

BEYOND IDENTITY: THE DYNAMIC SELF AT THE INTERSECTION OF PERFORMANCE PHILOSOPHY AND THE PHILOSOPHY OF SCIENCE

Sibila Petlevski*

University of Zagreb – Academy of Dramatic Art Zagreb, Croatia

DOI: 10.7906/indecs.12.3.1 Received: 4 June 2014. Accepted: 5 July 2014.

ABSTRACT

In this article we advocate the methodological feedback loop in the study of the dynamical self at the crossroads of performance philosophy, (artistic) performance, and the philosophy of science. We point to the importance of the dynamics of methodology transfer between arts and sciences and the "interactive continuum" proposed by Newman & Benz in 1998. In the first part of this paper we give a comparative review of the research context relevant for our field of study, and we explain our research hubs in approaching the concept of "performance". We suggest the possibility to define our filed of research in three equally legitimate ways: as philosophy-of-performance, philosophy-as-performance and performance-as-philosophy. In our recent work we are primarily interested in artistic performances that incorporate elements of artistic practice in the methodology of research output (Frayling 1993), as well as in the potentials of performative aspects of scientific praxis and methodology. However, the conceptual background relevant for this paper is in the field of process philosophy and its relation to science (Birkhard's "interactivist model" 2009; Campbell's "process-based model for an interactive ontology" 2009). We attribute particular importance to the notion of "autopoietic feedback" (Maturana and Varela 1974; Luhmann 1990). The second part addresses the issue of transcending identity in the representations of the self and the other; the relationship between Theory-Theory (TT) and Simulation Theory (ST), as well as some recent attempts at combining different theories of mind (e.g. Barlassina 2013). We also deal with the notion of "embodied praxis" (Gallagher and Meltzoff 1996); we mention some neuroscientific insights into the similar phenomena, and - commenting on the importance of the dialogue between neuroscientists and philosophers (Changeux and Ricour) – we give an example of an enactive approach to understanding acting (Zarrilli 2007). In the third part of this article, we critique the notion of "interpassivity" (Žižek 1997; Pfaller 2000). In the concluding part we mention the importance of exploring the concept of "expanded self" (Gallagher 2000; Jeannerod 2003; Kim and Johnson 2013). Being aware of the impossibility to reach final conclusions in the scientific approach to the dynamics of the self, instead of a formal conclusion, we offer a quote from Yeats' poem "Balloons of Mind".

KEY WORDS

autopoiesis, dynamic self, embodied cognition, enactive intersubjectivity, performance

CLASSIFICATION

JEL: Z11

*Corresponding author, η: sibila@sibilapetlevski.com; +385 1 4828506; Academy of Dramatic Art (ADU), Trg maršala Tita 5, HR – 10000 Zagreb, Croatia

IN FAVOR OF METHODOLOGICAL FEEDBACK LOOPS: A BROAD OVERVIEW OF RESEARCH CONTEXT FOR EXPLORING THE CONCEPT OF THE DYNAMIC SELF

Richard Schechner understands performance as an inclusive term, a node on a continuum [1-5]. Not everything is meant to be a performance, but everything, from performing arts to politics and economics, can be studied as performance. It is hard to opt for a singular theory and a single methodology that would offer an ideal approach to such a broad concept. For Schechner [6, 7] what sets performance studies apart, is not necessarily what is defined as performance but the framework surrounding the interaction of behavior and the public space in which the performance is enacted. For example, performance studies scholars' inquiry into ritual emphasizes its dynamic "behavior". He distinguishes between various "nodes" of performance historically and experientially linked in a web and, as they exist in everyday life, as a fan. An example of the recent representation of performance context (for "performance art") is a project, curated by Sinéad O'Donnell in 2012, which investigates an existing map created by the German performance artist Boris Nieslony and Gerhard Dirmoser (1993-2001). The work titled *Mapping' Performance Art in Context*, originally researched and finally produced over a period of fifteen years by Nieslony and Dirmoser [8, 9], describes the layered categorizations, disciplines, methodologies and locations of Nieslony's research toward the origin and definition of performance art.

The last 50 years have seen the increased use of the terms and uses of performance and performativity in non-theatre/stage associated research fields of linguistics, anthropology, ethnography and sociology. "The performative turn" – a paradigmatic shift in the humanities and social science to which the concept of performance is central, took performance-inspired methods and situations as both the subject of research and methodology - focusing on embodied practices as a source for understanding society. The modes of research employed stemmed principally from first person and everyday interactions, observations, and analyses, thus stepping away from representational and symbolic models to engage with the "real" world (see Austin, Conquergood, Goffman, Turner). Performance and performativity - in contrast to the representation models of indexing, archiving, and documentation - both as theory and practice - have increasingly taken on as placeholders of the modality of the knowledge production occurring in the arts and humanities as well as in techno-scientific communities and discourse [10]. This shift can be traced to a general concern for "action," which permeated 20th century culture and science, and which has also been echoed in a variety of disciplines from linguistics, anthropology, sociology, and gender theory, to performance art, music, dance and theatre - marking a turning away from fixed representational documents as "knowledge depositories" towards the investigation of event and time-based structures as a "knowledge flow" The concept of performativity has long been discussed within the social sciences and the humanities (in language philosophy, performance theory, gender studies, ethnography, anthropology, etc.). Performance is a new paradigm, not so much a new art form; it stands less for a new phenomenon than for a new observation of familiar phenomena [11] (see also [12]). Performance here becomes not only a subject for study but also an interpretive grid laid upon the process of study itself, and indeed upon almost any sort of human activity, collective or individual [11]. One salient usage focuses on the value of the non-propositional logical mode of understanding gained through a bodily involvement and speech in the act of doing. With growing interest in the interface between art, science, technology and society, the role of the performative act within scientific practice and knowledge production receives more attention these days. Performative acts operate in the "context of discovery", rather than in the "context of justification" [12] (see

also [13-15]). In the contemporary European context the idea of "performative science" (enriched with new technological approaches and systems science insight into the problem of performance complexity) is being propagated by Hans Diebner's work on Performative Science, where research outcomes could be shown in a "serious game" model of "installation" [16, 17]. A similar notion, in Croatian context, has its beginnings in Gavella's idea of "freeing new design" in theatre criticism methodology and delivery of its results [18]. Recently, typical conceptions from the arts like enactment, embodiment and interplay, to name but a few, find applications in different scientific areas – even in the "hard sciences". An artistic performance is a non-replicable event that changes its ontological status with every act of being recorded. It is falsifiable in every relational aspect and every phase of its development, but it defies the very notion of falsifiability wherever it decides to create a modal world (no matter if it was based on the less "engaged" actor-spectator or more "engaged" actor-spect-actor type of social agreement between performers and their "audience". An artistic performance is precise in its own way. In a work-in-progress type of performance – as well as in a theatrical event or conceptual artistic event with classically organized performance time - performers use bodily enacted "operational definitions" in order to define in live time the variables they have studied and continue to study in the process of preparing the performance. (Here we also include the variables performers continue to study within the course of their actual "public" performance, while they perform, and sometimes improvise live). The principle of parsimony, so-called Occam's razor that maintains that researches should apply the simplest explanation possible to any set of observations, is generally considered not to be applicable to artistic research-in-practice. However, since the performers are human beings (and taking into account the historical importance of the contested concept of "the natural" in some of the acting techniques based on impersonation) we can approach the problem of parsimony in artistic performance with some insights taken from the filed of evolutionary biology. We define performance as a process of communication in social contexts. Our current research incorporates qualitative and quantitative insights into the issue of interaction and its problems (for example, the problem of measuring of interaction strength in nature and in society; different parameters in measuring interaction strength in nature, society and in social media, and the lack of formalization). We are interested in philosophical, scientific, as theoretical-performing research of various aspects of interaction (communicative, ritualistic and artistic interactions, internal dynamism in relations between memory and representation; "constructive memory" and performative use of "relational memory" as a topic dealt with in cognitive philosophy and cultural history [19-31]. One of the crucial points in our research is in exploring how the discursive field limits and produces identity. Here we point to the interaction between identity and the physical world looking into the process of establishing social, temporal and discursive relational spaces. The terms "body", "personae" and "intersubjects" have been looked upon within the course of the scenic dynamism of interchange conducted in the relational space of culture, for example during the "interplay" [32, 33] which is the topic of the theories of acting based in phenomenology. We are also interested in other types of relational spaces based on identity that have implication in the performing domain (urban spaces of identity, institutional, colonial, postcolonial, national and transnational spaces of identity constructed under the influence of popular culture, marginal and liminal spaces including the related terms of periphery, border, the Other and the Different.) We are taking into the consideration the results of identity theory including the controversy involved in it [34-43], as well as of the cognitive science, e.g. [44-47]. In the course of our project dealing with discursive identity topics² we have introduced in an innovative way the following terms into the context of the theory of performative arts: mental event, intersubjective identity, discursive objectivation, individuation, inter-subject, perception, perceptual synthesis,

perception as a form of a corporeal experience, perceptive anticipation, reception, language communicational, interactivity, corporeality, autoreferentiality, reflexiveness, intentionality, emotional meaning, corporeal as a mind dimension, autopoietical system, relational space, dynamism of exchange, interplay, relational memory etc. What we find particularly intriguing in the context of the recent situation in the studied area are perforative considerations of art-science relationship. Firstly, we analyze performative artistic practices, philosophical and, broadly speaking, theoretical implications of the corresponding "research in practice" which incorporates elements of artistic practice in the methodology of research output [48]. Secondly, we explore process philosophy and its relation to science [49, 50]; R. Campbell's "process-based model for an interactive ontology" [26], as well as the concept of autopoietic feedback in performance [51-58]); particularly in artistic performance, where we explore autopoietic and alopoietic behaviors. Thirdly, we explore the intricate relationship between philosophy and performance, opening up possibility to define our filed of research in three equally legitimate ways: as philosophy-of-performance, philosophy-as-performance and performance-as-philosophy. Fourthly, we explore the dynamics of methodology transfer between arts and sciences and the "interactive continuum" proposed by Isidore Newman and Carolyn R. Benz in 1998 and further developed by C.S. Ridenour and I. Newman in 2008. The main purpose of our recent research is in giving new scope to exploring the dynamics of exchange connected to the notion of "performance" applied in artistic "creation", as well as in the study and representation of lives. An important hypothesis, connected to this purpose is to prove that the dynamics of methodology transfer between arts and sciences, the methodological "interactive continuum" and its "feedback loops" [59, 60] maximizing the strength of both methodologies. In order to contribute to clarification of stated theoretical and methodological problems, collaborators coming from different fields od research³ will try to develop, verify, validate and use in simulations, the formal models for quantification of dynamics of exchanges within performances. The type of research conducted in our research, to some extent, belongs to the historical context of experiments in art and technology initiated at the end of the 60s by artists Robert Rauschenberg and Robert Whitman, and by engineers Billy Klüver and Fred Waldhauer. We acknowledge the historical importance of "Intermedia" concept employed by Fluxus artist Dick Higgins, particularly in its educational application of "Intermedia" which led to university program development based on technology-science-art interplay. Here we can mention "Systems art" that emerged in the first wave of the conceptual art movement (as in Kenneth Noland and Frank Stella's work), Roy Ascott's concept of "cybernetic vision", "generative art" from the 70s that brought artists and scientists together promoting the investigation of scientific-technological systems and their relationship to art and to life in general. Some of the most innovative aspects of our research are connected to the concept of "performative science". We intend to present our research results in two ways: "objectively" (with methodological rigor within quantitative and qualitative frameworks) and "subjectively" (using our scientifically obtained models in artistic performance). However, it is profoundly erroneous truism – repeated by some cultural psychologists – that the key issue that arises with the recognition of subjectivity is "how it affects objectivity" [61]. The concept of subjectivity, and the nature of experience standing behind contemporary methodological feedback loops, is by far more complex than Ratner would like it to be.

That peculiar feedback dynamism that makes collaboration between arts and sciences methodologically fruitful brings back in focus the issue of the subject and its self-consciousness, as in Bickhard's "social ontology of persons" from 2000, and his "interactivist model" from 2009 [62-64]. In biological terms, dying is the process whereby an organism no longer adequately regulates its material and energetic exchanges with its immediate environment, such that its identity eventually disintegrates into the thermodynamic equilibrium [65, 66]. The enactive⁴; self-directed, perception-action based approach to experience elucidates the

way mental life relates to bodily activity in terms of bodily self-regulation, sensiomotor coupling and intersubjective interaction [55]. As Nicholas Humphrey rightfully claims – there can be no hope of scientific progress so long as we continue to write down the identity [mental state m = brain state b] in such a way that the mind terms and the brain terms are patently incommensurable [67; p.7]. Enaction in the philosophy of mind tries to see how perception and action combine to allow humans to perceive, and to have consciousness. It is our aim in this article to argue in favor of the concept of the dynamic self. We define that concept from the perspective of an inter-enactive approach to agency, at the intersection of performance philosophy and the philosophy of science.

In the context of recent development in the field of systems science applied to performance phenomenon, it is important to point to some contemporary attempts to revaluate ontological and phenomenological considerations of art and science, particularly the relevance of philosophers like Merleau-Ponty, but also M. Heidegger [68], H. Bergson [69]). Merleau-Ponty's bio-philosophy is particularly interesting in the view of the philosophy of neuroscience that attempts to clarify neuroscientific methods and results using conceptual method of philosophy of science. It is important to mention that the importance of some early phenomenological insights into the problem of perception, have been recognized both in conceptual art practice and in systems theory and cybernetics. Minimalist art acknowledges the viewer, whose physical interaction with the work produces ever-shifting viewpoints over time, through a kind of feedback loop. This phenomenon bears striking similarities with developments in cybernetics at the time, particularly the notion of reflexivity. Here the observer, in a kind of synthesis between the organic and the mechanical, becomes part of the system observed, without an outside from which to survey the whole [70, 71].

In The Autopoiesis of Social Systems [58] Luhmann distinguishes a general theory of selfreferential "autopoietic" systems and a more specific level at which we may distinguish living systems (cells, brains, organisms, etc.), psychic systems, and social systems (societies, organizations, interactions) as different kinds of autopoietic systems⁵. In Essays on Self-Reference, he makes analogy between conscious systems and social systems pointing to the necessity in a system to produce its own decay. He speaks of the "fundamental fact of vanishing events, disappearing gestures and words that are dying away" [72; p.9]. Such "events" (for example, thoughts and communications) cannot be saved, because their loss is at the same time a condition of their "regeneration" (recurring integration of disintegration Memory does not preserve events as reintegration). events. "structure-generating power". Luhmann further explains: "A conscious system does not consist of a collection of all of its past and present thoughts, nor does a social system pile up all of its communications. After a very short time the mass of elements would be intolerably large and its complexity would be so high that the system would be unable to select a pattern of coordination and would produce chaos. The solution is to renounce all stability at the operative level of elements and to use events only. Thereby, the continuing dissolution of the system becomes a necessary cause of its autopoietic reproduction. The system becomes dynamic in a very basic sense. It becomes inherently restless. The instability of its elements is a condition of its duration" [72; p.9].

The general theory of autopoietic systems postulates a clear distinction between autopoiesis and observation. This condition is fulfilled in the case of social systems as well. Without using this distinction, the system could not accomplish the self-simplification necessary for self-observation. Autopoiesis and observation, communication and attribution of action are not the same and can never fuse. Nevertheless, self-observation in this specific sense of describing itself as a chain of clear-cut and responsible actions is a prerequisite of autopoiesis as such. Without this technique of using a simplified model of itself, the system could not

communicate about communication and could not select its basic elements in view of their capacity to adapt themselves to the requirements of autopoiesis in the sense of adaptation to the partially resolved dynamics of environment. This particular constellation may not be universally valid for all autopoietic systems, claims Luhmann. In view of the special case of social systems, however, he thinks that the general theory has to formulate the distinction of autopoiesis and observation in a way that does not exclude cases in which self-observation is a necessary requirement of autopoiesis as such. Luhmann defines functionalism as a theory of a self-referential system applied to "observing systems" as well, where the notion "observing system" stands here in the double sense implied by Heinz von Foerster⁶. Constructivism – such as Foerster's – argues that there are no observations independent of observers. The lawfulness and certainty of all natural phenomena are properties of the describer, not of what is being described. The logic of the world is the logic of the description of the world. As Paul Watzlawick says in the foreword of Lynn Segal's book on Foerster: "The realization that the observer, the observed phenomenon, and the process of observation itself form a totality, which can be decomposed into its elements only on pain of absurd reifications, has farreaching implications for our understanding of man and his problems – especially of the ways in which he literally 'constructs' his reality, then reacts to it as if it existed independently of him 'out there,' and eventually may arrive at the startling awareness that his reactions are both the effect and the cause of his reality construction. This 'curved space' of human experience of the world and of himself, this closure – as Heinz von Foerster calls it – finds its symbolic expression in the Ouroboros, the snake that bites its own tail, or its poetic expression in the words of T.S. Eliot, for whom 'The end of all our exploring will be to arrive where we started and know the place for the first time'." [73; pp.xi-xii].

What we find particularly useful in our current research is applying systems theory to performing arts. Von Bertalanffy's introduction of systems theory [74-76] changed that framework by looking at the system as a whole, with its relationships and interactions with other systems, as a mechanism of growth and change. This led to a new language, popularizing terms such as open and closed systems, entropy, boundary, homeostasis, inputs, outputs, and feedback. What intrigues us most in the context of cultural performance research is person-in-environment interaction and the adaptation process analysis. Given the dynamic nature of interactions in person-in-environment relationships, adaptation is the central (socio)ecological concept. Adaptation relates to the cause-and-effect relationship between the person and the environment, with change as the inevitable outcome of the interaction. In particular, the additional notion of "complex adaptive systems", as formulated and developed in 1980s by Gell-Mann and the group related to the Santa Fe Institute [77] incorporates processes that we focus onto in our current research. The complex systems approach to cognitive science invites a new understanding of extended cognitive systems. According to this understanding, extended cognitive systems are heterogeneous, composed of brain, body, and niche, non-linearly coupled to one another. This view of cognitive systems, as nonlinearly coupled brain-body-niche systems, promises conceptual and methodological advances [78]. The fundamental interdependence among brain, body, and niche – according to Silberstein & Chemero [78] - makes possible to explain extended cognition without invoking representations or computation. They also claim that cognition and conscious experience can be understood as a single phenomenon, "eliminating fruitless philosophical discussion of qualia and the so-called hard problem of consciousness". What they call "extended phenomenological-cognitive systems" are relational and dynamical entities, with interactions among heterogeneous parts at multiple spatial and temporal scales.

BEYOND IDENTITY: REPRESENTATION OF THE SELF AND THE OTHERS

When Heinz von Foerster [79] speaks of "curved space" of human experience of the world and of himself, he does that as a cognitive constructivist – a Piaget's disciple – who illustrates the topic of self-reflexivity with the mythic symbol of Ouroboros. The ancient time-serpent eating its own tail – the alchemical symbol of the circular nature of the alchemist's work – is depicted in Foerster's book alongside mathematical formulas. Foerster's Ouroboros is an illustration of the alchemy of human knowledge and at the same time it is an illustration of the theory of cognitive development. Foerster's theory is based on the belief that human beings cannot receive a ready-made knowledge given to them in such way that that they can understand and use it right away. Humans construct their knowledge; they build it through experience, and that experience enables them to create mental models. Heinz von Foerster's concept of eigenform, explained in Understanding Understanding: Essays on Cybernetics and Cognition (in the chapter on "Objects: Tokens for (Eigen-)Behaviors") [79, 80] illustrates the relationship of an observer and the world around him both mathematically and from the phenomenological perspective: "Apparently, only when a subject, S1, stipulates the existence of another subject, S2, not unlike himself, who, in turn, stipulates the existence of still another subject, not unlike himself, who may well be S1. In this atomical social context each subject's (observer's) experience of his own sensori-motor coordination can now be referred to by a token of this experience, the 'object', which, at the same time, may be taken as a token for the externality of communal space. With this I have returned to the topology of closure where equilibrium is obtained when the Eigenbehaviors of one participant generate (recursively) those for the other where one snake eats the tail of the other as if it were its own, and where cognition computes its own cognitions through those of the other: here is the origin of ethics" [80; p.261].

Co-creative relationship between the world and the observer, the alchemical illustration of the dynamics of "eating the tale of the other as if it was our own", opens up some space for speculation in the field of moral philosophy. At least Foerster wants to make room for ethics when he defines the relation between Thou and I as identity. "According to the principle of relativity, which rejects a hypothesis when it does not hold for two instances together, although it holds for each instance separately (Earthlings and Venusians may be consistent in claiming to be in the center of the universe, but their claims fall to pieces if they should ever get together), the solipsistic claim falls to pieces when besides me I invent another autonomous organism. However, it should be noted that since the principle of relativity is not a logical necessity – nor is it a proposition that can be proven to be either true or false – the crucial point to be recognized here is that I am free to choose either to adopt this principle or to reject. If I reject it, I am the center of the universe, my reality is my dreams and my nightmares, my language is monologue, and my logic monologic. If I adopt it, neither I, nor the other can be the center of the universe. As in the heliocentric system, there must be a third that is the central reference. It is the relation between Thou and I, and this relation is identity: reality = community.

What are the consequences of all this in ethics and aesthetics?

The ethical imperative: Act always so as to increase the number of choices.

The aesthetical imperative: If you desire to see, learn how to act" [80; p.227].

Thinking about another mind by using one' own mind as a model – "mindreading" as an ability of assigning mental states to others – is an important issue in the theory of mind, but it also has potential practical implications for medical science, e.g. in understanding and

treating autism. A theory-theorist explains the mechanism of using "folk psychology" in order to reason about others' minds. This is considered to be an innate cognitive capacity developed automatically, though instantiated through social interactions: represented and exemplified by social relations conducted over centuries of human history. Unlike theory-theorist, a theorist of mental simulation does not believe in an innate folk-psychological conceptual scheme, but rather in a kind of mental modeling in which the simulator uses her own mind as an analog model of the mind of the simulated agent. Predicting and anticipating behavior of other living beings is indispensable for survival of human species. An effective and fast-acting mindreading system provides us with information on other people's intentions. However, in spite of many differences in Theory-Theory versus Simulation-Theory, there are some new attempts at combining TT and ST theories of mind as in Barlassina⁷ [81]. The confrontation between opposing groups of TT-supporters and ST-supporters – this prolonged philosophical "quarrel" – waits to be settled by an experiment conducted in a laboratory. Neuroscience research has demonstrated common neural mechanisms between executed and observed action at the neural level. Neuroimaging experiments in humans have showed the activation of a fronto-parietal neural network that is involved in the observation and imagination of action. There are also new insights into the problem of the self, representing the other, with the new cognitive neuroscience view of psychological identification⁸. Contemporary research in developmental science, cognitive psychology, and neuroscience provides cumulative evidence for a view of similarities in the construction of representations of the self and others. Trevarthen's theory of coupled rhythms in infant's coordination with the parent as a partner, and his intersubject sympathy – a predisposition to be sensitive and responsive to the subjective states of other people [82, 83] – gains in relevance in the light of the newly conducted experiments with neonatal imitation. These findings have led Gallagher and Meltzoff to propose that the understanding of the other person is primarily a form of embodied practice [84-86]. The perception of others' action, explain Buccino at al. activates the premotor cortex and the parietal cortex in a somatotopical manner; watching mouth actions activates the cortical representation of the mouth, while watching hand or foot actions activates their respective representations [87, 88]. Decety and Chaminade continue the line of the previously made research indicating that we are from birth not only acting and thinking selves, but we also express an intuitive need to relate ourselves to other people [89-91].

An impressive example for an open-minded collaboration across different fields of research is a book-length discussion about ethics, human nature and the brain between Jean-Pierre Changeux, a French neuroscientist, and Paul Ricoeur, celebrated French philosopher⁹. In the 3rd chapter, in the section titled *The Human Brain: Complexity, Hierarchy, Spontaneity* [92], Changeux calls attention to the notion of spontaneous activity arguing that our nervous system is not active only when it is stimulated by sensory organs. The brain functions in a projective mode. It is the permanent seat of important internal activities – when one thinks, when one plans a movement, when one hears, perceives, imagines, or creates. These activities occur when we are awake, but also while we are asleep. Changeux explains how these activities play a fundamental role in the sense that they serve as the basic material for constructing, elaborating, and organizing the representations that will be projected onto the world, thereby making it possible to anticipate the future – to anticipate events that will occur in both the external and the internal world [92; p.88].

Commenting on Changeux's remarks, Ricoeur points to Husserl's last writings, highlighting his thesis that human agent does not content himself with being informed about his environment in order to modify it afterward; from the beginning he interprets it and shapes it, or better – to use Husserl's formulation – he constitutes it as the world that surrounds him by

projecting onto it the aims of his action and his demands for meaning. Changeux notices that both Ricoeur and himself rejected the input-output model of cerebral function common to cybernetics and information theory in favor of *the projective schema*. He partly agrees with Ricouer, saying that we project husserlian "aims of action and demands of meaning" onto a world that has neither fate nor meaning, and that it is with our brain that we *create categories* in a world that – according to his opinion – possesses none, apart from those already created by human beings. Changeux points to the experiments that have shown that distinct cortical (and subcortical) regions are mobilized by the sight of the moving hand, the mental image of the movement of one's own hand, and preparation for executing this movement. He explains that when brain interacts with the external world, it develops and functions according to a model of variation-selection that is sometimes called Darwinian. According to this hypothesis, variation – the generation of diversity of internal forms – *precedes* the selection of the *adequate* form. Representations are stabilized in our brain not simply by "imprint", as it were a piece of wax, but indirectly via process of selection [92; pp.90-91].

One of the rare theatre practitioners keenly interested in embodied acting and cognitive foundations of performance is Phillip B. Zarrilli. In *Acting (Re)Considered* [93] he argued that every time an actor performs, he or shy implicitly enacts a "theory" [93; p.3] – a set of assumptions and styles that guides an actor through performance, the shape that those actions take (as a character, role, or sequence of actions as in some performance art) an the relationship to the audience. In an essay on "An Enactive Approach to Understanding Acting" [94; pp.635-647], inspired by recent developments in phenomenology, cognitive science, and anthropological ecology, he explores an enactive approach to meta-theoretical understanding of acting as a phenomenon: "In contrast to representational and/or mimetic meta-theories of acting that construct their views of action from a position as a outside observer to the process/phenomenon of acting, an enactive view provides an account of acting from the perspective of the actor as enactor/ doer from "inside" the processes. Acting should not be viewed as embodying a representation of a role or a character, but rather as a dynamic, lived experience in which the actor is responsive to the demands of the particular moment within a specific (theatrical) environment" [94; p.638].

Perceptual, *sensiomotor knowledge* is vitally important for an enactive view of acting. Zarrilli promotes the perspective of *the actor-as-(human) doer enactor* inside the performance of an acting score. Acting is here considered as an extra-daily skilled mode of embodied practice requiring the performer to negotiate "interior" and "exterior" via perception-in-action in response to an environment. The type of spontaneity Zarrilli advocates (the one that "allows one to become an animal, ready "to leap and act", "embodying the lion's fury") is based on daily training of actor-as-perceiver. He thinks that in the moment of enactment we are utilizing their perceptual and sensory experience and cumulative embodied knowledge as skilled exploration in the moment of the specific theatrical "world" or environment created during rehearsal proces. [94; p.647].

INTERPASSIVITY - A "SHARP-DULL" TERM FOR A MISSING CONCEPT

In *The Plague of Phantasies*, Slavoj Žižek draws on Robert Pfaller's intervention at the symposium *Die Dirge lachen an unsere Stelle* (Linz, Austria, 8-10 October 1996) and supplements "the fashionable notion of 'interactivity' with its shadowy and much more uncanny supplement/double, the notion of 'interpassivity'" [95; pp.151-152]. The phenomenon that provoked Žižek and Pfaller into supplementing the notion of interactivity in arts and culture with the notion of interpassivity¹⁰, is the situation on the postmodern cultural scene where "at the moment when in art an ideology of interactivity appeared predominant, the example of canned laughter pointed into an opposite direction: it was an artwork that

contained its own observation. Here, the artwork did not leave some creative activity to the observers; on the contrary, it kept all for itself, even the "passivity" of the observers" [96; p.47]. Žižek criticizes ideological implications of the contemporary "paradox of interpassivity, of believing or enjoying through the Other" [95; p.147]. The core of Žižek's interpretation of cultural interpassivity of the (post)modern times is in the psychoanalytical notion of "transference". In the first approach to that notion, Freud defined it as a displacement of affect from one idea to another. Later on he described transference as an unconscious redirection of feelings from one person in the past to another, e.g. to a therapist during the process of psychoanalysis. Lacan described the dialectics of transference in An Intervention on the Transference [97] as a pure mechanism that – although it mimics emotional relation and manifests itself in the guise of strong affects like love and hate – actually has nothing to do with emotions and acquires meaning solely by virtue of the dialectical moment in which it is produced. From the repetitive symbolical nature of the transference, which brought this notion close to "speech-act" theory, Lacan enriched the concept of transference with the concept of "sujet supposé savoir". Different shades of interpretation in Lacan's approach to the concept of transference consolidated in the sixties around the central problem of analysand's phantasy of the subject that is supposed to know his of her innermost thoughts. The analyst as a supposed subject of knowledge is imagined as somebody who knows the innermost thoughts of the analysand. The projection of self into the other is a phantasm that strips the object of supposedly perfect knowledge from its personality and transfers it into a mere function. Lacanian "Objet (petit) a" sets desire in a circular motion around what is unattainable. From the theoretical point of view, Žižek's approach to transference is clearly Lacanian: "Transposing my very passive experience on to another is a much more uncanny phenomenon than that of being active through another: in interpassivity I am decentred in a much more radical way than I am in interactivity, since interpassivity deprives me of the very kernel of my substantial identity. Consequently, the basic matrix of interpassivity follows from the very notion of subject as the pure activity of (self-)positing, as the fluidity of pure Becoming, devoid of any positive, firm Being: if I am to function as pure activity, I have to externalize my (passive) Being – in short I have to be passive through another. This inert object which 'is' my Being, in which my inert Being is externalized, is the Lacanian objet **petit** a. In so far as the elementary, constitutive structure of subjectivity is hysterical – in so far, that is, as hysteria is defined by the question 'What for an object am I (in the eyes of the Other, for the Other's desire)?", it confronts us with interpassivity at its purest: what the hysterical subject is unable to accept, what gives rise to an unbearable anxiety in him, is the presentiment that the Other(s) perceive him in the passivity of his Being, as an object to be exchanged, enjoyed or otherwise 'manipulated'. Therein lies the 'onto-logical axiom' of Lacanian subjectivity: the more I am active, the more I must be passive in another's place – that is to say, the more there must be another object which is passive in my place, on my behalf (this axiom is realized in its utmost simplicity in the proverbial senior manager who, from time to time, feels compelled to visit prostitutes to be exposed to masochistic rituals and 'treated as a mere object'). What psychoanalysis is looking for in an active subject is precisely the fundamental fantasy which sustains his disavowed passivity" [95; pp.151-152].

The problem with Žižek's use of the concept of interpassivity is – contrary to what he would like to make his readers believe – not in supplementing the fashionable notion of 'interactivity' with its shadowy and much more uncanny supplement/double, the notion of 'interpassivity'. The real uncanny, hazardous supplement of interactivity, is transference. Žižek's "interpassivity" – at least the one exemplified in his book with a number of concrete examples from everyday life and politics – is based on the pure functionality; on the repetitive mechanism of the dialectics of transference. The problem is in the (re)interpretation of an old psychoanalytical term, or rather in the lack of any substantially new interpretation.

The more one reads Žižek, the more one gets impression that the Greek word ὀξύμωρον – "sharp dull" (that makes the etymology of the Latin oxymoron as a figure of speech based on juxtaposition of seemingly contradictory elements) lies at the very basis of Slavoi Žižek's "style" of philosophical thinking. Rober Pfaller, a professor from Linz University of Art and Industrial Design, masterly defends Žižek's theory as a philosophy that proceeds through examples. In his eulogy of Žižek's philosophical "toolbox" 11, the paper presented at the annual conference of the British Society of Phenomenology in 2006, Pfaller explains that a typical Žižek's example is not a concrete illustration of an abstract idea; it fulfills the completely different - Pfaller says "paradoxical" function. The idea which Žižek in his elaboration points at is far from being there at the beginning. On the contrary, Žižek uses his first example in order to dismiss the idea usually connected with the chosen example. He suggests an alternative reading and in such a way he "estranges" the common practice of approaching the chosen concept. Pfaller – in appraisal of the "strictly logical function" of telling jokes in Žižek's philosophical narrative, claims the following: "Only by 'estranging' and problematizing our own practice, i.e. by recognizing its strangeness and by transforming its previous evidence into a question, we get a key for replacing our astonishment and the respective assumptions about foreign phenomena by theoretical concepts" [96; p.37].

However, we are not quite sure that Pfaller's appraisal of the logic of Žižek's joking – in spite of the strictness of the logic that makes Žižek's points in philosophical narration so rhetorically effective – succeeds in convincing the reader of Žižek's huge body of work that every single estrangement-effect this author uses, automatically leads to a deeper insight into the chosen philosophical (or broadly speaking cultural) concept. The problem is not in Žižek's philosophical system whose relevance is undisputable, but the real danger lies in the possible missuses of his "toolkit". The term "interpassivity" – since it was established by Žižek in the nineties – has assumed a meme-like potency. For example, it is theoretically naïve to reduce the problem of "interpassivity" to examples such as the example of the internet, "reified as an object, taking on our political values, intentions and goals so that we can remain passive, a reversal of the familiar rhetoric that the internet offers greater participation and activity" [98]. A huge mass of miss-interpretation and theoretical banality circles around it. The key concept of "transference" is completely lost in the meantime. There is an army of young meta-readers whose chief subject of expertise is reading what said "the significant other" about books they are too lazy to read themselves. The interpassivity of reading Lacan through Žižek seems to be yet another symptom on the list of symptoms of postmodernity. A typical meta-reader of today asks himself: Who cares now about the development of the notion of transference in the Lacanian system of thought? Who cares about its Freudian legacy? Who cares about the problem of transference connected to the relational self in the context of an interpersonal cognitive theory¹³?

Dynamical, "situated" approaches to cognition have resulted in the reinterpretation of the distinction between so-called *external* and so-called *internal* representational formats of memory "storage". Merlin W. Donald suggests in *Origins of the Modern Mind* [99] and in *Précis of Origins of the Modern Mind with multiple review and author's response* [100] that the increasing reliance on external memory media in "technology-supported culture" (as the third stage in the development of "human capacity through culture") may have deep effects on human cognitive development and behavior. The externalization of memory has changed the way humans use their cognitive resources, what they can know, where that knowledge is stored, and what kinds of codes are needed to decipher what is stored [99; p.362]. The main Donald's thesis is that each translation in human cognitive evolution depends on culturally mediated changes to the structure of memory. In Donald's view, mimesis – as a human-specific ability to reenact bodily previously experienced events – is the basis for the

translation to the first humanlike culture. What makes mimesis different from imitation, in Donald's account, is that mimesis adds a representational dimension to imitation, so that it may be used intentionally to represent both physical and social events such as in the act of engaging in certain forms of dance, communicating to others about past events, practicing social roles observed in others, coordinating personal behavior in group activities and teaching skills¹⁴. In the circle of Žižekians, the reification of objects of technology seems to be fatally connected to the "interpassive" transference mechanism of "enjoying through the other". However, the process of transferring human memory to external memory disk of media and new technology looks entirely different, and certainly "more natural", when we look upon it from the evolutionary perspective. It seems to us that the dialectical, repetitive nature of transference described by Lacan – its pure functionality and its capability to mimic emotions in spite of being devoid of them – gets an unexpected supplement in the new research of the neurological basis of empathy¹⁵.

A POEM INSTEAD OF A CONCLUSION

The notion of the extended self – the concept that refers to the idea that people incorporate self-relevant others or objects into one's sense of self – has been recently tested. The previous experiments by Gallagher [85] showed that the minimal sense of self is grounded in the moment-to-moment mapping of intentions to act with the sensory and proprioceptive feedback that accompanies the actions. Thus, we have a sense of owning the body and the ability to author actions with that body [101]. The recently obtained results provided neural evidence for the idea that personally relevant external stimuli may be incorporated into one's sense of self [102].

W.B. Yeats wrote a short poem in 1919 titled *The Balloon of the Mind*. His poetic "interpretation" of the problem of the body-mind relationship is the following:

"Hands, do what you're bid: // Bring the balloon of the mind // That bellies and drags in the wind // Into its narrow shed."

The research of the dynamics of the self could not reach a conclusion, but luckily, the poetic insight into the mystery of ourselves could provide an objective correlative, a shortcut to the reality that we cannot approach by other means – at least not yet.

REMARKS

¹Lamontagne, a new media artist and curator interested in fashion studies and body-based technologies used by cyborg performer Stelarc, claims in the aforementioned context that a coupling of wearable objects technology and performativity is not only crucial to an understanding of the materiality of the wearable object and its social practice, but also offers new grounds for a repositioning of research within the broader field of performance.

²Scientific project titled *Discursive Identity in Performing Arts; Bodies, Personae, Intersubjects*, led by S. Petlevski, financed by Croatian Ministry of Science, Education and Sports (2007-2013).

³The project we started and intend to continue – with or without institutional financial backup – under the title *Interactive Continuum: Performative Approaches in Art & Science*, includes researchers coming from different fields of art and science. Senior researchers: D. Lukić [103], O. Markič [104], Ž. Paić [105], S. Petlevski [32, 33, 106, 107], J. Stepanić [108, 109] and young researchers G. Pavlić and L. Potrović [110].

⁴Evan Thompson [111] traces the development of the concept of enactivity back to phenomenology in the article titled "Sensorimotor subjectivity and the enactive approach". The enactive approach – says Thompson – offers a distinctive view of how mental life

relates to bodily activity at three levels: bodily self-regulation, sensorimotor coupling, and intersubjective interaction. He furthers explains: The name "the enactive approach" and the associated concept of enaction were introduced into cognitive science by Varela, Thompson, and Rosch (1991) in order to describe and unify under one heading several related ideas.1 The first idea is that living beings are autonomous agents that actively generate and maintain their identities, and thereby enact or bring forth their own cognitive domains. The second idea is that the nervous system is an autonomous system: it actively generates and maintains its own coherent and meaningful patterns of activity, according to its operation as an organizationally closed or circular and re-entrant sensorimotor network of interacting neurons. The nervous system does not process information in the computationalist sense, but creates meaning. The third idea is that cognition is a form of embodied action. Cognitive structures and processes emerge from recurrent sensorimotor patterns of perception and action. Sensorimotor coupling between organism and environment modulates, but does not determine, the formation of endogenous, dynamic patterns of neural activity, which in turn inform sensorimotor coupling. The fourth idea is that a cognitive being's world is not a pre-specified, external realm, represented internally by its brain, but a relational domain enacted or brought forth by that being's autonomous agency and mode of coupling with the environment. This idea links the enactive approach to phenomenological philosophy, for both maintain that cognition bears a constitutive relation to its objects. Stated in a classical phenomenological way, the idea is that the object, in the precise sense of that which is given to and experienced by the subject, is conditioned by the mental activity of the subject. Stated in a more existential phenomenological way, the idea is that a cognitive being's world whatever that being is able to experience, know, and practically handle - is conditioned by that being's form or structure. Such "constitution" on the part of our subjectivity or being-in-the-world is not subjectively apparent to us in everyday life, but requires systematic analysis – scientific and phenomenological – to disclose [111; p.2].

⁵Autopoiesis is here understood as the capacity of a system to reproduce the components of which it is composed [53, 112]. The evolution of that concept is interesting in itself, especially in the aspect where it is critically evaluated in relation to the complexity of self-reference. On the other hand, there are some recent attempts at revisiting the concept of autopoiesis in relation to cognition and life [113]. They present a mathematical model of a 3D tessellation automaton, considered as a minimal example of autopoiesis. This leads them to a number of new theses. Thesis T1: "An autopoietic system can be described as a random dynamical system, which is defined only within its organized autopoietic domain". They propose a modified definition of autopoiesis: "An autopoietic system is a network of processes that produces the components that reproduce the network, and that also regulates the boundary conditions necessary for its ongoing existence as a network." They also propose a definition of cognition: "A system is cognitive if and only if sensory inputs serve to trigger actions in a specific way, so as to satisfy a viability constraint. They claim that the concepts of autopoiesis and cognition, although deeply related in their connection with the regulation of the boundary conditions of the system, are not immediately identical: a system can be autopoietic without being cognitive, and cognitive without being autopoietic. Finally, they propose a thesis T2: "A system that is both autopoietic and cognitive is a living system." [113; pp.327-345].

⁶Luhmann refers to Foerster book of essays titled *Observing systems* [114]. In an article *Cybernetics on Cybernetics* first published in 1979, Foerester distinguishes the cybernetics of observed systems we may consider to be first-order cybernetics; while second-order cybernetics is the cybernetics of observing systems [80; pp.283-287]. Foerster gives theoretical homage to Maturana's article "Neurophysiology of cognition" [115]. In 1958 Foerster founded the Biological Computer Laboratory (BCL) at the University of Illinois, in

which mathematicians, neurophysiologists, epistemologists, physicists, logicians and computer scientists worked cooperatively on problems of cognition.

⁷Barlassina [81] recognizes "mindreading" as the ability to attribute mental states to other individual both to the Theory-Theory (TT) and the Simulation Theory (ST). According to the Theory-Theory (TT), mindreading is based on one's possession of a Theory of Mind. On the other hand, the Simulation Theory (ST) maintains that one arrives at the attribution of a mental state by simulating it in one's own mind. She defends a two-folded claim: on the one hand, she defends Goldman's idea that face-based disgust recognition is underpinned by simulation; on the other hand, she maintains that simulation is not enough to account for the attribution of disgust from non-facial visual stimuli, and that this latter capacity should be explained in terms of the possession of theoretical knowledge about disgust. Barsallina proposes a ST-TT hybrid model of the ability to attribute disgust on the basis of visual stimuli such as facial expressions, body postures, etc. Her model is grounded in evidence from individuals suffering from Huntington's disease. While defending Goldman's thesis that the ability to attribute disgust based on observing disgusted facial expressions stems from a mirror-based simulation process [116], Barlassina argues that ST is unable to account for the ability to attribute disgust based on non-facial visual stimuli. She proposes that this latter ability is theory-based.

⁸Cf. [89, 90].

⁹Ce qui nous fait penser [92] was translated into English under the title *What Makes Us Think.* A Neuroscientist and a Philosopher Argue About Ethics, Human Nature, and the Brain.

¹⁰The term "interpassivity" coined by Slavoj Žižek, and further developed as a concept by Robert Pfaller and Gijs van Oenen, was originally developed for the discourse of contemporary art. Gijs van Oenen's "interpassivity" [117] has been developed as a notion in reaction to the so-called Actor-Network Theory (see, e.g. [118, 119]). ANT is an approach to the research in social theory developed in the eighties. It originated in the field of science studies that treats objects as part of social networks. Questions about "what things do" and about "evocative objects" pop up in philosophy and theoretical sociology with increasing frequency. They direct our attention to an important phenomenon: the agency of objects. Gijs van Oenen [117] contrasts Bruno Latour's and ANT's view on the agency, or actancy of objects with his own view of the "interpassive" role of objects. In reaction to traditional interactivity, van Oenen claims, interpassivity indicates that our contribution to the realization of a work of art, or an institution, is now taken over by the artwork or institution itself. He sees it as a consequence of the success of emancipation. Our emancipatory privilege to live only in accordance with norms we have interactively subscribed to, is now starting to turn into a burden – says van Oenen: we feel an obligation to always live up to our emancipatory promise. Interpassivity, the inability to act according to norms we ourselves subscribe to, is a form of resistance to the pressures exerted by successful emancipation. In contrast with Latour's view that objects can become "actors" but not for particular reasons, van Oenen argues that objects become actors because our interactivity is increasingly being "outsourced" to them. Paradoxically, we need objects to relieve us from our emancipatory burden, in order to sustain our emancipatory ambition. In turn, the condition of interpassivity (see [95]) implies that objects may acquire a more emancipatory status: as carriers of interactive responsibilities, they now interact with us on a more equal footing [117].

¹¹Pfaller's article was later published in International Journal of Zizek Studies. Volume One, Number One – Why Žižek? Under the title "Interpassivity and Misdemeanors: The Analysis of Ideology and the Žižekian Toolbox". See also other Pfaller's texts on the aesthetics of interpassivity [120-122].

¹²From The blog of Philosophical Reflections and Speculations written by Mike Bulajewski who defines himself as "a 34-year old user expertise designer and graduate student at the University of Washington's Human Centred Design and Engineering program".

¹³For the problem, and each linkage of transference in social cognitive theory see for example: "The authors propose an interpersonal social-cognitive theory of the self and personality, the relational self, in which knowledge about the self is linked with knowledge about significant others, and each linkage embodies a self-other relationship. Mental representations of significant others are activated and used in interpersonal encounters in the social-cognitive phenomenon of transference (S.M. Andersen & N.S. Glassman, 1996), and this evokes the relational self. Variability in relational selves depends on interpersonal contextual cues, whereas stability derives from the chronic accessibility of significant-other representations. Relational selves function in if-then terms, in which ifs are situations triggering transference, and thens are relational selves. An individual's repertoire of relational selves is a source of interpersonal patterns involving affect, motivation, self-evaluation, and self-regulation" [123; p.619].

¹⁴We have already discussed Donald's mimetic representation elsewhere [106-107].

¹⁵The evolutionary role of empathy for pain is an interesting topic. In 2005, Tucker, Luu and Derryberry [124] pointed to the role of regulation of pain in the development of empathy. They claimed that the evaluative mechanisms engaged in some complex forms of self-regulation are "extensions of mechanisms that evolved for evaluating and responding to pain". They also speak of "sympathetic resonance" as an emotional response that ranges from contagion to more complex intersubjective reasoning. In that view, empathy would involve reasoning to integrate visceral emotional contagion and somatic sensiomotor mirroring. Decety and Lamm [91] suggested that empathy involves both emotion sharing (bottom-up information processing) and executive control to regulate and modulate this experience (top-down information processing) aimed at controlling the experience, underpinned by specific neural systems that interact. Dacety and Lamm in "Human Empathy Through the Lens of Social Neuroscience" discuss data from recent behavioral and functional neuroimaging studies with an emphasis on the perception of pain in others, and highlight the role of different neural mechanisms that underpin the experience of empathy, including emotion sharing, perspective taking, and emotion regulation. We are interested in the connection between empathy and creativity. Usually, creative persons show greater awareness of the surrounding. It is obvious that the higher quality of incoming information needs a mind that is capable of dealing with it, and in that context it seems that a creative person should have lower level of latent inhibition. Some recent experiments showed that highfunctioning individuals with high IQs (in that particular case, Harvard students) decreased Latent Inhibition associated with increased creative achievement [125]. LI (Lower Inhibition) reflects the brain's capacity to screen from current attentional focus stimuli previously tagged as irrelevant [126]. Is there any relationship between empathic responses automatically activated by the perception of certain emotional cues and latent inhibition as an automatic protective selection of stimuli? Our hypothesis is that there could be a relationship between latent inhibition and empathy. This is a poorly covered area of research and it needs extensive gathering of material before even getting such a hypothesis an adequate frame for testing.

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NADILAŽENJE IDENTITETA: DINAMIČKO SEBSTVO NA RAZMEĐU FILOZOFIJE IZVEDBE I FILOZOFIJE ZNANOSTI

S. Petlevski

Sveučilište u Zagrebu – Akademija dramske umjetnosti Zagreb, Hrvatska

SAŽETAK

U ovom radu zagovaram metodološku petlju povratne veze u istraživanju dinamičkoga sebstva na razmeđu filozofije, (umjetničke) izvedbe i filozofije znanosti. U komparativnom pregledu relevantnoga konteksta istraživanja objašnjavamo istraživačka čvorišta našega bavljenja konceptom "izvedbenoga": to je prvenstveno, analiza izvedbenih umjetničkih praksi koja inkorporira elemente umjetničke prakse u metodologiju istraživanja (Frayling 1993); ali i izvedbene aspekte u znanstvenoj istraživačkoj praksi i metodlogiji. Kao podloga ovoga rada bitni su uvidi u procesnu filozofiju i njen odnos prema zanosti (Birkhardov "interaktivistički model", 2009), Campbellov "procesno utemeljen model za interaktivnu ontologiju", 2009) kao i "autopoietički feedback" (Maturana i Varela 1974; Luhmann 1990). Naznačujemo tri mogućnosti u složenom odnosu filozofije i izvedbe (filozofiju izvedbe, filozofiju-kao-izvedbu i izvedbu-kao-filozofiju); zagovaramo metodologiju transfera između umjetnosti i znanosti ("interaktivni kontinuum" Newman i Benz 1998, Ridenour i Newman 2008). U tekstu je pridana pozornost važnosti koju za naše istraživanje ima razvoj koncepta autopoietičkih

sistema. U drugome dijelu teksta bavimo se "nadilaženjem identiteta" u reprezentacijama Ja i Drugoga, odnosom Teorije-Teorije (TT) Simulacijske teorije (ST) u teoriji uma (ToM), te najnovijim pokušajima da se pristupi objedine (Barlassina 2013). Bavimo se i pojmom "utjelovljene prakse" (Gallagher i Meltzoff 1996), bilježimo recentna istraživanja srodnih fenomena u neuroznanosti, komentiramo značaj dijaloga neuroananstvenika i filozofa (Changeux i Ricour), a dajemo i primjer osnaživanja izvedbene teoroije i "istraživanja-u-praksi" osvješćivanjem enaktivnih procesa u tijeku glumačke izvedbe kod Zarillija (2007). U trećem ulomku dajemo kritiku pojma "interpasivnosti" (Žižek 1997; Pfaller 2000), a bavimo se i pojmom "transfera" vezanog uz Lacanovo ishodište Žižekova pojma interpasivnosti. U završnome dijelu rada, naznačavamo važnost istraživanja pojma "proširenog sebstva" (Gallagher 2000, Jeannerod 2003, Kim & Johnson 2013), da bismo, utvrdivši nemogućnost konačnog sumiranja rezultata istraživanja dinamičkog sebstva ponudili navod Yeatsove pjesme "Balon Uma".

KLJUČNE RIJEČI

autopoiesis, dinamičko sebstvo, utjelovljena kognicija, enaktivna intersubjektivnost, izvedba