

## **Report on Stefan Büchi's visit to the Yukawa Institute for Theoretical Physics in October 2019**

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**Abstract.** This report summarizes my activities during my 1-month stay as Distinguished Visiting Professor at the Yukawa Institute for Theoretical Physics in October 2019. This visit was supported by the International Research Unit of Advanced Future Studies, Kyoto University, Japan.

**Keywords:** object-subject relation, Pictorial Representation of Illness and Self Measure, suffering, pain, evolutionary perspective, paradigm shift, medicine

### **Personal Note**

I feel deeply indebted to Professor Masatoshi Murase for his wonderful hospitality, his kindness, and his inspiring exchange and support during my stay at YITP as a Distinguished Visiting Professor. Prof. Murase's strive for interdisciplinary exchange within his unit and the organization of 2019 Kyoto University International Symposium on Advance Future Studies opened for me new perspectives on possibilities of crossing the border between sciences and humanities. This inter- and transdisciplinary approach also opened new insights in my research field, namely, treatment and visualization of suffering.

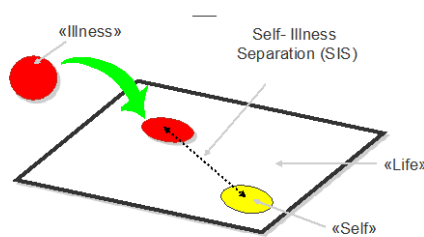
I would also like to thank YITP and the International Research Unit of Advanced Future Studies for their support and perfect organization of my visiting professorship.

Zürich, 4 November 2019

Stefan Büchi

## 1. Scientific Activity

The aim of my research stay as a Distinguished Visiting Professor and the International Research Unit of Advanced Future studies was to evaluate the use of Pictorial Representation of Illness and Self Measure (PRISM) (Büchi, 2002) (Fig. 1) within the framework of Prof. Murase's seminal theory of Self–Nonself circulation as a basic principle of life (Murase, 2018).



**Figure 1.** PRISM (Pictorial Representation of Illness and Self Measure)

My stay was planned long in advance and had a complex structure to optimize the exchange and learning process. My stay consisted of four distinguished phases:

### 2. Week 1 (October 1 – 6): Personal exchange with Prof. Murase

In the first week of my research stay, Prof. Murase and I had daily intensive exchange for several hours. For me, this exchange was a unique chance of getting to understand the principle of the Self–Nonself circulation of living nature by its creator. We also conducted interdisciplinary exchange about suffering and discussed in depth its association with Self–Nonself circulation. Finally, PRISM, as a visual metaphor of a subject–object relation (Sensky, 2016) and its relation to Self–Nonself circulation (Murase, 2018) was started.

The first PRISM workshop in Japan was planned for the week after we discussed about cultural adaptation of the introduction of PRISM, and I was prepared to study experiences at the workshop as a form of field study for the cultural translational process of PRISM. Visits and lectures at highly reputable psychiatric clinics (University Hospital of Kyoto, and Keio University Hospital) were planned in advance to enrich transcultural and professional exchange with Japanese colleagues. For the planning of these lectures, the PRISM workshop in Nagoya, the meeting in the Swiss Chamber of Commerce for Japan, and the encounter with the German Zen Abbot Muho Nölke, I would like to thank Dr. Hiroashi Mizutani, the Head of the Yagoto clinic in Nagoya, who organized and accompanied me in this trip together with his wife Dr. Junko Mizutani.

### 3. Week 2 (October 7-13): Transcultural professional exchange with Japanese psychiatrists, a Zen Abbott, and economical leaders. Realization of a first PRISM Workshop in Japan

#### 3.1 Lecture on “Placebo - how to optimize psychopharmacological treatment,” Department of Psychiatry, University Hospital (Prof. Murai). (7.10.2019)

We were warmly welcomed by Professor Taro Suwa and guided through the wards of the clinic. The lecture on placebo, in which I presented the current state of research, the so-called Hohenegg contextual model, and the use of PRISM in the assessment and recording of suicidal ideation, was very well received and intensively discussed.

### **3.2 PRISM workshop in the Yagoto Clinic in Nagoya (9.10.2019)**

The preparations for this workshop were extensive. We previously sent 15 complete PRISM sets to Nagoya, and we also had our PRISM cards for this event translated into Japanese and edited by Japanese psychologists in comparison with the English version. The participants of this 5-hour workshop were all very active. They intensively participated in role plays that were executed to give the professionals the personal experience of the practical use of PRISM within daily professional communication (Sensky, 2016). A special highlight was the talk of Mrs. Itsuko Yamada, a psychologist working together with her husband in a diabetes clinic in Sendai. She reported about her extensive and very positive clinical experiences in the use of PRISM in combination with the so-called Diabetes Dialogue Map, which she developed to ameliorate professional exchange with diabetologists.

For me, this workshop proved that PRISM can be very well used and easily introduced in Japan. Transculturally, I found the following novelty in the use of PRISM. Three of the first five feedback used an explicit reference to “ancestors” or earlier generations when reflecting deeply about one’s life. Astonishingly, this had never happened before in my 15 years of offering workshops in Europe (Switzerland, Germany, Italy, and France). The discussion about this fact with Japanese participants led to a very interesting exchange on two different meanings of life in Japanese: Jin-sei (the comprehensive, whole life including the vitality of nature and the ancestors) and Sei-Katu (the current, visible everyday life). Although the introduction of PRISM in the PRISM cards refers explicitly to the current everyday life (Sei-Katsu), the PRISM triggered many people’s association with other deeper layers of life (Jin-Sei). The intense reference to everyday life in PRISM elucidates different levels of life. The experienced everyday life (Sei-Katsu) mixes with the more comprehensive view of life (Jin-Sei). In summary, the use of PRISM in Japan confirms that its subject–object metaphor triggers a deep reflection, or even experience, of comprehensive life in the sense of Jin-Sei.

### **3.3 Meeting with Zen Abbot Muho Nölke in Osaka (10.10.2019)**

The meeting took place in one of the oldest gardens of Osaka in a wonderful old restaurant. Muho Nölke is known to a broader public in Switzerland and Germany for his books and his film “Zen for nothing,” which was shown in Swiss cinemas in 2016. Muho Nölke is the Abbott of Antaji Monastery on the west coast of Japan since 2002. He is married to a Japanese woman and has three children. Dr. Mizutani organized this meeting to offer an East–West exchange of spiritual and religious concepts.

In my conversation with Muho Nölke, I was interested in his assessment of the possibilities of integrating Zen into regular psychiatric–psychotherapeutic processes in our clinic. He made it clear that the Zen path is very time consuming and is based on a deep rooted personal decision. He therefore could not imagine the integration of the Zen process into a psychiatric clinic. In his view, the practice of mindfulness, which is already cultivated in our clinic, as an everyday exercise and therapy principle, could be a meaningful way to practice “immanent spirituality,” which is an everyday practice that links to deeper experience of the essence of life. I was very happy that Muho Nölke accepted my invitation to our clinic. We will talk about Zen Buddhism to our patients on September 6th 2020 so that this intercultural spiritual exchange will proliferate in the future.

### **3.4 Lecture in the Swiss Chamber of Commerce and Industry (SSCIJ) on: “A healthy job environment: Resilience at workplace” (11.10.2019)**

Representatives from businesses and the Swiss Embassy, Hiromi Mitsubayashi, who is a professor at Nihon University in Tokyo, and a health politician in the Japanese Parliament were present in this lecture. The lecture on mental health in the context of work focused on resilience on the workplace. Based on a large body of literature evidence, individual resilience can be assessed by the so-called Sense of Coherence (Antonovsky, 1987). This concept, which was introduced by the sociologist Aaron Antonovsky, implies that if a person perceives stimuli as understandable, then controllable and meaningful life problems are perceived as less stressful and, in consequence, health can be promoted.

Within companies a large body of literature and research including the so-called guarding minds at work ([www.guardingmindsatwork.ca](http://www.guardingmindsatwork.ca)) in Canada proved that a milieu of trust within a company and an open attitude toward mental problems of employees had positive effects on mental health status in companies. After my lecture, a very interesting discussion evolved on cultural differences in working hours and attitudes toward mental health. Similar to other industrialized countries, absenteeism from work significantly increases in Japan due to psychiatric problems within the last decade. Therefore, Japanese companies should create a healthy work environment and deal efficiently with the psychiatric problems of their employees. An essential problem in Japan is the enormously high attendance times. Chronic overload and exhaustion are frequent and often lead to psycho-vegetative complaints, such as fatigue, back- and headaches, or gastrointestinal symptoms.

### **3.5. Lecture on “Suffering and Mental Pain- New concepts in European Psychiatry” in the Department of Psychiatry at Keio University Hospital (11.10.2019)**

The head of the Psychiatric Department, Prof. Fujisawa, warmly welcomed us and presented his 14-bed unit at the Keio University Hospital in Tokyo. He also introduced different treatment strategies that were developed in his unit. Similar to most other clinics in Japan, the essential part consists of the psychopharmacological treatment. In the discussion about different psychiatric cultures in Japan and Switzerland, we got aware that there are 10,000 psychiatrists throughout Japan for its 125 million inhabitants, i.e., one psychiatrist per 12,500 Japanese. In Switzerland, there were 3750 specialists for psychiatry and psychotherapy, or one psychiatrist per 2250 inhabitants, i.e., the density in Switzerland is five times higher. In Japan, there are more than 2.5x more inpatient beds per thousand inhabitants, i.e., 2.7 inpatient beds per 1000 inhabitants. The reason for this astonishing fact is that many chronically ill, old, or even alcohol-damaged patients are accommodated in psychiatric clinics; meanwhile, Switzerland offers different therapeutic options in outpatient settings for these conditions.

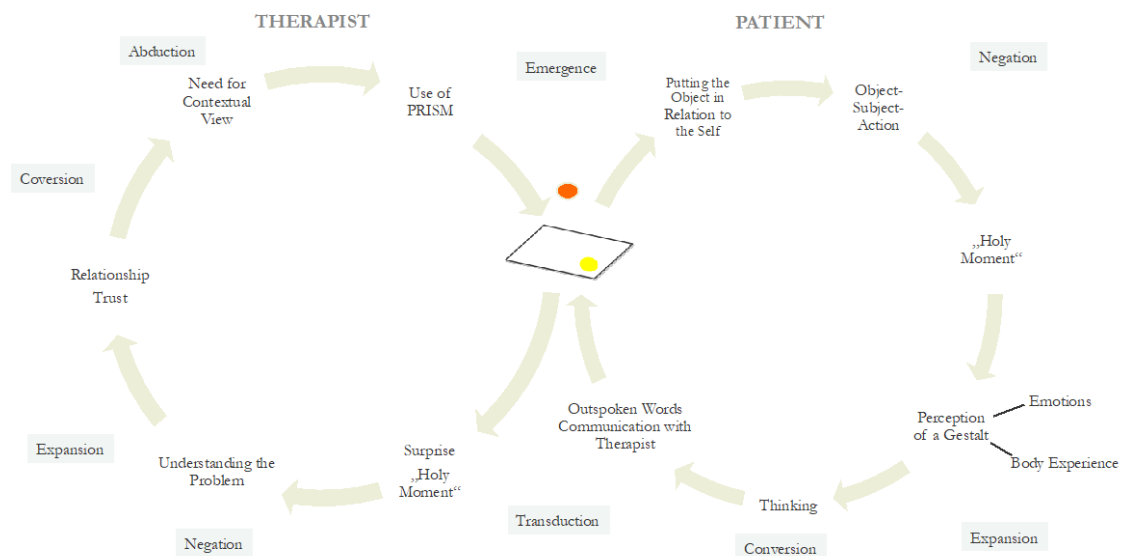
In my lecture, I presented the lines of European medical history through Greek, monastic, and modern medicine. Current Western medicine has its philosophical roots in the Enlightenment, leading to a mechanistic–rational understanding of man and his body in Western science. Although this concept has led to an enormous body of knowledge and, in consequence, new insights into psychiatric diseases and offered new therapeutic options, Western medicine has also a problem of having lost a comprehensive view of life. In Western psychiatry in the last years, a new interest for holistic concepts of suffering and mental pain is seen. We perceive in Swiss psychiatric clinics a broad interest in mindfulness, and many Swiss psychiatric patients are very keen on learning meditation techniques. I presented also the daily clinical implementation of mindfulness, which led to discussion among Japanese colleagues as to which forms of mindfulness might be feasible to implement in Japan. Before leaving, plans for return visits to Switzerland were expressed. I expect several Japanese psychiatrists to visit our clinic within the next 1–2 years.

## **4. Week 3: 14.10-21.10 – Exchange about an evolutionary perspective on suffering with Prof. Murase**

I had daily intensive exchange with Prof. Murase about his Self–Nonself circulation model applied for suffering as well as conceptual talks about a possible use of PRISM in his Self–Nonself circulation model of life.

A basic understanding of Murase's unique model is that in all evolutionary processes, there are similar Self–Nonself interactions that create life. In humans, an essential part of evolution includes learning processes, so that also for these similar rules as for biological development are expected. In psychological therapeutic processes, specific learning processes are fostered. We discussed these interactions from an evolutionary perspective.

PRISM was developed to ameliorate communication between doctors and patients and is therefore an instrument to foster personal learning processes of patients. Longstanding discussion about PRISM visualizing the Self–Nonself activity within a patient but also “between” therapist and patients provided new insights on the basic functions of PRISM. This process was reinforced by practical role play constellation with Prof. Murase. As a result of the discussion, the dynamics of the doctor–patient use of PRISM could be visualized in Fig. 2.



**Figure 2.** Dynamic perspective of the use of PRISM including NECTE learning stages

The interaction of therapist and patients is interlinked and synchronized by the use of PRISM. The dynamics of therapists and patients can be conceptualized similar to strict biological evolutionary processes by using the model of Murase into five distinct NECTE (acronym for: Negation-Expansion-Convergence-Transduction-Emergence) distinct steps. In summary, the use of PRISM as a haptic instrument implies the construction of new meaning structures in human learning constellations.

Prof. Murase and I also extensively discussed my research on suffering from an evolutionary perspective, which implied a new perspective on my research, that has been beforehand man- and not evolution oriented. Individual learning can be understood on Piaget’s concept of assimilation (Piaget, 1947) (adaptation of new information within the old schemas) and accommodation (new information induces the construction of new schemas). From this perspective, suffering is a comprehensive, subjectively aversive and non-voluntary accommodation process concerning the metacognition of the meaning of life as well as the concepts about oneself:

*“Suffering is a painful learning process to adjust core concepts about oneself and the functioning of life.”*

**5. Week 4: (22.10-27.10) Transdisciplinary exchange with researchers from Japan and elsewhere in the International Symposium on Advance Future Study on “Exploring A Unified Vision of Nature”**

In this week, I enjoyed an extensive transdisciplinary exchange with scientists from different fields of research within the evolutionary framework. Before the symposium began, there was stimulation

exchange with the experts of archaeology and sociology (Prof. Sander van der Leuw (Arizona State University, USA), biological evolution (Prof. Johann Hohenegger, University of Vienna), and Neuroscience (Prof. Denis Le Bihan, Founding Director, NeuroSpin, CEA-Saclay Center, France). In this discussion, it was intriguing that similar structures and thoughts were mentioned that were discussed actually in psychiatry and psychotherapy fields. The following analogies were of special interest for me: Change in psychotherapy is not linear but occurs in unpredictable jumps. This concept can be seen similar to most biological experiments and is described in the field of mathematics f.e. with chaos theory. An understanding of learning not too restricted to cognitive but more to comprehensive experiences was presented by all experts. Among the disciplines, a widespread agreement was achieved to solve problems, that is, the first step includes the opening of input on other channels than thoughts and words. Opening other channels includes also shift from knowing and security to ambiguity and uncertainty, which are core processes for any innovative development. This fits perfectly with the PRISM approach of doing, perceiving, feeling, and finally talking. For the treatment in our clinic, we introduce the practice of mindfulness as a way to leave the stuck pathway of thinking as it is present in most psychiatric disturbances.

The direction of evolution is future oriented; therefore, solutions for problems should focus more on the outcome than on the understanding of past errors. In analogy to this, in the actual developments in psychotherapy, there is a trend to create psychological processes that are more future oriented than focus on the solutions of errors in the past.

Survival of simple natural structures, such as single-cell organisms, depend on internal and external environments. It is this flexible Self-Nonself circulation, which is also essential for mental illnesses. Psychological resilience, as understood in the widely accepted model of salutogenesis by A. Antonovsky, includes individual's perception of understanding and controlling the interior and exterior world as well as a stable feeling of meaning in whatever might happen.

Sociological sustainability is linked with narratives that include a good balance of stabilizing elements and those that are changeable. Mental health is defined as a capacity for flexible adaptation. In suffering, the most difficult learning process for humans is activated, and it includes the core set of meaning structures about life and oneself.

From Thursday 24 to Saturday 26 October, the International Symposium on Advanced Future Studies on exploring a unified vision of nature took place. This international symposium marked the 70th anniversary of the Nobel Prize in Physics awarded to Hideki Yukawa (1907–1981), the first Nobel Laureate in Physics at Kyoto University.

At this symposium, with many international luminaries from various fields, such as astrobiology, ecology, paleontology, ethnology, sociology, anthropology, philosophy, physics, chemistry, and neuroscience, I had the privilege to get into personal contact with famous researchers and learn many new things. All in all, I was fascinated by the high quality of the transdisciplinary exchange and the analogy of topics in different areas. I was pleased to learn that the topic of mental health is of great relevance worldwide, and that the contextual, salutogenic therapeutic approach of our clinic is fully in line with the trend of various developments in human sciences.

Prof. Nishimura from the Institute for Advancement of Clinical and Translational Science at the University of Kyoto examined the effects of strong solar explosion on the mental health of Japanese and Taiwanese people. He was able to prove that particularly strong eruptions and their electromagnetic waves are related to the increase in the number of suicides. In addition, the so-called "hedonometer," which measures the 150 most often used "positive adjectives" of Twitter communication in Japan, showed a deterioration of the psychological condition during 2–3 days. I heard fascinating new insights

into the functions of the brain from Prof. Denis Le Bihan, the inventor of functional FMRI. After many years of research into the grey matter of the brain, new technological methods are used to investigate the white substance, i.e., conducting nerve fibers. He presented research data of comparison among mammals. The white, but not the grey, matter ratio increased in humans, pointing to the assumption that these structures are of predominant importance into the understanding of human evolution. He is working on a new understanding of brain function based on the principles of relativity theory, and he presented exciting first research results confirming his models in autism and auditory hallucinations in schizophrenic patients.

The title of my lecture at the symposium was “Suffering an evolutionary perspective - The Self–Nonsel Circulation Model of Living Nature applied for Medicine.” I presented my understanding of suffering, which I have clinically and scientifically developed over the last 20 years with the evolutionary view of the model of Prof. Murase as mentioned above. This thesis was intensively discussed and met with a positive response.

The final highlight of my research stay was the reception by Juichi Yamagiwa, Rector of Kyoto University, for foreign researchers. Many new contacts with fascinating research in different fields and an international networking process was activated.

## **6. Conclusion and outlook**

I consider this month as a Distinguished Visiting Professor at Kyoto University as one of the most inspiring times in my life. It was a unique pleasure to enjoy on different levels the rich cultural exchange of East and West belief systems, the organization of structures for psychological health, the social structures in general, and the specific exchange on PRISM (Pictorial Representation of Illness and Health Measure) in the field of psychiatry and a general metaphor for relevant subject–object relations.

The most important interactions were those I had with Prof. Masatoshi Murase about his unique Self–Nonsel circulation model of living nature. I am fully convinced that this model has the potential to be the new framework to organize and understand science because it is comprehensive, science based, and future oriented.

As the Medical Director of the Clinic for Psychiatry and Psychotherapy of Hohenegg in Switzerland, I am highly motivated to implement the Self–Nonsel model. In close collaboration with Prof. Murase, we will evaluate and monitor this process as a learning experience for the implementation of this novel framework in organizing complex social structures.

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