



Call for participation

By invitation only. Please do let us know if you have colleagues that you would like us to include.

**Experiencing the Embodied Mind:
high performance psychophysical expertise,
subjectivity research, and brain-computer technology**

**Monday 7 – Saturday 12 October 2013
Tuscany, Italy**

Organized by Rachel Zahn and Massimo Bergamasco



<http://percro.sssup.it/embodied2013>

Tight registration deadline! Please see cover letter.

Contacts

Administration and local organization: Elisabetta Sani, embodied2013@sssup.it and E.Sani@sssup.it, +39 050 882570

Scientific chair: Rachel Zahn, Rachel.Zahn@gmail.com, +33 6 71 81 66 00

Challenge

Francisco Varela and his colleagues challenged the field of Cognitive Science in 1991 with *The Embodied Mind: Cognitive Science and Human Experience*. The after-shocks from that challenge came as a relief for some, but were felt as a betrayal of rigorous, objective science by others. Twenty years later, the term *embodied mind* is now part of any serious debate about the nature of the mind.

Though the void left after Varela's untimely death in 2001 remains, a multi-disciplinary following responded to his challenge and Varela's *neurophenomenology* continues to give credence to scientists seeking to examine their own first-person experience and to philosophers needing to test their theories of mind with scientifically verifiable methods.

However, there is a challenge that has not been addressed at its most practical level: Varela's insistence in 1999 that a second-person expert in the particular "first-person methodology" under examination be required to mediate between first-person subjects and third-person laboratory scientists to ensure accurate interpretation.

Goal

Our first response to Varela's challenge was a workshop, "The Embodied Mind: a domain of second person psychophysical experts" (CREA, École polytechnique, February 2012, Paris). Following that 3 day experiment, Shaun Gallagher suggested a more in-depth response to Varela's second-person challenge, and we have again selected teachers of the Alexander Technique to fill the role of second-person experts.

Our goal is for several populations who have never before been brought together, namely scientific researchers from the Perceptual Robotics Laboratory (PERCRO, Scuola Superiore Sant'Anna, Pisa, Italy), the EU TESIS Network ([Towards an Embodied Science of InterSubjectivity](#)), other specialists from related disciplines, and Alexander Technique teachers to share their visions of the meaning of embodiment.

The results of the Alexander Technique have been measured post hoc but the intersubjective process between teacher and student has never been examined in real time. Though there have been some exchanges before between philosophers and psychophysical specialists, there has never been the opportunity to use:

- EEG technology to monitor the extraordinarily subtle exchange between an Alexander Technique teacher and his or her student in a tangible and rigorously verifiable way.
- Virtual Environment technology to capture and replay third-person perspective 3-D visualization of the relative interaction between the teacher and the student.

During this workshop, we will perform these experiments with the help of the PERCRO researchers.

Our hope is that this event will provide a unique collaboration for rigorously exploring the first person perspective of direct self-observation of feelings and sensations, the second person perspective of high-performance psychophysical specialists engaging in their coaching process, and the third person perspective of scientific observation and evaluation.

Structure

We are continuing our CREA Model of limiting participation to 10 researchers and 10 psychophysical experts, plus a support staff of 8.

The current plan is to convene at 14:00 on Monday 7 October at Massimo's PERCRO Laboratory in Pisa where we will be able to see and experience the latest work his group has been doing on perceptual robotics, exoskeletons, virtual reality, and brain-computer EEG interface technology.

PERCRO has arranged for a 16:30 bus to take all of us to a charming residential conference center in Gargonza, located between Arezzo and Siena, where we will be able to conduct 5 days of "hands on" experimental collaboration. We will leave Gargonza by bus at 9:00 on Saturday 12 October, arriving at Pisa airport at 12:00.

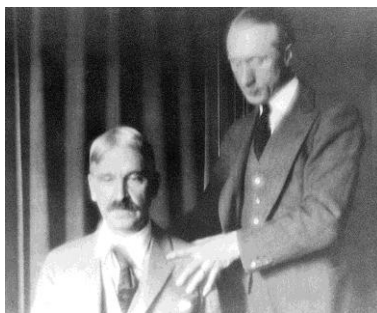
Each day in Gargonza will be organized as follows:

- short (30 min) presentations from TESIS researchers and others addressing their particular perspectives on the science of intersubjectivity, embodiment, disembodiment, future technology, and the training and transfer of skills.
- group work with the engineers for constructing experiments of Alexander Teachers lessons
- group lessons, as well as individual Alexander lessons twice a day, for the researchers to refine their first person perceptions of psychophysical congruence
- and, at the end of each day, "world café" thinking sessions for gathering our collective intelligence on the design of experiments, the development of a scientific intersubjective language for describing the experience, and the potential (as well as the dangers) for future technology.

Background: the Alexander Technique

In Varela and Shear's *View from Within*, Carl Ginsburg referred to F.M. Alexander as the earliest of "a pioneering group of thinker-explorers of the twentieth century who were interested in finding practical ways of furthering human development." The American philosopher Richard Shusterman was similarly inspired at Collège de France in 2008, where he introduced F.M. Alexander as the father of somatic education and explained the influence of the AT on John Dewey's philosophy.

The Alexander Technique was also the model for psychophysical re-education favored by Sir Charles Sherrington, William James, John Dewey, Raymond Dart, Karl Popper, Nikolass Tinbergen, Benjamin Libet, and by many successful musicians and actors. The reader is encouraged to watch this short clip from Nikolaas Tinbergen (Nobel Prize winner) describing the AT: <http://youtu.be/XXr-9kQZ0ow> and this clip showing an AT lesson by Thomas Cook in Vienna: <http://youtu.be/KZK2xT6eNBM>



John Dewey and FM Alexander (1917)

The AT teacher remains highly focused on his/her own psychophysical practice while stimulating the student's receptivity to both the philosophy and the praxis with which he/she will develop first-person expertise. The three-years of training necessary to transform first-person psychophysical expertise into second-person psychophysical expertise is what differentiates the AT from other somatic education or therapies. The teacher's first-person consciously lived experience of his/her congruent use determines the success of the lesson. Thus, the AT version of the second-person mediator is a perfect research model for "first-person methodologies".

Background: PERCRO

The Perceptual Robotics Laboratory (PERCRO) studies the control component and the "sense of presence" of humans in Virtual Environments (VE) and in Tele-operation conditions by developing Advanced Interaction Concepts and Technologies for improving communication between humans and the reactive environment. The Laboratory has expertise in the design of haptic systems and deep knowledge of the integration of highly interactive Virtual Environments.

PERCRO hosts a sophisticated large visualization system, the CAVE Automated Virtual Environment, which enables a group of people to experience a fully immersive Virtual Environment in three dimensions. In order to study human motion in VE, special motion tracking technology has been recently developed using a VICON motion capture system (Omg, UK) based on infrared cameras and retro-reflective markers attached to a moving individual and/or object. Software algorithms are capable of processing the images recorded by the cameras and reconstructing the movement of the markers in space in real time. This is a crucial technology for studying human movement and for animating virtual characters based on real captured movements. A working set-up based on VICON motion capture technology will be available in Gargonza for this workshop.



Another research line of PERCRO involves the use of Brain-Computer Interfaces (BCI), a new communication channel through which the neural activity of a person is used to communicate with the external environment. Usually, a non-invasive surface electroencephalogram (EEG) is used to record the neural activity of a person, who may voluntarily “regulate” his or her brain waves to accomplish a specific behavior that is recognized by software algorithms, and translated in the action of a computer or an artificial system.

A surface EEG system will be available for the Workshop, in particular PERCRO will provide a wireless EEG system with 8-20 electrodes. The EEG system will be interfaced with the Motion Capture system by means of specific software modules developed at PERCRO to monitor both motion and brain activity of AT teachers and students. The reconstructed motion and EEG signals will be integrated and visualized on a projection screen. All the acquired signals will be recorded for later offline analysis by means of statistical and machine learning techniques.

A video showing PERCRO's activities may be found here:

<http://www.alexanderscience.org/embodied-mind-project/percro-skills/>

Practical information

Arrival on Monday 7 October 2013

- 14:00: meeting and visit of the Perceptual Robotics Laboratory (PERCRO) of Scuola Superiore Sant'Anna: Via Luigi Alamanni 13 Lotto D/2B, 56010 Ghezzano, Pisa, Italy.
- 16:30: bus transfer of participants to Gargonza (Arezzo)
- 18:45: expected arrival in Gargonza and room assignment
- 19:30: brief introduction and welcome cocktail
- 20:00: dinner

Departure on Saturday 12 October 2013

- 9:00: bus transfer of participants to Pisa International Airport (arrival expected at 12:00)

Accommodation and meals

All participants will be accommodated in small apartments located in the Gargonza castle conference center. Breakfast will be served in a common hall in the castle. Lunch and dinner will be served in the castle restaurant, which is within walking distance just outside the castle wall.

Cost

There are no separate conference registration fees. Participants cover their own travel expenses to Pisa and pay for 5 nights of accommodation (which includes daily breakfast, lunch, dinner, coffee, and access to the workshop hall and common area) at the Gargonza castle conference center:

- 155.00 EUR per person per night for a single room
- 120.00 EUR per person per night for a double room

A deposit of 30% will be required by Gargonza in May (exact dates in the cover letter) with the balance paid on site.

Bios of organizers and invited participants

Project organizers

Rachel Zahn (Paris, France) is an American psychophysical specialist with more than 40 years of experience as a trainer, psychotherapist, and coach. She specializes in the psychophysical process of “high performance” training for actors, musicians, athletes, and original thinkers (including the rehabilitation from physical and psychological trauma). In parallel, she began her early studies in Cognitive Science with Margaret Mead, R.D. Laing, Milton Erickson, and Humberto Maturana in the United States. She discovered Francisco Varela and later Michel Bitbol in France. At Michel's suggestion, she entered the University of Paris 1 and is now completing a Doctoral thesis under his supervision: *Psychophysical Practice and the Mind-Body Problem: a first- and second-person perspective*.

Massimo Bergamasco (Pisa, Italy) is Full Professor of Theory of Mechanisms and Machines at Scuola Superiore Sant'Anna, Pisa, Italy. His research activity deals with the study and development of robotic exoskeletons and haptic interfaces for the control of the interaction between humans and Virtual Environments. His present research is focused on perception and cognitive processes. He is the founder of the Perceptual Robotics Laboratory (PERCRO) where he leads the research group on [mind sciences](#). He has been the Scientific coordinator of several National and EU projects, and, recently, the coordinator of the SKILLS Integrated Project and of the ENACTIVE Network of Excellence.

Invited research participants

Shaun Gallagher, Ph.D. (Memphis, Tenn., USA) holds the Chair of Excellence in Philosophy at the University of Memphis, Research Professor of Philosophy and Cognitive Science at the University of Hertfordshire, UK, Honorary Professor of Philosophy at the University of Copenhagen, and affiliated research faculty member at the Institute of Simulation and Training at the University of Central Florida. He is the author of *Brainstorming; The Phenomenological Mind* (with Dan Zahavi); and *How the Body Shapes the Mind*. <http://www.ummoos.org/>

Susan Stuart, Ph.D. (Glasgow, UK) is a Senior Lecturer in Philosophy at the University of Glasgow. Her current research interests are focused on developing a notion of pre-theoretical, affective co-engagement which she describes as “enkinaesthesia”. She intends to develop a neuro-phenomenological enquiry into the nature of the anticipatory affective dynamics which characterizes enkinaesthetic engagement. <http://www.gla.ac.uk/departments/philosophy/Personnel/susan/>

Emmanuel Roche, D.O. (Dijon, France) is an Osteopath and Chair of the Franco-American Osteopathic Society (S.O.F.A.). He founded and directed the first university degree, LEGOSTEO, program in Europe for forensic osteopathic expertise at the University of Bourgogne. He maintains a private osteopathic practice in Dijon where he is a specialist in perinatal and pediatric osteopathy as well as proprioceptive development and learning disabilities. He has followed all phases of the Biodynamic Osteopathy course with his mentor, Dr. James Jealous, D.O. Emmanuel is now a Ph.D. candidate at the University of Burgundy at the Centre Georges Chevrier (CNRS) and his doctoral research focuses on the phenomenology of perception in osteopathy.

Jesús Iundáin-Agurruza (Oregon, USA), is associate professor of Philosophy at Linfield College where he received the 2011-2012 Samuel H. Graf Faculty Achievement Award and was 2008-2009 Allen & Pat Kelley Faculty Scholar. He currently serves as conference chair for the International Association for the Philosophy of Sport (IAPS). He has edited *Cycling & Philosophy* (with M. Austin), published articles in journals such as *Sports, Ethics, and Philosophy*, and written chapters for many anthologies and edited collections on risk, many different sports and their confluence with martial arts, comparative philosophy, consciousness, literature, and more (some in Spanish). He is an avid cyclist and swimmer.

Catherine Genno Pagès Roshi (Montreuil, France) founded the Dana Zen Centre in Montreuil close to Paris. She is a Roshi in the Taizan Maezumi Roshi lineage which combined both Rinzai and Soto practices. She teaches throughout Europe and simplifies her description as the practice of “just sitting” and koan practice. She has had Alexander lessons and is interested in the psychophysical aspects of mindfulness training. http://www.dana-sangha.org/Eng/index.php?Dana_Sangha

Britt Normann (Tromsø, Norway) is Assistant Professor, Program coordinator at the Master's Program in Neurological Physiotherapy and PhD-candidate at the University of Tromsø. She is a clinical specialist in Neurological Physiotherapy at Nordland Hospital, Bodø.

Gunn Kristen Oberg (Tromsø, Norway) is Assistant Professor and a clinical specialist in Pediatric Physical Therapy at the University of Tromsø.

Denis Francesconi, PhD (Trento, Italy), Department of Cognitive and Education Sciences at University of Trento, Italy.

Maurice Bensoussan (Paris France) is an MD and former Professor at the Institute of Oral and Maxillo-facial Surgery of Paris (Pitié-Salpêtrière). He is also a graduate of Orthodontics and Posturology. His Osteopathic training began 35 years ago, in France at the Faculty of Medicine of Bobigny, then in England (London) with the British School of Osteopathy, and finally in the USA with the Sutherland Cranial Teaching Foundation and with the Cranial Academy. His peers in osteopathy recognize him as an FCA (Fellow of the Cranial Academy). After an hospital medical practice he decided to practice only Cranial Osteopathy, in his office in Paris. He is chair and teacher of the AMOC Medical Association of Cranial Osteopathy (France) and of SEOC the European Society of Cranial Osteopathy (France). He is regularly invited for several years by the Cranial Academy to animate advanced courses as course director in order to share his knowledge.

Kristian Moltke Martiny (Copenhagen, Denmark) has a Masters in Philosophy and Anthropology from University of Copenhagen and University College of London (UCL) (2003-2009). After finishing his degree he spent a year as a Scientific Assistant at the Center for Subjectivity Research (CFS), founded by 'Brain, Mind, and Medicines', Faculty of Pharmaceutical Sciences, University of Copenhagen (2010-2011). At the moment he is a PhD-student in both philosophy and neuroscience at University of Copenhagen, Center for Subjectivity Research and Department of Neuroscience and Pharmacology. This PhD-project is a collaboration with a company called the Helene Elsass Center (HEC) that works with the rehabilitation of people with brain damage, primarily Cerebral Palsy (CP). In his project he investigates the bodily self-awareness that people with CP have, and the aim of this investigation is to apply the research to the development of rehabilitation strategies and technologies at the company..

Emanuele Ruffaldi, Ph.D. (Pisa, Italy) is Assistant Professor in Applied Mechanics at Scuola Superiore Sant'Anna, Pisa, Italy (PERCRO – Perceptual Robotics Laboratory). His research interests are in the application of machine learning for modeling behaviors of humans with a focus on skill training in Virtual Environments and integration with robot learning. He is involved in the domain of haptics with a focus on haptic rendering. He is leading the Sensing, Modeling, and Learning for Humans research group.

James Leifer, Ph.D. (Paris, France) is a tenured computer scientist at INRIA Rocquencourt and the Microsoft Research-INRIA Joint Centre. The focus of his research is language design for distributed programming and the automatic synthesis of cryptographic protocols. He also explores medical applications of computer systems and is a volunteer Emergency Medical Technician with the French Red Cross. He was a critical team member of the first Embodied Mind Project at CREA in 2012.

Invited second person psychophysical specialists

Alexander Farkas (New York City, USA) is a teacher of the Alexander Technique and a professional musician. Alex has extensive experience working with singers and musicians, giving lectures and workshops at the Royal College of Music, Royal Academy of Music, Trinity College in London, as well as the Royal Northern College of Music in Manchester, the Musikhochschule in Basle and Lucerne, and at the Escola Superior de Musica de Catalunya in Barcelona. His articles on music and the Alexander Technique have been published in the Alexander Journal (STAT, London) and his workshops and colloquia “for friends of the Alexander Technique” can be found on the Internet. Alex has also been faculty member at the School of Music at Yale University and the Hartt School at the University of Hartford and teaches regularly at the Conservatory of Bard College.

Erik Bendix (North Carolina, USA) was originally trained as an academic philosopher at Oxford and Princeton. He is a teacher of the Alexander Technique and a certified practitioner of Body-Mind Centering. He is a teacher of world dance traditions teaching folk dance in Europe and the United States. He also teaches skiing using The Art of Alpine Skiing, a method that he invented.

Carsten Møller (Copenhagen, Denmark) is a teacher and trainer of the Alexander Technique as well as a martial arts expert. He has been practicing Aikido for more than 30 years and he is Chief Instructor of Ki Aikido in Denmark. He is very interested in the phenomenological interpretation of the Alexander Technique, particularly associated with Dan Zahavi, Subjectivity Research, University of Copenhagen. <http://www.alexanderteknik.dk/>

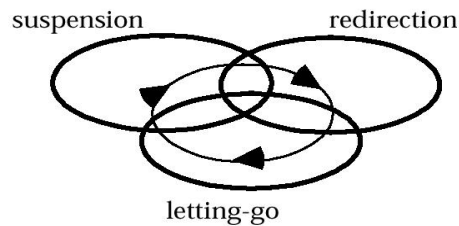
Michael Vogler (Berlin, Germany) is an engineer and a teacher of the Alexander Technique. He is interested in the work of Shaun Gallagher's phenomenological interpretation of psychophysical experience. He is an external AT consultant for the CREA Embodied Mind project. <http://www.alexandertechnik-in-berlin.de/seiten/index.htm>

Hedda Mickausch (Freiburg, Germany) is a Physiotherapist trained in FM Alexander Technique in Freiburg and Jerusalem

Joan and Alex Murray (Urbana, Illinois) are the directors of the Alexander Technique Center Urbana. They have trained and graduated over 100 teachers of the Alexander Technique

Niall Kelly (Limerick, Ireland), MSc(Mgnt), MIITD Alexander Technique Teacher has been involved in designing and implementing change at organisation, team and individual levels for the main part of his career. He helps clients determine the best way of changing to catch up with incessant changes in their environments. His focus is on improving presence and performance. Niall is MD of Lane Kelly Associates, an organisation development consultancy. He also teaches Alexander technique privately and on the University of Limerick's MA and BA programmes in Voice and Dance.

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Depraz N., Varela F, Vermersch, P. (2000)