD	Graduate School of Education	Cognitive Psychology	Team A	2005 -2006

Ito, Yoshiko	Professor	Department of Clinical Education, Graduate School of Education	Clinical Studies of Psychology	Leader of Team B	2002 -2006
Ashida, Hiroshi	Associate Professor	Course of Behavioral Studies, Graduate School of Letters	Vision Science	Team B	2002 -2006
Kajii, Natsumi	Research Associate	Course of Behavioral Studies, Graduate School of Letters	Cognitive Psychology	Teams B, A	2002
Yamanaka, Yasuhiro	Professor	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team B	2002 -2004
Kadono, Yoshihiro	Associate Professor	Department of Clinical Education, Graduate School of Education	Clinical Studies of Psychology	Team B	2004 -2005
*Kurokawa, Yoshiko	Research Associate	Praxis & Research Center for Clinical Psychology and Education, Graduate School of Education	Clinical Psychology	Team B	2002 -2004
*Wada, Ryuta	COE Research Associate	Praxis & Research Center for Clinical Psychology and Education, Graduate School of Education	Clinical Studies of Psychology	Team B	2005
Matsumura, Michikazu	Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cognitive Neuroscience	Team B	2002 -2006
Naito, Eiichi	Research Associate	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Neuroscience	Team B	2002 -2006
**Inui, Toshio	Professor	Course of Intelligence Science and Technology, Graduate School of Informatics	Cognitive Science	Team B	2002
Kitayama, Shinobu	Associate Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Cultural Psychology	Leader of Team C (-2003)	2002 -2003
Sugiman, Toshio	Professor	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Social Psychology	Leader of Team C (2004-)	2002 -2006
Higashiyama, Hirohisa	Professor	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team C	2002 -2004
Yoshikawa, Sakiko	Professor	Department of Education, Graduate School of Education	Cognitive Psychology	Teams C, B	2002 -2006
Kuwabara, Tomoko	Associate Professor	Department of Clinical Education, Graduate School of Education	Clinical Psychology	Team C	2002 -2006
Watabe, Motoki	Research Associate	Department of Human Coexistence, Graduate School of Human and Environmental Sciences	Social Psychology	Team C	2002 -2006
Yamada, Yoko	Professor	Deaprtment of Education, Graduate School of Education	Lifespan Developmental Psychology	Leader of Team D, Team C	2002 -2006
Itakura, Shoji	Associate Professor	Course of Behavioral Studies, Graduate School of Letters	Developmental Cognitive Science	Teams D, B	2002 -2006
Koyasu, Masuo	Professor	Deaprtment of Education, Graduate School of Education	Developmental Psychology	Team D	2002 -2006
*Endo, Toshihiko	Associate Professor	Deaprtment of Education, Graduate School of Education	Developmental Psychology	Team D	2002 -2006
Hashiya, Kazuhide	Research Associate	Deaprtment of Education, Graduate School of Education	Comparative Developmental Science	Team D	2002

*Kinda, Shigehiro	Research Associate	Deaprtment of Education, Graduate School of Education	Cognitive Psychology	Team D	2003
*Mizogami, Shinichi	Lecturer	Center for the Promotion of Excellence in Higher Education	Youth Psychology	Team D	2002 -2004
**Matsuzawa, Tetsuro	Professor	Primate Research Institute	Comparative Cognition	Teams D, C	2002 -2006
**Tomonaga, Masaki	Associate Professor	Primate Research Institute	Comparative Cognition	Teams D, A	2002 -2006
**Tanaka, Masayuki	Research Associate	Primate Research Institute	Comparative Cognition	Teams D, A	2002 -2006
†Myowa-Yamakoshi, Masako	PD	Graduate School of Letters	Comparative Cognition	Team D	2003

*: Collaborating COE Members Receiving Financial Support
**: Collaborating COE Members Receiving No Financial Support
†: PostDoctoral COE Members
Others: Core COE Members

SUMMARY OF THE RESULTS OF SUB-PROJECTS AND COLLABORATIONS

Sub-Projects

Team A: Nature and Functions of Mental Images and Representations

Leader: Naoyuki Osaka
Deputy Leaders: Satoru Saito, Yasuhiro Oyama*
Members: Kazuo Fujita, Yoshio Sakurai, Takashi Kusumi, Yoko Yamada, Yasunobu Okada*, Katsunori Fujiwara*, Akira Kaito*, Toshio Kawai, Hideya Tsuruta*[1], Yoshimichi Ejima*[1], Shintaro Funahashi, Hiroki Yamamoto*, Jun Saiki, Masaki Tomonaga*, Masayuki Tanaka*, Keisuke Kushiro*[2], Hiroshi Ishihara*[3], Takako Nakamoto†[4]

*: Collaborating COE members
†: Postdoctoral COE member
1: 2002-2003
2: 2004-present
3: 2004-2005
4: 2003-2005

Members from team A explored how primary and secondary mental representation function in our mind. We refer to primary representation as mainly being formed by perception of the external world, such as visual images, while secondary representation (metarepresentation) is defined as a projection generated based on primary representation which allows the mind to predict and adapt to an emerging environment. The representation offers the human mind the bases of awareness of the self and others in society as well as the environment. Recognizing an object, for example, reflects an integrated mental binding of the primary representations of the present environment obtained though our sensory organs, whereas recalling from memory reflects unifying and reconstructing metarepresentations from our experienced episodic memory. Therefore, investigating the properties and functions of representation of our intentional mind appears critical for understanding our emotions, thinking, beliefs, planning of actions, the minds of others and oneself in the complex social and cultural context. The major plan of study in team A thus focusing on (1) how representation is generated, kept in mind, shapes an intentional behavior and social cognition in the biological system, (2) how representation works in our cognitive and emotional brain and, and (3) how representation plays a role in clinical context.

How does an animal mind make good use of representation? **Kazuo Fujita** and his group have investigated and compared the nature of perceptual and representational processes among a wide variety of species including birds, rodents, tree shrews, and nonhuman primates. Major findings are as follows. Tufted capuchin monkeys were demonstrated to complete partly occluded figures like humans do (Fujita & Giersch, 2005) but pigeons never demonstrated such completion in the various settings tested (Fujita & Ushitani, 2005; Ushitani & Fujita, 2005). Pigeons were shown to perceive Müller-Lyer illusions like humans do (Nakamura, Fujita, Ushitani, & Miyata, 2006) but these birds perceived strong illusions in the direction opposite to that of humans for Ebbinghaus-Tichener circles (Nakamura, Watanabe, & Fujita, in prep.). Domestic dogs and

squirrel monkeys were shown to recall visual images of familiar humans upon hearing their voices (Adachi, Kuwahata, & Fujita, in press; Adachi & Fujita, in press). These findings demonstrate the diversity of perceptual processes among organisms with well-developed central nervous systems. Tree shrews and some rats performed a transitive inference in a spatial discrimination task (Takahashi, Ushitani, & Fujita, in prep.). Pigeons were shown to plan their future actions before proceeding in computer-maze problems (Miyata, Ushitani, Adachi, & Fujita, 2006). Taken together, these findings show flexibility in the operation of mental representations in diverse nonhuman species.

To fully understand the property of metarepresentation, we further investigated its bases, i.e., primary representation. **Jun Saiki** and his group explored how primary representation works. Our intuition that we perceive a visual scene with many objects as a coherent whole is based upon collaborative interactions between focused attention that forms local and structured object representation, and distributed attention that efficiently detects the information to be attended. Saiki and his group investigated the focused and distributed attention systems and their interaction. One important function of the focused attention system, maintenance of object representations for a short period, was investigated using a paradigm called multiple object permanence tracking. The findings demonstrated a severe capacity limit of feature-bound object representations, probably just one object, suggesting that the system avoids “the binding problem” by not representing multiple objects simultaneously (Saiki, 2003, Saiki & Miyatsuji, in press). To complement the limited capacity, the distributed attention system needs to be quite efficient without strong top-down control. We investigated the search asymmetry phenomenon: Searching for a Q among Os is much easier than vice versa, for example. The underlying mechanism of search asymmetry remains unknown, and top-down and bottom-up explanations have been proposed. With response time search tasks and experiments using the classification image technique, we obtained evidence that the simple form of search asymmetry can be explained exclusively by bottom-up mechanisms (Saiki, et al., 2005). Taken together, scene understanding is not the construction of complex mental representation of the scene, but detailed representation of an attended object sequentially formed just in time with the aid of distributed representation containing the gist of the scene and locations of important regions.

Takashi Kusumi and his group explored the structure and the function of knowledge representation in domain expertise, problem solving, déjà vu, flashbulb memory, and in the comprehension of spatial term, metaphor, and story representation. They have conducted several research projects using both experimental and survey methods. Their major research projects are indicated below::

Kusumi (2006) explored déjà vu phenomena and similarity in memory representation. The results showed that (a) déjà vu is evoked by general similarity and familiarity between present and past experiences; (b) prototypical scenes stored in memory are frequently involved in déjà vu experiences of locations; and (c) the feeling of familiarity increases with the number of cues that match between past and new experiences.

Kojima and Kusumi (2006a, b) conducted experiments on spatial representation and language. More specifically, they looked into the effects of an extra object on the overall acceptability distribution of a spatial term. The findings showed that an extra object had

both a relative increase and reduction effects on the overall acceptability distribution of a spatial term.

Komeda and Kusumi (in press) explored the effect of emotion on the construction of story representation. This study shows that readers monitor protagonists' emotional states, and that the reader's emotional engagement can influence situation model construction.

Kusumi and his group also conducted studies on procedural knowledge and expertise (Matsuo & Kusumi, 2002), knowledge representation and mathematical problem solving, as well as on representation of flashbulb memory (Otani, Kusumi, et al., 2005; Kuriyama,Yamagishi, & Kusumi, 2003).

These studies mainly focused on exploring the various aspects of representation processes in humans and animals using experimental procedures and these highly intriguing findings for useful for further understanding our mental operations.

Then, how does representation work in the cognitive and emotional brain of human and nonhuman animals?

Satoru Saito and his group mainly examined the nature and organization of representations in working memory and its roles in complex cognitive activities. Their major findings are as follows: First, experimental and correlational studies of the relationship between speech processing systems and the verbal working memory system confirmed that the relationship is mediated by speech motor planning in speech production (Saito & Baddeley, 2004). Second, theoretical and experimental investigations of working memory span tests suggested that the mechanisms of forgetting during working memory span performance could involve representation-based interference rather than time-mediated decay and that the interference must be domain specific (Saito & Miyake,2004). Third, experimental and neuropsychological investigations of the role of the phonological loop in executive control showed that the loop plays an important role in serial order control of task sets or mental sets. Fourth, developmental studies of the phonological loop indicate the important role of prosody and long-term phonological knowledge in nonword repetition performance in Japanese children (age between 4 and 5) (Yuzawa & Saito, in press). Finally, studies on superior memory reported the data from a Japanese memorist who set a world record for reciting the first 40,000 digits of pi (Takahashi et al., 2006). Based on data from a series of experiments, it is argued that his extraordinary memory performance in reciting the digits of pi results from his effective use of a combination of digit-syllable transformations and imagery mnemonics developed from extensive practice.

Yoshio Sakurai and his group have focused on detecting cell assemblies, ensemble activity of functionally connected neurons, as a functional unit representing neural information in the working brain. As sophisticated multi-neuronal recording is requisite to detect the real-time features of information processing by cell assemblies, they first developed some neuroscientific techniques to resolve difficult problems in the recording experiments. Then several relevant points concerning the actual dynamics of cell assemblies, demonstrated in the working brains of rats and monkeys performing several behavioral tasks, were reported. Recently they have started a rapidly growing research theme, brain-machine interface (BMI). This research tries to detect and utilize neural information by cell assemblies in the working brain during the operation of artificial

devices instead of animal or human bodies. Multi-neuronal recording and analyzing systems detecting actual cell assemblies are keys to constructing successful BMI. They have finally shown a newly developed and high performance system for BMI research, which can detect precise sub-millisecond activity interactions among closely neighboring neurons in the functioning animal. With this system, they are detecting real dynamics and plasticity of neuronal networks representing valid information in the brain. Their published works include Sakurai & Takahashi (2006), Koike, Hirose, Sakurai, & Iijima (2006), Sakata, Yamamori, & Sakurai (2005), Takahashi & Sakurai (2005), Sakurai, Takahashi, & Inoue (2004), Sakata, Yamamori, & Sakurai (2004), and Takahashi, Anzai, & Sakurai (2003).

On the function and property of representation, **Shintaro Funahashi** and his group explored the neural mechanisms of spatial working memory with special reference to the contributions of the dorsolateral prefrontal cortex (DLPFC) and the orbitofrontal cortex. He refers to working memory as a mechanism for short-term active maintenance of information as well as for processing maintained information. Working memory is a fundamental mechanism for many cognitive processes including thinking, reasoning, decision making, and language comprehension. Therefore, understanding the neural mechanisms of working memory is crucial to understanding the neural mechanisms of these cognitive processes. DLPFC has been known to play an important role in working memory processes. Neurophysiological studies using non-human primates demonstrated that tonic sustained delay-period activity is a neural correlate of the mechanism of temporary maintenance of information and that delay-period activity represents either retrospective (e.g., sensory inputs) or prospective information (e.g., motor outputs), although the majority of DLPFC neurons had delay-period activity representing retrospective information. However, the DLPFC is not only the brain structure related to working memory. The orbitofrontal cortex (OFC) has heavy reciprocal connections with the DLPFC. Therefore, the OFC could also participate in working memory processes. To examine OFC's participation in working memory, they analyzed the characteristics of task-related activities while monkeys performed spatial working memory tasks. Task-related activities observed in OFC neurons were similar to these exhibited by DLPFC neurons. However, most delay-period activity in the OFC showed gradually increasing activation and omni-directional selectivity. In addition, reward-period activity was more frequently observed among task-related activity in the OFC. These results indicate that, although the OFC participates in the spatial working memory process, the way it participates in this process is different between these two areas, in that the OFC participates more in the motivational aspects than the DLPFC.

Naoyuki Osaka and his group explored the role of individual differences in executive function in human working memory and found prefrontal regions such as DLPFC, VLPFC (ventrolateral prefrontal cortex), ACC (anterior cingulate cortex), SPL (superior parietal lobule) work cooperatively as a cognitive control system. Using fMRI (functional magnetic resonance imaging), TMS (transcranial magnetic stimulation) and psychophysical procedures, they assumed metarepresentation could be updated and manipulated in a somehow interactive way among these areas. Specifically, they found that functional connectivity between ACC and DLPFC neuronal network represents individual differences in working memory (Osaka, et al., 2003, 2004; Kondo, et al., 2004a, b), ACC deteriorates

in the elderly (Otsuka, et al.,2006), and right parieto-frontal area involvement in primary representation such as color working memory (Ikeda & Osaka, 2006). In their series of experiments exploring metarepresentation based on one's belief, desire, qualia and theother people's mental states, they found a seat of metarepresentation of cognitive pain in ACC (Osaka, et al.,2004), of laughter in PM(premotor)/lingual gyrus (Osaka, et al., 2003) and its striatal reward part in caudate/nucleus accumbens (Osaka & Osaka, 2005). Osaka, et al. (2004) reported that understanding one's and other 's mind (theory of mind) requires working memory's metarepresentational processing function involving recursive mental operations, suggesting the critical role of temporoparietal junction (TPJ) and prefrontal regions. Studies on primary representation in connection with attentional mechanisms were also reported (Sogo & Osaka, 2005; Hirose, et al., 2005). We also suggested a critical contribution of the current neuroscientific approach to understanding subjective pain (Osaka, 2006). Exploring the working mind requires understanding of how the representation (metarepresentation) is updated and manipulated in the brain under cognitive control. Working memory, an active, goal-oriented, and capacity-constrained short-term memory, plays a crucial role in the study of mind and its neural bases have recently been clarified using neuroscientific methods (Osaka, Logie & D'Esposito, in press).

Hiroki Yamamoto and his group showed how visual information represented in human brain. Although multiple human brain areas subserving vision have been identified as processing modules for specific visual attributes such as shape, color, depth, and motion, there remain many unresolved issues about the cortical representations of visual attributes within the visual areas. They investigated the cortical representations of shape and surface properties of a visual object in human visual areas. They measured brain activity with fMRI when observers perceived various visual attributes (objects) such as arcs, circles, or symmetric figures, and when they experienced the visual illusions of object's shape and surface properties such as metacontrast, amodal completion, or simultaneous color contrast. Brain activity was then analyzed, focusing on retinotopic representations of an object in lower visual areas. They found that the retinotopic representation in lower areas changes when the global, perceptual, or cognitive aspect of the object changes, all of which can be captured only by higher visual areas (Ban, et al., 2006). For example, when arcs were globally arranged in circular symmetry across visual hemifields, the retinotopic activity of the part increased; when a color stimulus was rendered invisible by metacontrast, it's retinotopic representation was impaired; even when an object moved behind an occluder, the retinotopic representation of the occluded part persisted. Their study suggests that the cortical representation of an object may be constructed by recurrent processing between lower and higher visual areas.

Finally, how does representation play a role in clinical context? This issue was examined by clinical psychologists. **Yasuhiro Oyama** investigated the process of imaging that therapists experience during clinical psychology sessions and conferences. In clinical psychology sessions, as participants communicate with each other on verbal and nonverbal levels, the imaging should not be regarded as closed in the individual's mind, but open and reciprocal among participants. In order to clarify this interpersonal occurrence of imaging, he implemented experimental case conferences over videotaped role-play sessions during art therapy. After some preliminary studies, he invented the technique for videotaping and

presentation using two synchronized pictures from different angles. This technique enables the participants to maintain in free-floating attention and active imaging, as the pictures maintain sufficient arbitrariness and information. The process of imaging while watching a videotape was retrospectively reported, and the transformation of image during conference was also reported. He found (1) the reports of role-players ware sometimes incongruent with the facts seen in videotapes. Nevertheless, the audiences often considered role-players' reports appropriate when the total context of the process is considered. (2) Proficient practitioners ware more reflective of their imaging process than new trainees were, since proficient practitioners reflect not only on the contents they see but also on their perspective and observation style as the process of role-play unfolds. (3) Imaging is not a response to the occurrence of facts, but rather a proactive process that tries to develop a consistent flow of meaning. Using this knowledge, we designed and implemented an effective training system for clinical psychologists.

Clinical psychologists of the team have collected various important findings from the psychotherapy practice of hundreds of clients. The findings include the followings. **Yasunobu Okada** found that a spontaneous generation of representation has been reported to be useful for helping patients recover their mental state through a series of observations. **Toshio Kawai** investigated a problem of the self in a theory of consciousness based on postmodern orientation and presented a paper on the 50th Anniversary Conference of the Journal of Analytical Psychology. **Hiroshi Ishihara** found a positive role for constructing sand play during remedial processes due to the generation of representation. **Akira Kaito** studied painting therapy and suggested a crucial role of image generation between client and therapist.

Team B: Embodied Mind

Leader: Yoshiko Ito
Deputy Leaders: Hiroshi Ashida, Michikazu Matsumura
Members: Shintaro Funahashi, Shoji Itakura, Yoshihiro Kadono[1], Toshio Kawai, Yoshiko Kurokawa*[2], Tomoko Kuwabara, Eiichi Naito[3], Yasuhiro Yamanaka[2], Sakiko Yoshikawa, Ryuta Wada*[4], Wataru Sato†, Hiromi Matsuura††

*: Collaborating COE members
†: Postdoctoral COE member
††: COE Assistant
1: 2004-present
2: 2002-2004
3: 2002-2005
4: 2005-present

We presented the idea of the "embodied mind" and studied the interactions between mind and body in both experimental and clinical studies. Team B1 explored the brain mechanism through experimental studies. Team B2 made clinical studies especially through psychotherapy. Team B3 used the results of both studies to inquire into the mechanism of such seemingly irrational phenomena as phantom limbs, hallucinations, and delusions.

Team B1

As a part of Team B's general goal to explore embodied minds, we conducted experimental studies on the relationship between human sensation/perception and bodily action from several perspectives. Our goal was to explore interactions between body and mind in recognition of the external world at the basic level, to reveal brain mechanisms for representing external objects and/or events, and to propose models for engineering and application purposes. We also tried to reveal the properties of cognitive and emotional processes and the bodily reactions underlying one-to-one or one-to-many nonverbal communication signals by using behavioral, brain imaging, and other types of experiments.

Our investigations included several specific goals as summarized below. First, we used functional Magnetic Resonance Imaging (fMRI) to understand the neuronal mechanisms of the interrelation of visual and somatosensory information during the behavioral performances of normal subjects (**Michikazu Matsumura** laboratory). In the first experiment, subjects observed the wrist movements of others. Then during the fMRI recordings subjects must repeat the same movements under the same time locked conditions and in a 180° reversed way. Experiment results revealed that the same muscles were used during the different time locked movements, but fMRI results showed completely different cortical activation patterns in the parietal, prefrontal, and premotor areas during different timing movements. In the second experiment, subjects experienced kinesthetic illusory flexion movement of their right hand, while viewing the video-recorded flexion (congruent) or extension (incongruent) motion of their right hand. Three different hand motion velocities were prepared for each hand motion direction. The fMRI showed similar results to the first experiment for activation in the parietal, frefrontal, and fremotor

areas and also the left lateral cerebellum whose activity also reflects the perceptions of seeing and feeling our own limb movements. These experiments showed many cortical and cerebellum movements related to the integration of visual and somatosensory information during motor performances.

Second, using computer-animated dynamic stimuli, we performed various psychological and neuroscientific experiments that focused on different stages of facial expression processing, including perception, recognition of emotion, and facial reactions of the perceiver (**Sakiko Yoshikawa** laboratory). A neuroimaging study (fMRI) was also conducted to investigate brain activity while viewing dynamic facial expressions. The results revealed that the broad region of the visual cortices, the amygdala, and the right inferior frontal gyrus were more activated in response to dynamic facial expressions than static facial expressions (Sato, Kochiyama, Yoshikawa, Naito, & Matsumura, 2004). Corresponding with the characteristics of these brain activities, the results of three psychological studies indicated that the dynamic presentation: (a) intensified the perceptual image of the facial expression (perceptual enhancement, Yoshikawa & Sato in press); (b) enhanced the emotional feeling (Sato & Yoshikawa in press a); and (c) elicited spontaneous and rapid facial mimicry (Sato & Yoshikawa, in press b). These results revealed that the dynamic property facilitates the perceptual, emotional, and motor processing of the facial expressions of emotions.

Finally, we examined how visual information is unconsciously used to control the reaching movements of the upper limbs (**Hiroshi Ashida** laboratory). We usually see the past a few hundred milliseconds “late” due to neural delays, and it has been suggested that our visual system extrapolates target motions to compensate for physical movement. We showed different ways of extrapolation for direct action and for conscious perception by psychophysically examining cases where visual motion causes illusory positional shifts (Ashida, 2004; Ashida, Yamagishi, & Anderson, 2004; Ashida, Yamagishi, & Anderson, submitted). In short, we have shown that our brain automatically adjusts the coordination of vision and bodily action without affecting conscious awareness. Our next goal is to identify the brain mechanism that underlies such anticipatory coding. For this purpose, brain activities were measured by fMRI. So far, we have clarified that extrapolation does not occur in the early retinotopic areas of V1 to V3/VP (Liu, Ashida, Smith, & Wandell, in press). The underlying mechanism remains an open question, and we are currently planning experiments to investigate higher visual areas.

Team B2

To explore embodied minds, we researched hereditary diseases, physical diseases, recognition disorder with aging, mental diseases, developmental disorders, and so on. We concentrated on human beings and how they manage their lives during an illness. We performed studies on the transformation processes through psychotherapy in clients whose illnesses were basically influenced by biological factors and psychotherapy methodology for such clients.

Our investigations included several domains, as summarized below. First, in cooperation with the clinical genetics division at Kyoto University Hospital, we created a unique genetic counseling system to accompany psychotherapy (**Yoshiko Ito**). Today, due to rapid progress in genetics, a human being can get knowledge about his future illness: in other words, his fate. But this knowledge offers not only merits but also demerits as it

produces great anxiety and difficulty making decisions, for instance, marriage, having children, etc. In genetic counseling, we cope with this situation by offering psychotherapy to clients who have received genetic information from a doctor. Over the last five years we have met 197 clients. From these practices, we developed the idea that genetic information can be accepted by the mind, and when clients are offered psychotherapeutic time for reflection, they encounter wisdom that comes from the origin, the genes (Ito, 2005).

Second, we are cooperating with the pediatrics division in infantile cancer at Kyoto University Hospital (**Ito** and **Yasuhiro Yamanaka**). With the increase of such medical technology developments as bone marrow transplants, psychological support for patients is urgently required. In response, we established counseling room for the patents there in 2003. According to this practice we found the necessity of long-term psychological support not only for these patients but also for their families (Matsuura, 2005). These views were confirmed in a domain of senior citizens with recognition disorder we also have cooperated with. As a result, the body coexists with both the mind and the illness (Yamanaka, 2004; Ito, 2004).

Finally, we studied the methodology of approaches to the body (**Ito**, **Yamanaka**, and **Yoshihiro Kadono**). We showed that sandplay, playtherapy, therapy, and drawing during therapy are effective for human beings to express and experience their own bodily sensations and images (Yamanaka, 2006; Ito, 2006; Kadono, 2006; Wada, 2006). Even for children, it is very significant to grasp their own hereditary disease through play-therapy (Kurokawa, 2004).

Team B3

Here we compared the studies of Teams B2 with B1 to analyze the mechanism of irrational phenomena that appears in the body and the mind.

Team B2 researched hallucinations and delusions during recovery from schizophrenia, concentrating on the client's dreams and pictures. We showed many significant relationships between the contents of hallucination/delusion and changes in client's dreams and pictures (Kadono, 2005). We also proved the importance of other factors at the early age of coping with the biological factors of these illnesses from the viewpoint of the mirror stage, for instance, parents (Ito, 2005). These clinical study results coincide with the above results of Team B1's neuroscientific experiments on illusory sensation/perception and the function of integration in the brain.

Thus we clarified the correlation of body and mind. We emphasize that our concept of "embodied mind" is very suggestive and useful to examine body and mind phenomena. We will continue to expand this idea.

Along with our own studies, we have organized many symposia and talks on related topics to exchange and discuss ideas on specific topics and promote communication between researchers in related fields, which has also enlightened prospective Ph.D. students.

Team C: Interaction with Cultural and Social Milieu

Leader: Shinobu Kitayama[1], Toshio Sugiman[2]
Deputy Leaders: Tomoko Kuwabara, Sakiko Yoshikawa[3]
Members: Yoko Yamada, Hirohisa Higashiyama[4], Motoki Watabe, Tetsuro Matsuzawa[*]

*: Collaborating COE members
1: 2002-2003
2: Deputy Leader 2002-2003, Leader 2004-present
3: Deputy Leader 2004-present
4: 2002-2005

Interaction of psychological functions with cultural and social environments was investigated from the perspectives of both basic and applied psychology, focusing on both temporal and spatial aspects of human behavior. First, as a basic aspect of social interaction, facial expression and face/gaze direction were experimentally analyzed. Second, as a temporal aspect of human life, a new model of life-span development was proposed and examined using a narrative approach while, as a spatial or relational aspect of social interaction, it was studied in laboratory settings how mutual trust was grown or undermined in situation with social uncertainty. Third, practical issues in school, community, and technology were investigated from the perspective of applied psychology including clinical approach, action-research, and cross-cultural comparison.

Team C1: *Facial expression and face/gaze direction* (**Sakiko Yoshikawa** et al.)

A human face contains a wealth of information that facilitates social interaction. Focusing on facial expression and face/gaze direction, we carried out an experimental research and obtained evidence showing interaction between emotional facial expression and face/gaze direction in early perceptual processes. We obtained the results showing that: (1) the perception of negative faces is more accurate overall than of other faces but even more accurate when the face/gaze is directed towards the observer, (2) in the gaze-cueing task, the target detection is facilitated by a congruent face (gaze) cue when the facial cue has an emotional expression such as surprise. The results revealed the basic processes that underlie in reading the emotions and intentions of others, understanding our relation with others, and modulating our behavior flexibly in face-to-face communication.

Team C2: *Temporal and spatial aspects of human behavior*

1) Life-span development (**Yoko Yamada** et al.)

A theoretical model of life-span developmental psychology was proposed and examined with use of life narratives of Japanese and other cultures. (1) In contrast with Western-modern models characterized by individualism and linear progressivism, a new model called Generative Life Cycle Model (GLCM) was proposed based on Japanese folk images. The model includes two versions, that is, an ecological version focusing on the cyclic images of successive generations beyond an individual's life and death within ecological contexts and a spiral version characterized by the multiple time concepts and the generative processes of life and death. (2) Images of the after life were examined by

GLCM since the cyclic time perspective beyond death plays an important role in non-Western countries. A cross-national study of French, English and Vietnamese youth suggested that a kind of 'cyclic cosmology' still had much influence on the naive concepts of life after death among contemporary Japanese adolescents. (3) As a part of life-span development, life narratives and narrative selves were investigated while depending on Bakhtin's theory of narratives but expanding its theoretical scope by introducing a new concept of 'coexistent dialogue' that is different from 'opposite dialogue' characterized by an opposite relationship between self and other. Coexistent dialogue that is characterized by repeated voices, side-by-side positions, and harmonious and sympathetic resonance of self and other was illuminated by text analysis of a famous Japanese film named 'Tokyo Story.'

2) Building mutual trust in social exchange (**Motoki Watabe** et al.)

Using experimental methods, this research has examined how people develop trust in potential exchange partners in the context of different types of sanctioning systems. In this research, we have focused on the effects of self-sanctioning or hostage-posting behavior on trust in dyadic exchange situations. More specifically, we have analyzed a two-person trust game in which the first player (Player 1) fears being exploited by the second player (Player 2). Accordingly, Player 1 is given an option to provide self-sanctioning or hostage posting that will punish Player 2 for exploitative behavior. Out hypotheses are: 1) Player 1's level of trust will increase when Player 2 VOLUNTARILY provides self-sanctioning and 2) Player 1's level of trust will not increase when self-sanctioning is imposed on Player 2.

In order to test these hypotheses, we have conducted three experiments. Experiments 1 and 2 support these hypotheses although the results indicate that the effects of voluntary self-sanctioning are not very strong on the development of trust. However, in Experiment 3, I have conducted an experiment in which four persons are assigned the role of Player 1, and one person is assigned the role of Player 2. All participants in the role of Player 1 play the game and have the opportunity to discuss Player 2's behavior. The results show that group discussion amplifies the effects of voluntary self-sanctioning and results in Player 1's level of trust increasing significantly. These findings should give a significant contribution to policy making and institutional arrangements to enhance mutual trust in a society.

Team C3: *Practical issues in a society*

1) Clinical approach to psychological problems in school (**Tomoko Kuwabara** et al.)

As a clinical psychologist, we participated in a real situation of school without restricting ourselves from being just in a counseling room. As a result, it was clarified, by intensive field work combined with a questionnaire survey, how school teachers and clinical psychologists differed from each other in the way in which they interacted with pupils and what psychological factors brought about such differences. Also, as a part of our practice in school, we organized a symposium in which school psychologists having experiences of working in a school for a long time were invited to participate in discussion. They disclosed their experiences of conflict and difficulties they were faced with when they worked in a school. The symposium was of great value not only for school teachers and clinical psychologists but graduate students who were involved in clinical activities in a school as a part of their training course.

2) International comparison on social acceptance of biotechnology (**Toshio Sugiman** et al.)

How biotechnology including gene operation is accepted or rejected was compared among countries of EU, US, and Japan by investigating three kinds of discourse that appeared in mass media (newspaper), the process of policy-making, and a questionnaire survey of public opinion. It was found that Japan was characterized by a tendency in which acceptance of biotechnology was promoted mainly by economic drive combined with a political discourse that emphasizes the importance of self-determination to throttle a fundamental discussion while the majority of ordinary people cannot eradicate vague anxiety.

3) Revitalization of a rural depopulated community (**Toshio Sugiman** et al.)

A rural community in which a radical movement towards participative democracy by ordinary residents was going on for twenty years to break down control by a small number of rich persons was investigated by a method of action-research to clarify major factors that contributed to success of the movement. It was illuminated that both the prior existence of a bud of opportunity and the support provided by networking with other villages were necessary for the success of a village. Namely, a group of a few persons rose to action to change their village, which was like a bud of opportunity, and then increased their influence on other residents while being supported by other villages that shared the same direction of change.

Team D: Evolution and Life-span Development

Leader: Yoko Yamada
Deputy Leaders: Shoji Itakura, Masayuki Tanaka*
Members: Kazuo Fujita, Masuo Koyasu, Toshihiko Endo*, Shinichi Mizogami*[1], Kazuhide Hashiya[2], Shigehiro Kinda*[3], Tetsuro Matsuzawa*, Masaki Tomonaga*, Masako Myowa-Yamakoshi†[3]

*: Collaborating COE members
†: Postdoctoral COE member
1: 2002-2004
2: 2002
3: 2003

The aim of this group was to understand the genetics of the mind from evolutionary and developmental perspectives. The mind changes over time. Natural selection has created mind diversity in geological time. Maturity, culture, and individual experience have given rise to different minds at each age in ontogenetic time. These changes and the resulting diversity constitute the essential nature of the mind. Studies of the mind should target such changes and diversity. Therefore, the team members have investigated various aspects of mental function, focusing on social aspects, by comparing different species, and by undertaking longitudinal and cross-sectional comparisons of humans at various ages from birth to death. The methodologies used range from experimental and observational analyses of behavior to qualitative analyses of text and narratives. Collaboration among leading scientists from diverse fields, as indicated by the nature of the study, and which constitutes a particular strength of Kyoto University, has contributed to understanding of how and why the mind is as it is.

The major findings during the project period, from 2002 through 2006, are summarized below.

Yoko Yamada has investigated theoretical models of life-span developmental psychology and life narratives based on Japanese and other cultures. She has clarified the presuppositions of Western-modern developmental models such as individualism and linear progressivism, and she has proposed new models based on Japanese folk images. She and her colleague have constructed two versions of the Generative Life Cycle Model (GLCM). The ecological version has been defined in multiple ecological contexts, and the spiral version is characterized by multiple time concepts (Yamada, 2004; Yamada & Kato, 2006a, 2006b). Life-span developmental psychology can expand its research frontier to deal with images of the afterlife because, in non-Western countries, the cyclic time perspective beyond death plays an important role in people's lives. Yamada and her colleagues contrasted images drawn by Japanese young people with those of French, English, and Vietnamese young people, and they found that the Japanese students used more representations of rebirth than did the other students. A cyclic cosmology still has considerable influence on naive concepts of life and death among contemporary Japanese adolescents (Yamada & Kato, 2004, 2006a). Yamada has studied life narratives and narrative selves using the methods of qualitative psychology and text analysis of cinema.

Bakhtin theorized that narratives were basically dialogic and polyphonic, and that they were competitive, with multiple voices. She has analyzed the theoretical relationships of what she calls “Coexistent Dialogue”, using the dialogue in Ozu’s film “Tokyo Story”, by focusing on repeated voices, side-by-side positions, and harmonious and sympathetic resonance of Self and Other (Yamada, 2004, 2005, in press).

These findings suggest that models of the life cycle and narrative selves based on Japanese culture present perspectives that offer a new and different direction to those indicated by the theories of psychology based on Western culture.

Masuo Koyasu has investigated the development of the “theory of mind” in young and older children. Koyasu and Nishigaki (2006) investigated relationships between two patterns of reading comprehension in narrative stories and the development of the “theory of mind” in elementary school children. They hypothesized that a) there were significant age (grade) differences in global reading comprehension, but not in local reading comprehension, and b) levels of understanding with respect to the “theory of mind” had a significant influence on global reading comprehension, but not on local reading comprehension. The participants were 83 fourth-grade, 74 fifth-grade, and 98 sixth-grade children from an elementary school. Two stories were used to test the children’s levels of global and local reading comprehension abilities. A second-order false belief task and commitment task were administered to assess the children’s levels with respect to the “theory of mind”. Significant age differences were found in the global reading comprehension tests, but not in the local reading comprehension tests, and the children who passed the second-order false belief task scored higher on the global reading comprehension tests than those who did not. By contrast, there were no such differences in the commitment task.

Koyasu (2006) investigated the role of participation in a field study of pre-school education. Two episodes were cited from a field study in which three observers constantly observed the everyday activities of young children in a kindergarten classroom. These studies demonstrated the inevitability of describing episodes in the form of narratives. In narratives, the behaviors of protagonists are described in terms of a plot that adheres to a time sequence of events involving both consistency and a conclusion. In addition, the narrative consciousness of the observer is very important, irrespective of whether such a narrative is written explicitly or indicated implicitly. Finally, the meaning of “participation” in a field study of pre-school education is discussed.

Currently, Koyasu is conducting cross-cultural research in cooperation with Professor Charlie Lewis at Lancaster University in the UK in order to study the development of the “theory of mind” (ToM) and executive functions (EF), as related to the maintenance of attention and the inhibition of behavior. Ogawa and Koyasu (submitted) have studied the relationship between the theory of mind and executive function in young children. Two aspects of EF, inhibitory control and working memory, contribute to ToM. This study examined which aspects of EF related to the understanding of false belief in young Japanese children. Sixty-eight children, aged 3 to 6, were given two false belief tasks, a receptive vocabulary task, and six EF tasks. The results showed that working memory was significantly related to ToM after controlling for age and receptive vocabulary. In addition, the correlation between conflict inhibition and working memory factors was very high. These findings suggest that working memory and conflict inhibition are based on a

common ability in early childhood, and that this common ability is related to an understanding of false belief.

Shoji Itakura has investigated the social development of children from perspectives associated with mentalizing. He aims to establish a new research domain called Developmental Cybernetics (he is studying interaction and integration between children and robots). Some new findings have been obtained in this domain. Young children imitated the "intentional" actions of a robot when the robot made eye contact with a human adult (Itakura, Ishida, Kanda, Lee, Shimada, & Ishiguro, submitted). This result suggests that human-like gaze behaviors, not human-like morphology, play a crucial role in young children's attributions of intentionality and goals to a non-human agent. He and his colleagues also demonstrated that young children discriminated between a robot and a human with regard to mentalizing when a mental verb, such as "think", was used in a question in a False Belief Task. It seems difficult for young children to link the behavior of searching and thinking in a robot (Itakura, Lee, Ishida, Kanda, & Ishiguro, in prep.). Another finding was obtained from inhibitory control studies in young children (Moriguchi, Lee, & Itakura, in press). In a dimensional change card sorting task (DCCS), 3- and 4-year-old children showed persistent errors in observing others' actions, even when they were instructed to select a different action, whereas 5-year-old children did not. In another experiment, 3-year-old children were more likely to persist in a rule a demonstrator used when they observed the demonstrator with a high level of confidence than when they observed the demonstrator with a low level of confidence.

Kazuo Fujita has investigated the evolution of intelligence from a broad comparative perspective, one that includes birds, rodents, tree shrews, and nonhuman primates. New findings were obtained concerning various aspects of intelligence, including causal understanding, inference, and social skills. Some findings obtained in tufted capuchin monkeys, the major subject species in his laboratory, include the following. In two-choice tasks, this species chose the option in which tool, food, and hindrance were appropriately arranged and led to easy access to food. This showed advanced understanding of causality in tool use (Fujita, Kuroshima, & Asai, 2003; Sato, Kuroshima, & Fujita, under revision). Capuchin monkeys, but not tree shrews or rats, preferred visiting the feeding site that another conspecific had not visited before. This suggests that capuchin monkeys are able to infer the outcome of another individual's behavior (Takahashi, Ueno, & Fujita, in prep.). They corrected their own behavior when they watched another monkey that had failed to open a baited box (Kuroshima, & Fujita, in prep.). They took an action interpretable as a tactical deception of their opponents in an experimental food-competition contest between monkeys (Fujita, Kuroshima, & Masuda, 2002). They were shown to understand that seeing leads to knowing in a box-choice task in which knowledgeable and ignorant trainers "advised" the monkey which to choose (Kuroshima, Fujita, & Masuda, 2002; Kuroshima, Fujita, Adachi, Iwata, & Fuyuki, 2003). The monkeys cooperated by spontaneously dividing the necessary behavioral sequence between two individuals in order to obtain food (Hattori, Kuroshima, & Fujita, 2005). Capuchin monkeys, as well as vervet monkeys and carrion crows, were demonstrated as recognizing the attentional states of human competitors, shown by eye gaze (Hattori, Kuroshima, & Fujita, in press; Tsutsumi, Takahashi, & Fujita, in prep.; Tsutsumi, Ushitani, & Fujita, in prep.). These findings

suggest that this New World monkey species has highly developed physical and social intelligence.

Toshihiko Endo has studied three themes in the COE program. The first theme was: "Maternal representation concerning the imaginary infant in pregnancy and its continuity and influence on mother-infant interaction and the infant's attachment development after birth." He and his research colleagues acquired results which suggested that individual differences in mothers' narratives about their unseen babies in pregnancy could be maintained stably after birth, and could predict the quality of their interactive behaviors with their actual babies (Endo & Motoshima, in prep.).

The second theme was: "The development of infants' understanding of others' gazes and facial expressions and its relation to their mothers' parenting behaviors." Endo reviewed a number of published studies on that theme, theoretically, and pointed out the shortcomings of the current prevalent methodologies in that research area (Endo, 2005a, 2005b). In addition, he and his colleagues empirically revealed that mothers' tendencies to assume and read infants' internal states rather excessively when their own children were 6 months old predicted their children's later abilities to understand others' gaze direction and its meaning (Shinohara & Endo, in prep.).

The third theme was: "A preliminary study on the construction of collaborative systems between nursery schools and laboratories in developmental psychology in universities." He and his graduate students periodically observed interactions among pre-school children and their caregivers, and interviewed them about problems and difficulties with respect to daily childcare. At present, they are trying to develop support programs to enhance day care with graduate students majoring in developmental psychology (Endo, Shinohara, Ishii, & Motoshima, in prep).

Masako Myowa-Yamakoshi has investigated young chimpanzees' ability to process others' actions. First, she and her colleagues provided evidence for the imitation of facial expressions in chimpanzee neonates, which followed a testing procedure identical to that used for human neonates (Meltzoff & Moore, 1977). At less than one week of age, the chimpanzees could imitate several human gestures. By the time they were 9 weeks old, however, the chimpanzees no longer imitated the gestures. These findings demonstrate that humans are not unique as a species in their imitation of others' facial gestures from just after birth (Myowa-Yamakoshi, Tomonaga, Tanaka, & Matsuzawa, 2004). Second, she and her colleagues investigated the ability of chimpanzee infants to recognize others' faces. The infants were presented with photographs of the mother of each infant and an "average" chimpanzee face using computer-graphic technology. From 4 to 8 weeks old, they showed a strong preference for their mother's face. These findings suggest that there are similarities in the mechanisms of facial information processing in humans and chimpanzees (Myowa-Yamakoshi, Yamaguchi, Tomonaga, Tanaka, & Matuzawa, 2005). 3) Third, she and her colleagues studied gaze perception in infant chimpanzees. The infants were presented with two photographs of a human face: (a) with the eyes open or closed, and (b) with a direct or an averted gaze. They found that the chimpanzees preferred looking at the direct-gaze face. By contrast, in the context of scrambled faces, the infants showed no difference in gaze discrimination between direct and averted gazes. These findings suggest

that gaze perception by chimpanzees is strongly influenced by the surrounding facial context (Myowa-Yamakoshi, Tomonaga, Tanaka, & Matsuzawa, 2003).

Their findings suggest that humans and chimpanzees have similar abilities when it comes to processing facial information in their early life stages. They have proposed an adaptive significance for neonatal imitation, face recognition, and gaze perception, by focusing on the role of facial expressions in mother-infant face-to-face interactions with mutual gazing in humans and chimpanzees.

In sum, various developmental and evolutionary changes in mental functions have been documented and theorized in both human and nonhuman animals. In particular, studies of social intelligence and social cognition have much increased our current knowledge on these important aspects in infants, children, and nonhumans. Probably the next step is to establish a grand theory to predict how such changes and resulting diversity may be created by what factors, in both evolutionary and developmental time courses. At the same time we should work further to provide a suggestion to public for the well-being of all of the living organisms and global happiness.

This team has organized a number of international meetings to promote international exchanges and collaborations. Among all, the presented papers and discussions at the symposium entitled “Diversity of Cognition: Evolution, Development, Domestication, and Pathology” in 2003 have been compiled as a book of the same title (Fujita & Itakura (eds.), 2006). This team has also provided stimulating opportunities for junior scientists. In particular, the team members worked as the main organizers of yearly International Workshops for Young Psychologists (IWYP), which in fact enhanced both academic and communicative abilities of graduate students.

International Collaborations

Effects of culture on perception and action: an experimental psychology approach

Members:

Jun Saiki

Shinobu Kitayama, Professor, Department of Psychology, University of Michigan

David E. Meyer, Professor, Department of Psychology, University of Michigan

Project Period: April, 2004 − March, 2007 (planned).

Purpose of the project

Does culture, as a "superstructure", exclusively affect higher level human cognitive functions, such as thinking and reasoning? If a culture is "the whole of experiences" among people who share it, it is conceivable that it deeply affects the more fundamental mechanisms of perception and action. Based on this perspective, this research project conducted a series of psychological experiments comparing basic mechanisms of visual attention and action between Japanese and American people. We employed a working hypothesis proposed by Nisbett and Kitayama that Japanese people are more likely to use a parallel and global processing mode, whereas American people tend to use serial and local processing. We conducted cultural comparisons in perception and action using two basic psychological tasks; visual search and multitasking. The unique aspect of this project is to investigate simpler and intuitive cognitive processes without intentional controls, unlike cognitive processes allowing various top-down strategies with complex tasks used by most of the previous cultural comparison studies.

Project description

1. *Visual search project*

Visual search reflects functions of focused and distributed attention. In general, it is known that people tend to employ a distributed attention mode with an easy search task, and focused attention mode with more difficult task, which makes differences in search efficiency. According to the working hypothesis above, Japanese people may employ focused attention mode less often than Americans. We examined this possibility using a phenomenon called search asymmetry. Quite often, visual search efficiency changes dramatically by simply exchanging target and distractor stimuli. For example, searching for a Q among O's is much easier than vice versa. Search asymmetry is suitable to examine the hypothesis because differences in search efficiency are not confounded with various stimulus factors. We predicted that American people show stronger search asymmetry than Japanese.

So far, we have obtained confirmative evidence with two stimulus sets. First, we used upright and upside-down elephants (upside-down elephants are easier to search for), and showed that American people showed significant search asymmetry as in previous studies, whereas Japanese failed to show any significant asymmetry. Next, we used much simpler stimuli, long and short bars (long bar is easier to search), to investigate the underlying

mechanisms more systematically. Again, only American subjects showed search asymmetry.

Currently, to investigate the detailed mechanisms underlying cultural differences, the effects of context information on search behavior are examined using various additional "frames" attached to search items.

2. *Multitasking project*

Meyer and colleagues reported that interference in dual task situation, which has been considered inevitable, sometimes almost completely disappears with intensive training. In a dual task composed of a novel vision-action mapping and a audition-action mapping with a short SOA, some participants accomplished parallel processing of two stimulus-response mappings after a long training. This can be considered as learning of allocation of attentional resources. According to the hypothesis by Nisbett and Kitayama, Japanese people with higher tendency of global and parallel processing will achieve parallel processing in the dual task more often. We examined this hypothesis by an experiment with a shorter training period. Instead of evaluating the complete achievement of parallel processing, we measured quantitative multitasking costs with a large sample of participants. The result showed that Japanese participants showed significantly smaller cost than American participants, consistent with the hypothesis.

Currently, we are investigating whether there is any cultural difference in task switching. Based on the arguments above, it is expected that American people will show more efficient task switching behavior, because of their reliance on serial processing. The results so far, however, are rather different, showing that Japanese are again showing more efficient task switching performance.

Summary and future directions

Both visual search and multitasking experiments showed a clear cultural difference between Japanese and Americans, consistent with the hypothesis that Japanese people tend to use global and parallel processing more often.

To understand the effects of culture on perception and action more systematically, further studies are necessary. In visual search, more direct evidence for differential use of focused and distributed processing modes is necessary. In multitasking, we need to examine whether the cultural difference can be explained by resource allocation.

Conference presentations

Ueda, Y., Saiki, J., Kitayama, S., & Duffy, S. (2005). Visual search and cognitive style: The effect of culture on search asymmetry. *The Japanese Psychological Association 69th Annual Meeting*, Tokyo, (in Japanese).

Kopecky, J., Kitayama, S., Meyer, D. E., & Saiki, J. (2006). Cross-cultural differences in multitasking by East Asians and North Americans. Poster presented at *the Psychonomic Society 47th Annual Meeting*, November, Houston, TX.

Cultural difference of resource distribution strategies:
An experiment in Japan and US

Members:
Motoki Watabe
Richard Gonzalez, Professor, Department of Psychology, University of Michigan

Project Period: April, 2004 − March, 2007 (planned).

Plan and the results of the project

How to allocate valuable resource has been always one of the most important problems in the entire human history. Recent game theoretic approach focuses on experimental examinations with the ultimatum game. The ultimatum game is a two-person, one-shot game. Two players (Player 1 and 2) are paired but no communication is allowed between them. First, the pair is given a certain amount of resource, usually money in the experimental settings. Player 1 then decides how to allocate the resource between the two players. Second, Player 2 decides whether or not she accepts the decision by Player 1 afterwards. If she accepts, the resource is allocated according to Player 1's decision. If she rejects, both players receive nothing.

The prediction by rational choice is that Player 1 should give the minimum amount to Player 2, and Player 2 should accept it. It is better than nothing to accept any amount for Player 2. Given that, Player 1's rational choice is to give the minimum. It is however proved that people do not behave as this prediction by many experimental studies. This notion provides the evidence that the sense of fairness is an important factor that enhances a certain type of behavior even if it is not rational. In addition, Roth and his colleagues (1991) report that there are cultural differences in behaviors of resource allocation and patterns of acceptance in different cultures including US and Japan. According to their research, Japanese tend to split the resources as 60% for self and 40 % for the partner whereas Americans tend to do it as 50% for self and 50% for the partner. Henrich and his colleagues (2004) argue that development of market economy can account for the cultural difference with their data from fifteen different societies in different cultures. However, this account is not the case in the US-Japan difference because both nations are countries with the most developed market economies in the world. Thus, there are still unexplained factors on the US-Japan difference of resource allocation.

In order to find these factors, we conducted a cross-cultural experiment. Seventy two undergraduate students participated in our ultimatum game experiment (36 students for each country). They are told that they are paired with another anonymous person and play one-shot ultimatum game with the partner. They are not told any information about their partner. The amount of resource is $13 (1300 Japanese yen)

Before their decisions in the ultimatum game, they are shown an answer sheet that the partner answered previously. The answers are actually prepared by the experimenter. In the experimental condition (goodness condition), the answers indicate that the partner is good and honest person. In the control condition, the answers are irrelevant to the partner's personality.

Shown the answer sheet, the participants make their decisions. They are asked

1) how they would allocate the money between self and the partner when they are in the role of Player 1, and 2) how much is the minimum acceptable offer when they are in the role of Player 2. After making decisions, they are randomly assigned either Player 1 or 2 and given the amount of money according to their decisions.

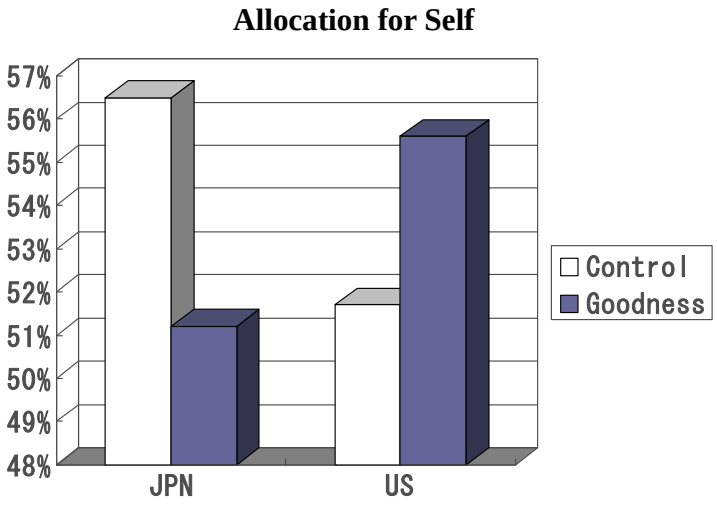


Figure1: Player A's Allocation of Resource for Self.

Figure 1 shows the mean percent of resource allocation for self. Fifty percent is fair line. It is notable that Japanese take about 60% and Americans do about 50% in the control condition whereas Japanese take about 50% and American do about 60% in the goodness condition ($F(1,65)=5.05$, $p<.05$). One interpretation of this result is that each behavioral pattern is adaptive strategy in each culture. These behavioral patterns have become dominant under certain social and cultural circumstances. Given this, what is then the cultural circumstance making the deference of the pattern in both countries? One plausible factor of such cultural circumstances is social mobility. Social mobility refers to probability of changing partners for social and economic interaction. For example, it happens to us to change social and economic partners for job changing, moving, marriage, divorce, and so on. These factors facilitate social mobility. On cultural difference, a lot of empirical evidence demonstrates that US refers to a high mobility society while Japan is low (Watanabe, 1997). In a high mobility society, people can expect new opportunities outside the current social relationships. They are likely to maximize their own benefits in the current relationships because of their high expectation of the new opportunities. However, when they want to find a new partner, they should behave fairly to get candidates as many as possible. In contrast, people in a low mobility society are hard to expect such opportunities so that they want to make a good commitment to the current partners rather than to find new partners. Thus, they should be cautious to have a new partner. A way of finding a good partner is to test goodness/candidates generosity. In the ultimatum game, they may behave slightly rational, but once they know the partner is good, their behavior turns to be fair. It means that people in a low social mobility has rationality based on a long-term relationship.

Agent-based Simulation Study

In order to investigate validity of the above account, we conducted a computer simulation study. The outline of the simulation is the following.

We made a hypothetical population of 30 agents. Each agent has a strategy for playing the ultimatum game. A strategy is consisted of the combination of four kinds of "gene." The agents are randomly paired and also randomly assigned either of distributor or receiver. Then they play an ultimatum game. When a receiver rejects an offer, the pair is separated and waiting for the next new matching. When a receiver accepts an offer, the same pair plays the next game. After the game repeated 200 times, a natural selection process occurs. Basically, better performing strategies are more likely to make their copies in the next generation whereas poor performing strategies are more likely to disappear. We use the genetic algorithm for the selection in this simulation. Each agent has the following four genes. First three genes are working in the role of distributor and the last gene is in the role of receiver.

1) **Initial distribution gene**—this gene determines how to split the resource in the first encounter when the agent assigned the distributor role. This gene refers to the control condition in the experiment. This gene has the value from 0 to 1 and the value refers the ratio of the resource giving to the self. Thus, the value of .8 means that this player takes 80% of resource for self when s/he plays with a new partner.
2) **Final distribution gene**—this gene determines how to split the resource at last when the game continues with the same partner forever. It refers to the distributive strategy in the long-term relationship whereas the initial distribution gene is the strategy in one-shot relationship. The final distribution gene may refer to the goodness condition in the experiment, but it depends on the value of the third gene. The value of this gene has also from 0 to 1. If the value is greater than the value of the initial distribution gene, it means that the agent tends to change the offer rationally. On the other hand, if the value is less than the value of the initial distribution gene, it means that the agent tends to change the offer fairly or altruisticly.
3) **Shift gene**—this gene determines how much changes the offer in case of playing another game with the same partner. When the value of this gene is .5, the agent change .5 toward the value of the final distribution gene from the value of the initial distribution gene. The range of this value is also from 0 to 1.
4) **Minimum Acceptance gene**—this gene works when the agent becomes a receiver. It determines the value of minimum acceptable offer. It is also from 0 to 1.

All the above genes are randomly determined at the beginning of a simulation. Thus, the distribution of these genes is uniform. We note that the simulation results do not change with the normal distribution version.

In this simulation, we change the degree of social mobility. Social mobility is the probability of breaking up a pair per game. The value is from 0 to 1 by .2. If the value is .8, every pair may be broken up regardless their behavior with the probability of 80%.

We replicate 20 times per condition of the social mobility. All the graphs and values in the following results are mean scores of these 20 replications. For the shortage of the paper space, we pick up two conditions of the five social mobility conditions.

Figure 2 and 3 shows the trends of the two genes under the conditions of low (0.2) and high (0.6) social mobility. The horizontal axis is generations and the vertical axis shows the value of each gene. The red line refers to the initial distribution gene and the green

line refers to the final distribution gene. In both conditions, all the values of genes become stable after the 20th generation.

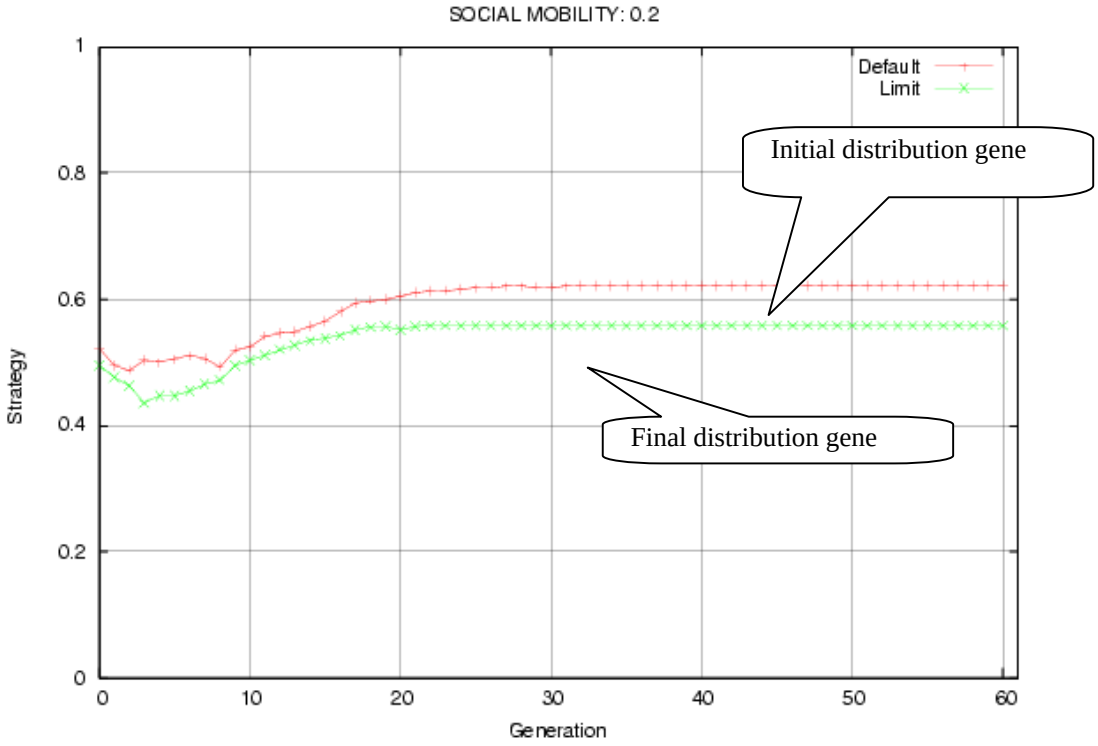


Figure 2: Trends of Initial and Final Genes under a Low Social Mobility (.2)

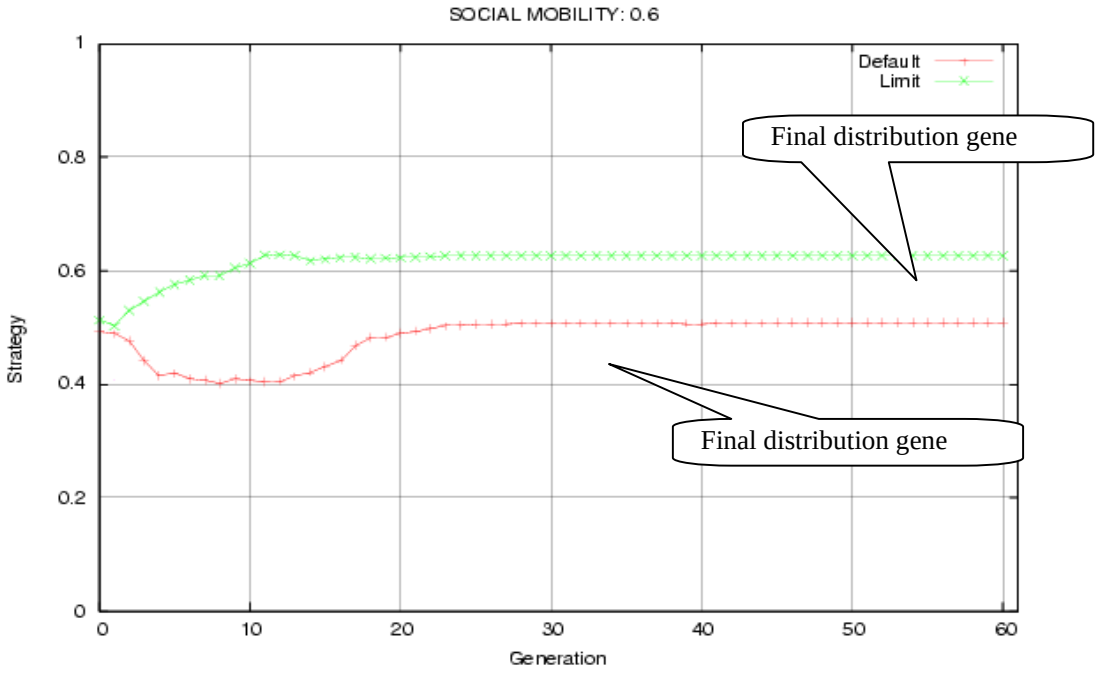


Figure 3: Trends of Initial and Final Genes under a High Social Mobility (.6)

Figure 2 shows that the red line (initial distribution) is constantly higher than the green line (final distribution). It means that the dominant strategy under this low social mobility society takes about 60% for self when it plays the first game with stranger whereas it takes about 50% for self when it plays continuously with the same partner. We also check the value of the shift gene and it constantly .5 after the 20th generation. Thus, the dominant strategy takes about 60% at the first encounter, but shift the offer to 50% once the partner accept the initial offer. This pattern is almost same as the pattern as Japanese in the experiment.

On the other hand, Figure 3 shows the almost same pattern as American in the experiment. The red line is lower than the green line. The red line stays about 50% and the green line is around 60%. The shift gene constantly keeps about .6 after the 20th generation. Thus, in a high social mobility society, people takes 50% at the first encounter, but takes more once the partner accepts the initial offer. These results show that we successfully replicate the results of the experiment by operating social mobility in the simulation.

Discussion

According to the two studies, we claim that the sources of cultural differences are not just in peoples' mind, but in culturally unique patterns of social interactions. Social mobility should be a major candidate. It also suggests that sense of fairness is not a static human disposition, but more like a strategy reflecting the patterns of social interactions.

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Other Proposed Collaborations

Methodology of qualitative psychology and action research

Leaders: Yoko Yamada , Toshio Sugiman
Members: Kazuo Fujita, Masuo Koyasu, Toshihiko Endo*, Katsuya Yamori[1], Haruko Tokuda[†2]

*: Collaborating COE members
†: COE Assistant, 2002-2004
1: Associate Professor, Disaster Prevention Research Institute, Kyoto University
2: Research Student, Graduate School of Humanities and Sciences, Ochanomizu Women's University

Project Period: April, 2004 − March, 2007 (planned).

Although qualitative studies and action research are traditional methods in psychology, the narrative turn of the 21st century has led to a methodological revolution in psychology, as well as in the humanities and the social, cultural, and cognitive sciences. Mutual incorporation and the crossing over of disciplinary boundaries have occurred and have aided in the construction of new qualitative approaches to human sciences. This research project examines the new methodology for qualitative psychology and action research, both theoretically and in practice, and proposes future orientations. The investigations that are outlined in the following three sections, Participation, Narrrative, and Action, represent the key concepts. The major findings in these three sections, summarized below, have been published in one of Japan's principal psychological journals (Yamada et al., 2006).

1. *Participation*

Observation, watching things and events, is the most fundamental method in all research areas. In psychology research, however, the instant that a person or an animal notices that it is being observed, its behavior or mental state inevitably will change, which further alters the behavior or mental state of the researcher. One of the most appropriate words for this situation is "participation." Because psychological researchers cannot keep themselves invisible to the observed, they should be conscious of their own presence and how it influences the behaviors of their subjects, and make note of the importance of their interaction with them. When the researcher's participation in a study improves the environment and lives of the subjects, it is called "action research." The first part of this report focuses on the behaviors of non-human primates and young children, and examines the meaning of participation in that context.

1-1. *Use of participation in comparative cognitive science.* **Kazuo Fujita** (Kyoto University)

In this paper, Fujita discusses the use of participation methods in comparative cognitive science. Traditional laboratory training methods have accumulated a great deal of

knowledge about relatively fundamental physical cognitive processes in various nonhuman species. However, such methods have limitations in the study of social intelligence, which may be important for understanding the evolution of intelligence. The use of participation is a good solution to this problem. Fujita shows how this method has been used in the social intelligence literature, discusses the potential limitations of this method, and possible solutions.

1-2. *Habituation of wild gorillas and their naturalization of human observers.* Juichi Yamagiwa (Kyoto University)

Yamagiwa discusses the significance of participation in field observations of gorillas. The habituation of wild primates, which was initiated by Japanese primatologists, has been widely used in the field. The naturalization of human observers to gorillas results in the gorillas accepting humans as associates. This enables observers to collect otherwise unobtainable hints about the social behavior and social intelligence of the apes. Yamagiwa stresses the importance of both long-term observation and collaboration with psychologists to avoid anthropomorphism.

1-3. *The role of participation in a field study of preschool education.* **Masuo Koyasu** (Kyoto University)

This investigation first discusses the meaning of objective observation in scientific research, noting some of the difficulties associated with true objectivity in psychology. Two episodes are then cited from a field study in which three observers continuously observed the everyday activities of young children in a kindergarten classroom. Narratives describe the behaviors of the protagonists in terms of a plot that adheres to a time sequence of events and involves both consistency and a conclusion. In addition, the narrative consciousness of the observer is very important regardless of whether the narrative is explicitly written or only implicitly considered. Finally, the meaning of “participation” in a field study of preschool education is discussed, using the metaphor of a “war correspondent.”

2. *Narrative*

Qualitative psychology began in the 19th century; in the 21st century, however, this field was reconstructed and its theory and methodology changed drastically with respect to the use of narrative in interdisciplinary research. Qualitative psychology does not refer to idiographic research or to the subjective method. Rather, it emphasizes narrative construction and narrative modes of experience. There is a focus on the following issues with regard to the future development of narrative study and practice: the dialogue and mutual acts of meaning; the relationship between the narrator (interviewee) and listener (interviewer); the construction of narrative selves and others; and the active process of organizing experiences and narrating in social and cultural contexts.

2-1. *Fundamental concepts of qualitative psychology and narrative studies: Narrative turn and narrative selves.* **Yoko Yamada** (Kyoto University)

The theory and methodology of qualitative psychology are based on contemporary doubts about fundamental concepts of modern science, such as “the individual,” “space and time,” “independence,” and “permanence” (sameness and continuity). Alternative concepts include the “network system” (context), “topos” (locality), “dialogue” (interaction), and

"changing process." For example, the concept of "ego identity" in classic psychology, which was assumed to be manifested in the independent, permanent individual beyond time and space, has been replaced by the concept of "narrative selves and identities" in qualitative psychology.

2-2. Self, other, and time in narrative: Theoretical examination of self-narrative data in psychological studies from the viewpoint of the "Adult Attachment Interview". **Toshihiko Endo*** (Kyoto University)

This paper reveals some of the tacit presuppositions supporting the interpretation of self-narrative data in psychological studies, from the perspective of the Adult Attachment Interview (AAI). The paper discusses the kinds of "selves" researchers find in self-narratives, how they interpret the roles of others (including the interviewers) in self-narratives, and the suppositions researchers make about whether self-narratives in interviews indicate the interviewees' "only just now" states. In addition, some problems in self-narrative data readings are described.

2-3. *The interview process as a narrative practice in the redress suit against the State lodged by former patients with Hansen's disease.* **Haruko Tokuda** (Ochanomizu Women's University)

This paper interprets the interview processes between the attorney and plaintiff in the case of the Hansen's disease redress suit from the perspective of narrative practice. It deals with how the notion of "total damage to life" (*jinsei higai*) in the plaintiffs' life stories was constructed through the interviews between the plaintiffs and attorney and how the plaintiffs' relationships with the attorney served in their recovery. Finally, based on these examinations and discussions, future research implications are discussed.

3. *Action*

Qualitative methods, i.e., descriptions and analyses of ethnography, interview, narrative, and discourse, are integral quantitative methods for action research working toward the betterment of various research fields via collaboration between those who live or work there, and interested researchers. Qualitative methods are expected to facilitate the first mode of action research, in which the past, present, and future of the field is grasped and the betterment of the field is pursued for some specific purposes. They also may increase the possibility of a shift to a second mode, which recognizes the underlying tacit assumptions of the first mode.

3-1. *Narrative-based action research: A gaming approach to disaster damage reduction.* Katsuya Yamori (Kyoto University)

A game was developed as a tool to retain the experiences of people affected by a huge earthquake, and make them available to people interested in increasing future disaster preparedness. The game involved a group of participants that included people who experienced disasters and those who did not. They discussed how to cope with a specific situation that had occurred in past disasters; the situations were presented to the participants, one at a time, on small cards. This method allowed the participants to share various narratives regarding their experiences in, and preparedness for, disasters, enriching their discourses, so that they could later be used to communicate with people in their community,

workplace, school, etc. The effectiveness of the method is reflected in the increasing number of communities and public and private organizations that have introduced the method to their educational disaster programs.

3-2. *Sense-making by qualitative methods in action research: split in a local community over the merger into a large city.* Tomoko Higashimura (Nara Women's University)

A rural depopulated community was recently in turmoil for three years over the proposed merger of the community with an adjacent large city. The merger was in accordance with a policy by the national government intended to reduce the number of local municipalities by one-third. The residents of the community and two activists groups—a radical revitalization group that had been trying for twenty years to revitalize the community by introducing a new style of participatory democracy and a second that wanted to maintain their long-enjoyed vested interest—were split evenly into pro-merger and anti-merger groups. Although 51% of voters were pro-merger in each of three local referendums, the vote of the town council finally decided that the community would retain its independence.

A large number of leaflets, written and distributed to all residents by activists on both sides, were subjected to discourse analysis, to help the residents make sense of the turmoil and learn lessons for the future. The analysis suggested that it was too simplistic to view the event as a literal confrontation between the sides. Rather, the sides shared a common desire to decide the future of their community by themselves, without being influenced by rich and powerful people or by a higher level of government (the national government). Therefore, the turmoil appeared to give the residents an opportunity to transform their passive attitude toward their community into the active one necessary to developing the grounds of participatory democracy.

3-3. *Radicalization of qualitative methods for action research.* **Toshio Sugiman** (Kyoto University)

This theoretical study explored how qualitative methods could be radicalized beyond just a research method to become action research. Specifically, four typical qualitative methods were discussed: ethnography, interviewing, narrative approach, and discourse analysis. In the four methods, the active role played by a researcher who writes an ethnography or listens to an interviewee is emphasized, to increase the nature of action research. In interviewing, for example, an interviewer can go beyond being just a passive listener and turn the interview into a situation where the interviewer and interviewee discuss a problem, and how it should be discussed, without criticizing the other's remarks. Moreover, it is important to consider the possibility that the researcher holds the type of power proposed by Michel Foucault. From this viewpoint, a researcher should be cautious about simply relying on an informant who kindly helps him/her to understand what is going on a research field, even if he/she believes that a comprehensive outline is being given. It is better to have two or more outlines, given by different informants, that contradict each other.

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Brain Imaging Study on Trust Information Processing

Leader: **Motoki Watabe**
Member: **Hiroki Yamamoto***

*: Collaborating COE member

Project Period: April, 2004 – March, 2007 (planned).

Making a decision whether or not you will have social relationships with a person, most people probably pay attention to trustworthiness of that person. Social scientists argue that trust is one of the most important components in every social and economic exchange. However, trusting others is risky because it makes oneself vulnerable to be exploited by "bad" people. Thus, we need to judge if a person is trustworthy or not in various ways. Information of past behaviors by the parson is useful for that judgment.

This study aims to explore how we handle information of other's trustworthiness by brain imaging method (fMRI). More specifically, we are interested in brain regions where activate when we are making judgment of other's trustworthiness. In order to address our interest, we randomly gave two different kinds of information to each participant. One was a strong indicator of other's trustworthiness; the other was irrelevant information to other's trustworthiness. By comparing these two conditions, we tried to specify the regions activating uniquely on the information of trustworthiness.

First, we needed to specify trust information and irrelevant information. We listed fifty eight episodes of person's behavior. We should note that all the trust information was negative information that indicates a person is not trustworthy. Eighteen of them were quoted from Kosugi and Yamagishi (1994) and rests of them were originally developed. We then ask eighty undergraduate students how each episode useful to detect a person's trustworthiness. We picked up the 16 most and the 16 worst useful episodes for fMRI experiment. The farmer is "trust information." An example is "Person A cheated at an examination." The latter is "irrelevant information." For example, "Person A wears glasses."

Second, in fMRI study, a participant read each of the 32 picked episodes in every two minutes. The episodes were randomly shown by a computer. The participants were 21 undergraduate students. They answered trust scale (Yamagishi 1998) before the experiment and we confirmed their trust levels are around average of Japanese population.

To specify the regions of trust information processing, we analyzed brain activation six seconds right after the information was shown. BrainVoyager QX (ver. 1.7.9) was used for the standard GLM analysis. The results show that the following regions were significantly activated: Angular Gyrus, Anterior cingulate, left frontal lobe, right frontal lobe, and putamen. Figure 1 shows some parts of these activations.

In the past research, these regions are activated when one makes social judgments and complicated tasks. Since trust judgment is social and complicated task, our results are consistent with these findings. Especially, all of the activated regions are overlapped as the study by Delgado et. al.(2005). It should be noted that our study finds these activations only by giving information of an anonymous person without any decision whereas Delgado's

study finds them when the subjects actually play trust game. It means that these regions are working not only for decisions and feedback information of partner's past actions but also for information processing before such decisions and feedback information.

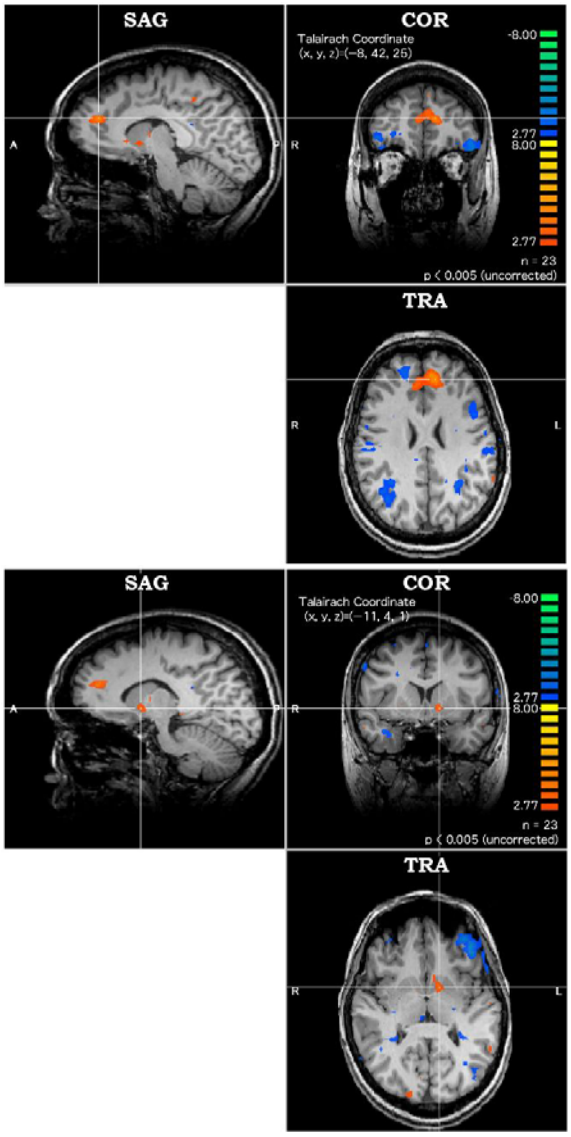
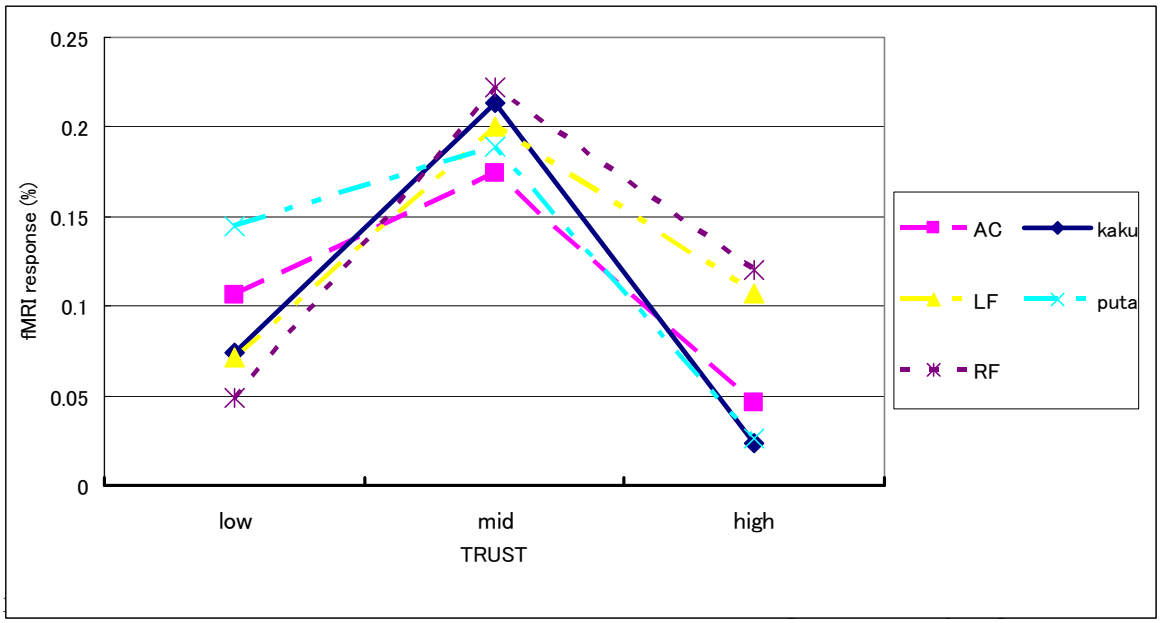


Figure: Activated Regions for Trust Information Processing

We also analyzed the degree of activation on each region by the level of trust. First we divided all the subjects' trust into three categories; high, middle, and low trusters. Their trust was measured by questionnaire before the experiment. Figure 2 shows the activation levels of the five regions.



It result suggest that low and high trusters have a kind of automatic information processing on trust whereas the middle trusters need some costs to make their decisions when they are given the information on anonymous persons. This result is, however, statistically not significant probably because of the small number of participants. We are planning to obtain another set of data for more reliable results.

Studies Related to Affective Science

Decision-making process for genetic testing and individual support needs

Members: **Yoshiko Ito** and **Takashi Kusumi**
Project Period: April, 2004 − March, 2007 (planned).

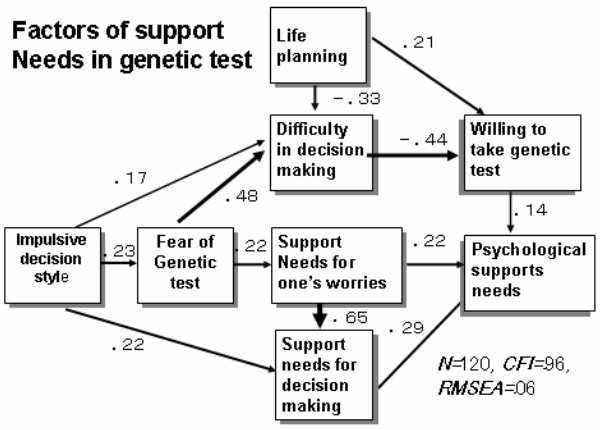
As rapid progress continues in genetics, human beings can learn of their own potential future illnesses by genetic testing. We studied the attitudes and needs of human beings confronting this situation by creating a questionnaire based on our clinical practice in which people imagined facing a serious illness. This questionnaire was made very cautiously because the questionnaire itself created anxiety. So the participants of this research were not patients but students and a specific illness was not used.

In addition, according to the impression of participants, this questionnaire helped people accept genetic information independently.

We conducted a survey questionnaire among 122 university students to explore their decision-making process when taking a genetic test as well as individual differences in decision styles, the determinant factors of support needs, and their perceptions of inheritances. In three vignettes (diagnosis, marriage, and birth concerning genetic disease), participants rated their willingness to take a genetic test, the difficulties in their decision-making process, and their support needs. Subsequently, they took a knowledge test about genetics and an association test in which they expressed their perceptions and generated a metaphor for them.

The results show that participants had some basic knowledge of heredity; however, they possessed little knowledge of genetic diagnosis. They merely wanted to learn the negative test results offered by genetic tests.

The figure shows the factors of support needed for genetic testing: (a) Life planning promotes a willingness to take the genetic test and decreases the difficulties of making that decision. (b) An impulsive decision style causes fear of genetic tests and poses difficulties in decision-making. (c) Fear of genetic tests suppresses the willingness to take the test due to difficulty in decision-making. (d) It also increases the needs for psychological support for one's worries and the decision-making process.



The results of association and metaphor-generation tests show that the participants perceive genetic inheritance as "fate," “family history," and "bonds."

Multi-dimensional research on interactivity during empathic dialogues from clinical, cognitive, and social-psychological perspectives

Members: Tomoko Kuwabara, Sakiko Yoshikawa, Motoki Watabe, and Chika Nagaoka†
Project Period: April, 2004 − March, 2007 (planned).

†: JSPS Postdoctoral Fellow

Aims of the project

An "empathic relationship" in conversations between therapists and patients is important in the field of clinical psychology. However, there has been little research examining the substance of this relationship, such as what specifically occurs between a therapist and a patient, and what changes take place within the patient. In the field of clinical psychology, such considerations have remained only subjective statements of experience, and have not been developed into widely sharable knowledge.

The purpose of this project was to gain an awareness of the issues and the interaction involved in an empathic dialogue through investigations conducted from several different perspectives, including not only that of clinical psychology, but also cognitive and social psychological perspectives.

This research project was conducted over the last two years. In the first year, we recorded and analyzed the text of utterances of four sample role-playing dialogues between a therapist and four graduate and undergraduate students who played the role of patients. In the second year, for comparison purposes, we recorded a role-play dialogue in which the amateur is playing the role of a therapist. The recordings were analyzed by focusing on the characteristics of the counseling dialogue from both a subjective perspective (the perspective of the therapist and the patient) and a third-person perspective (the perspective of an observer other than the therapist and patient).

Method

1. *Case Description*

Six role-played examples of an intake interview (50 minutes long) were the objects of analysis. In four of the role-playing situations, a doctoral student with a license of a clinical psychologist played the role of the therapist (therapist A, female, 4 years experience). Two Master's students (females, clinical psychology major, 23-24 years old) and two undergraduate students (females, 20-21 years old) played the roles of the patients. We also recorded a role-play in which the therapist had a long history of counseling experience (therapist B, female, 27 years experience). For comparison with this case, we recorded one 50 minute "advisory session" given by a woman with experience as a teacher. The chief complaint, sex, and age of the patient were held constant in all six cases. The role-playing situations were recorded by three video cameras. Images were taken of the upper half of the therapist (image A) and the patient (image B) from the front at a thirty degree angle, as well as an image of the therapist and patient together (image C). These recordings were taken to analyze the temporal structure of speech, facial expression and gesture, and the embodied synchrony, in addition to the protocol data of the dialogue. Afterward, the therapists and patients answered a questionnaire about their introspections

during the session, as well as the level of their satisfaction with the session.

2. *Recording feedback, analyzing the temporal structure of speech*

At a later date, we showed image C to therapist A, and allowed her talk freely about what she thought and felt during the counseling session, and the purposes of her responses. We recorded her answers in writing. We also analyzed the temporal structure of the speech of the therapists and patients.

3. *Analysis of the cases by clinicians and non-clinicians.*

We showed image C to four subjects other than the therapists and the patients—two clinical psychologists with seven years experience each (clinicians) and two students (one graduate and one research) who are not clinical psychology majors (non-clinicians)—and recorded them speaking freely about what occurred between the therapist and patient and about their feelings (about the counseling in the case). It can be considered that the third person's point of view is related to "reading," or understanding, the quality of the case. We compared the content and the amount of the statements given by the clinicians and the non-clinicians.

Results

1. *Clinical experience and how to read the case*

It was observed that clinicians and non-clinicians used different cues and reading styles for these cases. It appeared that the clinicians made extensive assumptions about the patient's mental processes by observing not only the patient's utterances, but also the patient's non-lingual clues such as the patient's facial expression or the patient's way of speaking. In addition, the non-clinicians tended to read based upon their own feelings or past experiences, while the clinicians made conjectures about the patients' situations through both the patient's utterances and non-linguistic actions. Also, it was significant that the clinicians interpreted the meaning of the content of the utterance more finely.

2. *Pauses in the counseling dialogue*

We compared data about the duration of the silences between the sessions performed by the clinician and by the teacher, who had no clinical experience. There were a few types of silent periods during the sessions**.** In this analysis, we distinguished between silences that occurred within an utterance of a single speaker (which we called "pauses"), and periods of silence which occurred between one speaker ceasing to speak and the other starting, which we called "response latencies." It was remarkable that the patients' pauses and response latencies were much longer during the session with the clinician than during the session with the teacher. Also, in analyzing the duration of the utterances, it was observed that the patient occupied much more of the dialogue time during the session with the clinician than the session with the teacher. Long silences, like those that occurred during the session with the clinician, rarely appear in normal conversation, and we can say that this is a characteristic of counseling dialogues.

Discussion

1. *Listening*

In general, it is said that listening is important during "counseling dialogues." In other

words, between speaking and hearing, hearing is more important in the dialogue. However, listening and hearing are different. As a result of the study, it became clear that the clinician avoided her own ideas and judgment, and, instead, paid attention to the patient's talk and the "flow" of their talk. Thus, "counseling dialogue" is not just a simple matter of decreasing "hearing" relative to regular conversation. Instead, at the level of "attitude" (the basis for the dialogue), it is required that one recognize that the patient and oneself are different beings, and that one should have an attitude of listening closely and respecting the other person's talk. It is suggested, through the comparison of the sessions with the clinical specialists and the sessions with the teacher, that the specialist makes speech "deep" by making the patient occupy as much of the time as possible. The teacher, on the other hand, intends to "solve problems" by giving valuable advice. If this is correct, then we can say that advice sessions and psychological sessions have different methods for listening and they use different dialogue methods that are appropriate for their respective purposes.

2. *Reading*

In this study, we showed the counseling scenes to impartial observers (clinicians and non-clinicians) and made them analyze the cases. This was done to try to look at the counseling dialogue from a metacognitive viewpoint in addition the point of view of the therapist and patient.

It seemed that in the counseling dialogue, the therapist views the flow of conversation between the patient and the therapist from three different view points**:** (1) listening to and empathizing with the patient; (2) while listening, thinking in addition to empathizing; and (3) considering the things happening between therapist and patient metacognitively. These three activities as a whole become "reading." We can say that this "reading" is very different than the reading that occurs during regular conversation. In regular conversation, although there is some kind of "reading," that which occurs rarely pays attention to what is happening from the other person's perspective. Documenting the 50 minute dialogues faithfully is possible because the counselors engaged in such a concentrated reading.

Future directions

It was shown that "empathic dialogue" in counseling has different characteristics than regular conversation. As a next step, we plan to analyze how the patient-therapist "relationship" changes and how it effects behavioral measures such as the content of the dialogue, the temporal structure of the utterances, and the embodied synchrony during the 50 minute session or continuing sessions.

Affective functions of nonhuman primates

Members: Kazuo Fujita, Hika Kuroshima†, Yuko Hattori†, and Yo Morimoto†

†: Graduate Students

Kazuo Fujita and others have conducted several experiments on how tufted capuchin monkeys could be thoughtful to other individuals and how they recognize others' emotions.

1. *Reciprocal altruism*

Hattori, Kuroshima, and Fujita tested whether tufted capuchin monkeys solve a cooperation task in which they must play each separate role in an appropriate sequence. Specifically, the monkey in one of the connected cages (box A) had to pull the small tab first that prevented the movement of a large block. Then the second monkey in the other cage (box B) was able to push the large block to collect food underneath and at the same time another piece of food dropped in the first cage by the movement of the block. All 3 pairs of monkeys spontaneously solved this task. In one of the tests that followed, no food was placed in box A; that is, the monkey in box A had to work for nothing in the trial. When the placement of the monkeys in the two boxes was switched every trial, all of the pairs maintained cooperation, though monkeys placed in box A worked hesitantly. Thus the monkeys showed a simple form of reciprocal altruism (Hattori, Kuroshima, & Fujita, 2006). Once this was established, such cooperation based on reciprocal altruism continued, though in a bit instable manner, when the switching of the placement was every three, six, or even 12 trials in two of the pairs (Hattori, Kuroshima, & Fujita, in prep.).

2. *Thoughtfulness to low-ranking individuals?*

Kuroshima, Takimoto, and Fujita tested whether tufted capuchin monkeys have sensitivity to others' share of food. Two small transparent containers with food in them were placed between the subject monkey and the partner monkey. The subject was able to confirm the contents of the containers and was able to open them by pulling a handle to eat the food in the subject's side of the container. The partner monkey could do nothing, but once the container was opened, he/she was able to collect the food in the partner's side of the container. The same food was placed in the subject's side of the two boxes; that is, no matter which container the subject opened, he/she received the same food. However, the food in the partner's side was different. One was a preferred food and the other was hated food. Four subject monkeys faced with the alpha male of the group and with the lowest-ranking female. The subjects opened the container having preferred food in the partner's side more often for the lowest-ranking female than for the alpha male. The fact may show thoughtfulness of capuchin monkeys to low-ranking individuals, though more control experiments are required.

3. *Inference of the cause of other's emotion*

Morimoto and Fujita examined weather tufted capuchin monkeys were able to infer the cause of other individuals' emotional reactions. An opaque large box was placed near the model monkey. The box had either a preferred item (food), a neutral object, or a scary object (a shower nozzle, a stuffed toy, etc) in it. The experimenter encouraged the model

monkey to open the box. The monkey naturally reacted positively or negatively depending upon the hidden item. The subject monkey was able to watch the model but was unable to see items inside. Next the box was moved to the subject monkey. The subjects touched to box more often when the hidden item was a preferred item than it was a scary object. The result may suggest that capuchin monkeys were able to infer the cause of emotion in others, but it could be interpreted as a result of simple emotional contagion. The test is still going on at this moment.

HONORS

Awards

<Chronological Order>

Yasunobu Okada*
The Association's Award
2002
The Japan Association of Sandplay Therapy

Jun Saiki
FY2002 Japanese Society for Cognitive Science Best Paper Award
2002
Japanese Society for Cognitive Science
awarded to: Saiki, J. (2002). A pulsed neural network for selective visual attention. *Cognitive Studies*, 9, 120-134. (in Japanese)

Hajimu Hayashi††
The Kido Award for 2002
2003
The Japanese Association of Educational Psychology
awarded to: Hayashi, H. (2002). Children's understanding of recursive mental states. *Japanese Journal of Educational Psychology*, 50, 43-53. (in Japanese with English summary)

Naoyuki Osaka
The most 'Outstanding Paper' in the 2002 volume
November, 2002,
Japanese Psychological Association
awarded to: Osaka, M., Nishizaki, Y., Komori, M., 6 Osaka, N. (2002). Effects of focus on working memory, *TheJapanese Journal of Psychology*, 72, 508-515. (in Japanese with English summary)

Takashi Kusumi
The most 'Outstanding Paper' in the 2002 volume (Hans B. Thorelli award)
May, 2003
Emerald Literati Club (European Journal of Marketing)
awarded to: Matsuo, M. & Kusumi, T. (2002). Salesperson's procedural knowledge, experience and performance: An empirical study in Japan. *European Journal of Marketing*, 36, 840-854.

Toshio Sugiman
The Virgilio G. Enriquez Distinguished Memorial Lecturer Award
August, 2003
National Association for Filipino Psychology

awarded to: Sugiman, T. (2003). Human sciences as an alternative to natural science. Special Address presented at *The Fifth Conference of Asian Association of Social Psychology,* July 29 - August 1, 2003, Manila, Philippines (Abstract p.28).

Yasuhiro Yamanaka
The Association's Award
September, 2003
The Association of Japanese Clinical Psychology

T. Imaruoka††
The 2004 Japanese Psychonomic Society Awards
2004
Japanese Psychonomic Society
awarded to: Imaruoka, T., Saiki, J., & Miyauchi, S. (2004). Effects of object occlusion on brain activity for representation of a dynamic scene. *The Japanese Psychonomic Society 23rd Annual Meeting*, Niigata. (in Japanese)

Tetsuro Matsuzawa*
Medal with Purple Ribon
2004
Cabinet Office, Government of Japan

Tetsuro Matsuzawa*
The 57th Chunichi Culture Award
2004
The Chunichi Shimbun

Tetsuro Matsuzawa*
Tokizane Toshihiko Memorial Award
2004
Japan Neuroscience Society

Shohei Hidaka††
Outstanding Presentation Awards at the 22nd Anual Meeting of the Japanese Cognitive Science Society
July, 2005
Japanese Cognitive Science Society
awarded to: Hidaka, S., Yoshida, H., & Saiki, J. (2005). Quantitative analysis for specific limitations in developmental studies: an application to bilinguals' novel word generalization task. *The 22nd Japanese Cognitive Science Society*, Kyoto (in Japanese).

Hiroki Yamamoto*
Human communication award
March, 2005
The Institute of Electronics, Information and Communication Engineers

awarded to: Ban, H., Fukunaga, M., Nakagoshi, A., Yamamoto, H., Tanaka, C., Ebisu, T, Umeda, M, & Ejima, Y. (2004). Relations between retinotopic organization of human low-level visual regions and position-invariance object perception – an fMRI study –. *Technical Report of the Institute of Electronics, Information and Communication Engineers, 103*(743), 5-10. (in Japanese with English summary)

Misato Hayashi††

Outstanding Presentation Award
2005
Primate Society of Japan
awarded to: Misato Hayashi. Physical understanding in chimpanzees assessed by stacking blocks. The 21st Annual Meeting of Primate Society of Japan. (in Japanese)

Toyomi Matsuno††

The 2005 Japanese Psychonomic Society Awards
2005
Japanese Psychonomic Society
awarded to: Toyomi Matsuno & Masaki Tomonaga. Measurement of contrast thresholds of chimpanzees using a Parameter Estimation by Sequential Testing (PEST) procedure. *The Japanese Psychonomic Society 24th Annual Meeting.* (in Japanese)

Tomoko Imura††

The 2005 Japanese Psychonomic Society Awards
2005
Japanese Psychonomic Society
awarded to: Tomoko Imura, Masaki Tomonaga, Masami K Yamaguchi, & Akihiro Yagi. Perception of motion trajectories of objects from moving cast shadows in human (*Homo sapiens*) infants, Japanese macaque (*Macaca fuscata*) infants, and an adult chimpanzee (*Pan troglodytes*). *The Japanese Psychonomic Society 24th Annual Meeting.* (in Japanese)

Masaki Tomonaga*

The 2nd JSPS Prize
2005
Japan Society for the Promotion of Sciences

Asuka Komiya††

The Award for Young Researchers
December, 2006,
The Japanese Society for Social Psychology.

Toyomi Matsuno††

The 2006 Japanese Psychonomic Society Awards
2006

Japanese Psychonomic Society
awarded to: Toyomi Matsuno & Masaki Tomonaga. Global and local processing of hierarchical visual stimuli in chimpanzees (*Pan troglodytes*). *The Japanese Psychonomic Society 25th Annual Meeting.* (in Japanese)

Tomoko Imura††
The 2006 Japanese Psychonomic Society Awards
2006
Japanese Psychonomic Society
awarded to: Tomoko Imura, Nobu Shirai, Masaki Tomonaga, Masami K Yamaguchi, and Akihiro Yagi. Asymmetry on the perception of motion in depth by moving cast shadows in humans. *The Japanese Psychonomic Society 25th Annual Meeting.* (in Japanese)

Toshio Sugiman
Fellow Award of the International Association of Applied Psychology
July, 2006
International Association of Applied Psychology

Misato Hayashi††
Outstanding Presentation Award
2006
Primate Society of Japan
awarded to: Misato Hayashi. Cognitive development in wild chimpanzees assessed by nut-cracking behavior. The 22nd Annual Meeting of Primate Society of Japan. (in Japanese)

Hiroshi Ishihara*
Hayao Kawai Award
October, 2006
The Japan Association of Sandplay Therapy
awarded to: Ishihara, H. (1999). A study of sandplay by PAC analysis. *Archives of Sandplay Therapy*, 12, 3-13. (in Japanese)
Ishihara, H. (2002). The research about subjective experiences of the person who made sandplay. In Y. Okada (ed.), *The essence and periphery of sandplay therapy* (pp.57-69). Tokyo: Shibundo. (in Japanese)

Hiroki Yamamoto*
This Week in The Journal
August, 2006
The Journal of Neuroscience
awarded to: Ban, H., Yamamoto, H., Fukunaga, M., Nakagoshi, A., Umeda, M., Tanaka, C., & Ejima, Y. (2006). Toward a common circle: interhemispheric contextual modulation in human early visual areas. *The Journal of Neuroscience, 26*(34), 8804-8809.

Eriko Sugimori††

The most 'Outstanding Paper' in the 2005 volume
November, 2006,
Japanese Psychological Association
awarded to: Sugimori, E., Nakanishi, M., Komeda, H., Tsunemi, K. & Kusumi, T. (2005). The effects of repetition and dual-task on the output monitoring errors, *The Japanese Journal of Psychology*, 76, 244-251. (in Japanese with English summary)

Jun Saiki

Human Communication Award
March, 2007
The Institute of Electronics, Information and Communication Engineers.
awarded to: Takahashi, K., & Saiki, J. (2006) Visuo-haptic simultaneity judgment of the deformation of an object. *Technical Report of the Institute of Electronics, Information and Communication Engineers*. HIP2006-49, 25-30. (in Japanese with English summary)

Hiroki Yamamoto*

Human Communication Award
March, 2007
The Institute of Electronics, Information and Communication Engineers
awarded to: Ban, H., Yamamoto, H., Hanakawa, T., Urayama, S., Fukuyama, H., Ejima, Y. (2006). Neural Activity Corresponding to Occluded Surface Completion and Its Dependency on Temporal and Spatial Perceptual Context -an fMRI Study-. *IEICE Technical Report*, *106*(84), 49-56. (in Japanese with English summary)

Hiroshi Ban††

Human Communication Award
March, 2007
The Institute of Electronics, Information and Communication Engineers.
awarded to: Ban, H., Yamamoto, H., Hanakawa, T., Urayama, S., Fukuyama, H., Ejima, Y. (2006). Neural Activity Corresponding to Occluded Surface Completion and Its Dependency on Temporal and Spatial Perceptual Context -an fMRI Study-. *Technical Report of the Institute of Electronics, Information and Communication Engineers*, 106(84), 49-56. (in Japanese with English summary)

Kohske Takahashi††

Human Communication Award
March, 2007
The Institute of Electronics, Information and Communication Engineers.
awarded to: Takahashi, K., & Saiki, J. (2006) Visuo-haptic simultaneity judgment of the deformation of an object. *Technical Report of the Institute of Electronics, Information and Communication Engineers*. HIP2006-49, 25-30. (in Japanese with

English summary)

Kazuo Fujita
The Imai Award
March, 2007
The Assiciation for Pattern Recognition, Errors, and Visual Illusions
awarded to: A series of studies on perception of visual illusions in nonhuman animals

*: Collaborating Members
††: Graduate Students

Patents

Patent No.2005-099496
Yoshio Sakurai and Susumu Takahashi (Kyoto University)
Apparatus, method, program and media for spike sorting.

Patent No.2005-118969
Yoshio Sakurai and Susumu Takahashi (Kyoto University)
Apparatus, method, program and media for spike sorting.

ACTIVITY RECORDS

Number of Books, Papers, Presentations

Publication by Core COE Members and Postdocs

		2002	2003	2004	2005	2006	Total
Books and Edited Books	English	0	1	0	0	6	7
	Japanese	9	8	4	8	15	44
	Others	0	0	1	0	0	1
Translated Books	Japanese	0	4	4	2	0	10
Peer-Reviewed Papers	English	24	33	41	35	61	194
	Japanese	14	18	17	16	35	100
	Others	0	1	0	0	0	1
Reviews and Book Chapters	English	2	7	7	1	20	37
	Japanese	28	60	55	50	38	231
Reports and Others	English	4	7	8	14	5	38
	Japanese	18	34	39	27	23	141

Publication by All COE Members

		2002	2003	2004	2005	2006	Total
Books and Edited Books	English	0	1	0	0	7	8
	Japanese	12	10	5	13	18	58
	Others	0	0	1	0	0	1
Translated Books	Japanese	0	4	4	3	0	11
Peer-Reviewed Papers	English	32	49	52	41	78	252
	Japanese	16	21	19	18	41	115
	others	0	1	0	0	0	1
Reviews and Book Chapters	English	3	9	8	2	34	56
	Japanese	40	74	61	67	70	312
Reports and Others	English	4	10	8	14	6	42
	Japanese	25	53	54	34	34	200

Publication and Presentations by Graduate Students
(work by full time graduate students, research students, JSPS fellows, and equivalents)

		2002	2003	2004	2005	2006	Total
Books and Edited Books	**English**	**0**	**0**	**0**	**0**	**0**	**0**
	Japanese	**0**	**0**	**0**	**0**	**0**	**0**
Translated Books	**Japanese**	**0**	**0**	**1**	**0**	**0**	**1**
Peer-Reviewed Papers	**English**	**18**	**24**	**33**	**21**	**46**	**142**
	Japanese	**16**	**15**	**15**	**22**	**40**	**108**
Reviews and Book Chapters	**English**	**1**	**1**	**1**	**0**	**10**	**13**
	Japanese	**8**	**18**	**3**	**20**	**23**	**72**
Reports and Others	**English**	**3**	**8**	**4**	**13**	**13**	**41**
	Japanese	**13**	**38**	**48**	**51**	**66**	**216**
Presentations (1st Author only)	**English**	**36**	**75**	**94**	**136**	**106**	**447**
	Japanese	**56**	**96**	**114**	**154**	**175**	**595**

Clinical Practices

Year	N of New Cases	N ofOld Cases	Total Counseling Sessions
2002	138	372	5,909
2003	150	346	5,431
2004	145	342	5,217
2005	108	288	4,885
2006	122	137	3,645
Total	663	1,485	25,087

Major Interantional Conferences and Symposia

International Workshop on Facial Expression, Gaze, and Emotion

Organized by: Sakiko Yoshikawa, Eiko Shimojo, Shinsuke Shimojo

October 19-20, 2002, Shiran Kaikan and Graduate School of Education, Kyoto University

Face is something special for humans. This workshop aimed at exchanging newest findings among researchers in the frontline of this literature from neurons to evolution. The workshop was successful with about 100 interantaional and domestic participants.

Opening Remarks

Eiko Shimojo (Bunkyo Gakuin Univ. Japan)

Session 1

Seeing and liking -interaction between cognition and gaze in preference decisions. (Claudiu Simion, California Institute of Technology, USA)

Understanding other's gaze and mind by human infants and nonhuman primates. (Shoji Itakura, Kyoto University)

Effects of explanation on memory for emotional expressions. (Jamin Halberstadt, Univ. of Otago, New Zealand)

Anger face advantage is not the whole story: Interaction between emotional facial expression and face/gaze direction. (Sakiko Yoshikawa, Kyoto University)

Interpreting a person's face when we think that person is communicating with us. (David Perrett, Universityof St Andrews, UK)

Closing Remark (Shinsuke Shimojo, California Institute of Technology, USA)

Session 2

Effects of gaze perception on response to location and feature. (Hiroyuki Sasaki, Tohoku University, Japan)

Body direction influences the judgment on the face/eye direction. (Rutsuko S. Nagayama, Hiroshima Prefectural College of Health Sciences, Japan)

Gaze-triggered reflexive attentional orientation in individuals with autism. (Takashi Okada, Kyoto University)

Human brain areas involved in the analysis of dynamic facial expressions of emotion. (Wataru Sato, Kyoto University)

Emotional priming by recognition of facial expressions. (Eiko Shimojo, Bunkyo Gakuin University, Japan)

Can we predict faces from voices, and vice versa? (Miyuki Kamachi, Advanced Telecommunication Research Institute, Japan)

Preference for prototypes and its implications for an evolutionary account of facial attractiveness. (Jamin Halberstadt (University of Otago)

Bias in Preference Induced by Gaze Manipulation. (Shinsuke Shimojo, California Institute of Technology, USA. & NTT Communication Science Laboratories, Japan)

International Symposium “Socio-Cultural Foundations of Cognition”

Organized by: Shinobu Kitayama

December 14 – 15, 2002, Graduate School of Human and Environmental Studies, Kyoto University

Recent work suggests that cognition is profoundly influenced by the social and cultural characteristics. This symposium aimed at being a forum for discussing work in this direction. The symposium was extremely successful with 160 interantaional and domestic participants. Twnty-five posters were also presented by graduate students.

Session 1. Cognition and perception (Chair: David Sherman, UCLA, USA)

Culture and point of view. (Richard E. Nisbett, University of Michigan, USA)

Visual structure of Karesansui Gardens. (Michael J. Lyons, ATR Media Information Science Labs, Japan)

Perceiving dynamic facial expressions of emotion. (Sakiko Yoshikawa, Kyoto University)

Two thinking styles in one culture. (Incheol Choi, Seoul National University, South Korea)

Session 2. Cultural change and cultural evolution (Chair: Sakiko Yoshikawa, Kyoto University)

Culture, agency, and choice. (Hazel Rose Markus, Stanford University, USA)

Self enclaves: Implications for regional variation in cognition. (Shinobu Kitayama, Kyoto University)

An evolutionary game approach to culture: Illustration by an adaptive norm development. (Tatsuya Kameda, Hokkaido University, Japan)

Session 3. Self cognition (Chair: Heejung Kim, Harvey Mudd College, USA)

Selves and others in the places: The spatial representations of this world and the next world in multiple cultures. (Yoko Yamada, Kyoto University)

Cognitive dissonance and self-affirmation: Consequences of cross-culturally divergent self-concepts among Asian-Canadians and European-Canadians. (Etsuko Hoshino-Browne, University of Waterloo, Canada)

Self-other judgmental biases: Self-criticism in Japan and self-enhancement in the US. (Mayumi Karasawa, Tokyo Woman's Christian University, Japan)

Session 4. Tacit knowledge and its consequences (Chair: Tatsuya Kameda, Hokkaido University, Japan)

A mechanism of culture: The contingencies of social identity. (Claude M. Steele, Stanford University, USA)

Category-based collectivism vs. network-based collectivism: Reconceptualizations of self-group relations in the East and West. (Masaki Yuki, Hokkaido University, Japan)

Culture and implicit self-construals. (Yukiko Uchida, Kyoto University, Japan)

Why we need an implicit measure of self-esteem in cross-cultural research. (Susumu Yamaguchi, University of Tokyo, Japan)

A dynamic approach to the study of culture, self, and cognition. (Ulrich Kuhnen, University of Mannheim, Germany)

Session 5. Language (Chair: Susanne Habarstroh, University of Heidelberg, Germany)

Induction and deduction in dispositional inference: A Japan-Italy comparison. (Minoru Karasawa, Kobe University, Japan)

Development of language-specific bias in object/substance construal of novel entities. (Mutsumi Imai, Keio University, Japan)

Honorifics, requests and irony: How politeness is reflected in verbal behavior in the Japanese language. (Shinichiro Okamoto, Aichi Gakuin University, Japan)

Spontaneous attention to word content versus emotional tone: Differences among three cultures. (Keiko Ishii, Hokkaido University, Japan)

The Western assumption that talking is connected to thinking is not shared in the East. (Heejung S. Kim, Harvey Mudd College, USA)

Session 6. Round Table discussion (Chair: Richard E. Nisbett, University of Michigan, USA)

Susumu Yamaguchi, Shinobu Kitayama, Mutsumi Imai, Richard E. Nisbett, Claude M. Steele, Hazel R. Markus

International Workshop "Executive Functions in Higher Cognitive Processes: Behavioral and Neural Correlates"

Organized by: Naoyuki Osaka

March 10-12, 2003, Shiran Kaikan, Kyoto University

Recent findings on exectutive function control in higher cognitive acitivities were discussed in this workshop. In particular we tried to understand how this important function is realized in the Central Nervous System.

Day 1

Unity and diversity of executive functions: Individual differences in inhibition and interference control. (Akira Miyake, University of Colorado at Boulder, USA)

Exploring executive control by exploiting individual differences in working-memory capacity. (Michael J. Kane, University of North Carolina at Greensboro, USA)

Neural basis of individual differences in the executive function: An fMRI study. (Mariko Osaka, Osaka University of Foreign Studies, Japan)

Day 2

Dual task co-ordination as an executive function: Evidence from Alzheimer's disease, healthy ageing, and fMRI investigations. (Robert H. Logie, University of Aberdeen, UK)

The role of dorsolateral, orbital and medial frontal lobes in executive functions: A neuropsychological study. (Motoichiro Kato, Keio University, Japan)

Towards understanding the role of prefrontal cortex in executive control: Evidence from functional MRI. (Mark D'Esposito, University of California Berkeley, USA)

Integration of cognitive and motivational operations for goal-directed behavior in the lateral prefrontal cortex. (Masataka Watanabe, Tokyo Metropolitan Institute of Neuroscience, Japan)

Computational study of the circuit mechanisms for spatial working memory processing. (Shoji Tanaka, Sophia University, Japan)

Day 3

Discussions on executive functions in higher cognitive processes.

The 1st International Workshop for Young Psychologists (IWYP) on Evolution and Development of Cognition

Organized by: Masayuki Tanaka, Toshihiko Endo

July 26-27, 2003, Graduate School of Letters, Kyoto University

This workshop aimed at promoting exchange of original work by scientists in their early careers and encouraging initiation of collaboration among them. In a relaxed atmosphere, young psychologists working on evolution and development of cognition got together to have exciting discussion. Eighteen oral paers and 26 posters were presented. The workshop was sussessful with 60 international and domestic participants. This workshop was conducted in cooperation with the University of Tokyo COE Program "Mind and Language."

Opening remark (Kazuo Fujita, Kyoto University)

Session 1. Comparative Perception & Cognition

Advantage of dichromats over trichromats in discrimination of color-camouflaged stimuli. (Atsuko Saito, Toshikazu Hasegawa, et al., University of Tokyo, Japan)

Cross-dimensional object recognition. (Katherine A. Leighty, University of Georgia, USA)

Comparing the categorization and abstraction abilities of baboons and three-year-old children. (Dalila Bovet, Université Paris X & Jacques Vauclair, Université de Provence, France)

Session 2. Comparative Social Cognition

Study of a kind of self-control in lemurs (*Eulemur macaco and Eulemur fulvus*). (Emilie Genty, CEPE UPR/CNRS 9010, France)

Learning from other people's mistakes: Could monkeys learn wisdom by the follies of others? (Hika Kuroshima, Hiroko Kuwahata, & Kazuo Fujita, Kyoto University)

Self-other differentiation, embarrassment, and empathy in toddlers. (Takahiro Hisazaki, Kyushu University, Japan)

Session 3. Behavioral development & Cognition of Motion

Behavioral development of agile gibbons: The first five years after the birth. (Makiko Uchikoshi & Tetsuro Matsuzawa, Kyoto University)

Nut-cracking in human and non human primates: Comparative analysis of the nut-cracking movement in relation to the skill level-problematic, hypothesis and protocol. (Julie Foucart, Bril Blandine, INSERM 483, Paris, France & Tetsuro Matsuzawa, Kyoto University)

The "expertise eye" of archaeologists: Experts' scanning patterns in observing pottery and their memory representation. (Yuko Tokitsu, Kyushu University, Japan)

Session 4. Early Development in Infants

Development of face processing in infant chimpanzees (*Pan troglodytes*). (Masako Myowa-Yamakoshi, Masaki Tomonaga, Masayuki Tanaka, & Tetsuro Matsuzawa, Kyoto University)

Infants' understanding of televised images: Can infants utilize information from TV in a real-world task? (Naoko Dan, University of Tokyo / JSPS, Japan)

Intermodal arithmetical ability in human infants: 1 object plus 1 tone. (Tessei Kobayashi, Kazuo Hiraki, Ryoko Mugitani, & Toshikazu Hasegawa, University of Tokyo)

Session 5. Social Cognition in Human Children

Eye contact detection in children with autism. (Atsushi Senju, Toshikazu Hasegawa, & Yoshikuni Tojo, University of Tokyo)

The development of children's lying behaviour. (Victoria Talwar, Queen's University, UK)

Cultural and behavioral origins of teaching: Implicit theories of mind. (Tanya Macgillivray, Emory University, USA)

Session 6. Social Cognition

On the early development between locomotion and social development: In relation to change into parenting. (Atsuhiko Funabashi, Kyushu University, Japan)

Effects of understanding other's mental states on moral judgment of commission and omission. (Hajimu Hayashi, JSPS / Kyoto University)

Eighteen- through 22-month-old infants differentially imitate their mothers' actions. (Daisuke Kosugi, Kyoto University)

International Symposium "Case Studies of Unconsciousness and Mental Images"

Organized by: Hirohisa Higashiyama, Yoshiko Ito, & Toshio Kawai

September 13, 2003, Kyoto International Conference Center

This symposium aimed at discussing unconscouness and mental images from case studies. In particular, Jugean, Lacanian, and object relations theorists tackled the same case, discussing how we could extract global truth from case studies. The symposium was extremely successful with 1800 interantaional and domestic participants.

Speaker: Takeshi Maki (Kyoto University)

Discussants: Wolfgang Giegerich (Jungean Psychoanalyst, Germany)
Peter Widmer (Lacanian Psychoanalyst, Switzerland)
Naoki Fujiyama (Object Realtions Theorist, Sophia University, Japan)

International Symposium "Diversity of Cognition: Evolution, Development, Domestication, and Pathology"

Organized by: Kazuo Fujita & Shoji Itakura

September 26-27, 2003, Shiran Kaikan, Kyoto University

Cognition is adaptive characteristics of organisms and has been diverged depending upon ecological niches of animals. This symposium aimed at understanding how and why aspects of cognition are as they are now in given species and to realize infinite potentials of the mind. The symposium was extremely successful with 120 domestic and international participants and with 50 poster presentations mainly by graduate students. The talks at this symposium was compiled as a book of the same title published from Kyoto University Press in 2006.

Session 1. Visual Perception in a Comparative Perspective

Object perception in pigeons: Control by color versus shape (Edward Wasserman, University of Iowa, USA)

Perceptual bases for social cognition in chimpanzees (Pan troglodytes) (Masaki Tomonaga, Kyoto University)

How do primates and birds recognize figures? (Kazuo Fujita, Kyoto University)

Session 2. Social Cognitive Development

To what extent do infants and children find a mind in nonhuman agents? (Shoji Itakura, Kyoto University)

The origins of communication and share meaning in human infants. (Gedeon O. Deák, University of California, San Diego, USA)

Humans and other things: How infants use properties to individuate objects. (Luca L. Bonatti, International School of Advanced Study, Italy)

Session 3. Cognitive Abnormality

Binding in visual perception and attention: Is there a link in schizophrenia? (Anne Giersch, University of Louis Pasteur, France)

What is simultanagnosia? Its paradoxical position in visual agnosias. (Yoshitaka Oohigashi, Kyoto University)

Session 4. Invertebrate Cognition

Do insects associate path integration information with familiar landmarks? (Matthew Collett, Michigan State University, USA)

Cognition with miniature brains: Spiders, selective attention and problem solving. (Robert Jackson, University of Canterbury, New Zealand)

Visual object recognition in the praying mantis and the parasitoid fly. (Yoshifumi Yamawaki, Kyushu University, Japan)

Session 5. Cognition of Domestic Animals

Dog cognition: A comparative perspective" Miklósi, Ádám (Eötvös University)

Cognition in farm animals: Do farm animals discriminate among and respond differentially to individual people?" Tanida, Hajime (Hiroshima University)

Session 6. Metacognition

Metacognition and explicit representation in nonhumans. (Robert Hampton, NIMH, USA)
Human metacognition and the déjàvu phenomenon. (Takashi Kusumi, Kyoto University)
An analysis of episodic-like memory in animals. (Thomas Zentall, University of Kentucky, USA)
Concluding comments (James R. Anderson, University of Stirling, UK)

Kyoto University International Symposium "Self, Cognition, and Emotion: Toward the Future of Psychological Research" (The First Kyoto-Michigan Collaboration in Psychology)

Organized by: Shintaro Funahashi, Jun Saiki, Shoji Itakura, & Shinobu Kitayama
December 6-7, 2003, University of Michigan, Ann Arbor, USA

This symposium was organized at the start of university-level collaboration between Kyoto and Michigan. Representative speakers from each university as well as invited speakers from other universities presented papers on wide variety of cognitive and emotional functions both in humans and nonhumans. The symposium was extraordinarily successful with 200 domestic and international participants and with 88 poster presentations by faculty staffs and graduate students. At this symposium, Kyoto University and University of Michigan signed on the Memorandum of International Exchange Agreement.

Opening Remark
Michael D. Kennedy (Vice-President, University of Michigan, USA)
Makoto Nagao (President, Kyoto University)
Session 1. Attention and Cognition
Memory and attention in perception of dynamic visual events. (Jun Saiki, Kyoto University)
Action monitoring and evaluation processes of the medial frontal cortex. (William J. Gehring, University of Michigan, USA)
Neural mechanisms for inhibiting attention. (John Jonides, University of Michigan, USA)
Working memory: how is the information stored and manipulated? (Shintaro Funahashi, Kyoto University)
Comments (Patricia Reuter-Lorenz, University of Michigan, USA)
Session 2. Emotion
Preferences. (Robert B. Zajonc, Stanford University, USA)
Processing social signals in a face: Interaction between facial expressions of emotion and face/gaze direction. (Sakiko Yoshikawa, Kyoto University)
Liking and wanting components in brain and emotion. (Kent Berridge, University of Michigan, USA)
Culture and happiness. (Shigehiro Oishi, University of Minnesota, USA)
Comments (Phoebe C. Ellsworth, University of Michigan, USA)
Session 3. Development of self
Self and others in primates. (Shoji Itakura, Kyoto University)
Infant understanding of persons links to childhood understanding of mind. (Henry Wellman, (University of Michigan, USA)
The infant origins of intentional understanding. (Amanda Woodward, University of Chicago, USA)
Postmodern consciousness in psychotherapy. (Toshio Kawai, Kyoto University)
Comments (Giyoo Hatano, University of the Air, Japan)
Session 3. Comparative Cognition
How nonhumans see the world. (Kazuo Fujita, Kyoto University)
Cooperation in wild chimpanzees. (John Mitani, University of Michigan, USA)
Cognitive development in chimpanzees. (Tetsuro Matsuzawa, Kyoto University)
Comments (Dario Maestripieri, University of Chicago, USA)
Session 4. Socio-Cultural Psychology of Globalization
Culture and point of view. (Richard Nisbett, University of Michigan, USA)
Socialized attention: a carrier of culture? (Shinobu Kitayama, University of Michigan, USA)
On the psychology of globalization, with particular reference to food. (Paul Rozin, University of Pennsylvania, USA)
Social institutions as mediators of the micro and the macro. (Toshio Yamagishi, Hokkaido University, Japan)
Comments (Hazel R. Markus, Stanford University, USA)
Closing Comments (Makoto Nagao, Kyoto University)

International Symposium “Self and Society” (The 2nd Kyoto-Michigan Collaboration in Psychology)

Organized by: Sakiko Yoshikawa, Shintaro Funahashi, & Shinobu Kitayama

April 24-25, 2004, Clock Tower Memorial Hall, Kyoto University

This symposium was organized to enhance collaboration between Kyoto and Michigan. Once again, representative speakers from each university presented various topics of cognition and emotion both in humans and nonhumans. The symposium was also successful with 150 domestic and international participants. Taking this opportunity, faculty members discussed concrete plans of collaboration and some were in fact started.

Opening Remark

Kazuo Fujita (Kyoto University)

Session 1.

Neural correlates of body schema. (Eiichi Naito, Kyoto University)

What has brain imaging taught us about aging and working memory? (Patricia Reuter-Lorenz, University of Michigan, USA)

Hebb cell assembly: detection in behavioral neuroscience and brain-machine interface. (Yoshio Sakurai, Kyoto University)

Symbolic computational modeling of human multiple-task performance and working memory based on executive-process interactive control (David Meyer, University of Michigan, USA)

Session 2.

A cultural look at New Look: Culturally contingent attention strategies. (Shinobu Kitayama, University of Michigan, USA)

Building trust --institutional approach--. (Motoki Watabe, Kyoto University)

Challenges to standard models in judgment and decision making. (Richard Gonzalez, University of Michigan, USA)

Chimpanzee social cognition in early life. (Masaki Tomonaga, Kyoto University) ""

Session 3.

Young children's development of understanding other's mind. (Masuo Koyasu, Kyoto University)

Development of psychopathology in early childhood: A transactional model. (Sheryl L. Olson, University of Michigan, USA)

Characteristic of schizophrenic drawings to remission --from the point of view of the landscape montage technique--. (Yoshihiro Kadono, Kyoto University) ""

Application of clinical psychology in present-day Japanese society. (Tomoko Kuwabara, Kyoto University)

Closing Remark

Richard Gonzalez (University of Michigan)

International Workshop on Object Recognition, Attention and Action

Organized by: Naoyuki Osaka

August 4-6, 2004, Clock Tower Memorial Hall, Kyoto University

In this workshop, leading scientists on pschophysics, neural representation, and computational theory of object recognition. The workshop was successful with11 papers by foregin speakers, 13 papers by domestic speakers and 100 participants.

Session 1

The representation of object shape in macaque inferior temporal cortex and human LOC. (I. Biederman)

Object recognition in man and machine. (H. Bülthoff)

Invariance, expertise, and the dynamic selection of representation. (B. Tjan)

Session 2

View-invariant object discrimination depends on image familiarity. (K. Tanaka)

Object Recognition and Perceptual Organization Liu Z.

Contextual knowledge shapes visual 3D object representations. (I. Rentschler)

Session 3

Strategies of recognition-by-parts for visual object recognition. (M. Jüttner)

Recognition-by-synthesis: Computation and neural mechanisms. (H. Ando)

Perceptual learning and brain plasticity. (S. Schwartz)

Neurodynamical competition and cooperation in cortical cetworks: From cpiking ceurons to behaviour.

(G. Deco)
Session 4
Feature binding, object files, and visual working memory in dynamic visual events. (J. Saiki)
How faces and emotional expression call for attention. (P. Vuilleumier)
Parallel routes to object recognition. (J. Davidoff)
Role of spatial attention in perceiving form in indirect view. (H. Strasburger)
Session 5
Interactions between shape perception and egocentric localization. (H. Sogo & N. Osaka)
fMRI studies for action imitation: Recognizing other's action and manipulating one's own body. (S. Tanaka)
Two types of anticipation in synchronization tapping. (Y. Miyake)
General Discussion

The 2nd International Working Memory Conference

Organized by: Naoyuki Osaka
August 17-20, 2004, Kyoto International Conference Center
At this conference, various topcs on working memory were exchanged. Thirty-eight papers and 90 posters were presented. The conference was successful with stimulating discussion. Stress was placed on behavioral and neural correlates of this function. Participants from various countries counted 194.
Opening Remark
Naoyuki Osaka (Kyoto University)
Session 1.
Encoding time and short-term serial recall. (Stephan Lewandowsky)
A structural account of the relationship between immediate serial recall, the Hebb effect, and the learning of phonological word-forms. (Mike Page & Dennis Norris)
Is there a vocal similarity effect on serial recall over the short-term? (Marie Poirier)
Word length and phonological similarity effects in immediate, delayed and complex backward span tasks. (Gerry Tehan)
The independence of phonological and visual similarity in serial ordered recall: Evidence from Kanji. (Satoru Saito)
Hitch Immediate memory for sequences in the visual domain. (J.Graham)
Session 2.
Mental image manipulation and transformational complexity in visuo-spatial working memory. (David Pearson)
Interference effects and the structure of visual working memory. (Gerry Quinn)
Neural activity predicts individual differences in visual working memory capacity. (Edward Vogel)
Individual differences in working memory under “theory of mind” task: An fMRI study. (Naoyuki Osaka)
The effects of storage load on processing efficiency in working memory: Evidence from verbal and visuo-spatial complex span tasks. (Chris Jarrold)
The Time-Based Resource-Sharing model. (Pierre Barrouillet & Valérie Camos)
Individual differences in working memory: What do working memory span test really measure? (Akira Miyake)
What do working memory span tasks like reading span really measure? (Meredyth Daneman & Brenda Hannon)
Session 3.
Working-memory capacity and executive control of task-set switching. (Michael Kane)
Response selection as an aspect of executive control. (André Vandierendonck)
Human infromation processing capacity is defined by number of related variables. (Graeme S. Halford)
A working-memory workout: How to expand the focus of serial attention from one to four items, in ten hours or less. (Paul Verhaeghen)
Limits of attention in working-memory storage. (Nelson Cowan)
Bindings in working memory and outside? (Klaus Oberauer)
Exploring the episodic buffer. (Alan Baddeley)
Session 4.
Working memory: How do prefrontal neurons store and process the information. (Shintaro Funahashi)
The role of catecholamines on working memory processes in the primate prefrontal cortex. (Toshiyuki

Sawaguchi)
Is there "affective" working memory? (Masataka Watanabe)
Knight prefrontal cortex and working memory: Effects of neurological damage (T. Robert)
Verbal working memory and dynamic aphasia. (Motoichiro Kato)
Prefrontal cortex contributions to working memory functions. (Bradley Postle)
Towards understanding the role of the prefrontal cortex in cognitive control. (Mark D'Esposito)

Session 5.

Neural basis of focusing in executive function of working memory: Comparing focused- and non-focused-RST. (Mariko Osaka)
Sustained and transient brain activity during tests of working memory and episodic memory. (Lars Nyberg)
Transient and sustained cerebral responses during an updating task. (Fabienne Collette)
Working memory control processes affected by changing or repeating task demands. (Susan M. Courtney)
Functional organization of the primate prefrontal cortex for memory. (Michael Petrides)

The 2nd International Workshop for Young Psychologists (IWYP) on Evolution and Development of Cognition

Organized by: Kazuo Fujita, Shoji Itakura

November 13-14, 2004, Clock Tower Memorial Hall, Kyoto University

This workshop again aimed at promoting exchange of original work by scientists in their early careers and encouraging initiation of collaboration among them. The workshop of this year was even more successful than the first one, with 20 papers, 45 posters, and 120 foregin and domesnic participants. Stimulating discussion prevailed in a relaxed atmosphere. This workshop was conducted in cooperation with the University of Tokyo COE Program "Mind and Language," SAGA (Support for African / Asian Great Apes), and HOPE (Primate Origins of Human Evolution) programs.

HOPE Special Lectures (Chair: Tetsuro Matsuzawa)

Evolution of our moral faculty. (Marc Hauser, Harvard University, USA)
Brain mechanisms of monkey tool-using behaviour. (Atsushi Iriki, Tokyo Medical and Dental College & RIKEN, Japan)
Cognitive developmental robotics towards understanding of our brain and mind. (Minoru Asada, Osaka University, Japan)

Session 1. Social Interaction and Social Intelligence

The effect of social facilitation and social dominance on foraging success of budgerigars in an unfamiliar environment. (Masayo Soma, University of Tokyo, Japan)
Social brain and female choice in zebra finches. (Maki Ikebuchi, Kanazawa Institute of Technology, Japan)
Do dogs know what their cooperative human partner does and does not know? (Zsófia Virányi, Eötvös Lorand University, Hungary)
Inequity averse responses in two nonhuman primates, capuchin monkeys and chimpanzees. (Sarah F. Brosnan, Emory University, USA)

Session 2. Views from Action

Behavior of infant chimpanzees during the night in the first four months of life: Neonatal smiling and sucking in relation to arousal levels. (Yuu Mizuno, Kyoto University; Hideko Takeshita, The University of Shiga Prefecture; Tetsuro Matsuzawa, Kyoto University)
Infant motor patterns and cortical activation associated with event memory. (Hama Watanabe, Japan Science and Technology Agency, CREST / University of Tokyo, Japan)
Expertise in evaluating actors' performances from the viewpoint of the audience. (Michael Brown, Deirdre Lancaster University, UK); Michael Lamb, Cambridge University, UK); Margaret-Ellen Pipe, National Institutes of Child Health and Human Development, USA); Yael Orbach, National Institutes of Child Health and Human Development, USA); Charlie Lewis, Lancaster University, UK)
Expertise of evaluating other's performance in acting: Role of assuming the viewpoint of audience. (Hanae Ando, Kyoto University)

Session 3. Recognition of Physical Aspects of Environment

Ant-dipping behavior in chimpanzees: To what extent do micro-ecological influences explain variation within and between sites?. (Tatyana Humle, University of Wisconsin, USA); Tetsuro Matsuzawa, Kyoto University)

Quantity based discrimination in great apes. (Daniel Hanus, Max Planck Institute for Evolutionary Anthropology, Germany; Josep Call, Max Planck Institute for Evolutionary Anthropology, Germany)

Perception of shape from shading in chimpanzees and humans. (Tomoko Imura, Kwansei Gakuin University, Japan; Masaki Tomonaga, Kyoto University; Masami K.Yamaguchi, Chuo University, Japan; Akihiro Yagi, Kwansei Gakuin University, Japan)

Stimulus organization in pigeons' visual perception. (Tomokazu Ushitani, Kyoto University); Kazuo Fujita, Kyoto University)

The effects of auditory stimuli on the latency of visually triggered saccades. (Masaharu Kato, Tokyo Women's Medical University, Japan; Yukuo Konishi, Tokyo Women's Medical University, Japan)

Session 4. Language and Communication

The more difficult to articulate, the more difficult to perceive?: Infants' discrimination of /ra/ and /da/ in words. (Sachiyo Kajikawa, Tamagawa University, Japan; Kumiko Sato, Tamagawa University, Japan; Kiyoe Kanechiku, Tamagawa University, Japan; Mutsumi Imai, Keio University, Japan; Etsuko Haryu, University of Tokyo, Japan)

Native language specific development in infant's speech perception and production. (Ryoko Mugitani, NTT Communication Science Laboratories, Japan)

Personality impression formation from thin slices of nonverbal behavior: its bases and consequences. (Kikue Sakaguchi, University of Tokyo, Japan); Toshikazu Hasegawa, University of Tokyo, Japan)

Session 5. Social Recognition

Cross-modal social category in monkeys and dogs. (Ikuma Adachi, JSPS and Kyoto University; Kazuo Fujita, Kyoto University)

Do humans and baboons use the same information when categorizing human and baboon pictures? (Julie Martin-Malivel, University of Southern California, USA., and CNRS, France; Michael Mangini, University of Southern California, USA; Joël Fagot, CNRS, France; Irving Biederman, University of Southern California, USA)

Development of familiar face recognition: the processing of inner, outer, and isolated features. (Wang Zhe, Zhejiang University of Sciences, China); Kang Lee, University of California, San Diego, USA; Liezhong Zhejiang Ge, University of Sciences, China)

Ground nesting in the chimpanzees of the Nimba Mountains, Guinea, west Africa: Environmental or social? (Kathelijne Koops, University of Utrecht, The Netherlands; T. Humle, University of Wisconsin, Madison, USA; T. Matsuzawa, Kyoto University; E. H. M. Sterck, University of Utrecht, The Netherlands)

International Symposium "New Perspectives in Affective Science"

Organized by: Sakiko Yoshikawa

January 28-30, 2005, Clock Tower Memorial Hall, Kyoto University

At this conference, various topcs on emotion both in humans and nonhumans were discussed. We aimed at establishing "affective science" by close collaboration of researchers from wide perspectives ranging from neural mechanisms, pathology, culture, development to evolution. The conference was really successful with 160 domestic and foreign participants and 40 student posters.

Opening Remark

Kazuo Fujita (Kyoto University)

Session 1. Social Interaction and Culture

Face recognition in context. (Beatrice DeGelder, University of Tilburg, Netherlands)

Social communication via facial expressions. (Sakiko Yoshikawa, Kyoto University)

Shame in two cultures (Daniel M.T. Fessler, University of California Los Angeles, USA)

A developmental-interactionist theory of biological and higher level emotions: A cross-national comparison of America and Japan. (Ross Buck, University of Connecticut, USA)

Discussion (Shinobu Kitayama, University of Michigan, USA)

Session 2. Pathology and Health

Emotional cognition and decision making in neuropsychiatric disorders. (Toshiya Murai, Kyoto University)

How an evolutionary understanding of mood can help to explain cross cultural differences in depression. (Randolph Nesse, University of Michigan, USA)

Anxiety — a challenge for the research on causality. (Peter Widmer, Psychotherapist, Switzerland) ""

The experience of the "numinous" today: from the novels of Haruki Murakami. (Toshio Kawai, Kyoto University)

Discussion (Carl Becker, Kyoto University)

Session 3. Neural Systems

The effects of dopamine receptor subtype knockout on goal-directed behavior and reward-anticipatory neural responses in the nucleus accumbens of mice. (Ryoi Tamura, Toyama Medical and Pharmaceutical University, Japan)

Neurophysiology, neuroimaging and neuropsychology of the orbitofrontal cortex. (Edmund Rolls, University of Oxford, UK)

Human emotions in decision-making: Useful or disruptive role? (Antoine Bechara, University of Iowa, USA)

Preferences with and without inferences: The interplay of feelings and beliefs in judgment and behavior. (Piotr Winkielman, University of California San Diego, USA)

Discussion (Shintaro Funahashi, Kyoto University)

Session 4. Cognition and Language

How language affects emotions: Effects of narrative, metaphor, and metonymy. (Keith Oatley, University of Toronto, Canada)

Metaphor and emotion. (Zoltán Kövecses, Eötvös Loránd University, Hungary)

Emotion metaphors: Effects of image schemas, experiences and norms Takashi Kusumi (Kyoto University, Japan)

Establishing rapport with virtual peers. (Justine Cassell, Northwestern University, USA)

Discussion (Yuichiro Anzai, Keio-Gijuku University, Japan)

Session 5. Evolution and Development

Comparative developmental perspectives on emotion. (Kim Bard, University of Portsmouth, UK)

Culturally specific affective-cognitive structures of human emotions. (Shunya Sogon, Osaka-Gakuin University, Japan)

Preschool children's understanding of multiple emotions. (Yukari Kubo, Toyo University, Japan)

Promoting emotional competence in children and youth. (Carolyn Saarni, Sonoma State University, USA)

Discussion (Kazuo Fujita, Kyoto University)

Closing Remark

Sakiko Yoshikawa (Kyoto University)

International Workshop for Young Psychologists on Emotion and Cognition

Organized by: Takashi Kusumi

January 31, 2005, Shiran Kaikan, Kyoto University

This workshop was conducted as a satellite meeting of the Inetrnational Symposium "New Perspectives in Affective Science". Thirty participants enjoyed stimulating discussion on the topic.

Session1: Conversational Agent and Emotion

Embodied conversational cgents in education and mental support. (Kusumi, Kyoto University)

Concerns in evaluating embodied conversational agents. (Cassell, Northwestern University, USA)

Session2: Metaphor & Emotion

Conventional metaphors of anger in Japanese. (Nakamoto, Kyoto University)

The effect of metaphor on reading processing. (Taira, Kyoto University)

Three levels of metaphor. (Kovecses, Eotvos Lorand University, Hungary)

Session 3. Story Understanding and Emotion

The effect of similarity with respect to protagonists' and readers' emotions on narrative comprehension. (Komeda, Kyoto University)

The experience of emotions while reading short stories: Empirical studies. (Oatley, University of Toronto, Canada)

Session 4: Mere Exposure Effect and Emotion

The levels of processing influence the mere exposure effect on incidental concept formation. (Matsuda, Kyoto University)

When perceiving and thinking is easy on the mind. (Winkielman, UCSD, USA) "

The 3rd International Workshop for Young Psychologists (IWYP) on Evolution and Development of Cognition

Organized by: Kazuo Fujita, Shoji Itakura

October 22-23, 2005, Graduate School of Letters, Kyoto University

This is the third workshop aiming at promoting exchange of original work by young scientists. The workshop of this year was again successful, with 16 papers, 37 posters, and 140 foregin and domesnic participants. This workshop was conducted in cooperation with the University of Tokyo COE Program "Mind and Language."

Opening Remark (Masuo Koyasu, Kyoto University)

Session 1. Nonhuman Learning and Inference (Chaired by Masayuki Tanaka, Kyoto University)

Inference in a social context: Comparative research in two rodents (rats and hamsters), tree shrews, and capuchin monkeys. (Makoto Takahashi, Kyoto University; Tomokazu Ushitani, Chiba University, Japan; Yoshikazu Ueno, Kyoto University; Kazuo Fujita, Kyoto University)

Foundations for food learning in chimpanzee: Investigation of mother-infant interactions in feeding situations. (Ari Ueno, University of Tokyo, Japan)

Choice behavior and token use by adult chimpanzees (*Pan troglodytes*). (Claudia Sousa, New University of Lisbon, Portugal; Tetsuro Matsuzawa, Kyoto University)

Tool use behaviors in wild chimpanzees at Bossou, Guinea. (Gaku Ohashi, Kyoto University)

Session 2. Affective and Social Control in Children (Chaired by Shoji Itakura, Kyoto University)

Why are infants interested in infants?: The cognitive basis of infants' preference for age-mates. (Wakako Sanefuji, Kyushu University)

Affective decision making for self and other in preschoolers. (Angela Prencipe, University of Toronto, Canada; Phil Zelazo, University of Toronto, Canada)

Social dimension of inhibitory control in young children. (Yusuke Moriguchi, Kyoto University); Shoji Itakura, Kyoto University)

Reciprocity and friendship in young children. (Keiko Fujisawa, University of Tokyo, Japan)

Session 3: Mother-infant Interaction and Mentalizing (Chaired by Toshihiko Endo, Kyoto University)

The mental attribution to infants: The relation among maternal mind-mindedness and mother-infant interactive styles. (Ikuko Shinohara, Kyoto University)

One-month-old infants are able to detect social contingency from mother. --The first developmental stage in sensitivity to social contingency-- (Mako Okanda, Kyoto University; Shoji Itakura, Kyoto University)

Infants' detection of agents and goals. (Valerie Kuhlmeier, Queens University, Canada)

Two-year-olds can predict the outcome of physical events. (Victoria Southgate, University of London, UK; Juan-Carlos Gomez, University of St Andrews, UK; Sarah Fox, University of London, UK; Kerstin Meints, University of London, UK)

Session 4: Nonhuman Social Cognition and Intelligence (Chaired by Masaki Tomonaga, Kyoto University)

ChimpFACS: A new methodology in the study of chimpanzee facial expressions. (Sarah-Jane Vick, University of Stirling, UK)

Ecological bases of intelligence. (Sayaka Tsutsumi, Kyoto University; Makoto Takahashi, Kyoto University; Kazuo Fujita, Kyoto University)

Cooperative problem solving by tufted capuchin monkeys (*Cebus apella*). (Yuko Hattori, Kyoto University; Hika Kuroshima, Kyoto University; Kazuo Fujita, Kyoto University)

Social cognition in different mammalian species. (Juliane Kamisnki, Max Planck Institute for Evolutionary Anthropology, Germany)

Concluding Remark (Toshikazu Hasegawa, University of Tokyo, Japan)

International Symposium on Inhibitory Processes in the Mind

Organized by: Toshio Kawai & Satoru Saito

January 14-15, 2006, Clock Tower Memorial Hall, Kyoto University

"Inhibition" is an important concept in many areas of psychology. The frequent appearance of this term in the literature suggests that it is useful for describing a number of mental processes and that it is a key factor in understanding various human behaviors. Approaches to understanding inhibitory processes in the mind are diverse, including neuroscientific, developmental, clinical, and pure cognitive psychological approaches. The goal of this symposium is to demonstrate the broad contribution these different disciplines make to our understanding of inhibition, to unite recent major findings, and to share the advantages of an interdisciplinary approach for exploring phenomena related to mental inhibitory processes. We believe that communication across different disciplines that are potentially connected can facilitate new theoretical developments in the field. Based on this

perspective, we planned this international symposium with the aim of providing a forum for discussion by researchers from different backgrounds. The conference was successful with 102 domestic and foreign participants and 20 student posters.

Opening Remark
Naoyuki Osaka (Kyoto University)

Session 1. Inhibitory processes in memory
Individual differences in the ability to inhibit unwanted memories. (Michael Anderson, University of Oregon, USA)
Episodic inhibition. (Martin Conway, University of Leeds, UK)
The inhibitory effect of part-set cueing on false recall. (Masanobu Takahashi, University of the Sacred Heart, Japan)

Session 2. Inhibitory processes and dissociation
Trauma and psychic creativity. (John Beebe, The C. G.. Jung Institute of San Francisco, USA)
Inhibition in dissociation. (Ken-ichiro Okano, International University of Health and Welfare, Japan)

Session 3. Cognitive science of inhibition
Suppression in language comprehension: Evidence from behavioral and neural imaging experiments. (Morton Ann Gernsbacher, University of Wisconsin-Madison, USA)
Functional organization of inhibitory control in the human lateral prefrontal cortex. (Seiki Konishi, University of Tokyo, Japan)

Session 4. Development of inhibitory functions
Mechanisms underlying the development of inhibitory control. (Philip D. Zelazo, University of Toronto, Canada)
Inhibitory control in early childhood. (Stephanie M. Carlson, University of Washington, USA)

Discussion
Charlie Lewis (Lancaster University, UK)

Closing Remark
Satoru Saito (Kyoto University, Japan)

International Workshop for Young Scientists on Metaphor and Story Understanding

Organized by: Takashi Kusumi
January 16, 2006, Clock Tower Memorial Hall, Kyoto University

This workshop was conducted as a satellite meeting of the Inetrnational Symposium "Inhibitory Processes in the Mind". Twenty participants enjoyed stimulating discussion on the topic.

Keynote Lecture (Morton Ann Gernsbacher, University of Wisconsin-Madison, USA)

Session 1. Metaphor
Activation and inhibition of semantic features in metaphor comprehension: Evidence for asymmetry between topic and vehicle. (Keiko Nakamoto, Kyoto University)
Semantic suppression on target after comprehending metaphor. (Tomohiro Taira, Kyoto University)

Session 1. Story
Readers' affective processes to characters in narrative comprehension. (Hidetsugu Komeda, Kyoto University)
The effect of autobiographical memory on story comprehension. (Kouhei Tsunemi, Kyoto University)

Discussion

International Seminar on Executive Function, Inhibitory Control and Theory-of-Mind

Organized by: Satoru Saito
March 6, 2006, Graduate School of Education, Kyoto University

This workshop was conducted to deepen the findings obtained in the previous international symposium "Inhitory Processes of Mind". In particular it was to promote exchange of ideas among graduate students.

Keynote Lecture 1
Executive function and goal maintenance in preschool children: Evidence for graded representations in working memory. (John N. Towse, Lancaster University, UK)

Session 1
The role of executive function in inference of mental state of others. (Yukio Maehara, Kyoto University)
Aging effects on ACC in working memory. (Yuki Otuska, Kyoto University)

The relationship between theory of mind and executive function in young children. (Ayako Ogawa, Kyoto University)

Keynote Lecture 2

Working memory and inhibitory control: Are they interacting executive functions? (Christopher Jarrold, University of Bristol, UK)

Session 2

Social transmission of disinhibition in young children. (Yusuke Moriguchi, Kyoto University):

Maternal mind-mindedness and infant's response to other's attentional state. (Ikuko Shinohara, Kyoto University):

Young children's understanding of commission and omission. (Hajimu Hayashi, Kyoto University):

Comments and Discussions

International Seminar on Déjà vu and Memory

Organized by: Takashi Kusumi

March 15-16, 2006, Graduate School of Education, Kyoto University

This seminar featured 2 Keynote Lectures and papers presented by mostly young cognitive psychologists, clinical psychologists, and psychiatrists. Various aspects of Déjà vu and memory were discussed from wide perspectives.

Session 1. Déjà vu, Jamais vu & Cognitive Mechanism

Factors of output-monitoring error. (E. Sugimori, Kyoto University)

Déjà vu experiences arise from stimuli typicality. (K. Matsuda, Kyoto University)

Déjà vu and Jamais vu phenomenon: Psychological aspects of metacognition and similarity. (T. Kusumi, Kyoto University)

An experimental approach to elicit jamais vu. (M. Furukawa, T. Moriyama, S. Watanabe & Y. Tsukahara, Future University of Hakodate, Japan)

Keynote Lecture 1 (Elizabeth J. Marsh, Duke University, USA)

The nature and incidence of déjà vu, plus findings from an implicit memory investigation.

1 Background information on déjà vu.

Methods of investigating the déjà vu experience, general incidence, nature of the experience, physical variables related to déjà vu, psychological variables related to déjà vu.

2 Implicit memory interpretation of déjà vu.

Session 2 : Déjà vu, Jamais vu & Psychological Disorders

The subjective contents of the déjà vu experiences. (T. Kawabe, Kyoto University)

Assesing individuals who have never experienced déjà vu. (N. Kato, Kyoto University)

Déjà vu and jamais vu as epileptic symptoms. (K.Fukao, Kyoto University Hospital)

Keynote Lecture 2 (Alan Brown, Southern Methodist University, USA)

The relationship of physical and psychological pathology to déjà vu, plus findings from a split-perception investigation.

1 Background information on déjà vu.

Jamais vu, physical pathology related to déjà vu, psychological pathology related to déjà vu, neurological interpretations of déjà vu, etc.

2 Split, or double, perception interpretation of déjà vu

The 4th International Workshop for Young Psychologists (IWYP) on Evolution and Development of Cognition

Organized by: Shoji Itakura, Kazuo Fujita

September 2-3, 2006, Kyodai Kaikan, Kyoto University

This is the fourth workshop to promote exchange of original work and original ideas by young scientists. The last IWYP for our COE Program was once again successful, with 16 papers, 30 posters, and 100 foregin and domesnic participants. This workshop was conducted in cooperation with the University of Tokyo COE Program "Mind and Language."

Opening Remark (Masaki Tomonaga, Kyoto University)

Session 1. Perception and Learning in Infants and Infant's Mothers

Maternal Experience affect on the affinity for infant speech/non-speech sound. (Yohko Shimada, Kyoto University)

Infants' evaluation of music: early developmental and comparative perspective. (Tasuku Sugimoto,

Kyushu University, Japan)

Development of radial motion cortical sensitivity in human infants. (Nobu Shirai, Chuo University, Japan; Deirdre Birtles, University College London, UK; John Wattam-Bell, University College London, UK; Masami K. Yamaguchi, Chuo University, Japan; So Kanazawa, Shukutoku University, Japan; Janette Atkinson, University College London, UK; Oliver Braddick, University of Oxford, UK)

Sensitivity to dyadic and triadic social cues enhances early human learning. (Tricia Striano, Max Planck Institute for Human Cognitive and Brain Sciences, Germany)

Session 2. Similarity and Difference in Nonhuman Perceptual Processes

Perception of geometrical illusory figures in pigeons (*Columba livia*) and humans (*Homo sapiens*). (Noriyuki Nakamura, Kyoto University; Sota Watanabe, Kyoto University; Hiromitsu Miyata, Kyoto University; Tomokazu Ushitani, Chiba University, Japan; Kazuo Fujita, Kyoto University)

Exploring ecological factors in depth perception from texture gradients: Size constancy illusion in humans and New World monkeys. (Ayumi Sakai, Kyoto University; Kazuo Fujita, Kyoto University)

Cognitive development in chimpanzees and humans assessed by object manipulation tasks. (Misato Hayashi, Kyoto University; Hideko Takeshita, University of Shiga Prefecture, Japan)

Do baboons (*Papio papio*) perceive depth represented in pictures? (Isabelle Barbet, Conservatoire National des Arts et Métiers, France; Joël Fagot, Mediterranean Institute for Cognitive Neuroscience, France)

Session 3. Thinking and Social Intelligence in Nonhumans

Agony of the alpha?: social dynamics in a male chimpanzee group revealed by salivary steroids (Koki Ikeda, University of Tokyo)

Do pigeons plan before or during an action? – Evidence from a maze task on the LCD monitor. (Hiromitsu Miyata, Kyoto University; Kazuo Fujita, Kyoto University)

Road-crossing in chimpanzees: a risky business. (Kimberley J. Hockings, University of Stirling, UK; James R. Anderson, University of Stirling, UK; Tetsuro Matsuzawa, Kyoto University)

Western scrub-jays attribute knowledge to conspecifics. (Joanna. M. Dally, University of Cambridge, UK; N. J. Emery, University of Cambridge, UK; N. S. Clayton, University of Cambridg, UK)

Session 4. Executive Function, Cognitive Development, and Brain

The role of executive function in children's theory of mind. (Ayako Ogawa, Kyoto University)

Multiple object tracking in chimpanzees. (Toyomi Matsuno, Kyoto University)

The development of executive function and false belief understanding in Korean preschool children. (Seungmi Oh, Lancaster University, UK)

Brain lateralisation for words and faces: An electrophysiological investigation of adults and children. (Evelyne Mercure, University of London, UK)

Closing remarks (Kazuo Fujita, Kyoto University)

Kyoto-Lancaster Joint International Symposia

Organized by Satoru Saito, John N. Towse, Masuo Koyasu

October 25-26, 2006, Department of Psychology, Lancaster University, UK

<October 25, 2006>

New advances in psychological science

14:00-14:10 Opening Remarks by Tom Ormerod (Head of the Psychology Department, Lancaster University)

14:10-14:30 Satoru Saito (Graduate School of Education, Kyoto University)

Verbal executive control: Evidence from task switching paradigms

14:30-14:50 Yukio Maehara (Graduate School of Education, Kyoto University)

Hindsight bias and executive control: An exploration with a random number generation task

14:50-15:10 Peter Walker (Department of Psychology, Lancaster University)

Object naming induces viewpoint-independence in longer-term visual remembering: Evidence from a simple object drawing task

15:10-15:30 Break

15:30-15:50 Yuki Otsuka (Graduate School of Letters, Kyoto University)

Decreased activation of anterior cingulate cortex in the working memory of the elderly

15:50-16:10 Shinsuke Mori (Graduate School of Education, Kyoto University)

Communicative gestures by listeners: How they control narrator's story-telling

16:10-16:30 Chris Plack (Department of Psychology, Lancaster University)

The neural coding of pitch

16:30-16:50 Hiroshi Ashida (Graduate School of Letters, Kyoto University)

Extrapolation of visual motion: psychophysics and fMRI
16:50-17:00 Alan D. Baddeley (Department of Psychology, University of York)
Commentary
<October 26, 2006>
Perspectives on Cognitive Development
9:30-9:50 Shoji Itakura (Graduate School of Letters, Kyoto University)
Do infants prefer possible human movements?
9:50-10:10 Kate Cain (Department of Psychology, Lancaster University)
Pragmatic aspects of communication and language comprehension in relation to inattention and hyperactivity
10:10-10:30 Yohko Shimada (Graduate School of Letters, Kyoto University)
Infant sound production as a playing behavior
10:30-10:50 Ikuko Shinohara (Graduate School of Education, Kyoto University)
Maternal mental attribution to infants: Its effect on 18-month-olds' skills of joint attention
10:50-11:10 Break
11:10-11:30 Maki Rooksby (Department of Psychology, Lancaster University)
Unpacking three-year-olds' apparent competence in understanding irony
11:30-11:50 Ayako Ogawa (Graduate School of Education, Kyoto University)
The role of executive function in Japanese children's false belief understanding
11:50-12:10 Jacqui Harrison (Department of Psychology, Lancaster University)
Preaching and practicing morality: An exploration of children's moral judgment and moral action
12:10-12:30 Masuo Koyasu (Graduate School of Education, Kyoto University)
Young children's development of understanding others' mind: From perspective-taking to theory of mind
12:30-12:40 Chris Jarrold (Department of Experimental Psychology, University of Bristol)
Commentary
12:40-12:50 Closing Remarks by Charlie Lewis (Department of Psychology, Lancaster University)

Other Meetings and Workshops

The 2nd International Workshop "Evolution and Development of Joint Attention"

Organized by: Masuo Koyasu, Shoji Itakura
January 20, 2003, Graduate School of Letters, Kyoto University
Speakers and Discussants: James R. Anderson (U of Stirling, UK), Hidehiro Ogami (Kyushu U, Japan), Shoji Itakura (Kyoto U)

International Symposium on "Education of the Mind"

Organized by: Praxis & Research Center for Clinical Psychology and Education
February 14 - 15, 2003, Kyodai Kaikan, Kyoto University
Participants: 100
Speakers and discussants: Kiyoshi Shiraishi (Iizuka Child Ctr, Japan), Tomoko Kuwabara (Kyoto U), Yasuhiro Yamanaka (Kyoto U), Yasunobu Okada (Kyoto U), Takeo Tanaka (Kyushu U, Japan), Hirohisa Higashiyama (Kyoto U), Noriko Nagata (Chukyo U, Japan), Toshio Kawai (Kyoto U), Yoshiko Ito (Kyoto U), Chiaki Anbo (Lawer), Makoto Inoue (Yokohama Izumi Gakuen, Japan), Alan Guggenbühl (Jungian Analyst), Osamu Kuraishi (Osaka U, Japan)

International Symposium on "Advancement of Medicine and Humans"

Organized by Yoshiko Ito and Toshio Kawai
March 12, 2003, Kyodai Kaikan, Kyoto University
Speakers and discussants: Robert Bosnak (Jungian Psychoanalyst), Shunichi Noma (Kyoto U Hospital), Shinji Kosugi (Kyoto U Hospital), Yoshiko Ito (Kyoto U), Yasuhiro Yamanaka (Kyoto U), Toshio Kawai (Kyoto U), Tomoko Kuwabara (Kyoto U)

Massed Class and Workshop on English Presentation Skills

Organized by: Masuo Koyasu
May 15-21, 2003, Graduate School of Letters & Graduate School of Education, Kyoto University
Participants: 10
Lecturer: Emmanuel Manalo (University of Auckland, New Zealand)
Contens in Brief:

Workshop 1: Some components of good writing in the English language. The sessions will cover (1) papagraphing, (2) active and passive voice, and (3) the use of articles. Participants will be given exercises to work on during the workshop.

Workshop 2: Oral presentation skills. This session will deal with strategies for preparing papers for presentation at seminars or conferences. Participants will be asked to work in groups to prepare and make a short presentation to the class - in English. Participants should attend the whole day if possible, as the sessions are linked to each other.

Workshop 3: Writing research articles in English. These sessions will focus on the process of writing up a research article in the English language - with a possible view to submitting it for publication consideration. The blocks will cover (1) structuring a research article,(2) the literature review, and (3) managing a research project. Participants must bring: (a) reports or notes relating to a research project they have completed, or currently working on [this can be in the Japanese language], and (b) a copy of a recently published research article from a psychology journal [in the English language].

Lectures in Psychology 1: The sessions will cover (1) how memory works and its associated problems, (2) mnemonics and other strategies for improving memory, (3) the psychological meaning of fairy tales.

Lectures in Psychology 2: The sessions will cover (1) dyslexia and models of the reading process, (2) dyscalculia [mathematics LD] and other specific learning disabilities, (3) psychological explanations of mental and spiritual possession.

Lectures in Psychology 3: The sessions will cover (1) a review of selected research in academic skills development instruction, (2) the functions of university learning centres in western countries, (3) rational [non-psychic] explanations of psychic phenomena.

International Symposium on "Cycle, Life, and Image of the Other World: Views from

Different Cultures"

Organized by: Yoko Yamada
June 8, 2003, Shiran Kaikan, Kyoto University
Participants: 150
Speakers and discussants: Kazuhiko Komatsu (Intl Res Ctr for Japanese Studies, Japan), Yoko Yamada (Kyoto U), Carl Becker (Kyoto U), Tetsuji Ito (Ibaragi U, Japan)

Symposium on "Contemporary Society and Clinical Psychology"

Organized by: Yoshiko Ito
September 15, 2003, Kyoto International Conference Center
Participants: 1800
Speakers and discussants: Jun Fujita (Kyoto U Hosptal), Mayumi Suruji (Kyoto U), Yoshinori Nishiguchi (Kyoto Medical Reformatry, Japan), Hiroshi Ishihara (Kyoto U), Hajime Takechi (Kyoto U Hospital), Chikako Nishibori (Kyoto U), Yoshinori Kubota (Kyoto U), Mark Unno (U of Oregon, USA), Hayao Kawai (Agency for Cultural Affairs, Government of Japan)

Workshop "Cognitive Approach to Metaphor"

Organized by: Takashi Kusumi, Masuo Koyasu, Takako Nakamoto
Januray 31 - February 1, 2004, Clock Tower Memorial Hall, Kyoto University
Participants: 120
Speakers and Discussants: Takashi Kusumi (Kyoto U), Kojiro Nabeshima (Kansai U, Japan), Takako Nakamoto (Kyoto U), Wataru Kuroda (ATR Inst, Japan), Hajime Nozawa (Kyoto U), Masaaki Yamanashi (Kyoto U), Kenichi Seto (Osaka City U, Japan), Masuo Koyasu (Kyoto U), Hiroshi Tsukimoto (Tokyo Denki U, Japan), Kazuko Shinohara (Tokyo U of Agriculture & Technology, Japan), Takatsugu Kojima (Kyoto U), Mika Shindo (ATR Inst, Japan), Masaki Murata (ATR Inst, Japan), Hitoshi Isahara (ATR Inst, Japan), Tsutomu Sakamoto (Kyushu U, Japan), Tagiru Nakamura (Tokyo U of Techonology, Japan), Yoshikata Shibuya (Manchester U, UK), Naoko Kuriyama (Tokyo Inst of Technology, Japan), Kotaro Funakoshi (Tokyo Inst of Technology, Japan), Takenobu Tokunaga (Tokyo Inst of Technology, Japan), Takashi Kusumi (Kyoto U), Yuichi Mori (Seikei U, Japan), Akira Utsumi (U of Electro-Communications, Japan), Bipin Indurkhya (Tokyo U of Agriculture & Technology, Japan), Makio Hira (Miyagi Education U, Japan), Yutsuko Uno (Osaka Seikei U, Japan), Shoko Suzuki (Kyoto U), Yosuke Hirota (JSPS), Fumio Ono (Kyoto U)

Workshop "Cognitive Bases and Practice of Critical Thinking"

Organized by: Takashi Kusumi, Masuo Koyasu
February 8, 2004, Clock Tower Memorial Hall, Kyoto University
Participants: 80
Speakers and Discussants: Takashi Kusum (Kyoto U)i, Yasuji Michita (Ryukyu U, Japan), Tadahiro Motoyoshi (Nagoya U, Japan), Shuichi Hirooka (Mie University, Japan), Kazumi Ogawa (Daido Inst of Technology, Japan), Kazushi Saito (Aichi Shukutoku U, Japan), Rumi Hirayama (Kyoto U), Yuji Yama (Kona Jogakuin U, Japan), Yuko Tanaka (Kyoto U), Satoshi Kikuchi (Shinshu U, Japan), Kazuyoshi Fukuda (Waseda U, Japan), Yasuharu Nakajima (Hyogo Educational U, Japan), Toshio Yoshida (Hyogo Educational U, Japan), Yohei Okibayashi (Hiroshima U, Japan), Toku Kuroiwa (Hyogo Educational U, Japan), Masuo Koyasu (Kyoto U)

Symposium on "The Meaning of the Disease"

Organized by: Yasuhiro Yamanaka
February 11, 2004, Kyodai Kaikan, Kyoto University
Participants: 104
Speakers and discussants: Gohei Yagi (Keio U, Japan), Yasuhiro Tanaka (Taisho U, Japan), Hiroshi Kishimoto (Shizuoka Hospital, Japan), Yasuhiro Yamanaka (Kyoto U)

Symposium on "School Clinics"

Organized by: Tomoko Kuwabara, Takeshi Maki
February 15, 2004, Shiran Kaikan, Kyoto University
Participants: 30
Speakers and discussants: Hitoshi Tokuda (Sapporo Gakuin U, Japan), Tomoko Goto (Fukui Prefectural

U, Japan)

Workshop "Working Memory: From Fundamentals to Application'"

Organized by: Naoyuki Osaka
February 28, 2004, Shiran Kaikan, Kyoto University
Participants: 100
Speakers and Discussants: Naoyuki Osaka (Kyoto U), Kazumichi Shinohara (Osaka U, Japan), Kazue Igarashi (Shirayuri Women's College, Japan), Masataka Watanabe (Tokyo Metroplitan Inst for Neuroscience, Japan), Eiji Tsutamori (Hokkaido U, Japan), Akira Kawamura (Tsukuba U, Japan), Hiroyuki Tsubomi (Kyoto U), Fumihiko Itagaki, Natsuki Oka, Tatsuhiro Yasuda, Mariko Osaka (Osaka U of Foreign Studies, Japan), Noriko Shidara (Asia U, Japan), Ken Kihara (Kyoto U), Kazunori Otsuka, Satoru Saito (Kyoto U), Robert Logie (U of Eddinburgh, UK), Shintaro Funahashi (Kyoto U), Takako Yoshimura (Osaka College of Medical & Welfare, Japan), Miyuki Torii (Chiba U, Japan), Kohei Oka (Osaka U, Japan), Hajime Nozawa (Kyoto U), Yoshiaki Nitta (Kyoto U), Yumiko Watanabe (Kyoto U), Risa Sawaki (Hokkaido U, Japan), Yuki Otsuka (Kyoto U)

Symposium on "What Infant Studies Bring to Developmental Psychology"

Organized by: Masuo Koyasu, Masayuki Watabe
March 22, 2004, Shirayuri Women's College
Speakers and discussants: Gavin J. Bremner (Lancaster U, UK), Kyoko Matsumura (Hyogo Educational U, Japan), Toshihiko Endo (Kyoto U), Masuo Koyasu (Kyoto U)

Roundtable "Seeking for the Missing Link in the Development of Spatial Cognition"

Organized by: Masuo Koyasu, Shinichiro Sugimura, Masayuki Watabe
March 23, 2004, Shirayuri Women's College
Speakers and Discussants: Masayuki Watabe (Shiga U, Japan), Shinichiro Sugimura (Hiroshima U, Japan), Gavin J. Bremenr (Lancaster U, UK), Tadashi Suzuki (Shirayuri Women's College, Japan)

Symposium on "Clinical Psychology at the Medical Field"

Organized by: Yoshiko Ito
May 8, 2004, Kyoto Research Park
Participants: 300
Speakers and discussants: Yoko Hashimoto (St Marianne U, Japan), Yoshiko Kurokawa (Kyoto U), Mikayo Ando (Tokyo Gakugei U, Japan), Yuriko Yanaga (Natl Hospital Organization Kyushu Medical Ctr, Japan)

International Symposium on "The Role and Aim of Psycotherapy"

Organized by: Yasunobu Okada
August 14, 2004, Clock Towe Memorial Hall, Kyoto University
Participants: 100
Speakers and discussants: Hayao Kawai (Agency for Cultural Affairs, Government of Japan), Robert Bosnak (Psychotherapist), Sachiko Reece (Gedren Ctr for Mental Health), Bruno Rhyner (Psychotherapist)

Symposium on "The Meaning of the Disease II"

Organized by: Yasuhiro Yamanaka
December 19, 2004, Clock Towe Memorial Hall, Kyoto University
Participants: 50
Speakers and discussants: Peter Widmer (Lacanian Psychoanalyst), Sunichi Noma (Kyoto U), Hiroshi Kishimoto (Toyama U, Japan), Yasuhiro Yamanaka (Kyoto U)

Meeting on "Experimental and Modeling Approaches to Understanding Natural Pictures"

Organized by: Jun Saiki
July 28, 2005, Clock Tower Memorial Hall, Kyoto University
Participants: 30
Speakers and Discussants: Takahiko Kimura (Osaka University), Eizaburo Doi (Carnegie-Melon

University), Jun Kawaguchi (Nagoya University), Jun Saiki

The 1st Conference of Association for Qualitataive Psychology

Organized by: Yoko Yamada
September 11, 2005, Graduate School of Letters, Kyoto University
Participants: 160
Program in Brief
- Plenary Symposium. Methodology in Qualitative Psychology: KJ Method and grounded theory
  - Speakers and discussants: Jiro Kawakida, Setsuo Craighill Mizuno, Sigeko Hokogi, Yoko Yamada (Kyoto U), Masahiro Nochi
- Symposium 1. Encounter with Others, Field of Education
  - Speakers and discussants: Kiyomi Akita, Takashi Kujiraoka, Koji Sato, Yasuko Minoura
- Symposium 2. How "scientific" could qualitative reseach be?
  - Speakers and discussants: Seiji Saito, Yumi Nishimura, Shuta Kagawa, Kenji Kawano, Hideaki Matsushima, Takehiro Saijo, Ayumu Arakawa
- Symposium 3. Memorial day and memorial monument
  - Speakers and discussants: Masahiro Terada, Nobuo Imai, Kimihide Atsumi, Katsuya Yamori (Kyoto U)
- Conversation. Field study as an ethical practice
  - Discussants: Yoshio Kashida, Toshio Sugiman (Kyoto U), Naoko Hoi
- Workshop. Processes of qualitative research in welfare and medical practices
  - Speakers and discussants: Masayasu Tagaki, Koji Yamazaki, Takashi Muto
- Lecture and Conversation. Dialectic of technology and qualitative psychology
  - Speakers and discussants: Takayuki Shiose, Yutaka Saeki, Hisashi Otani
- Lecture. Transformations and flexible forms: Where qualitative psychology begins
  - Speaker: Valsiner, J. (Clark U, USA)
  - Discussants: Tatsuya Sato (Ritsumeikan U, Japan), Yoko Yamada (Kyoto U), Chikako Toma

Meeting on "Objects, Texture, Face: Frontline of Studie of Pattern Recognition and Perception" (Division Meeting "Pattern Recognition ans Percpetion Model", Japanese Cognitive Psychology Association)

Organized by: Jun Saiki
October 9, 2005, Clock Tower Memorial Hall, Kyoto University
Participants: 40
Speakers and discussants: Hiroshi Ando (ATR Inst, Japan), Isamu Motoyoshi (NTT, Japan), Atsushi Suzuki (U of Tokyo, Japan)

Open Lecture "Lacan and Descartes: How Cartesian is Lacan's Psychoanalysis?"

Organized by: Yasuhiro Yamanaka
October 17, 2005, Clock Tower Memorial Hall, Kyoto University
Participants: 50
Lecturer: Peter Widmer (Psychoanalyst & Visiting Professor, Kyoto U)
Discussant: Toshio Kawai (Kyoto U)

The 2nd Meeting of Japan Association for Working Memory

Organized by: Naoyuki Osaka, Shintaro Funahashi, Satoru Saito
March 5-6, 2005, Clock Tower Memorial Hall, Kyoto University
Participants: 140
Program Excerpts
- Symposium 1. New Development of Working Memory
  - Speakers and discussants: Genichiro Kato (Keio U, Japan), Masato Miyatani (Hiroshima U.,Japan), Takahiro Sekiguchi (Tokyo Gakugei U, Japan), Takeo Kondo (Hiroshima U, Japan)
- Symposium 2. Memory deficit of Aged People and the Working Memory
  - Speakers and discussants: Hidenao Fukuyama (Kyoto U), Naoyuki Osaka (Kyoto U), Mariko Osaka (Osaka U of Foregin Languages, Japan), Harumitsu Murohashi (Hokkaido U, Japan)
- 12 Oral Presentations

Workshop "Looking at Face, Thinking of Face, Making Face: The Future of Face Perception Study"

Organized by: Sakiko Yoshikawa & Hiroshi Ashida
March 4, 2006, Graduate School of Letters, Kyoto University
Participants: 60
Speakers and Discussants: Miyuki Kamaike (ATR Inst, Japan), Hitoshi Hiraoka (Kyoto U), Junichiro Seyama (U of Tokyo, Japan), Takashi Minato (Osaka U, Japan)

The 3rd Meeting of Japan Association for Working Memory

Organized by: Naoyuki Osaka
March 5, 2006, Shiran Kaikan, Kyoto University
Participants: 92
Program Excerpts
- Symposium 1. Typical and atypical development of working memory
  - Speakers and discussants: Chris Jarrold (U of Bristol, UK), John N. Towse (Lancaster U, UK)
- Symposium 2. Working Memory: Child's Mind and Aritificial Mind
  - Speakers and discussants: Makiko Kamo (Natl Ctr for Neurology & Psychiatry, Japan), Takashi Maeno (Keio U, Japan)
- 14 Poster Presentations

The 2nd Forum on "Kokoro no Mirai (The Future of Mind)"

Organized by: Kyoto University Working Group of "Kokoro no Mirai"
March 26, 2006, Clock Tower Memorial Hall, Kyoto University
Participants: 200
Speakers and Discussants: Tetsuo Yamaori (Religion), Masakazu Tanatsugu (Religion), Toshio Kawai (Clinical Psychology), Sakiko Yoshikawa (Cognitive Psychology), Shintaro Funahashi (Neuroscience), Carl Becker (Religion), Satoshi Yano (Clinical Education), Shunya Murai (Psychiatry), Mariko Hasegawa (Behavior Evolution), Tsutomu Ohashi (Environmental Informatics), Yoshitaka Tanabe (Neuropsychiary), Kazuo Fujita (Comparative Cognition), Masako Keta (Religious Philosophy)

Open Lecture "Children ans Violence"

Organized by: Yasunobu Okada, Ryuta Wada
October 16, 2005, Clock Tower Memorial Hall, Kyoto University
Participants: 54
Lecturers: Alan Guggenbuhl (Visiting Professor, Kyoto University)
Toshio Kawai (Kyoto University)

The 7th Meeting of the Society for Evolution of Human Behavior

Organized by: Motoki Watabw
December 10-11, 2005, Faculty of Integrated Human Sciences, Kyoto University
Participants: 107
Program in Brief:
- Lecture by Ichiro Fujita (Osaka University)
- Poster Session
- Oral Session 1
- Lecture by Masaki Tomonaga (Kyoto University)
- Oral Session 2
- Symposium "Social Systems and Evolution"
  - Speakers: Toshio Yamagishi (Hokkaido University), Masaru Kono (Waseda University), Kazumi Shimizu (Waseda University)
  - Discussant: Mariko Hasegawa (Waseda University)

Workshop "Gaze and Facial Expressions: Recognition of Social Signals"

Organized by: Sakiko Yoshikawa
February 17-18, 2006, Graduate School of Education, Kyoto University
Participants: 50
Contens in Brief:

Stephen R. H. Langton (Department of Psychology, University of Stirling, UK)
Faces, gaze and visual attention.
Reginald B. Adams, Jr. (Department of Psychology, Tufts University, USA)
Influence of gaze and gender cues on the processing of facially communicated emotion.
Oral Presentations by Graduate Students
Discussion

Lectures for Recurrent Education "Thinking 'Education of Mind'"

Organized by: Yasunobu Okada
February 17-18, 2006, Clock Tower Memorial Hall, Kyoto University
Participants: 83
Lecturers: Hiroshi Ide (Kobe Ctr for Childrena & Family, Japan), Noriko Nagata (Chukyo U, Japan), Hirohisa Higashiyama (Kyoto U), Rikihachiro Kano (Tokyo Intl U, Japan), Yasunobu Okada (Kyoto U), Katsunori Fujiwara (Kyoto U), Yoshiko Ito (Kyoto U), Toshio Kawai (Kyoto U), Tomoko Kuwabara (Kyoto U), Akira Kaito (Kyoto U), Yoshihiro Kadono (Kyoto U)

The 1st Seminar on Cognitive Bases and Practice of Critical Thinking

Organized by: Takashi Kusumi
June 25, 2006, Clock Tower Memorial Hall, Kyoto University
Participants: 30
Speakers : Takashi Kusumi (Kyoto U), Yasuji Michita (Ryukyu U), Rumi Hirayama (Kyoto U),Yuko Tanaka (Kyoto U), Ken Matsuda (Kyoto U),Akenori Takeda(Kanda gaigo U),Yohei Okibayashi (Hiroshima U)

International Symposium "The Cognitive Triangle: Primates, Cetaceans, and Corvids"

Organized by: Masaki Tomonaga, Shoji Itakura, Kazuo Fujita
October 14, 2006, Clock Tower Memorial Hall, Kyoto University
Participants: 200
Presenters: Thomas Bugnyar (University of Vienna, Austria), Satoshi Hirata (Hayashibara Great Ape Research Institute, Japan), Tadamichi Morisak (Kyoto University)
Discussants: Richard W. Byrne (University of St Andrews, UK), James R. Anderson (University of Stirling, UK), Kazuo Okanoya (RIKEN Brain Science Institute, Japan)

Open Lecture"Internationalization and Identity of Japanese People: From the point of view of Analitical Psychology"

Organized by: Yasunobu Okada
October 21, 2006, Clock Tower Memorial Hall, Kyoto University
Participants: 51
Lecturer: Sachiko Taki Reece (Visiting Professor, Kyoto University)

Workshop on the Study of Бахтин psychology: Multiple Voice Narratives and Discourse (planned)

Organized by: Yoko Yamada
October 22, 2006, Kyodai Kaikan, Kyoto University
Presenters and Discussants: Hideaki Matsushima (University of Shiga Prefecture, Japan), Yuko Hosaka (Hyogo Prefectural University, Japan), Yuji Moro (Tsukuba University, Japan), Chikako Toma (Ibaragi University, Japan)

Kyoto-Vienna International Symposium: Culture and Education (planned)

Organized by: Yoko Yamada
November 9, 2006, Shiran Kaikan, Kyoto University
Program in Brief:
Lecture 1: Bullying and related problems in schools in Japan and Austria (Dagmar Strohmeier, University of Vienna, Austria)
Discussion: Yuichi Toda (Osaka Educational University, Japan)
Lecture 2: Views of the life course and of "success in life" as seen in Edo-Period publications. (Susanne

Formanek, Austrian National Academy of Sciences, Ausitria)
Discussion: Masashi Tsujimoto (Kyoto University)

The 4th Meeting of Japan Society for Working Memory

Organized by: Naoyuki Osaka
December 9, 2006, Shiran-Kaikan Ouchi Hall, Kyoto University
Participants: 50
Program Excerpts
Symposium 1. Visuo-spatial Working Memory
Speaker: Ken Goryo (Kyoto Women's University, Japan)
Symposium 2. Working Memory and Theory-of-Mind
Speakers: Hideya Koshino (Univ. of California, USA), Naoyuki Osaka (Kyoto U)
15 Posterl Presentations

The 2nd Seminar on Cognitive Bases and Practice of Critical Thinking

Organized by: Takashi Kusumi
February 27, 2007,Faculty of Education, Kyoto University
Participants: 30
Speakers: Takashi Kusumi (Kyoto U), Yasuji Michita (Ryukyu U), Rumi Hirayama (Kyoto U), Yuko Tanaka (Kyoto U), Ken Matsuda (Kyoto U), Akenori Takeda (Kanda gaigo U), Yohei Okibayashi (Hiroshima U), Noriko Inoue(Kyoto U)

Lectures for Recurrent Education "Thinking'Education of Mind'"

Organized by: Yasunobu Okada
February 16-17, 2007, Clock Tower Memorial Hall, Kyoto University
Participants: 80
Lecturer: Yasuhiro Yamanaka (Institute of Kyoto Hermes), Norio Kibe (Shirayuri College), Nobuko Ishimoto (Keisen U), Yasunobu Okada (Kyoto U), Katsunori Fujiwara (Kyoto U), Yoshiko Ito (Kyoto U), Toshio Kawai (Kyoto U), Tomoko Kuwabara (Kyoto U), Akira Kaito (Kyoto U), Yoshihiro Kadono (Kyoto U), Yasuhiro Tanaka (Kyoto U)

Seminar on Metaphor, Story Understanding and Cognitive Rhetoric

Organized by: Takashi Kusumi
March 9, 2007, Clock Tower Memorial Hall, Kyoto University
Participants: 30
Speakers: Tomohiro Taira (Kyoto U), Kouhei Tsunemi (Kyoto U)
Discussants: Akira Utsumi (The University of Electro-communications), Keiko Nakamoto (Bunkyo U)

Lectures

1) Wolfgang Giegerich (Visiting Professor, Praxis & Research Center for Clinical Psychology and Education, Kyoto University)
"*Smuggling incorporated in the logic of 'psychology of unconsciousness'*"
Organized by: Toshio Kawai
October 20, 2002, Kyodai Kaikan, Kyoto University

2) Max Coltheart (Macquarie University, Macquarie Centre for Cognitive Science)
"*Contributions of cognitive neuropsychology to the experimental psychology of cognition*"
Organized by: Naoyuki Osaka
November 18, 2002, Shiran Kaikan, Kyoto University
(also held as the 38th Kyoto International Seminar on Psychology, Graduate School of Letters)

3) Ludwig Huber (University of Vienna, Switzerland)
"*The kea as a model of social intelligence in birds*"
Organized by: Kazuo Fujita, Shoji Itakura
December 5, 2002, Graduate School of Letters, Kyoto University
(also held as the 39th Kyoto International Seminar on Psychology, Graduate School of Letters)

4) Ram Frost（Hebrew University, Israel)
"*Extracting morphological information from print.:Evidence from masked presentation and parafoveal preview benefit* "
Organized by: Natsumi Kajii
February 6, 2003, Graduate School of Letters, Kyoto University
(also held as the 40th Kyoto International Seminar on Psychology, Graduate School of Letters)

5) Hiroshi Ono (York University, UK / ATR HIS)
"*Depth perception with motion parallax* "
Organized by: Hiroshi Ashida
March 4, 2003, Graduate School of Letters, Kyoto University
(also held as the 41st Kyoto International Seminar on Psychology, Graduate School of Letters)

6) Robert H. Logie (Department of Psychology, University of Aberdeen)
"*Impairments of visuo-spatial working memory in representational neglect* "
Organized by: Naoyuki Osaka, Satoru Saito
March 15, 2003, Graduate School of Letters, Kyoto University
(also held as the 42nd Kyoto International Seminar on Psychology, Graduate School of Letters)

7) Ruth Sitton (Ben Gurion University of the Negen, Isarael)
"*Drawing to differentiate: Flexibility in young children's human figure drawing* "
Organized by: Yoko Yamada, Masuo Koyasu
May 9, 2003, Graduate School of Education, Kyoto University

8) Sherry R. Shepherd (Kyoto Bunkyo University, Japan)
"*Interpretating sandplay* "
Organized by: Yasunobu Okada
May 9, 2003, Graduate School of Letters, Kyoto University

9) Katsunori Kawasaki (Gakushin University, Japan)
"*Essence of interpreting dreams and individuality* " (in Japanese)
Organized by: Toshio Kawai
May 28, 2003, Graduate School of Letters, Kyoto University

10) Sachiko Takano (Kochi Institute of Psychotherapy, Japan)
"*Depth of mind that appears in sandplay* " (in Japanese)
Organized by: Toshio Kawai
June 25, 2003, Graduate School of Letters, Kyoto University

11) Eiji Hoshi (University of Pittsburg School of Medicine, USA)
"*Functional perspectives of the frontal lobe in generating action: from prefrontal cortex to primary motor cortex* "
Christos Constantinidis (Wake Forest University School of Medicine, USA)
"*Neurophysiological studies of working memory in the primate prefrontal and parietal cortex*"
Organized by: Shintaro Funahashi
July 26, 2003, Faculty of Integrated Human Sciences, Kyoto University

12) Randolph J. Nudo (Kansas University Medical Center, USA)
"*Reorganization of brain and recovery of movement function* "
Organized by: Michikazu Matsumura, Eiichi Naito
July 26, 2003, Kyoto Interntational Conference Center

13) M. Nicolelis (Duke University, USA)
"*Computing with neural ensembles*"
Organized by: Yoshio Sakurai
August 2, 2003, Graduate School of Letters, Kyoto University

14) Takeshi Miyagawa (Graduate School of Medicine, Kyoto University)
"*Genes and behavior: Analysis of behavior of transgenic mice and identification of schizophrenic-related genes*" (in Japanese)
Organized by: Yoshio Sakurai
September 3, 2003, Graduate School of Letters, Kyoto University

15) Yoko Yamada (Graduate School of Education, Kyoto University)
"*Narratives on loss*" (in Japanese)
Kenji Kawano (Institute of Menetal Health, National Center of Neurology and Psychiary, Japan)
"*Loss of narratives on loss*" (in Japanese)
Organized by: Yoko Yamada
October 5, 2003, Graduate School of Human and Environmental Studies, Kyoto University

16) Mark Unno (University of Oregon, USA)
Yasuhiro Yamanaka (Kyoto University)
"*Mental illness and religion in contemporary Japan*" (in Japanese)
Organized by: Yoshiko Ito, Yoshiko Kurokawa
October 10, 2003, Kyodai Kaikan, Kyoto University

17) Mutsumi Imai (Kieo University, Japan)
"*Constraints in acquiring meaning of words*" (in Japanese)
Organized by: Sakiko Yoshikawa
October 10, 2003, Graduate School of Education, Kyoto University

18) Philippe Rochat (Emory University, USA)
"*The self in human infants*"
Organized by: Shoji Itakura
October 15, 2003, Graduate School of Letters, Kyoto University

19) Janellen Huttenlocher (University of Chicago, USA)
"*Spatial codings that support changes in location*"
Organized by: Takashi Kusumi
November 25, 2003, Graduate School of Education, Kyoto University

20) Toyoaki Nishida (Graduate School of Informatics and Technology, University of Tokyo, Japan)

"*Design of social intellect and informatics of conversation*" (in Japanese)
Organized by: Sakiko Yoshikawa
November 28, 2003, Graduate School of Education, Kyoto University

21) Keiko Iwamiya (Faculty of Education, Shimane University, Japan)
"*Dreams in psychotherapy*" (in Japanese)
Organized by: Toshio Kawai
November 30, 2003, Shiran Kaikan, Kyoto University

22) Sachiko Takano (Kochi Institute of Psychotherapy, Japan)
"*Depth of mind that appears in sandplay 2*" (in Japanese)
Organized by: Yasunobu Okada
December 3, 2003, Graduate School of Letters, Kyoto University

23) Sueo Nishimura (Sugiyama Jogakuen University, Japan)
"*Characterditics of sandplay expression in aged people*" (in Japanese)
Organized by: Yasunobu Okada
December 10, 2003, Graduate School of Letters, Kyoto University

24) Hitoshi Ishii (Tenri Yorozu Hospital, Japan)
"*Psychology and behavior of diabetic patients*" (in Japanese)
Organized by: Akira Kaito
December 13, 2003, Graduate School of Letters, Kyoto University

25) Toshiko Yamagami (Kurume University, Japan)
"*Case studies viewed from behavior therapy*" (in Japanese)
Organized by: Yasuhiro Yamanaka
February 14-15, 2004, Shogoin Gotenso, Kyoto

26) Satoshi Fujimura (Kyoto University Hospital, Japan)
"*Case study on gene couseling*" (in Japanese)
Organized by: Yoshiko Ito
March 14, 2004, Graduate School of Letters, Kyoto

27) Gavin Bremner (Lancaster University, UK)
"*Constraints on young Infants: Perception of object trajectories*"
Organized by: Masuo Koyasu
March 14, 2004, Clock Tower Memorial Hall, Kyoto University

28) Douglas L. Medin (Northwestern University, USA)
"*The native mind*"
Organized by: Kazuo Fujita
March 26, 2004, Graduate School of Letters, Kyoto University

29) Elizabeth Protacio- De Castro (University of the Philippines, Philippines)
"*Social revolution and group dynamics*"
Organized by: Toshio Sugiman
May 11, 2004, Faculty of Integrated Human Sciences, Kyoto University

30) Sachiko Takano (Kochi Institute of Psychotherapy, Japan)
"*Change of expression in sandplay and change in mind*" (in Japanese)
Organized by: Yasunobu Okada
June 30, 2004, Graduate School of Letters, Kyoto University

31) Elizabeth L. Crawford (University of Richmond, USA)
"*Categorization and Bayesian adjustment strategies*"
Organized by: Takashi Kusumi
July 22, 2004, Clock Tower Memorial Hall, Kyoto University

32) Michael Bamberg (Clark University, USA)
"*Small stories in the lives of adolescents*"
Organized by: Yoko Yamada
September 28, 2004, Graduate School of Education, Kyoto University

33) Ian Parker (Manchester Metropolitan University, UK)
"*Critical psychology and qualitative psychology*"
Organized by: Toshio Sugiman
October 26, 2004, Faculty of Integrated Human Sciences, Kyoto University

34) Yasuhiro Tanaka (Faculty of Humanities, Taisho University, Japan)
"*Image of agent and image of body in the dream*" (in Japanese)
Organized by: Toshio Kawai
November 10, 2004, Graduate School of Letters, Kyoto University

35) Hitoshi Ishii (Tenri Yorozu Hospital, Japan)
"*Psychologcal help to diabetic patients from infancy*" (in Japanese)
Organized by: Akira Kaito
November 23, 2004, Graduate School of Letters, Kyoto University

36) Reiji Masuda (Center for Field Studies, Kyoto University, Japan)
"*Fish psychology*" (in Japanese)
Organized by: Toshio Sugiman
November 24, 2004, Faculty of Integrated Human Sciences, Kyoto University

37) Sigeyuki Eguchi (Tokyo Musashino Hospital, Japan)
"*Listening to experience of illness: A view fron clinical ethnography*" (in Japanese)
Organized by: Yoko Yamada
November 27, 2004, Shiran Kaikan, Kyoto University

38) Michiko Akimoto (Tokyo Metroplitan Geriatric Hospital, Japan)
"*Sandplay therapy of vascular dementia*" (in Japanese)
Organized by: Yasunobu Okada
December 4, 2004, Graduate School of Letters, Kyoto University

39) Keiko Iwamiya (Faculty of Education, Shimane University, Japan)
"*Adventure around adolescence*" (in Japanese)
Organized by: Toshio Kawai
December 5, 2004, Shiran Kaikan, Kyoto University

40) Toshikazu Noma (Kyoto University)
"What can be done at the field of psychotherapy regarding the 'body'" (in Japanese)
Organized by: Toshio Kawai
December 11, 2004, Graduate School of Letters, Kyoto University

41) Justine Cassell (North Western University, USA)
"*Trading spaces: Multimodal route-finding and direction-giving by humans and humanoids*"
Organized by: Takashi Kusumi
January 31, 2005, Shiran Kaikan, Kyoto University

42) Zoltán Kövecses (Eötvös Lorand University, Hungary)
"*Metaphor in culture*"
Organized by: Takashi Kusumi
February 2, 2005, Clock Tower Memorial Hall, Kyoto University

43) Kuninao Minagawa (Hosei University, Japan)

"*A case study from the perspective of psychoanalytic psychotherapy*" (in Japanese)
Organized by: Katsynori Fujiwara, Yasunobu Okada, Kaitou Akira, Toshio Kawai
February 12,2005, Syogoinn Gotennso

44) Yoshiko Ito (Kyoto University)
"*A discussion on genetic counseling*" (in Japanese)
Organized by: Takashi Kusumi
February 25, 2005, Graduate School of Education, Kyoto University

45) S. Robert Young (University of South Carolina, USA)
"*Genetic Counseling in the United States. –A person's 30 years experience-*"
Organized by: Yoshiko Ito
March 2, 2005, Graduate School of Letters, Kyoto University

46) Michelle Gedang Ong (University of the Philippines, Diliman, Phillipines)
"*'Children as laborers' in Phillipines and support by NGO*"
Organized by: Toshio Sugiman
March 2, 2005, Faculty of Integrated Human Sciences, Kyoto University

47) Kiyotake Nagai (JSPS fellow, McMaster University, USA), Takashi Owaki (University of Tokyo, Japan), & Izumi Osawa (Osaka Univercity, Japan)
"*Reverse correlation as a tool to read covert information*" (in Japanese)
Organized by: Jun Saiki
March 5, 2005, Faculty of Integrated Human Sciences, Kyoto University

48) Wolfgang Wagner (University of Linz, Switzerland)
"*Social representation of biotechnology*"
March 18, 2005, Faculty of Integrated Human Sciences, Kyoto University

49) Satoshi Akutsu (Hitotsubashi University)
"*Personality of the brand and communication: Its structure and dynamism*" (in Japanese)
March 24, 2005, Graduate School of Education, Kyoto University

50) Philippe Wallon (National Institute of Health Medicine, France)
"*Computerized analysis of drawing process*"
Organized by:Yoko Yamada
April 25, 2005, Clock Tower Memorial Hall, Kyoto University

51) Yasuhito Kinoshita (Rikkyo University, Japan)
"*Aging of the others: A hypothesis on the genesis of culture of aging and care*" (in Japanese)
Organized by:Yoko Yamada
August 3, 2005, Clock Tower Memorial Hall, Kyoto University

52) Oliver Braddick (University of Oxford, UK) & Janette Atkinson (University College London, UK)
"*Visual processing in developmental disorders: perinatal brain damage, Williams syndrome, and refractive screening*"
Organized by: Hiroshi Ashida
September 15, 2005, Graduate School of Letters, Kyoto University

53) Oliver Braddick (University of Oxford, UK) & Janette Atkinson (University College London, UK)
"*Local and global processing of form and motion: development and brain mechanisms*"
Organized by: Hiroshi Ashida
September 15, 2005, Academic Center for Computing and Media Studies, Kyoto University

54) Dagmar Strohmeier (Department of Psychology, University of Vienna, Austria)
"*Social relationships in multicultural school classes in Austria: the case of bullying and racist victimization*"
Organized by: Yoko Yamada

November 30, 2005, Graduate School of Education, Kyoto University

55) Shoko Takano (Kochi Institute of Pyshotherapy, Japan)
"*Start and end of sandplay*" (in Japanese)
Organized by: Yasunobu Okada, Hiroshi Ishihara
November 30, 2005, Graduate School of Letters, Kyoto University

56) Matthew A. Lambon Ralph (University of Manchester, UK)
"*Semantic impairment in semantic dementia and stroke aphasia: loss of knowledge versus loss of inhibition/control*"
Karalyn Patterson (Medical Research Council, Cognition & Brain Sciences Unit, UK)
"*The impact of semantic impairment on 'non-semantic' tasks: the role of semantic memory in inhibiting the influence of typicality*"
Organized by: Satoru Saito
December 1, 2005, Clock Tower Memorial Hall, Kyoto University

57) Hitoshi Ishii (Tenri Hospital, Japan)
"*Psychological support toward diabetics and individuality*" (in Japanese)
Organized by: Akira Kaito, Yosihiro Kadono
December 18, 2005, Graduate School of Letters, Kyoto University

58) Akira Miyake (University of Colorado at Boulder, USA)
"*Unity and diversity of inhibition and interference control functions: An individual differences perspective*"
Organized by: Satoru Saito
December 19, 2005, Clock Tower Memorial Hall, Kyoto University

59) Kyoko Takaishi (Konan University, Japan)
"*Narratives on scene contruction method*" (in Japanese)
Organized by: Akira Kaito, Yoshihiro Kadono
December 21, 2005, Graduate School of Letters, Kyoto University

60) Philip M Grove (Tohoku Gakuin University, Japan)
"*Ecological considerations about audio-visual events in 3-D space*"
Organized by: Hiroshi Ashida
March 4, 2006, Graduate School of Letters, Kyoto University

61) Mahzarin R. Banaji (Harvard University, USA)
"*Mind bugs: The psychology of ordinary prejudice*"
Organized by: Takashi Kusumi
March 24, 2006, Graduate School of Education, Kyoto University

62) Teh Hun Boui (Kalorinska University Hospital, Sweden)
"*Reproructive medicine and genetic counseling in Sweden*"
Organized by: Yoshiko Ito
May 31, 2006, Graduate School of Letters, Kyoto University

63) Ryota Kanai (California Institute of Technology, USA)
"*Can rase be erased? The evolutionary psychology of coalitions and alliances*" (in Japanese)
Organized by: Motoki Watabe
August 2, 2006, Faculty of Integrated Human Sciences, Kyoto University

64) Anthony A. Grace (University of Pittsburgh, USA)
"*Prefrontal cortical-limbic system interactions and the pathophysiology of psychiatric disorders*"
Organized by: Shintaro Funahashi
August 2, 2006, Faculty of Integrated Human Sciences, Kyoto University

65) Keiko Iwamiya (Simane University, Japan)

"*Adventure about adolescence*" (in Japanese)
Organized by:Tomoko Kuwabara
August 30, 2006, Graduate School of Education, Kyoto University

66) Alan C. Kamil (University of Nebraska at Lincoln, USA)
"*Natural History and Cognition: Social and Spatial Abilities in Corvids*"
Organized by: Kazuo Fujita
September 1, 2006, Graduate School of Letters, Kyoto University
(also held as the 45th Kyoto International Seminar on Psychology, Graduate School of Letters)

67) Yukiko Kurokawa (Sophia University, Japan)
"*Psychotherapy of aged people*" (in Japanese)
Organized by: Yasunobu Okada
September 30, 2006, Graduate School of Letters, Kyoto University

68) Kiyoshi Kato (Kuma Hospital, Japan)
"*A pathway of psychotherapy: forest for healing*" (in Japanese)
Organized by: Akira Kaito
October 9, 2006, Rakuyu Kaikan, Kyoto University

69) Richard W. Byrne (University of St Andrews, UK)
"*Clues to the origin of the human mind from primate observational field data*"
Organized by: Kazuo Fujita
October 15, 2006, Clock Tower Memorial Hall, Kyoto University

70) Norifumi Kisimoto (Toyama University, Japan)
"*Psychotherapeutic support and image expression in people with physical disease*"
Organized by: Tetuya Kawabe
October 21, 2006, Graduate School of Letters, Kyoto University

71) Masashi Kushizaki (Faculty of Letters, Kansai University)
"*The Play Therapy in North Texas University*"
Organized by: Yoshihiro Kadono
November 12, 2006, Graduate School of Letters, Kyoto University
Participants: 13

72) Tsuyoshi Inomata (Faculty of Education, Gunma University)
"*Dream Analysis by Jungian***"**
Organized by: Toshio Kawai
November 12, 2006, Shiran Kaikan, Kyoto University
Participants: 33

73) Sagako Takano (Kouchi Psychotherapy Institute)
"*A Process of Sandplay Therapy for a Patient of Psychosomatic Disease***"**
Organized by: Yasunobu Okada
December 6, 2006, Graduate School of Letters, Kyoto University
Participants: 20

74) Toshiya Takeno (Takeno Clinic)
"*Case Conference by Jungian Psychothrapy***"**
Organized by: Yasunobu Okada, Yoshiko Ito, Toshio Kawai, Tomoko Kuwabara, Yoshihiro Kadono, Yasuhiro Tanaka
Feburary 17-18, 2007, Shogoin Goten-so, Kyoto
Participants: 120

75） Takumi Iwao (Kanto Gakuin University)
"*Induction, falsification and logical thinking* "
Organized by: Takashi Kusumi

February 27, 2007, Faculty of Education, Kyoto University
Participants: 30

72） Akira Utsumi (The University of Electro-communications)
"*Cognitive mechanism of metaphor comprehension in cognitive rhetoric*"
Organized by: Takashi Kusumi
March 9, 2007, Clock Tower Memorial Hall, Kyoto University
Participants: 30

Competitive Funds Awarded to Graduate Students

[This program started in 2003]

Fiscal Year 2003

Name	Graduate School	Yr of Ph.D Course	Mentor	Amount Awarded
	Title of Research			
Makiko Uchikoshi	Biology (Primate Res Inst)	3rd	Tetsuro Matsuzawa	740,000
	Comparative and developmental study on behavior and cognition of gibbons.			
Ryo Kitada	Human and Environmental Studies	2nd	Michikazu Matumura	234,000
	Studies on the function of primary somatosensory cortex using texture discrimination task.			
Eriko Sugimori	Education	1st	Takashi Kusumi	780,000
	Action slip and source monitoring.			
Tohru Tanaka	Education	2nd	Toshio Kawai	700,000
	On the violence in close relationship: Influence of attachment and gender.			
Ken Matsuda	Education	3rd	Takashi Kusumi	780,000
	On the process of forming representations supporting a mere exposure effect: Effects of central/peripheral dimensions on concept learning and sensory evaluation.			
Chizuko Murai	Letters	2nd	Shoji Itakura	630,000
	Comparative and developmental study on category formation in primates.			
Hiromi Yamagata	Education	3rd	Masuo Koyasu	780,000
	The role of imaging ability on the acquisition of scientific concepts.			
Yumiko Watanabe	Human and Environmental Studies	3rd	Shintaro Funahashi	780,000
	Visualization of information processing in Thalamic neurons using a population vector analysis.			

Fiscal Year 2004

Yuki Otsuka	Letters	1st	Naoyuki Osaka	450,000
	Higher information processing relating attention control of working memory.			
Mizuki Kaneda	Letters	2nd	Naoyuki Osaka	400,000
	Function of the central executive system in the use of semantic information in linguistic working memory.			
Daisuke Kawashima	Education	1st	Yoko Yamada	550,000
	Meaning of death in the life story of aged Jodo-Shinshu believers.			
Ken Kihara	Letters	1st	Naoyuki Osaka	550,000
	Temporal attention mechanism in the perception of sequential order.			
Takahiko Koike	Informatics	3rd	Jun Saiki	650,000
	Computational model of visual search using the saliency map and the signal detection theory.			
Hidetsugu Komeda	Education	1st	Takashi Kusumi	500,000
	Similarity of emotion in characters and readers in story understanding.			
Eriko Sugimori	Education	2nd	Takashi Kusumi	550,000
	On the relationship of memory of action and output monitoring.			
Ayumi Suzuki	Education	2nd	Masuo Koyasu	650,000
	Developmental study on self-insistence in the childhood.			
Rumi Hirayama	Education	2nd	Takashi Kusumi	550,000
	Cognitive mechanism of critical thinking related to the decision based on contradicting information.			
Chizuko Murai	Letters	3rd	Shoji Itakura	350,000
	Comparative and developmental study on category formation in primates.			

Fiscal Year 2005

Miho Kawasaki	Education	1st	Masuo Koyasu	500,000
	Effects of prior understanding on comprehension and integration of other's speech in arithmetic classes.			
Ken Kihara	Letters	3rd	Naoyuki Osaka	500,000
	Characteristics of visual attention in the decision of presence/absence of moving stimuli.			
Takatsugu Kojima	Education	4th	Takashi Kusumi	500,000
	Attributes of referential objects and indicated objects related to areas signaled by spatial terms.			
Reijin Sasaki	Education	3rd	Yasuhiro Yamanaka	500,000
	Comparison between individual testing and group testing of the scene construction method.			
Kosuke Takahashi	Informatics	2nd	Jun Saiki	500,000
	Integration of visual and tactual information of moving objects during object manipulation.			
Asuka Tatsuwa	Education	2nd	Masuo Koyasu	500,000
	Constructing a model of mental state attribution and discussion of methodology.			
Mitsue Nomura	Education	1st	Sakiko Yoshikawa	500,000
	A psychological study on the display of emotion, gaze, and facial expressions in social interaction.			
Shohei Hidaka	Informatics	1st	Jun Saiki	500,000
	Constructing a model of the bias in categorizing novel words.			
Yusuke Moriguchi	Letters	2nd	Shoji Itakura	480,000
	Effects of environment on action control by preschoolers			
Ryoko Yamamoto	Education	2nd	Toshihiko Endo	500,000
	Grieving and enjoying other's unhappiness.			
Kei Watanabe	Human and Environmental Studies	1st	Shintaro Funahashi	400,000
	Neural mechanism in the frontal association cortex related to decision of eye movement direction.			

Fiscal Year 2006

Hitoshi Hiraoka	Education	4th	Sakiko Yoshikawa	500,000
	Characteristics of memorized representation of face.			
Hiroki Ozono	Education	1st	Sakiko Yoshikawa	500,000
	Relationship among deception, deception detection, and cooperation.			
Kosuke Takahashi	Informatics	3rd	Jun Saiki	300,000
	Processes of integration of visual and tactual information in perceiving dynamic objects.			
Yoshiko Yamamoto	Education	3rd	Toshihiko Endo	295,000
	Grieving and enjoying others' unhappiness: Situational factors affecting genesis of sympathy and Shadenfreude.			
Ayako Ogawa	Education	2nd	Masuo Koyasu	500,000
	Role of the executive function on the development of theory of mind in children.			
Takashi Ikeda	Letters	2nd	Naoyuki Osaka	500,000
	Processing of color information in the working memory.			
Ayumi Sakai	Letters	1st	Kazuo Fujita	500,000
	Comparative cognitive study on the use of pictorial depth cues in 3D visual perception.			
Mako Okanda	Letters	2nd	Shoji Itakura	500,000
	What does the "Yes" bias in preschoollers mean? Its mechanism and cultural difference.			
Akihiko Iejima	Education	2nd	Yoko Yamada	500,000
	Do people raise themselves by watching comics? Influence of comics and establishment of self viewed from narratives.			
Noriyuki Nakamura	Letters	1st	Kazuo Fujita	500,000
	Comparative cognitive study on the evolution of illusory perception.			

International Graduate Student Exchange Program

Fiscal Year 2002 (Total fund 5,000,000 yen)

	Name	Affiliation	Period	Host	Country
	Title of Research				
Invitation	Helen Yai-Jane Chang	Dept of Psychol, Univ of Stirling, UK	Jan 17, 2003 - Feb 27, 2003	Sakiko Yoshikawa (Kyoto Univ)	Japan
	Cross-cultural research on face recognition.				
Invitation	Nadia Benboutayab	Inst of Cognitive Sci, CNRS, France	Feb 3, 2003 - Mar 1, 2003	Natsumi Kajii (Kyoto Univ)	Japan
	Viewing position effects in visual word recognition: the case of French words.				
Invitation	Nathalie Decoppet	Inst of Cognitive Sci, CNRS, France	Feb 3, 2003 - Mar 1, 2003	Natsumi Kajii (Kyoto Univ)	Japan
	Age of acquisition effects in the reading of Japanese Kanji.				
Invitation	Annika Paukner	Dept of Psychol, Univ of Stirling, UK	Feb 3, 2003 - Apr 19, 2003	Kazuo Fujita (Kyoto Univ)	Japan
	Mirror-guided reaching and metaknowledge in nonhuman primates.				
Invitation	Sean Duffy	Univ of Chicago, USA	Mar 5, 2003 - Apr 20, 2003	Shinobu Kitayama (Kyoto Univ)	Japan
	Seeing through cultures: Categories, context and cognition in East Asia and the U.S.				
Dispatch	Tomokazu Ushitani	Graduate School of Letters	Nov 25, 2002 - Dec 20, 2002	Prof. Jean-Jacques Roeder (Primate Res Ctr, Univ of Louis Pasteur)	France
	Comparative cognitive study on numerical operation and attention reading.				
Dispatch	Daisuke Kawashima	Grad Sch of Education	Nov 29, 2002 - Dec 6, 2002	Prof. Do Long (Lab of Psychology, Ntl Ctr for Soc & Human Sciences)	Viet-num
	Preliminary exploration on theory of lifespan development and life-cycle theory from a viewpoint of East Asia				
Dispatch	Aiko Hibino	Grad Sch of Human & Environmental Studies	Feb 12, 2003 - Mar 6, 2003	Prof. Wolfgang Wagner (Dept of Soc & Economic Psychol, Johannes Kepler Univ)	Austria
	International comparison on social acceptance of biotechnology				

Fiscal Year 2003 (Total fund 5,000,000 yen)

Invitation	Etsuko Hoshino-Browne	Dept of Psychol, Univ of Waterloo, Canada	Apr 22, 2003 - Jul 30, 2003	Shinobu Kitayama (Kyoto Univ)	Japan
	Cultural differences and similarities in affective reactions in the experience of cognitive dissonance				
Invitation	Sara Bengtsson	Dept of Woman and Child Health, Karolinska Inst, Sweden	Jul 26, 2003 - Aug 31, 2003	Eiichi Naito (Kyoto Univ)	Japan
	Neurobiological mechanisms for explicit temporal control: Functional organization of brain areas involved in voluntary, rhythmical movements and temporal perception				
Invitation	Anjainie Mccarthy	Queen's Univ, Canada	Nov 25, 2003 - Feb 22, 2004	Shoji Itakura (Kyoto Univ)	Japan
	Deveopment of the use of social signals in human infants.				
Dispatch	Tomoko Higashi-mura	Grad Sch of Human & Environmental Studies	June 21, 2003 - July 3, 2003	Prof. Olcay Imamoglu (Bosphoras Univ)	Turkey
	Study on developmental support for handcapped children and infants. Study on the methodology of school education with community participation.				

Dispatch	Rieko Umoto	Grad Sch of Education	July 10, 2003 - July 23, 2003	Prof. Kengo Miyahara (Tavistock and Portman NHS Trust)	UK
	Specialy and collaboration in clinical psychology.				
Dispatch	Takatsugu Kojima	Grad Sch of Education	July 18, 2003 - Sep 1, 2003	Prof. Jannelen Huttenlocher (Univ of Chicago)	USA
	Spatial representation and use of spatial words.				
Dispatch	Sayaka Tsutsumi	Grad Sch of Letters	Aug 3, 2003 - Aug 20, 2003	Prof. Darma Budi Pinem (Bukit Lawang Orangutan Rehabilitation Ctr)	Indo-nesia
	Comparative study on orangutan numerical cognition.				
Dispatch	Ikuma Adachi	Grad Sch of Letters	Nov 6, 2003 - Jan 6, 2004	Prof. Ludwig Huber (Inst of Zoology, Univ of Vienna)	Austria
	Concept formation from muti-modal information in marmosets.				

Fiscal Year 2004 (Total fund 5,000,000 yen)

Invitation	Zsófia Virányi	Eötvös Lorand Univ, Hungary	Oct 4, 2004 - Dec 20, 2004	Kazuo Fujita (Kyoto Univ)	Japan
	Experimental study of physical and social intelligence and attachement by dogs. Comparative study of physical inference.				
Invitation	Michelle Gedang Ong	Univ of the Philippines, Diliman, Philipines	Jan 23, 2005 - Mar 28, 2005	Toshio Sugiman (Kyoto Univ)	Japan
	On the NGO: Problem of children as laborers and support by the NGO.				
Dispatch	Hidetsugu Komeda	Grad Sch of Education	July 13, 2004 - Aug 13, 2004	Prof. G. A. Radvansky (Univ of Notre Dame)	USA
	Function of emotion of readers supporting situation model construction in story understanding.				
Dispatch	Takatsugu Kojima	Grad Sch of Education	Aug 3, 2004 - Sep 4, 2004	Prof. Elizabeth L. Crawford (Univ of Richmond)	USA
	Spatial representation and use of spatial words.				
Dispatch	Hiroshi Nakanishi	Grad Sch of Education	Nov 7, 2004 - Dec 6, 2004	Prof. James Uleman (Dept of Psychol, Univ of New York)	USA
	Experimental study on automacy and attention in evidence evaluation.				
Dispatch	Sachiko Wakui	Grad Sch of Education	Jan 5, 2005 - Mar 25, 2005	Prof. Michael Bamberg (Clark Univ)	USA
	Micro-genetic development of narratives by people with gender identity problems.				
Dispatch	Rie Toriyama	Grad Sch of Letters	Jan 14, 2005 - Mar 17, 2005	Prof. Shinobu Kitayama (Dept of Psychol, Univ of Michigan)	USA
	Development of culture-dependent cognition.				
Dispatch	Mako Okanda	Grad Sch of Letters	Feb 5, 2005 - Mar 27, 2005	Prof. J. Nadel (CNRS UMR 7593, Salpitriere Hospital)	France
	Sensitivity of infants to social contingency.				
Dispatch	Manabu Teshigawara	Grad Sch of Education	Feb 13, 2005 - Mar 13, 2005	Prof. Maria Rhode (Tavistock Clinic)	UK
	Training of child psychotherapist at Tavistock Centre				

Fiscal Year 2005 (Total fund 5,000,000 yen)

Invitation	Jonathon Kopecky	Univ of Michigan, USA	May 21, 2005 - June 28, 2005	Jun Saiki (Kyoto Univ)	Japan
	Japan-US comparison of multi-tasking tasks				
Invitation	Nicole Kronberger	University Linz, Austria	Sep 1, 2005 - Sep 30, 2005	Toshio Sugiman (Kyoto Univ)	Japan
	Social psychological study on social acceptance of science and technology.				
Dispatch	Ikuma Adachi	Grad Sch of Letters	Jun 1, 2005 - July 28, 2005	Prof. Robert Hampton (Emory univ)	USA
	Multimodal conceptual representations in rhesus macaques.				

Dispatch	Yuko Morimoto	Grad Sch of Education	June 20, 2005 - July 30, 2005	Shinobu Kitayama (Dept of Psychol, Univ of Michigan)	USA
	Cultural difference of decision making in game situations.				
Dispatch	Rie Toriyama	Grad Sch of Letters	Aug 20, 2005 - Sep 7, 2005	Shinobu Kitayama (Dept of Psychol, Univ of Michigan)	USA
	Difference in object recognition and thoughts in children between Japan and US and the possible effect of environmental factors				
Dispatch	Shohei Hidaka	Grad Sch of Informatics	Sep 1, 2005 - Nov 25, 2005	Linda B. Smith (Indiana Univ)	USA
	Model construction of bias in categorization of novel words.				
Dispatch	Ryo Ishibashi	Grad Sch of Education	Oct 30, 2005 - Nov 30, 2005	Prof. Sotaro Kita (Dept of Experimental Psychol, Univ of Bristol)	UK
	Representation of self body relating to mental rotation.				
Dispatch	Yuko Hattori	Grad Sch of Letters	Jan 12, 2006 - Mar 15, 2006	Prof. Frans deWaal (Yerkes Primate Center, Emory University)	USA
	Recognition of other's motivation state in food sharing among capuchin monkeys.				
Dispatch	Hirota Kimura	Grad Sch of Education	Jan 21, 2006 - Mar 18, 2006	Prof. Ralph Adolphs (California Inst of Technology)	USA
	Interaction of emotional recognition and emotional expression.				
Dispatch	Satoshi Nakajima	Grad Sch of Education	Feb 1, 2006 - Mar 24, 2006	Prof. Stephen Langton (Univ of Stirling)	UK
	Characterstics of social anxiety and memory for facial expressions.				

Fiscal Year 2006 (Total fund 6,000,000 yen)

Invitation	J.J.Kopecky	Univ of Michigan, USA	May 15, 2006 - June 9, 2006	Jun Saiki (Kyoto Univ)	Japan
	Cultural differences in multitasking..				
Invitation	D. Layton	Emory Univ, USA	June 11, 2006 - July 10, 2006	Shoji Itakura (Kyoto Univ)	Japan
	Ontogenetic origins of sharing.				
Dispatch	Shohei Hidaka	Grad Sch of Informatics	Apr 19, 2006 - June 16, 2006	Prof. L.B.Smith (Inidiana Univ)	USA
	Model construcation of category bias in children.				
Dispatch	Yuko Morimoto	Grad Sch of Education	May 15, 2006 - July 30, 2006	Shinobu Kitayama (Dept of Psychol, Univ of Michigan)	USA
	Cultural difference of decision making in game situations.				
Dispatch	Asuka Komiya	Grad Sch of Informatics	June 19, 2006 - July 28, 2006	Shinobu Kitayama (Dept of Psychol, Univ of Michigan)	USA
	Cultural difference of the influence of emotion on decision making.				
Dispatch	Yuko Tanaka	Grad Sch of Education	Jul 1, 2006 - Aug 14, 2006	Prof. R. Paul (Ctr for Critical Thinking)	USA
	Metacognitive judgments in the use of critical thinking.				
Dispatch	Yuki Otsuka	Grad Sch of Letters	Aug 1, 2006 - Aug 10, 2006	Prof. Michael Just (Carnegie-Mellon Univ)	USA
	Cognitive neuroscientific study of working memory.				
Dispatch	Hirota Kimura	Grad Sch of Education	Sep 1, 2006 - Sep 30, 2006	Prof. Ralph Adolphs (California Inst of Technology)	USA
	Interaction of emotional recognition in others and emotional expression in self.				
Dispatch	Yuko Hattori	Grad Sch of Letters	Sep 6, 2006 - Oct 9, 2006	Prof. Frans deWaal (Yerkes Primate Center, Emory University)	USA
	Mental factors affecting food sharing in capuchin monkeys.				