Collaborations between artists and scientists during the last decades have been reported to be extremely satisfying. Although not easy to quantify, such interdisciplinary collaborators report upgrading of their creative thinking, increased novelty, and novel perspectives of their own research. From the perspective of brain research and cognitive sciences, art collaborators can be sub-divided into several classes, of which one stands out: performance art. Performing arts resonate with dynamic models of brain-world interactions. This dynamic principle holds also for other fields of science, beyond brain sciences. The 3rd Island of Inspiration workshop focused on this dynamic stream.

The workshop lasted 5 days, and was conducted in the Arava, in Kibbutz Neot Semadar, in secluded and comfortable conditions. About a week before the starting date, all participants presented themselves and their research work to the group by email. During the workshop, each participant had a slot of few hours, during which they shared their work and practice with the others in a creative way, engaging all participants in a novel experimental workshop.

The gathering was led by Guy Biran, a theater director, meditation teacher and a visionary artistic director, who has been researching the fundamentals of action primitives in the practice and teaching of performance arts. Four leading performance artists and five experienced scientists were chosen to participate. The group exploited the silence of the desert, as well as oriented meditations and fundamental movements, to create original activities and collaborations.

**Participating Artists:** May Zarhy, Alit Kreiz, Guy Biran, Sagit Mezamer

**Participating Scientists:** Millet Treinin, Ehud Ahissar, Tzachi Pilpel, Ram Fishman, Ben-Zion Shilo
Individual reports

Ram Fishman
I came to Neot Smadar to be inspired, and to free my thoughts from their routine trajectories. Good science and good art always do that: break the familiar habits of the mind to reveal something new, or to view the old in a new way. I was not disappointed. New inspiration can feed the mind and the heart and even the body. When a group of humble, creative and brilliant people gather with the sole intention of sharing ideas and no need to compete or impress one another, the result is guaranteed joy.

I wanted to share some thoughts about the relation between human society and nature with the group. This is the so called sustainability question, at the heart of which is the question of whether, and how (technologically, institutionally, culturally or spiritually) humanity can evolve to meet this moment. Evolution seems key. We spent a good deal of time during the seminar hearing about biological evolution from fascinating scientists, which formed a solid basis for this discussion. A long walk in the desert, between wilderness, roads and solar fields provided the perfect backdrop, rich in symbolism, for the conversation.

Guy Biran
My old fascination with the connections between performance art and science, represents a deep wish to stretch or rather break the frontiers of different research fields. This led me to initiate the gathering in Neot Smadar, and taking a full week for delving into the secrets of the professions. For this sake, curious, open minded and brilliant researchers are necessary. Our group consisted of such participants, and I am very grateful for that.

The meeting point of science and art is especially interesting, since both deal with finding and exposing new revelations about life and living.

My own inquiry has been about the different levels of a situation (dramatic as well as scientific) and their development into form, movement, and action. I found out, that the real cause of any human action is unseen, and that is commonly limited to deal only with the apparent level of reality, or with its interpretation. In other words – the dramatic character (a human being) tends to act towards conscious goals, being unaware of its inner drive.

So, we discussed this subject and its implications, from abstract to concrete. We practiced physically on the floor, performing simple exercises in the space, with strict motion rules, mainly about responding to each other. My aim in this experiment is to reach a level of "responsivity" that enables the group happening to develop here and now, without pre-concepts or interpretations.
My short presentation and workshop in Neot Smadar gave me another clue about the hidden principles of action, or any appearance, being non-mental. Thus, there should be no attempt to follow (let alone show on stage) any mental process. The simple reason is that a mental move is based on individual limited patterns of behavior, and therefore is disconnected from the real inner source of action, or physical movement, and thus even stands in its way.

In this experiment, we experienced that through setting clear restrictions, which link with formalistic manifestations of reactions, we can speedily reach a lively, spontaneous, and dynamic group happening. This gave us a chance to have a glimpse into three principles of development within any physical happening: copy, accumulation, and counteraction.

I must mention that I was very pleased by the clear understanding and reflection of the group, and by the common language that was found between the artists and scientists.

I have no clue (yet) how all the above can be expressed in scientific research, but the echoes are encouraging to go on searching for key principles within the different disciplines.

Generally, this gathering was for me highly inspirational, but if it’s not a beginning of a wonderful friendship (i.e. collaboration) I will not declare a mission accomplished.

Sagit Mezamer

My stay in Neot Smadar was an exposure - To other branches of knowledge and to the research of others, and of my interests which move between drawing, visual research, human interaction and therapy.

As an artist, teacher and therapist I seek listening.

I ask questions and don't always supply answers. I search for connections that create new meanings around humanity and it's frailty, around illness, addiction and inner landscapes of insecurity and unknowing.

The group of artists and researchers who arrived to spend five days together with Guy Biran in a space both enabling and taxing, physically and mentally testing borders in a fascinating group effort of interdisciplinary thought, strove to communicate in many different forms, to gain from their diversity, to learn, to meet.

My assignment to the group was drawing in the open view, as well as a discussion and presentation of my latest exhibition Mother Opium which presented the story of opium and opium addiction, and the evolution of the plant from holiness to the contemporary debilitating Heroin and its derivatives. I showed material from the exhibit and discussed former works.
A discussion was born, a connection.

**Tzachi Pilpel**

We introduced the notion of evolution - a scheme, in fact an algorithm, for solving complicated problems. Evolution, as we learned, is a blind problem solver - it employs locally little random changes (known as mutations in living organisms) that can affect the "fitness" of the organism, or the goodness of a solution. As the fitness improves due to retrospectively- good random changes, the organism can better reproduce. In this workshop the optimization task was to climb an Arava hill, but participants were blindfolded. They had to wonder in the landscape randomly, like organisms do when they mutate their genes, till they "solve the problem", i.e. get to the top of the hill. Many succeeded to their amusement. We then discussed the analogies to the biological Darwinian evolutionary process, and also in comparison to its Lamarckian counterpart in which the probability for certain changes are postulated to be affected by their effect on fitness.

**Alit Kreiz**

The mutual residency at Neot Smadar combining 5 scientists & artist, represents for me the notion that life and biological process are all a work of art in itself. As an artists who search to blur boundaries between life and art in her work, it was fascinating to observe the similarities between scientific findings and how these can be implemented into artistic practice also as themes of exploration.

I came to Neot Smadar with a wish to explore & discuss the state of emptiness, if– emptiness exists at all.
So it happened that talked about my artistic practice not as a full lecture but in fragments, in the gaps between other things & in relation to other discussed subjects, never as a stand-alone, and so my descriptions and explanations became a transition thread filling up the empty space between 2 different matters with my passion and love.

My final exercise was to build within the landscape a little memorial for letting go of something that doesn’t serve us any more, to empty a space within us and allow something a new to enter in.

The residency at Neot Smadar was a unique & precious opportunity in allowing different people, minds and passions who may otherwise would have not met, to get to know each other’s worlds of interest and find the mutual points of connections.

I am grateful being involved in this process, it definitely transformed my subject of interest from emptiness to love and energy and I look forward to embarking on new collaborations.

Millet Treinin

My aim when coming to Naot Smadar was to establish a dialogue between neuroscience and the arts. To be fruitful this dialog first requires a common set of concepts. For this, I tried to explain in lay terms what neuroscience has taught us about: how the brain learns to interpret sensory information about the world around us; how neuromodulators that signal stress or reward set our mood; and, how learning, mood or reward affect decision making, including moral decisions. The research that I described was done on animals; thus I also described animal behavior studies showing that animals exhibit empathic and even altruistic behaviors, therefore providing a model for studies on moral decision making. The feedback that I got from the group encourages me to believe that a dialogue between the arts and neurosciences is possible and that such a dialogue should further our understanding of human nature.

Ehud Ahissar

I chose to interact with the group around the question of objectivity. I have asked: how do we decide to term some phenomena “objective” and others “subjective”. The interaction included simple exercises with individual and group perception, followed by an open discussion. The question of objectivity is a long standing question, which has been emphasized further in modern brain research. When one tries to point on the line distinguishing objective and subjective phenomena one faces a troubling challenge. In
fact, it can be argued that such a line does not exist. It can be further argued that what does exist in this respect is a notion of agreement between individuals – the stronger the agreement the stronger the feeling of objectivity. These and other innovative ideas were raised during the open discussion. But, as might be expected, our open discussion lead nowhere. In other words – no general agreement was reached on anything, suggesting, maybe, that the “question of objectivity” is, inherently, a subjective question.

**May Zarhy**

During the meeting in Neot Smadar, I guided the participants through a physical warm up, where I shared elements from my physical practice and approach to movement. The warm up was based on principles of the Feldenkrais method combined with other inspirations, inviting each participant to focus on one’s sensations and physical coordination. After that, I shared with the group few of my recent works as a choreographer. We spoke about principles for making an artistic work in the field of choreography and performance, what is research in respect to my (and others’) artistic processes, differences between making a performance for a stage versus making a performance outdoors etc. My interest lied in combining physical practice with (so-called) intellectual discussion in order to allow curiosity, playfulness and one’s own way of seeing things to motivate the exchange.

**Ben-Zion Shilo**

Establishment of patterns is at the core of natural systems, but is also the essence of art in its various forms. To display the cardinal principles by which pattern is established during embryonic development, we started with a simulation game in which self-generated patterns, reflected in the order in which the participants assemble, were dictated by following one simple rule and allowing visual communication between the members. We then went on to discuss how these principles were experimentally
uncovered through the use of Genetics, and how they are employed to shape the embryo. Especially striking is the fact that not only the principle, but the actual communication pathways and rules that are used, are shared by all multi-cellular organisms. This provides a holistic universal view of organismal development that is assembled from the insights gained in the different organismal model systems that are used.

The intense interactions of the scientists with artists from various disciples was extremely stimulating and eye opening. One exciting aspect was the exposure to the different projects that the artists created. The strong impression that prevailed across the different artistic disciplines, was the commitment to have the art reflect in the truest and purest form the deepest internal feelings and emotions of the artist, ones that he/she may not even be consciously aware of. This can be compared or contrasted with the perspective of scientists that strive to explore and understand natural phenomena in the truest and most accurate way that their current experimental and theoretical tools allow them.