4th Avant Conference 2019 : Trends in Interdisciplinary Studies

October 24-26, 2019, Porto, Portugal #avantconference2019

BOOK OF ABSTRACTS

Spis treści

Invited Speakers

Disciplinary perspectives in interdisciplinary collaborations

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Why is interdisciplinary collaboration in scientific research so difficult? These difficulties are often explained in terms of psychological, social or organizational aspects. My focus is on inherent epistemological and methodological aspects, which are addressed by making use of recent insights in the philosophy of science.

In this keynote lecture, the interdisciplinary collaborations of medical experts and engineers to develop medical technologies will be taken as an example. Lessons learned from this specific case can be translated into other highly interdisciplinary research and development practices such as systems biology, neuroscience, and cognitive sciences.

In the first part of this lecture, I will explain how widely held *images of science* may hamper an adequate understanding of interdisciplinary research. As a consequence, epistemological and methodological challenges of interdisciplinary research are often not recognized and hardly addressed systematically (Boon and Van Baalen 2019). My explanation begins with Thomas Kuhn's famous views on the role of *paradigms* and *disciplinary matrices* in science. My co-author Sophie van Baalen and I have worked out Kuhn's insights to explain the difficulties of interdisciplinary collaborations through the role of so-called *disciplinary perspectives*. Every scientist and expert is guided, often unknowingly, by her own disciplinary perspective. The implicitness of these perspectives is one of the causes of difficulties in interdisciplinary collaborations. In order to cooperate fruitfully, therefore, the disciplinary perspectives in an interdisciplinary project must be made explicit.

In the second part of this lecture, a *method* (also called, a scaffold) is presented to systematically explicate disciplinary perspectives. This method consists of a series of questions that lead to a coherent and concise description of a disciplinary perspective. Using this method in actual interdisciplinary collaborations on a shared problem or goal also helps to reveal the disciplinary perspectives actually direct the way in which each disciplinary researcher or expert works on the joint problem.

Finally, the application of this method is illustrated by analysing the roles of four different disciplinary perspectives in a specific case where the interdisciplinary collaboration of these experts is focused on the development and implementation of 'diffusion MRI technology for kidney cancer diagnosis.' This example shows how different the perspective of each expert is, and how crucial it is to address this in order to set up a productive interdisciplinary collaboration.

Predictive Processing, Virtualism and Illusionism: How does Folk Psychology Meet up with the New View of Mind.

Robert W. Clowes

New University of Lisbon

Illusionism offers to interpret some recent findings in the mind sciences points toward the idea that that consciousness itself is a sort of illusion (Dennett, 1991; Frankish, 2017) and other cherished originally folk-psychological notions such as self and the inner world are similarly illusory. According to the Nick Chater for instance "The Mind is Flat"(Chater, 2018). Partly he means by this that cognitive processes do have the apparent depth that they seem to and that much of the inner life of mind that folk psychology posits is a sort of illusion. Especially, the sort of deep unconscious posited by Freudian and some versions of

Cognitivist Theory simply does not exist. His suggestion about how this illusion is produced is both highly stimulating and I think partially wrong.

Working from the idea of the Grand Illusion (Blackmore, 2002; O'Regan, 2002) and especially an important critique of the idea (Noë, 2002) I will try to suggest an alternative. Especially I will concentrate on recent findings and theoretical models in predictive processing open a space for an alternative view I call virtualism. A particular target will be the pre-reflective sense of self (Clowes & Gärtner, 2018 Online First). I will discuss some new findings from synthetic experiments that show the importance of self-modelling in a mobile agent which appear to show that self emerges from the necessity of self-control in even very simply agents. To some extent these experiments follow theoretical models about emergent self-models already well developed in the literature (Metzinger, 2004). However, I think some of the conclusions drawn from these models do not follow. I shall argue that virtualism, at least the form of virtualism that seems consistent with predictive processing, is really a form of realism. However, making this point requires to have in mind a more empirically adequate view on what folk psychology is than we often do in the philosophy of mind. I´ll argue that virtualism about self and consciousness, when understood properly allows us to rebuild both a more useful and more nuanced understanding of the nature of self and consciousness and ultimately one that meshes well with the emerging picture of predictive processing (Clark, 2015; Hohwy, 2013).

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Time, temporality and languaging

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In classic cognitive science, the focus fell on sequences that could be managed by clock (or real) time. Later, this led to the gradual recognition that, in humans, cognition cannot centre on an agent's mind. People cognize as they use, for example, the cultural potential of systems such as the Hubble telescope (e.g. Giere, 2004). Skill-based learning links wide cognition with languaging or, by definition, *activity in which physical wordings play a part* (see, Cowley, 2014). Human life experience draws on myths, histories, practices, beliefs and artifacts: persons use social subjectivity to navigate the "now" by feeling, acting and thinking that binds with both personal and collective memories and projections. In Madsen's (2017) terms, multi-scalar temporal cognition enables people to do things, attend to aspects,

make/perceive beliefs, link situations with probability estimates (Madsen, 2016), and fit gaze to circumstances as they cooperate (Pedersen, 2012). Parties even use social situations to track how those who are co-present show their concerns. At times, they recall on their behalf and anticipate as they co-operate or, indeed, compete. Given system-attuned cognition, MSTs affect: (a) how individuals speak; (b) reason; (c) use evidence; (d) how they assess/manage personality; or, more generally, (e) cognitive performance. The paper therefore paves the way to asking how time, temporality and social living contribute to human agency and ways of languaging.

Distributed Reasoning in (Big) Data Interpretation: The Interdisciplinary Challenge of Semantic Interoperability

Sabina Leonelli

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Using Big Data to produce new knowledge involves a wide variety of expertises and the interventions of researchers with diverse backgrounds. In this talk, I show the extent to which Big Data analysis involves distributed reasoning, and reflect on the extent to which this involves explicit interactions between the researchers involved – and their disparate disciplines. I argue that much of this work does not, for better or worse, involve interdisciplinary exchanges. One place where interdisciplinarity is required however is the choice and use of semantics to label the data, and it is thus on this aspect that I focus my discussion. A key task for contemporary data science is to develop classification systems through which diverse types of Big Data can be aligned to provide common ground for data mining and discovery. These systems determine how data are mined and incorporated into machine learning algorithms; which claims – and about what – data are taken as evidence for; whose knowledge is legitimised or excluded by data infrastructures and related algorithms; and whose perspective is incorporated within data-driven knowledge systems. They thus inform three key aspects of data science: the choice of expertise and domains regarded as relevant to shaping data mining procedures and their results; the development and technical specifications of data infrastructures, including what is viewed as essential knowledge base for data mining; and the governance of data dissemination and re-use through such infrastructures. While it may seem useful to develop a centralised system which may serve any type of data in all disciplines, this turns out to be unfeasible for two main reasons: (1) agreement on widely applicable standards unavoidably involves loss of system-specific information that often turns out to be of crucial importance to data interpretation; and (2) the variety of stakeholders, data sources and locations at play inevitably results in a proliferation of classification systems and increasing tensions among different interest groups around what system to adopt and impose on others. Taking these lessons into account, I propose a conceptual framework through which different data types and related infrastructures can be linked globally and reliably for a variety of purposes, while at the same time preserving as much as possible the domain- and system-specific properties of the data and related metadata. This enterprise is a test case for the scientific benefits of epistemic pluralism, as advocated by philosophers such as John Dupré, Hasok Chang, Ken Waters and Helen Longino. I argue that "intelligent data linkage" – and related reasoning - consists of finding ways to mine diverse perspectives and methods of inquiry, rather than to overcome and control such diversity.

Interactivity in the Arts: The case of Distributed Attention in Dance

Dafne Muntanyola-Saura

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Are artistic judgements interactive? Artistic judgements happen in an institutional environment. Theater or dance rehearsals arise from the multitude of small decisions made by participants. My ethnographic work on artistic and scientific settings show how creative moments take place in a circle of distributed cognition. Distributed cognition seeks to explain the inference patterns of subjects in everyday contexts. The unit of analysis of the rationality models jumps from the individual to the interaction (Hutchins 2005, Alac, 2017). The concepts of focused interaction (Goffman 1974), interactivity (De Jaegher et al 2010, Kirsh 2013) and intersubjectivity (Schütz 1971) locate the artistic practices of a rehearsal in its context of production. In such artistic settings conversation at work is multimodal (Becker 1984, Muntanyola-Saura 2014, 2017, Hennion 2007, Fele 2016). I claim that the source of artists' judgements in the studio is in patterns of distributed attention. This is what differentiates simple opinion based on individual preferences from artistic judgment. Methodologically I show examples of cognitive and video-aided ethnographies, some framed in an interdisciplinary research project initiated in 2009 and ongoing with Wayne McGregor Dance Company and the department of cognitive science of the University of California, San Diego (UCSD), others as case studies from synchronized swimming, physical theater and filmmaking. Through Conversational Analysis of video excerpts I show how artists base their judgements on specific skills, such as multimodal translation, listening, authority and shared agency. Moreover, creative judgment comes with a shared act of attention. Artists and experts develop a public language among themselves, and in doing so they filter and share their individual experience. In all, the actuality of the exchange and the availability of judgement shape the sequentiality of creativity.

Bayesian Perception: A Critical Analysis

Nico Orlandi

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With some notable exceptions, Bayesian models in psychophysics and in perceptual psychology are formulated at Marr's computational level of description. They describe how an optimal (or rational) observer would perform various perceptual tasks. For example, they describe how an optimal observer would integrate cues from multiple modalities by giving proper weight to each modality as a function of their reliability. As such, Bayesian models are used as "benchmarks". When the observed performance is found to be close to optimal, the temptation is to presume that the models also describe the algorithm that the perceptual system uses to carry out a given task. This means, among other things, thinking that perceptual systems represent probability distributions, and that they use a unified Bayesian strategy across contexts. Some prominent philosophers have in fact taken Bayesian models to speak at the algorithmic level. In this talk, I problematize this take. I argue that Bayesian accounts are not well-suited to be algorithmic models of perception. Structural difficulties with the Bayesian picture together with evidence of non-optimal performance in virtually all areas of perceptual processing suggest a skeptical outlook.

Why Research On Intelligence Needs To Be Interdisciplinary

Paul Thagard

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Twentieth-century research on intelligence was largely conducted by psychologists with unfortunate results for experiment, theory, and politics. Experimental work focused on IQ with neglect of many other aspects of intelligence. Theory focused on a hypothetical factor g that was supposed to capture what is common to IQ test success, ignoring the cognitive revolution that explains thinking in terms of mental representations and computational processes that are increasingly understood in terms of neuroscience. Politically, focus on IQ encouraged prejudicial justification of inequality based on alleged genetic differences.

An interdisciplinary approach to intelligence can avoid these errors by integrating psychology with ethology (animal behavior), neuroscience, sociology, and computational modeling (including artificial intelligence). Instead of IQ and g, we can understand intelligence by identifying 12 features such as problem solving and 8 mechanisms such as imagery that explain the features. Such explanations involve multilevel interacting mechanisms described by computer models that show the interconnections among molecular, neural, mental, and social processes.

Just What Do You Have In Mind?

Charles Travis

King's College London

This is a talk about singular thought and the contrast between Frege's andRussell's approach to this. A singular thought predicates something of an object and i) makes some given object such that for things to be as represented is *eo ipso* for *that* object to be as predicated, and hence ii) is a thought there would not be were there not that object. For Frege, being what a singular thought might be about is relatively unproblematic. For Russell it is a very substantial accomplishment. Though Russell regarded Frege, with his notion *Sinn*, as the idealist, in fact Russell's idea of this accomplishment led *him* straight into an idealism which abolished thought altogether. At the root of this contrast is Frege's extraction of the logical from the psychological (of *Wahrsein* from *Fürwahrhalten*, and Russell's refusal so to extract. There is a lesson here for the relevance of psychology, especially philosophical psychology, to philosophy, thus of the value of Frege to philosophy in general.

Conference Sessions

Where Does It Start: an historical and anthropological perspective on cultures, selves, and disciplines

Noga Arikha

Institut Jean Nicod

Interdisciplinarity has a history that is oft eschewed precisely because of the split between sciences and humanities that occurred in the 19th century. The multiplication of scientific disciplines from then on led to the current cognitive fragmentation. Using examples specifically from the history of anthropology - a constantly evolving, syncretic discipline whose very object of study is the whole of humanity (Weber, 2015) - I will offer a synchronic overview of cognitive fragmentation in order to re-capture its origins. This fragmentation has begun to be addressed within the sciences out of a need to retrieve from micro-specialisation a broader view of natural systems, both from the molecular ground up and in their relation to physical and computational systems. Such interdisciplinarity is notably put into practice today in the growing effort on the part of naturalists to integrate human, subjective experience in all its frailty into empirical research (Damasio, 2018; Tsakiris & de Preester, 2018). But with some exceptions, these convergences have been largely exclusive of the humanities from which the natural sciences had initially split off – though intersecting more frequently with philosophy, and, pointedly, anthropology, with a new discipline such as neuroanthropology (Roepstorff & Frith, 2012). The humanities themselves display their own multiple fragmentation, and dialogues across disciplinary methodologies are usually not mainstream practice. The construction of knowledge, especially that regarding the human subject, obviously benefits from a plurality of perspectives, but as this very conference belies, there is an evident need for syntheses and for a return to the sense of unity that prevailed before the institution of academic specialisms, such as the early modern period when empirical research, and even medicine, was joined with metaphysics, ethics, and historical and literary practices.

I aim to show how the long history of ideas about human nature adds an essential perspective on key notions investigated today within the natural sciences especially where these intersect with the social sciences, such as the cultural dimensions of social cognition and the biological dimensions of the self in society (Tomasello, 1999; Bloch, 2012). Anthropology began as ethnology (Vermeulen, 2015, with enquiries into the ways of "other" peoples (east and west) in antiquity, transforming into medieval travel accounts, contending with early colonialism, then merging with Enlightenment debates about the nature of race and language (Weber, 2015). Eventually it encapsulated at once the "science of man" and the "science of nature" (Weber, 2015), while taking its cue from late 19th-century scientific psychology, integrating Darwinism and grappling with notions of heredity, biological universals, and cultural relativism. It investigated how linguistically manifest concepts were embedded within cultural and artistic practices, and within belief systems governing spiritual and social life (Vermeulen, 2015). And it asked questions regarding how these inter-related notions were informed by political, religious and ethical concerns, which themselves became objects of anthopological study once these were explicited. In retracing via this hybrid discipline the complex epistemic history that led to the current fragmentation, I will suggest how we can reconstitute a common language that would enable us to capture in humanist terms the salient elements of current neuroscience and psychology research into the embodied, potentially unstable social subject, and emphasise the importance of such research beyond the scientific world.

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"Dancing bodies as impulses for democracy?"A Dance Philosophical Approach

Aurelia Baumgartner

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In my paper, I want to discuss the question, whether dancing bodies might be relevant for democracy. I will refer to the recently created performance, "Dancing bodies as impulses for democracy?",

I will explain a pre-semiotic approach by contrasting it to the semiotic philosophy of Charles Sanders Peirce and relating it to my recently created performance by showing video excerpts.

I will discuss, whether dancing bodies open a realm to a pre-semiotic area. In this pre-semiotic area, the image on bodies does not pose relevance yet. I want to explore the idea that this pre-semiotic area opens a space for communication and a mode of imagining as well as thinking. The communication, the mode of imagining and thinking are thereby possibly not yet influenced by rational categories.

This opens the opportunity for images, habitually coded by rationality, to get intangible, blurred and therefore deconstructed.

Moreover, the pre-semiotic area I am exploring opens the possibility for disciplinary structures to be recognized and dissolved. The subject thereby gets access to a new mode I call 'transversality', whereby 'transversality' is a realm open to differences and thereby 'transversal freedom'.

To paraphrase Lilac Livne:

"I believe that choreography might have the potential to create new modes of philosophy, as well as new modes of being. By creating a sphere of co-imagining while resisting the control of the subject to transform into an image."

I got to know Lilac Livne at a conference on ‚Dance Studies' taking place in Coventry 2017. I was impressed by the similarity our ideas had in certain areas. Nevertheless, our approaches are different, leading me to the decision to not discuss her approach further in this study.

More importantly, I want to discuss my approach to dance philosophy, which I have been researching and developing over a long period. This approach I call 'body-thinking'.

My background as a philosopher and my professional work with bodies as a dancer, choreographer and my teaching of Asian body and mind techniques, generated within me the related philosophical question whether rationality is rated too high as the dominant form of perceiving and grasping the world.

This especially touches the 'subject' and 'object' problem of Western philosophy.

During my long dance practice and the study of Asian movement and meditation practices I recognized that bodies cannot be understood in the Cartesian meaning as 'res extensa'. Therefore, the dualism of 'body' and 'mind', of 'res extensa' and 'res cogitans' is not so easy to declare. In my research, I recognized that living bodies open up a reality in their very specific mode. This mode I call 'body-thinking'.

Body-thinking' is a realm of semiotic processes in the mode of a pre-semiosis.

This process starts with impulses striking a resistance, whereby through repetition of this interaction between impulses and resistances, structures are created. Meaningful structures are thereby created, even before rationality.

This semiotic process in the mode of a pre-semiosis opens up a sort of non-verbal communication I call a 'third language'.

In improvised dance, as well as in the structure of my performances one can recognize such sign creating processes. The semiotic processes recognizable in my work reminded me of the semiotic process developed by Charles Sander Peirce. I studied Peirce during my Master's study in philosophy, theatre science, and new German literature.

In Peirce's semiotics, there is a structure of three, an impulse, which meets resistance and in the end, is defined by a certain rule. This third aspect would be the 'interpretant' of the object, represented in the sign. In my analogy to Peirce, represented in my creative work, I recognize this mode of creating. In improvised dance, as well as in developing my performances, impulses meet resistances to in the end create a structure.

It is a singular, moment-like, spontaneous assembly. Therefore, in contrast to Peirce's semiotics, in my work, the sign-generating process is neither a logical and teleological one nor only a mind-based process. In Peirce's semiotics, the interpretational process is teleological wherein the long run, even if the object has an equal value as 'second-ness' in semiosis, 'absolute reason' takes over at the end of time: the object will be entirely defined by the sign.

In contrast to Peirce, the pre-semiotic process I mention is a creative, transforming, transversal process.

It is at work not only in the improvised dance of bodies. Moreover, it even happens in all semiosis, where the place of the 'second-ness', the 'object', is not, at the end of the whole interpretational process, taken over by the power of the 'third-ness' in the mode of a 'final interpretant'!

This pre-semiotic process happens as well in my performances as 'frottage'.

My performance practice as 'frottage' derives, but is different from the artistic style created by Max Ernst, 1925. Rather, it is based on simultaneity, contemporaneity, and non-linearity of different layers and means 'the restiveness of equal modes of expression in their reciprocal encounter'.

There is an impulse, which meets resistance and in a merging process, new creations are born.

In the frottage, it is the process of entities, of stories, of different individual bodily 'subjects' interacting together all getting porous that creates something new.

Rather by the friction, boarders open.

By the frottage happening in my performances, all participants including the spectator can be involved in this process by getting access to a 'transversal'.

A 'transversal' is an opened mode created by the friction of the layers of different media in my performances, as well as an open realm created by the friction of different living bodies. In this mode, the possibility arises to sense each other, to get access to each other by reciprocally being imprinted. However, those imprints are not yet coded. They open the

space for new encounters, new modes of communicating, for new modes of socially and 'may be' democratically being.

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The interdisciplinarity of the debate on the Anthropocene and its repercussions

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Nineteen years after E. Stoermer's and P. Crutzen's proposal to introduce a new geological epoch of the Anthropocene, the paper poses questions regarding the sources of the interdisciplinary uniqueness of the debate surrounding the idea of the Anthropocene.
On the basis of prominent articles published in the interdisciplinary journal The Anthropocene Review (in circulation since 2014) and scholarly books published in recent years (Angus, 2016; Arias-Maldonado and Trachtenberg, 2019; Bonneuil and Fressoz, 2016; Hamilton, 2017; Hamilton et al., 2015a; Moore, 2016a) we can conclude that the academic debate on the Anthropocene has attracted not only geologists, climatologists and Earth System scientists but also environmental historians, anthropologists, social geographers, political scientists, philosophers and sociologists.
The distinctiveness of the Anthropocene debate will be elucidated in three points. These points will discuss: (1) the unification of different disciplines around a common research agenda and its consequencess, (2) the eschatological dimension of the debate and the central problem of irreversibility, (3) the function of the debate as a warning and a unique catalyst for political change.
We will try to answer the question in which way the interdisciplinary character of the debate on the Anthropocene may shape the environmental reflection of the 21st century.

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History of women philosophers as an interdisciplinary endeavor

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The feminist researches of the classical philosophical canon have gone in three major directions. The first direction is concentrated on analysis of the current philosophical canon from the perspective of feminist theories. The second direction is re-examining the canon, looking for anticipators and anticipations of present feminist theories: it investigates the historical (male and female) philosophers and theories that are most congenial to current trends in feminism. The third direction attempts to bust the myth of philosophy as an endeavor in which there are no women, by inserting female philosophers into the canon of great philosophers and thus filling the gap in the history of ideas as it is taught today.

The first two directions, being essentially feminist, are often considered to be eo ipso interdisciplinary (cf. McCampbell Grace, 1996; Friedman, 2001). The rationale of this position was already elaborated in the 1970s: feminist perspectives challenge mainstream knowledge, by pointing to the extra-epistemological biases that condition it. Thus, feminism/s, seen as a correction of mainstream positions, are supposed to penetrate other disciplines. The research of gender relationships and roles, and of women must refer to educational, psychological, social, historical, linguistic, philosophical, biological, medical, legal etc. contexts.

For us, this second direction—the retrieval of female philosophers for the historical record—is of special interest. It is quite a distinctive project, and one without precedent. The present philosophical canon is mostly the product of the indirect insertion of philosophers into it, directed by the spirit of the time, along with dominant ideas and traditions. Before the emergence of twentieth century feminism there were no systematic attempts to question the traditional canon. It is only in the last thirty years that we have witnessed an expansion of this endeavor. Such revision of the history of philosophy takes an immense amount of time and requires subtle analyses and thus it is still in its seminal form.

Since this project is not necessarily feminist—however tightly it may relate to feminist ideas—the following methodical question arises. Is there a special requirement for interdisciplinarity that goes beyond what is expected and is inherent in any historical, or more particularly historico-philosophical research or even in feminist research? In my presentation I argue that a different kind of interdisciplinarity is indeed necessary for successfully researching the history of female philosophers. When dealing with female philosophers of the past, we must consider different social, economic, and psychological conditions that are often taken for granted when dealing with the traditional philosophical canon.

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Basic actors are brainbound agents: constraints on action-based solutions to the problem of probabilistic perceptual content in the Bayesian brain

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Clark (2015) credits the contemporary trend for computational and cognitive neuroscience to understand the brain as implementing predictive processing strategies approximating Bayesian inference with identifying the proper neural contribution to extended and embodied cognitive agency. On this account, dynamically world-involving cognitive agents depend on an active Bayesian brain, whose endogenous predictive processing poises it to expand the envelope of its information-processing dynamics into the body and environment.

If the aim here is to reformulate our understanding of ourselves as cognitive agents, it must involve making sense of familiar features of our experience against this, slightly dazzling, backdrop. Conscious perception, however, looks like an area where common-sense and the predictive account come apart. We tend to think of our experience of the perceptual world as unitary and determinate, but nothing in the Bayesian brain hypothesis obviously supports such a picture. Rather than decoding sensory input in a linear way with a single univocal percept as output, we are told that perception relies on distributed and probabilistic representations. If we really do have predictive minds, why should the perceptual clarity we seem to enjoy emerge from this 'Bayesian Blur' (Lu et al., 2016)?

Clark (2018) locates the solution to this puzzle in agents' capacities for effective action. We should expect predictive perceptual systems to deliver determinate content because agents are under an ecological constraint to act effectively in their environment. This constraint operates on the agent as a whole – and so plausibly we need to provide a worked out account of personal-level action to assess this strategy. A standard view within action theory is that while any one bodily movement fulfils multiple actions at different levels of abstraction – the act(s), e.g., of illuminating the room, turning on the lights, flicking the switch, and moving my finger (Davidson, 1971) – at any moment these will bottom out in one 'basic action'. Could this be the basis of the putative determinacy of perceptual experience?

I argue that Clark and other supporters of the embodied extended view can only take this route at a significant cost. The notion of a basic action is in tension with the principle of functional parity between neural and non-neural information processing that is appealed to in much of the literature on embodied and extended mental states. If the personal-level agency is analysed as constituted by basic actions, we can at every point draw a principled barrier around the biological core agent. Lavin (2013) expresses this in terms of an ontological distinction between determinate intentions on one hand and mere bodily events on the other. If all actions are basic actions, then we have at once a reason to expect a Bayesian system to deliver determinate content and to restrict the mental to internal neural processes.

Instead, I suggest supporters of embodied versions of the predictive account should take a revisionary approach to both action and perception. Personal-level indeterminacy only looks unacceptable to Clark (2018) because he tacitly assumes a 'snapshot view' of perceptual experience. This leads him to assume that if perceptual experience does not contain determinate content, then experience would present us with a 'Bayesian blur' of fuzzy objects, which he sees as introspectively implausible. But if the contents of perceptual experience are interdependent on capacities for action at different levels of temporal and spatial abstraction, which are not resolved into single basic actions, we might not expect a lack of determinacy to be expressed in experiences of objects with 'blurred edges'. Rather experiential content is understood as involving an irreducible element of what Husserl (1965) describes as 'determinable indeterminacy'. Such a view is needed if we want to maintain a tight connection between the contents of perceptual experience and bodily action without appealing to basic actions. Work in this direction already exists in the context of the predictive framework (Madary, 2016), and can draw on deeper resources in theoretical work that makes a strong connection between consciousness and agency (e.g. Hurley, 1998). My

goal in this paper is to show that something like this approach is essential for a consistent account of perceptual phenomenology of embodied predictive agents.
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Information resonance. Subjectivity and it's place in nature

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The Holy Grail of the philosophy of mind and the cognitive science - the so-called "Hard problem of consciousness" - still waits for it's resolution. How to connect theoretically: the physical world with spaces of subjective experiences? How to surpass the famous "explanatory gap", in way to include the first-person perspective to the coherent picture of reality? And is the subjectivity a forever impenetrable ground for the scientific inquiry - or maybe grasping it doesn't necessary remain beyond our intellectual possibilities?

Without any doubt, to face the problem of subjectivity as a biological phenomenon, non-anthropocentric and evolutionary approach is needed. The very goal for the future would be the creation of a coherent model which could contain all the variety of natural phenomenologies (subjective worlds), all being shaped by strict evolutionary principles. Although such cognitive kaleidoscope at first glance could seem mind-blowing, it's existence turns to be a highly logical conclusion.

Wherever we trace a subjective (ego-centric) point of view, a fundamentally different *umwelt* appears - would it be based on chemical, electrical, sound, visual or language signals. Therefore such endeavor would be about phylogenesis - not of the morphology however, but of the phenomenology of species. In other words, about the evolution from the first-person perspective.

Along with the biosemiotics' intuitions and regarding to the basic understanding of the *semeion* concept - that is, something that stands for something other than itself - a hypothesis of "information resonance" is proposed. It would be a phenomena common to every living being, realized through the organism's subjectivity - namely the process where given signals acquire given meanings, *ipso facto* becoming informations. A pheromone sign has it's meaning for an ant, becoming an information about the food location; a circulating shadow in the sky means danger for a mouse; a smile means friendliness for a human. All these signals "resonate" and become informations however only through the evolutionary shaped subjective perspectives, remaining unnoticed to many others - as human doesn't understand ants' pheromones, mouse doesn't get any smiling, and ant doesn't see any danger in the sky. There is no information out of the perspective; no meaning without the interpreter.

Because of the evolutionary trajectory of species, they all live in different semiotic niches. Evolutionary shaped meanings and affordances would be in fact what their existence is based on - that is why it is "the subjective perspective" of an organism that would be a teleological, goal-directed factor, being surrounded by evolutionary acquired meanings coming from it's environment.This would be the key issue regarding the problem of the evolution of subjectivity:

as over time not only physiological features of species evolve, but also the whole subjective worlds they live in. From such perspective the subjectivity would be an essential factor of every living being; it would be a "perspective" through which the environment is perceived, meanings are acquired, affordances are presented and behavior is realized.

That is why the subjectivity - perceived as a natural phenomenon that undergoes the laws of natural selection - needs to be properly comprehended, defined and implemented into scientific models. The following presentation proposes a perspective for a coherent approach in way to shed more light on the transcending of the "hardness" of the explanatory gap problem.

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Marcello Barbieri, Jesper Hoffmeyer (ed.) "Essential Readings in Biosemiotics"

James Gibson "The Ecological Approach to Visual Perception"

Thomas Nagel "The View from Nowhere"

Erwin Schrödinger "What Is Life? The Physical Aspect of the Living Cell".

Lawrence Shapiro "Embodied Cognition"

Evan Thompson "Mind in Life. Biology, Phenomenology, and the Sciences of Mind".

Jakob von Uexküll "A Foray into the Worlds of Animals and Humans. A Theory of Meaning".

Interdisciplinarity as a necessity in pedagogy and resilience in a pedagogical context

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The concept of resilience is connected with the positive adaptation of persons exposed to different kinds of adversities or traumatic events as children or adults (Borucka, Pisarska 2012). Resilience indicates the positive adaptation an individual is making in spite of the threats they have experienced (Crai, Bond, Burns, Vella-Brodrick, Sawyer 2003), the overcoming of the negative effects of these occurrences, and the key events that occurred during this process (Ogińska-Bulik, Jurczyński 2011). I claim that the category of resilience, perceived as a pedagogic category of reflection in conditions consolidated during empirical examination, is essential. More importantly, resilience is appearing more frequently in learning as a psychological category (Rutter 1987). For Rutter, the advantages constitute a significant and notable potential for the pedagogic perspective. I am convinced that the knowledge which is supposed to serve the development the man must be based on interdisciplinarity. In my speech, I would like to talk about my interdisciplinary context of pedagogical research. I will focus on the issue of resilience in pedagogical thought. My idea is—as an academic teacher and also a pedagogue with experiences of working with children and adults from dysfunctional social backgrounds—to connect the social sciences to achieve a greater understanding and to better support the development of people.

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Beauty queens and body parts: What the history of feminism can offer to philosophical understandings of objectification

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This necessarily interdisciplinary paper will explore the concept of objectification in feminist philosophy and histories of feminism, suggesting, with relevance to this conference, that historical feminist uses of objectification ought to influence contemporary philosophy. We argue for a particular structural sense of objectification over a moral sense. To argue this, we look beyond the field of philosophy: we employ three examples from history which establish that the structural sense is widely used and has had transformative impact. We therefore suggest that history should convince feminist philosophers to favour this structural account of objectification. As well as considering the tangled relationship of philosophy and feminism, our examples will also speak to the transformation of science - health and psychology- by feminists.

Feminist philosophers divide up objectification into two senses: A first, moral sense is about individual persons treating others as if they were objects. In this account, which liberal feminist like Martha Nussbaum defend, it does not matter whether a man or a woman objectifies men or women — gender is irrelevant. So are social structures: the account isn't interested in whether objectifying behaviour is part of a wider pattern or occurs frequently or infrequently. A second, structural account cares about gender and social structures. For feminists like Catharine MacKinnon and Sally Haslanger, men sexually objectify women. And they do it in a context where this treatment is indeed frequent and part of a wider social pattern of sexism. For MacKinnon sexual objectification even chiefly creates the social structure of patriarchy.

Some have held that these two approaches— Nussbaum's and MacKinnon's — are not in conflict; they can exist alongside one another because they are different projects: one is about interpersonal relationships, about morality; the other is about social structures, about politics. We suggest, contrary to this claim, that the moral and the structural projects are in opposition. Using the history of feminism, we defend the structural project: it has been the project most relevant and useful to understanding and changing the real world.

In the history of feminism, feminist activists have used feminist philosophy and objectification theory most obviously in their activism against pornography, on which much ink has been spilt. Yet, considering pornography as the only way feminists have acted against objectification is limited. It does not adequately show the creative, multiple ways feminists have acted against objectification. Nor does it consider, with particular relevance to this conference, the ways feminists have transformed science. In order to consider additional feminist uses of objectification in more depth and convey the importance of structural understandings of objectification we will consider three examples: health, beauty and psychology.

First, we will consider feminist health activism of the 1970s. This suggested that the health system objectifies women. It does this by stripping them of their individuality and 'carving up' their bodies into sick and well parts as part of a broader structural pattern of sexism (Boston Women's Health Collective, 1970, p.7). To act against medical objectification, feminists proposed that health care should be holistic and women must learn about their bodies (Boston Women's Health Collective, 1970). Secondly, we will explore feminist agitation against beauty standards, which, also employ a structural analysis of objectification. We will consider historical anti-beauty contest activism as well as Black feminist ideas of beauty as an agitation against racism (Leeds-Craig, 2002; Welch, 2015). Finally, we will consider contemporary psychological analysis which extends objectification theory to consider the harmful consequences of this including low self-esteem and disordered eating in women

(Fredrickson, Hendler, Nilsen, O'barr, Roberts, 2011). While structural feminist understandings of objectification are not centred in these psychological studies, it will be shown that these rely on structural objectification and indeed, do not make sense without it.

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Altered Self-Experiences in Depersonalisation - an Interdisciplinary Perspective

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The capacity to integrate information across multiple sensory channels is fundamental to building a cohesive representation of the environment and of our body, thereby scaffolding both our subjective experience of being present, in the here and now, and our successful navigation in a complex physical and social world. Self-awareness, the fundamental first-personal feeling that my experiences are bound to a "real" me – as a unitary entity, the "self" – is profoundly disrupted in Depersonalisation (DP) (Sierra & David 2011). People experiencing DP report feelings of being a detached and disembodied observer of their mental and bodily processes or even of reality itself ('derealisation'), and consequently they feel as if they are going through daily life like a zombie, robot or machine and report pervasive feelings of "unreality" (Simeon & Abugel 2008). This profound disruption of bodily self-awareness affects not only a) the low-level sensory and bodily aspects of the self (detachment from one's body or body parts), but also b) the experiential aspects (detachment from one's subjective feelings and emotions); and c) the high-level, cognitive and narrative aspects (disconnection from one's personal stories, memories, thoughts and future plans, often described by DP sufferers as a "loss of the narrative flow" of one's life)(Ciaunica & Charlton 2018)

In this paper we examine the relationship between experiences of Depersonalisation and the phenomena of visual remapping of touch (VRT). VRT is an effect in which seeing another face being touch leads to higher accuracy in the perception of tactile stimuli on one's own face (Serino et al. 2008). Normally the VRT effect shows a strong self-bias with maximal effect occurring when participants are seeing an image of their own face being touched. We recruited non-clinical participants with either a high or low incidents of depersonalisation experiences and compared the strength of the VRT effect when they observed either their own face or the face of another person. We found that the amount of self-bias in VRT (the strength of VRT for self compared to other) could be predicted by participants' frequency of anomalous body experiences (a sub set of DP experiences) with greater frequency of experiences leading to less self bias and greater other bias. In addition we found that having higher DP experiences led to greater accuracy in tactile perception overall.

Building upon first-hand subjective reports from one of us (JC), phenomenological approaches and our recent empirical findings, we contrast the experiences of 'losing' the sense of self and the first-personal sense of 'mineness' in DP versus non-pathological cases such as deep meditative states. We argue that examining the relationship between altered self-experiences and feelings of unreality in DP might help us to better understand what counts as fundamental in constituting minimal self-experiences in typical individuals. We conclude that a comparison between these types of selfless experiences (enjoyable in the latter case, but not in the former) might ultimately reveal not only what makes our conscious self-experiences feel real, but most importantly what is fundamental in constituting minimal selfhood.

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Why Conscious Perception is fundamentally 'Selfish' (and Predictive Models too)

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The question whether subjective conscious experience is a mere gloss on the top of a sophisticated bodily machinery designed to survive and reproduce, or something more, has long-time fascinated both philosophers and scientists. This paper focuses on the question of how do we perceive, model and represent ourselves at the most minimal, pre-reflective level. I first review recent work emphasizing the multisensory basis of our perceptual experiences and the embodied nature of self-awareness. I then focus on interoceptive and tactile signals, as key components of bodily self-consciousness, and discuss one crucial yet overlooked aspect of our embodiment, namely the fact that bodily self-consciousness emerge from the outset within the body of another experiencing subject. Next, I review empirical findings highlighting the developmental primacy of tactile and interoceptive over visual experiences, in shaping the foundations of perceptual awareness. Building upon the influential Predictive Processing framework in philosophy and theoretical neuroscience, I argue that self-awareness is not only embodied, but also that perceptual experiences are fundamentally 'selfish', that is, imperatively driven by basic constraints of physiological regulation that subserve self-preservation. I then evaluate the contrast between distal (visuospatial) and proximal (interoceptive and tactile) ways of perceiving and representing ourselves in early life. I conclude that by examining our most primitive ways of becoming perceptually aware of ourselves, and the environment, from the outset we may obtain more ecological forms of modelling self-consciousness and ultimately consciousness itself.

There are two points that I will stress in this paper:

Firstly, whereas previous research defined perceptual awareness and construed the mind-body problem within a visuo-spatial framework (e.g. a subject perceives a red tomato, i.e. a mind-independent object there), I propose to take into consideration more primitive and proximal channels of experientially exploring and phenomenally feeling the world, such as interoception and touch. Indeed, it has been recently pointed out that consciousness studies have focused almost exclusively on the model of vision and of the perception of far space, neglecting the possibility that: a) perceptual experiences based on different modalities (e.g. interoception and touch); and b) the perception of the space immediately surrounding the

body, might display different properties (Faivre et al. 2017; de Vignemont 2018; Seth & Tsakiris 2018). I will unpack these ideas in the talk in more detail (see also Ciaunica & Crucianelli 2019).

Secondly, examining the mind-body problem from a developmental angle proves instructive for at least two reasons. Firstly, doing so usefully helps us to address this phenomenon within a truly dynamic and ecological framework, providing thereby not only a snapshot of the developing self-consciousness of the child, but also a panorama of the very nature of perceptual experiences more generally. Secondly, and of equal importance, the recent influential model of brain function, in both philosophy and theoretical neuroscience – Predictive Processing (PP) (Friston 2005; Clark 2013) – has been heralded as central to understanding how multisensory information integration underpins minimal forms of self-awareness (see Limanowski & Blankenburg 2013; Apps and Tsakiris 2013). Crucially, one key aspect of the PP framework is the idea that regularities in prior experience are used to continuously predict incoming inputs, which are then in turn used to update predictions of future input. According to PP, it is these predictions, rather than the current input itself, which shapes present perceptual experience. If this is so, then whatever we perceptually experience now is not only informed by, but also grounded in, what we have experienced and perceived before. As we shall see, this point is particularity relevant when it comes to modelling consciousness from a multisensory rather than a unimodal visual perspective.

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The Effects of Multimodal Dance Training on Cognitive Functions of Advanced Dancers

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Contemporary research brings ample evidence of a selective but significant impact of motor expertise on the cognitive functions, which is particularly visible in mental rotation task (Wraga et al. 2003; Steggemann et al. 2011; Moreau et al. 2012). The method has become the starting point to check whether different dance techniques can result in improving cognitive skills, in mental rotation task (MRT) adapted to the human context.

In order to answer the question, we conducted a study with highly qualified, licensed, female instructors, who were assigned into two workshop groups (1) Fighting Monkey technique created by Jozef Frucek and Linda Kapetanea and (2) contemporary dance based on the movement technique of Rudolf Laban. All participants (n=22) performed mental rotation task

before and immediately after the training (which lasted 20 hours), as well as in 2 weeks follow up. The mental rotation task was created for the study purpose using photos of a person at different angles and position and included two parts (1) object-based - assessment if the positions in the picture are the same; (2) egocentric – determining if a raised hand is left or right.

The results in object-based MRT of both groups increased after the training and maintained better after 2 weeks delay. However, in the egocentric version of a task, only Fighting Monkey group has improved their performance in response time and correctness, while the other one did not change with respect to the pretest. We conclude that these differences are a consequence of the differences between the nature and type of exercises proposed in both workshops. In particular, in the use of complex, multidirectional full-body movement performed in changing planes (vertical, horizontal, mixed). Additionally, other cognitive tests in which differences between groups were not observed allowed us to exclude some of the factors that may affect the results eg. associative learning or spatial working memory. In the discussion, we carry out a detailed analysis of both workshops based on audio-video material collected from all training sessions and qualitative data collected from participants in open surveys and interviews.

The Dance knowledge in the Concept of Resistance: from Resistance to Re-existence

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How can we manifest our resistance to a world where the owners of armaments make war and generate fears, where half of the population die hungry and the other half die by excess of food, where the planet is being destructed?

In the desire for standing-up, we resist to our fundamental support – the force of gravity. How can we understand such embodied paradoxical desire? How do we deal with this power of resistance intrinsic to our physical survival?

Before approaching these questions, it is critical to look at: how do we generate sense? How do we make sense of what is around us?

Recent studies on the field of embodied cognition demonstrate that the way we construct thought and give meaning to the world is an active process based on our sensoriomotor perception and on the experiential interaction with the environment. (e.g.: Clark, 1998, Damásio, 2003; Claxton, 2005; Gibbs, 2005; Rosch, Thompson e Varela, 2016). However, this foundation of thought and meaning, precisely because is so intrinsic, submerges to an unconscious level, so, gradually, verbal language, thoroughly practiced since childhood, becomes the conscious web of thought. In this way, meaning becomes a conceptual and external way of perceiving the world and not so much an emergent and relational felt-sense. With the practice of dance integrated to somatic practices, the dancer develops an intensified sensoriomotor perception, therefore, he becomes able to reactivate such original embodied mode of making sense. Therefore, the practice of dance, considered as a practice of intensive sensoriomotor perception, can be contemplated as a field of expertise on the investigation of our original mode of making sense and constructing thought. Nonetheless, as many dancers express, such thinking doesn't fit into words. Consequently, we are left with the problematic of: how to integrate and transfer an embodied mode of making sense with verbal mode of thinking?
In this communication, I will present a practice-base methodology, called Trans-Meaning (Lima, Cecília, 2017). This methodology integrates of dance and somatic practices with the theory of Cognitive Metaphors from Lakoff and Johnson (1999, 2003) in order to work on the transference of meaning from the sensoriomotor domain to the verbal domain. Here I will

share the results of a specific laboratory focused on the concept of Resistance. This lab questions: how can a sensorimotor practice deepen our perception and understanding of resistance and how such in-depth can be transferred to a relational socio-political domain. As it will be demonstrated, the sense of resistance reveals its self as a force of affection transversal to different planes of existence: as the intrinsic force of gravity and its influence on the body's organic functioning, as the movement relation between bodies, and as a social phenomenon. Furthermore, the movement of resistance did not manifest itself merely as forces in opposition, but specially as a game of shared forces which might become absorbed and inverted. Within the practice of resistance one enters a process of weight transference playing with the relation to gravity and with the sense of (un)balance. The body is perceived beyond itself, because its weight is transferred beyond its flesh and bones, the centre of balance occurs beyond his individual axes. It challenges its own limits transferring the feeling and the sense of self.

... I resist because I exist as a tension force, I'm the weight of this mass that I discover against gravity - the force that grabs me to here and now. But I exist between the limits of resistance, between a defying need to release from what grabs me and the need to grab the fall.

If somatic practices can help us experiencing a deeper sense of resistance, maybe they can help us within the practice of resistance as a re-creative survival to Primo Levi´s concept of "the shame of being a man" (Deleuze, 2003).

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The Role of Feminist Theory in Building Complementary Knowledge

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In 1999 Londa Schiebinger published her book entitled Has Feminism Changed Science (Schiebinger 1999) where she showed how the growing number of female scientists gradually transformed certain fields of science. Following her line of reasoning one can ask how feminist theories influence particular fields of knowledge today? Do they have impact on methodologies and formulation of research priorities? Do they cognitively enrich theories and consequently change the social dynamics of scientific institutions? These are important issues which require extended research in order to ask these questions for each particular scientific field. The goal of my paper is more modest. I would like to provide some evidence that feminist theories have played crucial role in creating the missing link between science studies and socio-political research (Keller 1983). Many feminist thinkers being both a scientist and critical scholar has shown that feminist theory is not only about the social and the political, but also and sometimes primarily about the cognitive and about knowing subject. Joining traditions and methodologies from scientific research and cultural and

political studies results in a form of complementary knowledge, which could be truly interdisciplinary. In order to illustrate how it can work out I will shorty present selected threads of neurofeminist approach (Fine 2012, Robyn et al. 2012) and new feminist materialism (Barad 2003, Hird 2009).

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Curb Your Free Energy

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The free-energy principle has enjoyed widespread success across multiple disciplines, often being presented as a formal rule which offers a key to unifying distinct neurobiological phenomena and forming a general theory of cognition. As such, it has been successfully used to model different cognitive functions (Feldman & Friston, 2010) and psychological disorders (Lawson et al., 2017). However, it has also been used in support of the psychoanalytical conception of the self (Hopkins, 2016), modeling anticipatory behavior in plants (Calvo & Friston, 2015), and even the emergence of life (Friston, 2013). The widespread applicability of free-energy principle has resulted in well-motivated skepticism regarding its explanatory scope and unificatory ambitions.

Surprisingly, most critics have focused on what the principle entails rather than on its status as a theory of cognition (with a few notable exceptions, see e.g., Colombo & Wright, 2017). For example, Andrew Sims (2016) argues that proponents of the principle seem to subscribe to three, jointly incompatible propositions – that the free-energy principle defines what cognition consists in, that all adaptive behavior is a consequence of obeying the free-energy principle, and that cognition and life are not co-extensive phenomena. His analysis focuses on reconciling the three propositions, rather than questioning their validity.

The aim of this paper is to defend the claim that the scope of the free-energy principle has been overextended and that it should not be considered a unified theory, but a modeling framework. To do this, I will examine the use of the computational models in scientific practice in order to locate the free-energy principle in the wider theoretical landscape. In particular, I will compare the theoretical applications of the free-energy principle to other 'energy based' models in cognitive science and artificial intelligence research – computational models which also draw inspiration from thermodynamics, such as the Hopfield network and the Boltzmann machine. By investigating the differences between these modeling strategies, I will try to answer the question of why, despite sharing many of the same properties, other 'energy based' models have not generated the same kind of claims that the free-energy principle has, and ask what significance this may have for claims about the principle's explanatory potential.

Retrospecting: a temporal-embodied view on human presence.

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Temporality enables human living. In a multiscalar view, humans are tightly coupled to their environment, not only in terms of space but also time. They do so in, for example, using sociocultural or autobiographical resources (see, Cowley and Steffensen, 2010). They bind events from slower timescales (such as the sociocultural) with faster timescales (such as the enchronic). The here-and-now is always constraint by the non-local (ibid). One timescale can never stand alone: Temporal ranges combine several timescales that always act together (see, Cowley and Steffensen, 2015; Steffensen and Pedersen, 2014). It is a highly complex system: "Participants in dialogical systems recruit sociocultural resources in non-linear and unpredictable ways" (Steffensen and Pedersen, 2014, p. 95). Humans move from one temporal range to another. In a more poetic way, this *temporal ranging* is an essential part of our human becoming (ibid).

Anticipation, and in that the future, is a byproduct of this all. I argue that empirical works in that field are mainly determined by the past-future direction of time. Analyses are mostly concerned with how moments lead to a specific event changing the dialogical trajectory. In our multiscalar investigations, we are mostly focused on how the past constraints the future but not vice versa. However, to understand human (or lived) temporality we either need to consider a future-past direction (therefore a bi-directionality of time) or view it as a block duration, in which past, present, future is always intermeshed.

I present an excerpt from a case study to display the power of retrospecting. The study was conducted in a classroom. I observed how undergraduate students were working in groups on a joint project over several weeks. In addition to video recordings of situated interactions, the data set also consist of group chats (via Wechat) and group as well as individual interviews of each group. In a specific example, I analyse how one participant (P1) reflects on the group dynamics, and how she was especially concerned with one particular co-member of the group (P2). In the interview, P1 vividly 'reports' how she experienced her interaction with P2. I show that P2 does more than reporting: she retrojects. She does so through her hyperbolical enaction of P2's behavior in class.

In the interview, P1 brings the classroom to the interview room through temporal resources, i.e. whole-body movements, hand gestures, and facial and vocal expressions. The boundaries between past and present are blurred in this scenario while she greatly enacts her annoyance with P2. In the video data, we can slowly witness how P1's tension with the group member evolved. In her state of "annoyance", she attunes to P2's embodied features, i.e. tone of voice, facial expressions etc. which are also projected onto the texts P1 receives from P2.

Through embodied coordination and languaging, presence is a block of past, present and future which determines moments that not only constrain the future but also the past.

From Memes To Technomemes and Digital Selves.

Diego Fontanive

EOF Project

For thousands of years we have been around with a biological self and a psychological self. While the biological self is based on our genetic structure, the psychological self is instead almost entirely constructed on what we have experienced, what we have been told and the

ways through which we have been conditioned throughout our lives and due to the external environment. In brief: the biological self is based on genes, the psychological one is based on memes and memeplexes (social and cultural systems of memes).

But today the situation is slightly different: something that never happened before.. has happened: the many of us today have a biological self, a psychological self and a digital self and a phenomenon that characterizes our times, and not only something that involves millennials, is the tendency to privilege the digital self over everything else.

The digital self is so commonly perceived as even more relevant than the psychological self. The sense of identity and even psychological security is getting more and more digitalized: from cultural / ideological / family-based propagated and indoctrinated memes we entered the digital world of technological memes and the problem is that considering how the psychological self is in itself heavily conditioned by so many memetic factors that usually go unseen and unstudied, the digital self is actually even worse than that. Not because of the onset of social media, new technologies and AI development and its applications, but rather because of the dull and acritical relationship we have with such elements and with our own use of our thinking abilities; we are moving toward a society of entertainment and superficial thinking and this situation, which appears to be an actuality of our times, should show us what the urgency of implementing our thinking skills really is. Critical thinking should be combined with the understanding of memetics and the application of high order multilogical thinking skills.

Dance improvisation as a process of thinking in movement

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Recent decades have brought an increased interest in the relationship between thinking, cognition, and movement in the area of philosophy, psychology, cognitive science, neuroscience, robotics, and artificial intelligence studies (to name just few disciplines). It has resulted in an increased willingness to study the mechanisms behind dance practice. The newly created theories of embodied cognition, perception as action, extended mind, thinking in movement (having their sources in theories of phenomenological being-in-the-world, the idea of environmental positioning, and conditioning of the cognitive subject, among others) are reflected in contemporary dance, especially in improvisation. Dance improvisation, based on kinaesthetic feelings, boils down to exploring the cognitive abilities of the motor subject as well as the phenomenon of thinking-in-motion. Dance as a kind of laboratory of movement and cognitive functions of a human is a cultural phenomenon that has greatly inspired research, and is already appreciated as the grounds of a new embodied branch of cognitive science and neurological research, and increasingly in philosophical considerations (sometimes overlapping the theoretical branch of new cognitive science). An growing number of researchers from the field of neurocognitive science invite dancers and choreographers as movement specialists to be part of the research, in order to exemplify neuronal correlates of thinking, cognition, and perception. These studies reinforce the belief about a completely rudimentary function of movement in thinking and cognition processes, as well as indicate increased perceptual skills in people dealing practically (or theoretically) with movement. However, it should be remembered that neuroscience had long before proven the importance of movement for human cognitive processes at the level of physiology; this kind of thinking was worked out within the framework of kinesthetics, phenomenology, cognitive psychology and, as I suggest, contemporary dance, which has its origins in postmodern dance, shaped in the 1960s and 1970s, mainly in the United States.

In my presentation I will take a critical look at selected—almost classical—phenomenological and enactive theories that serves my thesis: the environmental approach to cognition according to James Gibson (1950, 1966, 1979), the sensorimotor concept of perception according to Alva Noë and Kevin O'Regan (2001; Noë, 2004) and the idea of thinking-in-

motion by Maxine Sheets Johnstone (1966, 1981). I will illustrate these theories of thinking, cognition, and perception in action, recalling the dance and improvisation practice of postmodern dancers. I believe that this kind of dance practice underlines the parallel relation of movement, processes of thinking, and perceiving. It can also be perceived as a kind of cognitive training.

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Perception and interaction: Sensorial experiences perceived in artistic environments with virtual reality

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This research investigates embodied cognition processes in artistic environments with virtual reality technology. This is important because it challenges the existing interpretation that maintains the artistic experience in an environment that questions all physical rules. Some artistic virtual environments were analyzed (Abramovic, 2018) (Eliasson, 2017) (Couillard, 2017) (Anderson and Huang, 2018) using practice and experience (Dewey, 2005) (Varela, Thompson, and Rosch, 2017). This is analyzed from the sensorial experience perceived in artistic works with virtual reality technology.
From the artistic, and specifically with immersive artistic proposals, it is possible to experience sensations. Starting from the fact that we react based on what we perceive, with these sensations and from the artistic practice, it is possible to experiment and create other ways of feeling from the enactive knowledge (Varela et al., 2017).
In virtual reality, the interaction is carried out by spherical bubbles (Steyerl, 2018) that open new worlds. These bubbles facilitate our navigation in non-physical worlds and our interaction increases. This way, from the artistic practice, we generate mediated sensory experiences. Perception and interaction depends on the relation between viewer, artwork and artist (Grau, 2003) as we can perceive in the eight installations Huit phases de L´Illumination (Aramique et al., 2015), an installation that manipulates time, space and sensations. It has been shown that immersion in virtual reality modifies our behavior with others, through empathy (Herrera, Bailenson, Weisz, Ogle, and Zaki, 2018). From an artistic point of view, we can increase empathy towards our planet and with others as Abramovic does in Rising (2018). This makes virtual reality technology the perfect source to modify our current relationship with the physical world.

Furthermore, it is possible to use this technology to rethink our relationship with the world and it's physical properties. This is possible by eliminating the law of gravity in this type of environment and walking through the worlds. The suppression of the gravity has direct consequences on our bodies and the way we relate to each other in this type of environment. Chalkroom (Anderson and Huang, 2018) is an example of browsing through bubbles to move from one world to another and also a constant displacement in the environment.
For all the above, the research concludes, that the way in which we relate in environments

without gravity, affects body and to our way of interaction within the experience. On the other hand, it has a positive value after the experience, increasing our attention to aspects that previously we would not.

This can be positive to generate other artistic experiences, it proposes new relationship ways, modifying our sensory perception. From an artistic point of view, these qualities affect us, but they also interfere creating new ways of seeing reality and embodied relationship.

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Free Energy Principle and Predictive Processing: Disentantling their theoretical commitments

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Predictive Processing (PP) is a theory of cognitive architecture, i.e., of how information-processing in the brain is organized. But PP is seen as closely linked to the Free Energy Principle (FEP), which constitutes a much more abstract, formal conception of life or self-organization. There is no consensus about how PP and FEP are related exactly. Sometimes it is suggested that PP is somehow entailed by FEP; sometimes FEP and PP are not distinguished at all.

The aim of my talk is to investigate the theoretical commitments of PP and FEP, as well as intertheoretical relations between them. I will argue that PP and FEP are importantly distinct in terms of the type explanatory strategies they represent. On the view I will defend, PP acts a mechanism sketch which purports to outline the active parts and organization of the mechanisms that constitute cognition. FEP lacks non-trivial commitments about mechanisms and is best construed as purely descriptive, or as explanatory in a non-mechanistic or non-causal sense (I will argue that FEP could provide nomological or mathematical explanations). I will also provide reasons against the view that FEP entails PP. Rather, I will suggest that FEP is best understood as constraining the range of mechanisms of cognition, in a way which favors PP.

I will argue that carefully distinguishing the theoretical commitments of FEP and PP could illuminate some contentious subjects discussed in the literature. In particular, it shows a way forward in the debate over enactive vs representationalist readings of PP, as well as clarifies how PP could unify cognitive science.

Analyzing courtroom discourse. Problems of interdisciplinary studies

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The paper presents the research methodology of the communication process that occurs during a trial (court hearing). These studies were conducted by the author of the paper and they might be described as interdisciplinary in both a theoretical and methodological sense. Furthermore, the conducted research was both analytical and empirical in nature. The main empirical method of data collection was participant observation of the trials combined with sound recording. The empirical data includes the records of 250 trials which were held in Polish common courts and 160 hours of recorded sound.

Particular attention in this paper is drawn to the methodological problems related to the interdisciplinary nature of the research process. Specifically, the paper raises the following issues: (1) identification of the research subject as specific for various fields of science, (2) using theoretical concepts developed in different fields of science, (3) the method of selecting the research (empirical) data, and (4) coherence of the analytical and empirical research procedure of the communication process in the courtroom. In addition, the challenges and problems that arose within the aforementioned issues during the research process and the ways of solving them are discussed in the paper.

The paper also answers the following questions: (1) Why did the examination of the communication process in the context of a trial require an interdisciplinary approach? (2) Why were the methods developed in jurisprudence insufficient to achieve the purpose of the research? (3) What kind of "coherent mechanisms" were used for the purpose of the studies in order to prevent the term "interdisciplinarity" from just becoming an excuse for theoretical and methodological chaos? (4) What did the term "interdisciplinarity" exactly mean in the context of conducted research of the communication process at the trial?

Although the methodological problems indicated in the paper are related to the interdisciplinary nature of the conducted research process (and they were revealed in this process), they have an universal dimension. What does this mean? It means that they might be referred to the examination of the communication process at the trial (court hearing) taking place in court proceedings regulated by various legal systems (not only in the Polish legal system) and they may appear during the interdisciplinary research process in which a different subject of cognition is assumed.

Eventually, the final remarks of the paper indicate the benefits of the interdisciplinary approach to the examination of the communication process at the trial.

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Predictive Processing and Consciousness: a fundamental limitation?

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Predictive processing is a fresh and new framework in cognitive and computational neuroscience that have been influenced by several disciplines. One of its main ideas is to see to the brain as a prediction machine: its goal is to anticipate the incoming sensory data (that is predicted) with the actual sensory data (real). The main thesis is to refute what we can call the "traditional doctrine" of the brain. In the traditional sense, the brain is seen as a mere passive organ, which its activity is only determined by the external perception from the senses (cf. Gouveia & Northoff, 2019: 13-15). More importantly, an active role of the brain is denied in this traditional doctrine: the only functions that the brain has is to associate the diverse stimuli with each other. However, for various reasons, this model of the brain has been raising a lot of red flags. This raises the question for a more active model of brain as it is suggested in PP. The PP framework has been applied to several distinct functions of the brain including action, perception, attention, cognition, etc., forming what we can call a "prediction model of the brain." Most recently, PP has also been suggested to serve as a framework for consciousness.

How can PP account for consciousness and, more specifically why and how consciousness is associated with contents? How can we investigate the contents of consciousness? The group around Andreas Kleinschmidt (Hesselmann, Kell, Eger, et al., 2008) investigated human subjects in functional magnetic resonance imaging (fMRI) during the Rubin face-stimulus illusion. Although subjects are presented one stimulus, they perceive two different contents such as a vase or a face in response — the content of the stimulus is the same even though the subjects perceive two distinct perceptual contents. What does the example of bistable perception tell us about contents and their role in consciousness?

The example of bistable perception tells us that there is no direct relation between the content related to the input and the content in perception, that is, consciousness. One and the same input and its associated content can be associated with different contents in perception. How is that possible? The empirical data show that prestimulus activity changes in FFA (fusiform face area) and prefrontal cortex impact which content will be perceived in consciousness: the prestimulus resting state activity levels add something and manipulate the actual input (and its content) in such way that the contents of perception are not identical to the actual input's content.

How does such a prediction model of brain stand in relation to the above reported prestimulus findings? The group (Sadaghiani, Hesselmann et al., 2010) interprets its above-described findings on the contents of consciousness during bistable perception in terms of predictive coding. If the prestimulus activity levels are high, the predicted input is strong and can therefore not be overridden by the actual input, the stimulus—this results in a low prediction error.

Predictive Processing extends the originally sensory model of stimulus-induced activity as based on the actual input itself to a more cognitive model that includes prediction, that is, the predicted input. This raises two questions with regard to consciousness: (1) can the cognitive model of stimulus-induced activity and its contents account for the selection of contents in consciousness? (th Selection Problem); (2) is predictive processing sufficient by itself to associate any given content with consciousness? (Association Problem).

Based on empirical data on pre-stimulus prediction of subsequent conscious contents, we will argue that the prediction model of brain can well account for (1); In contrast, predictive processing remains insufficient to answer (2), that is, how any given content can be associated with consciousness. The only way to address that question on the basis of the prediction model of brain is to commit what it can be described as the prediction fallacy (Northoff, 2018: 144):

(PF): x (accurate or innacurate) is conscious iff x ∈ (a1, a2, …, an) [a1, a2, …, an = content selected] (Gouveia, forthcoming)

wherein one infers from the processing of contents in terms of predicted and actual input their actual association with consciousness. However, no empirical evidence supports the association of the contents related to predicted input or prediction error with consciousness and may need a more spatiotemporal approach to PP.

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Artificial Intelligence and the Philosophers' Quest for Transparency

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Demands for epistemic transparency are particularly pertinent to philosophical critiques of Artificial Intelligence (AI): how can we know how AI systems operate, given their complexity? How can we know whether and how they represent cognitive traits? These are two distinct questions that are rarely kept apart while being subsumed under a term that assumes a variety of different-but-related meanings in philosophy. The aim of this paper is to explore how the diverging definitions of the term "transparency" in various philosophical subdisciplines can help to elucidate the demands for epistemic transparency in AI.

The term "transparency" assumes at least four distinct meanings in philosophical debates:

1. In inquiries into the evolution of cognition in philosophy of biology, an organism's environment is called informationally transparent if the environment's properties are regular enough for the organism to make 'robust tracking' of these properties in perception and cognition an adaptive response (Sterelny 2003).

2. In inquiries into the nature of consciousness in philosophy of mind, consciousness is considered phenomenally transparent, in that a human thinker characteristically acquires self-knowledge by reflecting on the aspects of the world that his or her thoughts are about, not by introspection (Evans 1982; Dretske 1995).

3. In inquiries into the nature of meaning in epistemology, the content of one's thoughts is considered epistemically transparent, in that a human thinker is able to know on the basis of a priori reasoning, not outward experience, whether or not a number of her thoughts have identical meanings (Dummett 1978; Boghossian 1994).

4. In inquiries into the representational characteristics of computer models in philosophy of science, a model is called epistemically transparent if an observer can detect how the elements of the model are related, and how they represent their target system (Humphreys 2004, 2009).

The last of these meanings of transparency is mobilised as a desideratum in contemporary debates on AI models. AI models are frequently characterised as epistemically opaque, for being too complex to either be mathematically tractable or for their representational fit to be properly assessed. Where the former kind of opacity concerns internal properties of the model, the latter concerns model-to-world relations. Lack of epistemic transparency of models is ascribed to constraints on the available mathematical tools in the case of analytical intractability, but, as Humphreys (2009) suggests, it might involve essential limitations on what human beings can learn from and about models in the case of representational inscrutability.

It is the second and third of the above meanings which provide a very instructive contrast in the present context. In different ways, they attribute a unique quality of being transparent to the human mind. Where the notion of phenomenal transparency serves externalist and naturalistic purposes, defenders of the epistemic transparency of content emphasise the value of introspection and a priori reasoning. Epistemic transparency, on the latter view, is cast as a question of know-ability in principle and answered in terms of human introspective powers, which provide the a priori foundations of what can and what cannot be known. No empirical inquiry into human cognition could furnish epistemic transparency, thus understood. Conversely, phenomenal transparency anchors human self-knowledge in perception of external world affairs, and makes its limitations dependent on that relation, and hence on empirical affairs. As phenomenal transparency is immediately given in perception, no empirical inquiry into human cognition is needed to furnish it.

The first, informational concept of transparency may help to overcome the focus on transparency as something immediately given that permeates either view and that also informs the stronger notion of epistemic transparency of models: how transparent an environment is to a human being or other organism, and hence the extent to which he may perceptually and cognitively track its properties, depends both on the regularities in those variables in his environment which matter to him and on the means of tracking that are available to him. Both the environment and the available means of tracking are context-bound and subject to change. On this view, there are no metaphysical limits to knowledge but only natural ones. These limits depend on human abilities and available cognitive resources. Transparency comes in degrees. Nor is there reason to assume that there is a privileged quality of the human mind as being epistemically or phenomenally transparent that contrasts with what empirical inquiries into the human mind can achieve.

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Interfusion: creativity, subjectivity, ecocriticism.

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In this paper I discuss the subject of interdisciplinarity based on the example of ideas related to the place and expression of women in contemporary culture, and ways of articulating subjectivity through creativity. I study the relationship between text, voice and body, corporality inscribing into the broader perspective of nature/culture. I take into account the issue of feeling, sensual perception of the world, and concepts that go beyond androcentrism and anthropocentrism.
The aim is to find out how the contemporary subjectivity of women is built through creativity, feeling, and expression. With selected poetic-vocal examples, using the concept of ecocriticism, ecofeminism and nomadicity, I show how one can look at subjectivity. I am looking for answers to the questions of how rigid divisions, such as body and mind, matter and meaning, art and science, and finally, science and culture are destabilizing. What are the possibilities and risks that emerge when we increasingly focus on finding connections, and less on creating divisions? How does the idea of interdisciplinarity help to look at the planet as a whole? When anthropocentrism is unsealed, subjectivity is also shown in terms of including nature, non-human beings. It allows a change in the way one thinks about people, and introduces a new way of valorisation of cultural and non-cultural phenomena.

I use feminist theory, including ecofeminism (Luce Irigaray), the concept of ecocriticism: research on the relationship between literature and the environment (Julia Fiedorczuk), as well as the relationship between human and non-human (David Abram). On one hand, one can look at subjectivity as a construct related to will and effort, as building oneself through creativity. On the other hand, it is also a return to feelings and senses. Rather "being" than "doing", it is following, not conquering the world. How does it change the view on relationships with each other, on politics and ecology? Is this not the last moment for the planet to implement this way of thinking, the way of being and looking at subjectivity? The return to feelings in the body, the sensual reception of reality, to the voice of instincts, as well as to the imagination and respect for what is human and non-human, to change the culture, which so far has been based on domination. Interdisciplinarity is another manifestation of allowing more than one voice to be heard, searching for connections and interfusion, instead of rigid borders. It has both, positive consequences and tough challenges that force changes.

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José Gil's "Space of the Body" as a Model of Aesthetic Field

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In the paper, we will deal with José Gil's concept of the space of the body, which he develops in the course of his considerations on dance in particular. At first, we will highlight the essential features of this Gil´s original concept. According to Gil, the space of the body is created by dancer´s movement. Dancer´s bodily gestures invest objective space with affects, forces and tensions, they extend the body into the space and thus transform this space into the field of the extreme proximity between things and the body. In dance, this field of the space of the body is always formed by specific choreography as an inner-outer space. Transformations of the flow of affects or energies endows this inner-outer space by specific temporality and velocity, by specific dilatation, distension, folding and texture. The space of the body is also sphere of virtuality, because dancer´s body always projects itself to the space, doubles itself in the space and creates series in it. Further, we will emphasize that Gil's description of the space of body in dance does not only show the nature of dance as a specific art, but aims at the idea that dance as a caring out of the space of the body shed light on the very nature of body invested with affects. Lastly, in the paper, we will emphasize the validity the concept of the space of the body is not demonstrated only by dance, but also enables to describe the peculiar features of other kinds of art. With the help of Maurice Merleau-Ponty's, Gilles Deleuze's and Félix Gauttari's concepts, we will suggest that the notions of virtuality and the flow of affects can be used to describe the nature of architecture, painting, literature and music. Thus, all kinds of art demonstrate the fact that the space of the body is not an objective space, even though it is never separated from objective space. We will suggest that differences among various arts – that consist in various ways of employment of virtuality, dilatation, folding and flow of affects and energies – show the nature of the space of the body from various angles. In this context, we will also emphasize Gil's affirmation that the space of the body is not only sensed, but also seen and heard. We will highlight that similar affirmation can be made with respect to other arts as well, that a certain type of synaesthesia is always present in an work of art.

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What happens to interdisciplinary scientific/intellectual movements? The cases of neurosociology and sociology of culture and cognition

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This presentation addresses interdisciplinary scientific/intellectual movements that aim to establish themselves as part of some already existing scientific field. A scientific/intellectual movement is a group that aims to establish new scientific ideas (Frickel & Gross 2005) and it is successful if it manages to move from the position of "avant-garde" to the position of "production for the masses". Although scientific field has some general attributes (e.g. how unified or fragmented it is) that affect the scientific/intellectual movement, movements that emerge on the same field may have different trajectories. The interesting question is why

some movements fail and some succeed. In this presentation I will map the trajectories and development of two interdisciplinary scientific/intellectual movements that emerged in the same environment: 1) sociology of culture and cognition (also known as cognitive sociology) and 2) neurosociology. I utilize field theoretical perspective (e.g. Hilgers & Mangez 2015) in these case studies.

Both emerged in the field of sociology that has some general attributes. It is relatively fragmented field and it doesn't have a set of clear and shared criteria of what is considered to be good sociology (e.g. Fuchs 1993) - e.g. there are many (more or less) incompatible approaches in the field, and there is also the division between qualitative/quantitative methods. Therefore, in theory, it should be relatively easy to establish new approaches in sociology. But it seems that the cases I mentioned haven't been able to establish themselves as recognized part of the field of sociology - or, in other words, they haven't been able to move away from the position of avant-garde. This is notable especially in the case of neurosociology since there was considerable hype around neuroscience in the 1990s which produced various sub-disciplines that had the prefix "neuro". In addition, similar scientific/intellectual movements in related fields, such as cognitive anthropology and neuroeconomics, have gained much more recognition.

In this presentation I map the trajectories and development of sociology of culture and cognition, and neurosociology. Although they have some similarities - both have emerged from the interface of sociology and cognitive sciences - their trajectories differ from each other. Neurosociology seems to be quite fragmented and very marginal approach in the field of sociology. Also, it hasn't been able to institutionalize itself in a meaningful way. Sociology of culture and cognition isn't as fragmented, but it has an internal division based on how the relationship between sociology and cognitive science is defined. There is "sociological study of cognition" and a type that aims to "integrate sociology with cognitive science". The former has been able to institutionalize itself at least in some degree.

In conclusion, I outline what these cases can tell us about the problems interdisciplinary scientific/intellectual movements encounter. The topic of this presentation is related to my doctoral dissertation which is a work in progress.

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Arguments for the cognitive social sciences

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The overlap between the cognitive and social sciences has significantly increased in recent decades. New disciplines and research programs that aim to integrate these disciplines have emerged and expanded in the form of cognitive sociology, political psychology, behavioral economics and cognitive anthropology. However, not all social scientists have been persuaded that the social sciences should be integrated with the cognitive sciences. Some of them are indifferent to these new integrative disciplines and research programs, assuming that they are not relevant to their research practices. Other social scientists consider them as overly reductionist and, thereby, as a threat to the identity of their disciplines. As a response, cognitive social scientists have provided arguments to convince other social scientists about the advantages of integrating the social sciences with the cognitive sciences. In this paper, we analyze and evaluate these arguments for the cognitive social sciences.

Our focus is on four arguments that are based on different ideas about how the cognitive sciences should be integrated with the social sciences. We understand integration as an umbrella term that covers different ways of bringing scientific disciplines together. The arguments we discuss are based on the ideas of grounding, unification, constraint and complementarity. As our example of the argument from grounding, we consider reasons that Ron Sun (2012) provides for the cognitive social sciences. Among other examples, he illustrates the idea of grounding the social sciences in the cognitive sciences with his CLARION architecture (e.g. Sun 2017). With respect to the argument from unification, our example is Herbert Gintis'(2014) program for unifying the behavioral sciences by using the conceptual resources of the rational actor model and evolutionary game theory in a way that is informed by the cognitive sciences. As a somewhat weaker form of integration, we consider Maurice Bloch's (2012) argument according to which the cognitive sciences should constrain assumptions that social scientists make about the cognitive processes of their research subjects. Finally, we discuss the arguments that Eviatar Zerubavel's (1997) uses to justify his research program of cognitive sociology in which the cognitive and social sciences complement one another due to their distinctive methods and domains of study.

We discuss each argument in two stages. First, we reconstruct the argument by specifying its premises, inferential structure and conclusion. Second, we evaluate the argument by analyzing its presuppositions, the plausibility of its premises, the soundness of its inferences and potential conceptual ambiguities. Although we are more interested in analyzing the arguments for the cognitive social sciences than mapping the differences between cognitive social sciences, the arguments that we have reconstructed reflect deep differences in cognitive social scientists' presuppositions about their objects of study and methods of research. Hence, in our analysis and evaluation of the arguments, we pay special attention to their ontological, methodological and theoretical presuppositions. In the final discussion, we briefly compare these arguments and discuss some of the conceptual and methodological difficulties faced by the attempts to integrate the social sciences with the cognitive sciences. We also identify the most compelling reasons why cognitive social sciences are needed.

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The Free Will Problem from an Interdisciplinary Approach

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The problem of free will is one of the main problems in philosophy but also in psychology. Both, philosophy as well as psychology, try to give an answer to the question whether there is something that can be described as free will. Philosophy approaches the problem from a speculative perspective, psychology from the results of practical experiments. In order to show one approach of this problem I will introduce a Croatian woman philosopher and psychologist, Elza Kučera (1883 – 1972). She is best known as the first women librarian in eastern part of Austro-Hungarian Monarchy and one the first female experimental phycologist. She was a follower of Wilhem Wundt, the founder of modern psychology. Kučera studied special psychology and philosophy in Vienna, Zagreb and Zürich, where she received her doctorate degree in philosophy in 1909, becoming the first Croatian woman to ever do so.

Kučera approaches the problem of free will from the position of the experimental psychology but with a distinct philosophical background. In her text "Experimental Contributions to the Characteristic of Motivation in Voluntary Action" Kučera describes her experiment and discusses the methodology of capturing various aspects of human mental states (Kučera, 1948). She measures intensity of mental states in degrees. Such measurements provide an objective view of different aspects of mental states. Simultaneously, Kučera deals with the detection and description of voluntary activity and voluntary experiences as the subjective foundations of human free activity. Kučera is interested in the basics of voluntary action and willful experience and the way in which a willing experience through man I appear to be the driving force for action (Kučera, 1948). In her work there is a marge between problem of free action and decision-making with experimental methods of measurement of reactions and accompanying description of subjective states by the respondents themselves and on the basis of that she is trying to reconstruct and determine what is the stimulus that leads to action. In the conclusion of the experiment, she concludes that voluntary action is triggered by voluntary experience, and that the willing experience remains unavailable for experimental measurement. The source of voluntary action and a willing experience, is man's I which remains beyond the reach of experimental psychology (Kučera, 1948). In her paper Kučera has pointed out the multiple causes and motives of action. It is evident that the respondents appear to need to present their experience of the cause of this action. Freedom occurs here when no external motif can be taken as a cause, but when the action is derived from the human self and the inner willful motive.

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Challenges with interdisciplinary perspective in studies on the development of self-consciousness

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Interdisciplinary research on self-consciousness has been influenced lately by the problem of the relationships between self-consciousness and phenomenally conscious experience. This topic has been investigated both in conceptual and empirical dimensions (Guillot 2016; Carruthers & Musholt 2018). One way to address this issue is to study examples of so called disturbed or altered self-consciousness. Efforts to find relevant examples in the field of psychiatry and neurology (as well as in the experimental studies) are based on the assumption that phenomenal consciousness and minimal self-consciousness can appear separately only under extraordinary circumstances. However, there is another interesting area of research that can help to investigate this matter, namely developmental psychology. Studies on human infants can be seen as an area of conflicted intuitions concerning relations between phenomenal awareness and self-awareness. There is currently a discussion about whether we should assign self-consciousness (understood as a minimal, non-conceptual, bodily, prereflective self-consciousness) (Ciaunica 2016) to infants (Strasser, 2012; Musholt, 2012; Hutto and Ilundáin-Agurruza, 2018). It is often considered as a more general problem of whether we can consider a human being as conscious and not self-conscious at the same time. Many (like Zahavi, 2017) believe that evidence coming from the experiments on infants and observational data provide additional support for conceptual reasons for linking phenomenal self-awareness and self-awareness. However, it can be doubted whether these conceptual reasons as well as empirical data are motivating enough to accept the view that there is something like minimal sense of selfhood present from birth that accompanies all the conscious experiences.
In my presentation I discuss several problems concerned with the claim of innate character of self-consciousness. I intend to show that it can inform the discussion about subjective character of conscious experiences. At the same time I want to present the difficulties that may arise when we try to integrate developmental studies with the philosophical conception of pre-reflective self-consciousness. I point out that an effort to define a form of self-consciousness that is both logically and ontologically primary can be very challenging one.

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A Phenomenological Hermeneutic Resolution to the Principlist-Narrative Bioethics Debate

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Narrative approaches to bioethics and principlist approaches to bioethics have often been presented in fundamental opposition to each other (Arras 1991, McCarthy 2003), and this is rightly the case when it comes to the most radical versions of each position. However, I argue that a phenomenological hermeneutic approach to the narrative versus principlist debate finds a compromise between both positions that maintains what is valuable in each of them. The project begins by exploring the diversity of perspectives contained under the heading 'narrative bioethics'. I utilise the five categories of narrative bioethics found in Hilde Lindemann Nelson's Stories and Their Limits: Narrative Approaches to Bioethics to highlight the profound differences that divide various narrative bioethical approaches. Despite these differences, I argue for five crucial similarities that bind together narrative bioethics as a coherent school of thought. These similarities include the following: arguments in favour of the ethical relevance of particularity, the view that epistemological value exists in first-person experience, the belief that the narrative form has a generative capacity within moral education rather than serving in a merely illustrative role, a shared critique of principlist approaches to bioethics for being unjustifiably reductive and finally, the shared claim that irreducible and incommensurable narratives are possible.

These five defining commonalities are also points of contention for principlists such as John Arras, who object to the logic and arguments that comprise the narrative bioethical position. Unlike narrative bioethicists, who argue that the narrative form serves as the fundamental ground that makes ethics articulable, the principlist argues that abstract concepts or maxims serve as the foundation of ethics. Arras presents a counter-argument to each of the five commonalities characteristic of narrative bioethics. In response to the position that particularity is ethically relevant, he argues that no manner exists to determine which particular cases are ethically relevant and which are not, without a prior set of governing principles that determines ethical questions. In response to the claim that there is epistemological value in first-person experience, he provides counterexamples, such as false consciousness and self-delusion that throw into question the epistemic accuracy of this type of experience. In response to the argument for the generative capacity of narrative, he reduces it to an illustrative device that can help us to learn ethical principles but that stands as fragmented, unrelated stories without those principles. In response to the critique that the principlist view is unjustifiably reductive, Arras responds that in the end, narrative approaches to bioethics also require a set of principles to make moral determinations. Finally, he argues that the dedication of narrative ethics to irreducible and incommensurable narratives means that a narrative bioethical approach requires an endless investigation before a moral decision can be made, and even after such an investigation, there may be no clear way forward when it comes to moral action.

Arras's response to narrative bioethics does not excise narrative completely from bioethical discussions. He notes that narrative can serve to illustrate principles and, in so doing, assist in moral education. However, this position stands in opposition to most narrative ethical positions that treat narrative, not principle, as foundational. It also stands in opposition to the narrative bioethicists, who argue that narrative is capable of generating principles, and the most radical narrative bioethicists, who argue against the possibility of principles at all. While I believe that some of Arras criticisms stand against the most radical, postmodern edge of narrative bioethics that completely denies the utility or possibility of principles, I argue that a path exists between the illustrative and postmodern approaches to narrative bioethics and that this position offers effective responses to Arras's criticisms of narrative bioethics. Phenomenological hermeneutic analysis offers a robust methodology for undertaking a narrative approach to bioethics and bioethical investigations of disability. This method is

valuable because it addresses many of the criticisms narrative bioethics faces from positions such as principlism, while maintaining the social, ethical and epistemological benefits common to narrative bioethical inquiry. To demonstrate both the coherence of the phenomenological hermeneutic method as a tactic for overcoming the criticisms of principlism and the generative capacity of a narrative bioethical analysis to produce meaningful, generalisable ethical insights, this project suggests, as a way forward, an investigation of the experiences of autistic people through the medium of autobiography.

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Alternative Epistemologies and Liberatory Praxis: Feminist Understandings of Science and the Case Study of Astrology

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Drawing upon feminist and queer theory, this paper analyzes the extent to which Western Enlightenment epistemology constructs certain practices and ways-of-knowing, as 'irrational' and thereby discardable based on political interest in maintaining hegemonic power. In this way, this paper endeavors to inquire deeper into the 'sociology of absence' as advanced by Boaventura de Sousa Santos in Epistemologies of the South.

Taking the socially embedded and situated quality of all knowledge as a point of departure (following Donna Haraway), this paper critiques 'science', 'rationality', and 'objectivity' as constructed by the perspectives and in consideration of the interests of imperialist, straight, white, European patriarchy. Following the case study of astrology, a practice typically dismissed as 'unscientific' and 'irrational' by followers of Enlightenment thought and as part of the 'post-truth problem' by contemporary defenders of 'objectivity', this paper aims to construct a progressive critique of contemporary 'rational' society, arguing for the reassessment of dismissed epistemological practices in order to navigate the current neoliberal impasse. As Audre Lorde crystallizes: "The master's tools cannot dismantle the master's house"--it is necessary to recover (or reinvent) epistemological tools that can contribute to social justice and otherwise liberatory praxis.

Along this axis, the feminist intervention in the sociology of science can be seen as an opportunity to revise assumptions regarding the validity (or lack thereof) of certain practices with a view towards re-valorizing identities and communities traditionally marginalized by the hegemonic order. Non-'rational' practices like astrology, which have a history of being coded as feminine, queer, and even racialized (in that it is 'superstitious' and 'primitive') in the 'Enlightened' West, are taken more seriously in this context. When viewed from the position of the modern eurocentric tradition, astrology is seen as 'irrational' in that it is 'unscientific' and thus it can be wholly discarded. From the position of the marginalized, however, astrology's irrationality is more readily recuperated and reclaimed given that individuals belonging to these groups already understand themselves as 'irrational' actors by virtue of their femininity, queerness, blackness, etc.

Astrological epistemology implies a very different set of relations to the world from those familiar to those propagated by Western Science in which nature and matter are passive and the subject and object are definitively split. Recognizing the world ('nature') as an active agent that wields influence over human subjects (following Jane Bennett), encapsulating subject-object continuity, and operating according to cyclical visions of history and egalitarian social relations are all part of an ethics that can be read as emerging from accepting such an

alternative epistemological stance as originary. Ultimately, this paper seeks to suggest the liberatory potential of feminist theory by suggesting the relevance of epistemologies and practices beyond those of Western Enlightenment scientism--alternative epistemologies that have been dismissed and produced as invisible by Enlightenment philosophy and epistemology.

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Coupling cognitive expectations and anticipations in dialogue (in mother-child interaction)

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Mother-child interaction is embodied interaction which aids caregiver and child in attuning to collective networks. These normative domains of culture evolved before language (Donald, 1991). They enable children to use anticipatory activity to develop intrinsic motives (Trevarthen, 2001) and modes of action that meet – or, later, defy – caregiver expectations. Parties attune to the cultural embedding of language and cognition in bundles of practices that draw on co-action mediated by artifacts/institutions – they are languaging. Languaging is a contextually determined behavior (vocal, gestural, and other) immersed in the flux of joint activity with others and having a semiotic significance (Cowley, 2012).

The research aim is to describe the dynamic of different multimodal parameters of mother and child coping behavior that enable the rise of patterns of dialogical communication in child's communicative and cognitive experience.

Our corpus is built up with 20 hours video recording 40 Russian mothers interacting with their 0 – 4-years-old children. To ensure the ecological character of the observation, we asked mothers themselves to record their interaction with children using the camera support.

As a **research method,** we use the cognitive event analysis "aware" of what happens while we are interacting? The method tends to define events, which yield cognitive results (Steffensen, 2011). It consists in identifying across the detailed timing and verbal / non-verbal structures analysis, a transition point (or event pivot) of an interaction where emerges a mutual understanding between the caregiver and the baby. The pivot divides mother-child interaction into before and after stages. In baby's cognitive experience, the after-period is marked by the emergence of new cognitive link bridging first order activities (feel, interact, cooperate etc.) with second order constructs (linguistic forms / functions).

While analyzing the video data using Elan software, we were focusing on five parameters: 1) prosodic modulations 2) eye contact and its duration; 3) changes in the distance between dyad members; 4) intensity and quality of mimic facial movements; 5) and frequency of lexical repetitions in mother speech.

The example of babies' dialogical communication skills growing demonstrates that languaging is embedded in the cognitive event structure. The event pivot represents a transition point when the caregiver shares with the baby his own cognitive niche and due to the sympathetic

mirroring baby, seeking a place in the community, gains a new socially relevant and culturally based patterns of verbal and non-verbal behavior for which not only words, but the whole interaction, including vocalizations, gazering, gestures and, finally, words is significant.

Distributed cognition at the parking lot. A case for methodological pluralism

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Theoretical background
The paper aims to explore how distributed cognition can be applied to describe the behavior of people in a badly designed environment. So far distributed cognition proved to be fruitful when applied in the domain of tightly constrained activities manifested in well designed environments, e.g. in ship navigation, airplane cockpits, Tetris game or tower of Hanoi (Hutchins, 1995; Zhang & Norman, 1994). Looking at the broader picture of situated cognition, one can observe that it is basically interested in tightly coupled cognitive systems. This is because situated cognition assumes that relevant cases of distribution, embodiment and/or extendedness happen when patterns of information exchange between an organism and environment are stable, recurrent and reliable (Clark & Chalmers, 1998; Hollan, Hutchins, & Kirsh, 2000). Preoccupation with tightly coupled systems leads to overlooking the cases of unstable cognitive micro-systems emerging for the single task in highly idiosyncratic contexts. Therefore, activities displayed in less constrained and badly designed environments have attracted much less interest among researchers working in this framework. Only recently their attention turned to investigating how people constantly generate creative and unique solutions for newly encountered problems appearing in a constantly changing environment (Cowley & Vallee-Tourangeau, 2013). In this context, Perry (2013) provides an interesting example of applying the distributed cognition to loosely coupled systems in which communication patterns and the whole organizational structure are largely informal and dependent on the dynamically changing resources.
Study
We use an ethnographic study of how pedestrians and drivers solve the problem of moving around in an ill-designed shopping mall parking lot in order to show how they create instantaneous loosely coupled systems to maintain safety and orient themselves in space. We conducted the study in Autumn 2018 in one of parking lots of a shopping mall located in a large Polish city. A detailed description of how the mall's clients moved around the parking lot was needed for the purpose of re-designing the parking lot's visual information system. Special focus was placed on issues of safety and comfort. The study applied a range of ethnographic methods, including 9 video-aided research walks conducted in pairs by the researchers, 40 semi-structured interviews with the parking users and video recordings of the parking lot. The sources of data were diversified both in terms of time of week and day, and the key socio-demographic traits of respondents.
The results of the study show that the performance of various tasks related to moving around the parking lot relies heavily upon coordination of external structures (i.e. vertical and horizontal signs, the composition of bollards, different kinds of sett and lines, etc.). Cognitive activities of the parking users are also distributed across members of a social group (i.e. other drivers and pedestrians) and in time (some actions cause more or less constraint on future choices). Moreover, we identified various creative strategies that parking users applied and refined on the spot in order to move around in a safe yet effective manner. If they were to simply follow the environmental cues, they would fail to reach the targeted location or it would take them much more time and effort to achieve their goal. Thus, their active re-interpretation of various features of space as well as communicating with others in order to settle any doubts proved crucial to successful problem solving in the case presented here.
Discussion

We will argue that the creative, bottom-up aspects of problem solving in the parking lot would probably go amiss but for an integration of methods that adopt 1st person perspective (understanding of the lifeworld), 2nd person perspective (empathy) and 3rd person perspective (detached observation). Thanks to such a methodological triangulation it is possible to trace down not only the behavioural or cognitive aspects of the problem solving, but also its semiotic dimension which is essential for recognising deficiencies in the parking's design. Together, these three aspects of problem solving: behavioural, cognitive, semiotic, are fundamental for understanding of the problem solving processes by loosely coupled systems in ill-designed environments. We will discuss whether our pluralistic methodological commitments will suffice to call our study interdisciplinary. If yes, what kind of interdisciplinarity it would consist in?

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Visual pleasure, female gaze, psychoanalysis and feminism in film theory and practice

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The presentation will follow the concepts included in Laura Mulvey's article 'Visual pleasure and Narrative Cinema' (Screen 1975) which used transdisciplinary fields to research the concept of the gaze in narrative cinema. Mulvey involved in her reflection categories of psychoanalysis, feminism, film theory and feminine avantgarde cinema to discuss the construction of patriarchal ways of feminine representations in cinema, and the dominant male gaze produced on the screen.

The discussion which the essay provoked influenced most fields of humanistic thought in the last 50 years, entering fields such us film studies, feminist theory, philosophy and social science, as well as visual anthropology and artistic discourse.

The most problematic area of transdisciplinarity here is the incorporation of the non-scientific field of feminine avantgarde filming into research done. Both institutionally, scientifically, and while applying for grants which I would like to bring into light in my presentation.

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Visibility of women scientists in Poland - the new feminism perspective

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Historical inequalities between men's and women's participation in science is a well-known and widely described problem that still affects (is limiting) modern patterns of doing science. Although women have gained significant ground in the floor, there is much to held them back

from achieving a career prospect. It is also visible in the big data analysis, where sex or gender variables for a long time were invisible or hard to achieve. Still we face this problem while making quantitative analysis of gender bias in science.

Equality is one of the core values at the EU explicit in the fundamental treaties as well as in all policies, including research and innovation. It is a cross-cutting issue for the largest framework programme Horizon 2020. A lot of research projects has significantly improved the institutional knowledge in identifying the implicit, or unconscious gender biases and brought evidence on their impact on evaluation processes. "These gender biases can lead to unfair assessment of women researchers and lower their likelihood of receiving a grant. Such biases, held by individuals but rooted in socio-cultural norms furthermore, accumulate with more structural/organizational gender biases, which still remain pervasive in research institutions." (EC, 30-31 May 2017:6; ILO, August 2017; LERU 2012; EU 2019)

While progress has been and still is being made the situation on women in science vary on the country and discipline profile. According to the Era – Poland profile report, Poland has made an effort and achieved progress by implementing and adopted key reforms and initiatives. As it is the state responsibility to implement security policies for all people who want to stay active in labour market, meaning also women in each stage of life. I would like to state that securing equal opportunities to female researchers is deeply rooted in ethics and social generational solidarity as they are the key issues for development and from this perspective it is a state responsibility. On the other hand, that is an individual issue of choice to start, continue and develop one's professional career. "It depends on them (women) to promote a »new feminism« which rejects the temptation of imitating models of »male domination«, in order to acknowledge and affirm the true genius of women in every aspect of the life of society and overcome all discrimination, violence, and exploitation." (John Paul II, 1997: p. 99) By illustrating the state of art of women in Poland in social humanities I would like to raise the importance of new feminism priorities in fostering the future women's participation.

In my presentation I will refer to the Polish contemporary social sciences an especially sociology of the 21st century. Quantitative data analysis will be a method of discussing women's successes in the structures of scientific organizations and in the field as a general state of the discipline. I will comment on the date derived from the research conducted by National Science Centre on the share of women and men participation in the projects conducted by 2011-2018, and on the productivity report on social sciences done by Emanuel Kulczycki on the base on Polish Scientific Bibliography, which is the country wide obligatory repository system for publication.

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Unification by fiat: argumentative strategies of proponents of predictive processing

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To adaptively guide behavior in a rapidly changing environment, nervous systems have to unravel perplexingly complex relations between inherently ambiguous sensory inputs and their underlying causes - hidden states of internal and external milieux. In the recent years, predictive processing theory (PP; Clark, 2016) has continuously been gaining momentum to become a dominant candidate for a unified explanatory strategy of how the brains manage this task.

In this talk, we would like to argue that, for now, PP fails to stand as such unifying theory for many reasons. Its fundamental concepts and principles remain ill-defined, e.g., irreconcilable with certain psychological and cognitive phenomena (Williams, 2018), unspecified or too "stretchy" (Colombo & Wright, 2017). This underdetermination of fundamentals (paired with the intuitive appeal of the theory) results in a horizontal trajectory of PP development: it is being extrapolated on increasingly atomic psychological and cognitive phenomena all too soon. A plethora of unfalsifiable proto-models and general theories, frequently mutually exclusive and inconsistent with basic PP tenets, is being formulated in liberally interpreted PP terms (e.g., PP-based models of schizophrenia; Sterzer et al., 2018, or body ownership; Limanowski & Blankenburg, 2015). This explanatory rush effectively inhibits the advance of this promising theory and creates confusion: simple application of a theory to a wide range of phenomena does not mean that we have a common explanation (Colombo, Elkin, & Hartmann, 2018). As long as these proto-models cannot provide mechanistic explanations, they do not constrain formulations or commitments of PP. As a result, further development of PP is stuck in a vicious circle; its fundamental concepts are either further being blurred or, at best, remain ill-defined.

Our aim is to point out two kinds of obstacles for this development: the lack of clear fundamental principles and fallacious argumentative strategies used to justify the significance of PP for cognitive (neuro)science. Two of this strategies particularly stand out. Firstly, PP proponents succumb to a consistency fallacy (Coltheart, 2013) - they plan their experiments in such a way that they cannot provide results inconsistent with PP, interpret their results post-hoc and claim to have found empirical support for the theory. This post-hoc reconcilability of any data with PP stems from underdetermination of fundamental PP concepts and inevitably leads to incongruities between various PP-based explanations of the same phenomena. Secondly, whereas new models are claimed to provide new, testable, and

disambiguating predictions, they rarely do so. Actually, they most often generate "predictions" already confirmed in the literature (post-dictions).
We hope our criticism will contribute to removing these obstacles in the future work on PP.

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Interdisciplinarity as a challenge for contemporary surdologopaedics

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The complex nature of language communication is clearly present in the area of the language disabilities, forcing researchers and practitioners to reflect on the condition of disabled person in a multidimensional way. It applies especially to surdologopaedics. People with hearing deficiencies constitute the subject of this subdiscipline, while the problem of initiation and improvement of language sensing by such people makes for the subdiscipline's object. Hearing damage limits the access to the phonic layer of language, thus hindering both the natural acquisition of language and its efficient use in communication, cognitive, and social contexts by a person with hearing deficiency. In this case, the language deficit could be particularly observed in the prosody of the language statement: its accent, melody and vowel length, which are fundamental for communication. Consequently, a deaf person is defined in hearing society as *the other* or *stranger*.

State-of-the-art cochlear implants enable individuals who suffer from major hearing impairments to develop their hearing and language skills. The goal of my research concentrated on the influence of cochlear implant and speech therapy on prosodic skills in prelingually deaf children. The results confirm the efficiency of such activities and also implicate a new image of a person with hearing deficiency; one that is quite distant from the stereotype of a deaf-mute person established in people's mentality. The current image, unlike before, is not of an individual whose learning of the world via phonic language is limited and who is a stranger to the hearing community, but of a capable participant of that community.

Thus, it becomes essential to redirect the current way of thinking about people with hearing deficiencies, which applies both to theoretical perspective (combining philosophical, biological, psychological and social aspects of the issue of deafness) and practical perspective (covering diagnosis and the implantation of hearing organs, as well as pedagogic and logopaedic methods within the scope of language development of children with hearing deficiencies).

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Creative flow in dance improvisation

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Dancers frequently associate high-quality performance with 'being in the flow' state (Csikszentmihalyi,1988). This state characterises deep involvement, energized focus, and success in the process of doing things, especially creative tasks. Further, group flow (Sawyer, 2014) was connected to the peak experience when a group is performing at its highest level of abilities and reaches a collective state of mind. This research examined the role of group flow in creative practice of dance improvisation.
We observed the dynamics of group flow in dance by adapting a video-cued recall tool that captures the temporal patterns of flow experience and narratives of conscious thinkings in group interaction from an individual perspective (Łucznik, Loesche, 2017). The first study explored the occurrence of flow and its shared character within group improvisation (n=16, 4 groups of four dancers). It showed that group flow was rather rare and it was more likely when a group had worked together for longer. In their narratives, dancers reported that a group in a high-flow state engaged with a task in a more complex way, sharing, transforming and supporting each other's ideas, while low-flow groups worked more with mimicry and bodily manipulation. The second study explored the relationship between dancers' flow experience and creative outcomes. A total of 203 participants (77 experts and 126 nonexperts) rated excerpts of high- and low-flow dance improvisation (five each) using consensual assessment technique (Amabile, 1982). Experts judged high-flow collaborations as more creative, and more coherent, technically advanced, aesthetically appealing and meaningful, however there were no significant differences in nonexperts' ratings.
Overall, it was confirmed that flow is a highly creative state for dancers, in which they performed better. The presence of others and quality of group collaboration supports the occurrence and amount of flow. However, group flow occurred rarely and was more likely when a group had worked together for longer.

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The role of gender in the academic career

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Over the last few decades, the share of women among those involved in science has increased significantly both in Poland and in Europe. In 2016 women represented a greater percentage of Polish students and, moreover, men had been given a smaller number of doctoral degrees than women. The situation is reversed if we take into account the higher scientific career ladder. The scientific careers of women develop more slowly compared to men, who are also more likely to perform important functions in universities. According to the available statistics and surveys, women are under-represented in most scientific, engineering and management posts, and at higher hierarchical levels. The situation is no better in sectors where they form a majority, e.g., the educational sector, social sciences, and humanities. The problem is much more visible in STEM-related educational fields and careers. According to the European Economic and Social Committee (EESC), "the future of the European Union depends on research and innovation, and Europe needs 1 million more researchers by 2020 to stay competitive in the world. (…) Promoting gender equality and equal opportunities for women and men is a commitment of the EU in all its policy areas. (…) Data available at European level show a striking imbalance between women and men in the European research sector. Gender balance is crucial for a well-functioning research system" (Opinion of the European Economic and Social Committee on Women in Science, 2014). In recent years, this issue has been increasingly becoming the subject of scientific analysis and applies an equal opportunity for women and men in the world of science. This situation also relates to Polish women in the scientific world and at universities.

The issue of female presence in the world of science has been subject to analysis from a variety of perspectives. Of the many studies, quantitative analyses are probably the most pronounceably objective in describing the status quo which has been recognized as a priority in defining policies on national and international levels for over twenty years (ILO 2013; IMF 2013; WB 2012).

The main goal of my speech will be an attempt to answer the question of whether gender is an important determinant of the success in achieving senior positions in science in Poland, in comparison to other European countries. In order to answer the above question, I will conduct analysis using data collected and published by Eurostat regarding such issues as the proportion of female academic staff by grade, the proportion of female heads of institutions in the higher education sector, Glass Ceiling Index etc.

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Modelling individual and collective multi-scalar temporal functions

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Classically, cognitive functions are explored in isolated laboratory-based settings where participants engage with measurable, experimental tasks in a controlled setting. This allows for measurement of differences between conditions and model development and testing. However, life – of course – unfolds outside the laboratory. It is social, interactive, and unfolds over time.

In the multi-temporal scalar view, living organisms and social systems are self-organising wholes that cannot be placed neatly on a single linear timescale where something happens at that point in time. Rather, both the individual and the social are deeply influenced by events on multiple timescales including biological traits evolved over millennia, cultural customs navigated and shaped over generations, individual experiences and memories beyond the present, and repeated interactions between individuals within the social. Functionally, this means beliefs and behaviours cannot be adequately understood or modelled at an isolated point in time. Indeed, behaviours that may seem paradoxical in a laboratory may be reasonable when explored in a multi-scalar temporal view.

The multi-scalar temporal view naturally conceptualises individual cognition as part of a dynamic and adaptive system. It is messy and social, spans over time and space, and involves more than one individual who can be measured in isolation from their peers. In other words, multi-scalar temporal cognition is inherently 'complex'. This is a methodological challenge to cognitive scientists who wish to explore complex dynamics computationally and to model individual, adaptive functions in a multi-scalar temporal perspective.

However, agent-based models (ABMs) may resolve this methodological. These are ideal tools to capture functions within complex systems. They are computer simulated multi-agent systems that describe the behaviour of and interactions between individual agents operating in defined environments. They are fundamentally interactive systems with self-organising capacities. ABMs broadly consist of three elements: agents, environment, and interactions.

The talk presents ABMs as a method to grapple with and model multi-scalar temporal functions. To illustrate how ABMs can be used to model behaviours from a multi-scalar temporal approach, we present two models. In the first, agents learn how to fish in a dynamic environment where other boats operate, biomass can be depleted, and the regulatory framework delineates the possible behaviours. Here, we show that rule-breaking is dependent on other people and what has gone before. In the second, agents are placed within a social network where agents share information with each other. Here, we show that echo chamber emergence can happen for Bayesian agents and that information search and impact of educational interventions depends on the structure of the social and what has gone before.

Through these models, we show that computational cognitive functions can be embedded within as part of a dynamic and adaptive system that models what happens at an isolated point in time as a function of what has happened socially at multiple points in time. ABMs enable formally expressible and testable cognitive functions models within a complex, dynamic, and adaptive multi-scalar temporal perspective.

Feminist interpretation of the history of hysteria in Poland.

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In my talk I try to explain how feminist interpretation of the history of hysteria has transformed the way we're thinking about the past of this 'female' mental disorder.
The aim of my talk is to investigate the history of hysteria in polish psychiatric thought in 19th century, as well as investigate feminist theory of hysteria in polish context. History of hysteria is a classic topic for feminist researches. Especially when – in colloquial discourse – being hysterical means being overemotional, feminine and irresponsible. Of course, in feminist theory hysteria isn't interpreted as weakness, badness or irresponsibility, but rather as a cultural symptom of anxiety (Schahadat, 2007), as well as a protest against male rationality, as an opposition to computability and conventional behavior (Braun, 1985).
In my talk I will focus on investigation how the theory that the history of hysteria is above all 'his-story' of male anxiety (Rouseau, 1993) suits to polish context. My research includes polish psychiatric texts not yet studied.
In this paper I present my recent introductory research results of history of hysteria in Poland with emphasis on 19th century, when we had on Polish lands so called 'epidemic hysteria'. I investigate polish psychiatric texts about the etiology of hysteria related to female sexuality and methods of its treatment such as female genital mutilation (FGM).
I trace the theories and prototypes of polish hysteria from the nineteenth century to the present and question the assumption that hysterical person must be women. Finally, I expect that defining borderline and histrionic personality disorder as contemporary hysterias, show how the diagnosis of hysteria was and still is negotiated.
The project to trace the history of hysteria in Poland is part of my larger research project devoted to writing 'The History of Polish Madness". The first volume on the history of melancholy in Poland has already been published (Marcinów, 2018). My paper will be a presentation of partial research on second volume devoted to the history of hysteria in Poland (in preparation).

Consequences of Forgetting Austin (Views of context in hinge epistemology)

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In this talk I want to bring in an exchange between two epistemologists, Duncan Pritchard (2016) and Michael Williams (2004, 2018, 2019). My ultimate interest is in how Michael Williams' appeal to what he now calls Austinian circumstance-dependence (not anymore contextualism) (Williams 2018, 2019) works in his opposition not only to attributor contextualism (Stuart Cohen, Keith DeRose) but also to Duncan Pritchard's particular version of hinge epistemology (2016 Epistemic Angst). Following illiams I will try to bring out two consequences of forgetting Austin (J.L.Austin) One has to do with the concept of context itself (the question whether context is basically conversational or dialectic, or not). The other has to do with how one conceives of borders between questions in epistemology and in philosophy of language.

Structural aspects of perceptual experience – a framework to depict qualia from the third-person perspective

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Unlike the objects of natural sciences, the qualitative aspects of subjective experience (i.e., qualia – such as sensations of blueness, saltiness, coldness, and so on) seem to be hardly describable in quantitative or structural terms. Their insusceptibility to being captured from the third-person perspective was argued to constitute a major obstacle in naturalizing mind-brain relations and exploration of other minds' experiences (Nagel, 1974). The present talk addresses Nagel's call for a more objective approach to subjectivity that would escape the limitations imposed by the necessity of first-person access to perceptual experience. Nagel proposed that "its goal would be to describe, at least in part, the subjective character of experiences in a form comprehensible to beings incapable of having those experiences" (1974, p. 449) by closer investigation of the structural features of perception. The present work develops this idea in a twofold way.

First, the refined typology of structural aspects within perceptual experience will be depicted using examples from the domain of sensory substitution (Bach-y-Rita & Kercel, 2003). Sensory substitution refers to technologies enabling compensation for the sensory loss on the basis of the transformation of the stimuli from one sensory modality (e.g. vision) into the corresponding stimuli presented to other modality (e.g. audition). Typically, it involves the transformation of structural aspects of perceptual experience, which can be defined as these elements of sensations that can be parameterized and presented on the quantitative scale or located in geometrical spaces. Thus, sensory substitution provides some information about the primary percept – for a person incapable of perceiving it – leaving aside its qualitative properties. It will be argued that the feasibility of such cross-sensory transformations is determined by the scope of structural similarities between different senses. In this view, each sensory modality consists of a set of constituting dimensions (such as loudness, pitch, and timbre in audition) which could be further characterized with two parameters: granularity – which stands for the number discernible qualitative sensations within a given dimension; and geometry – specifying their dimensional organization (e.g., one-dimensional in the case of loudness or brightness but circular in the case of hues). In general, this approach follows the idea of mapping psychological phenomena into the conceptual spaces based on geometric and topological models (Gärdenfors, 2000).

Second, it will be discussed how the empirical means of extracting the structural aspects of experience can inform the third-person descriptions of subjectively non-given states (e.g., the perceptual experiences of non-human animals). The methods used in (animal) psychophysics enable determination of absolute and difference thresholds (that jointly approximate granularity), whereas techniques of multidimensional scaling (Shepard, Romney, & Nerlove, 1972) can estimate the dimensionality of space representing a set of discernible qualia (geometry). The extent to which the unfamiliar perceptual experience can be captured in structural terms will be illustrated with an example of active electrolocation in weakly electric fish (Emde & Schwartz, 2002) which appears to be one of the most informationally-rich non-human senses as it is constituted by at least five sensory dimensions.

Taken together, the present talk elaborates the underexplored approach towards the third-person descriptions of subjectively non-given states, based on the suspension of "the hard problem of qualia" and outlining the structural frames of phenomenal experience. This assumes the use of purely behavioral data to construct geometrical or topological models of experience, which in turn re-poses the question of the exact value added by subjective phenomenological reports in interdisciplinary research on perception.

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Facial and Behavioral Expression as a Clue to understanding Other Minds: from a philosophical and an experimental viewpoin

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As phenomenology of perception and philosophy of mind show, in a rather speculative way, our everyday experience is largely occupied by unconscious perception and behavior[1]. Though we sometimes try to understand others' minds and bodily behavior consciously and inferentially, we usually do so on an unconscious and intuitive basis. In addition, when we try to understand and build a personal relationship with others, we often attribute a certain morality to them.

In this presentation, we flesh out the philosophical perspective outlined above by taking into consideration empirical data from psychology and brain science as well as insights drawn from phenomenology and the philosophy of mind. By so doing, we try to answer the following questions: How do we understand others' minds? What is the tacit basis of our understanding others? How is our way of understanding related to the way we attribute morality to others?

For that purpose, we designed an experiment in which to assess how we understand others' mental states and tendencies. To begin with, we administered a personality test, a modified version of the State Trait Anger Expression Inventory (STAXI), to 283 mentally healthy people. Based on that result, we got two different groups by drawing four representative samples from each category, 1. "Low Anger-In and High Anger-Out" group and 2. "Low Anger-In and Low Anger-Out" group. "Anger-out is defined as the frequency with which an individual expressed angry feelings in verbal or physically aggressive behavior. Anger-in is defined in terms of how often an individual experienced but held in (suppressed) angry feelings."[2] Thus, the latter group consists of those who do not have much anger or whose anger does not last long. We asked four people of each group to work on leather craft and took a video of those scenes.

Then, we showed that video to some 30 subjects and asked them to guess intuitively who belonged to which group. Particularly, when they marked someone as belonging to the group of Anger-Out type, they were also required to describe what aspects of bodily behavior and facial expressions they drew on in their guesses.

The descriptions will be analyzed by NVivo and classified into ten categories --- nine terms of middle division of AMPS and one of expression and impression. One thing we can expect is that, when doing the task, the subjects would, intuitively or unconsciously, focus on the same type of facial expression and bodily behavior.

We measure brain waves of the subjects seeing the video, and evaluate the difference in the average current value between when they focus on the relevant facial expression and bodily behavior and when on other features.

The subjects' impressions related to moral judgement about people in the videos who are working on the leather craft will be evaluated using the trolley problem and the dictator game.

Trolley Problem: 1. Do nothing, and the trolley kills five people. 2. Pull the lever, the trolley will kill one person.

People whom subjects regarded as the highest AO or the lowest AO in the video made a utilitarian decision (pull the lever to kill one person to save five people). Subjects rate how moral responsibility the highest AO or the lowest AO has with 5 steps values from 1 to 4.

Dictator Game: Subjects will share the money (10 euros) with the highest AO (the lowest AO). They are explained that they have a right to decide the allotment.

We will shed new light on how we understand other minds and attribute morality by considering the experimental data and relevant theories including phenomenology, theory-theory and simulation theory in the philosophy of mind [3][4].

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A robotic and philosophical study on the nature of agency: An interdisciplinary approach

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The purpose of this paper is to clarify part of the ethical basis necessary for a machine like a robot to be a member of a human society, or a moral agent. We will approach this task by way of making a distinction between moral agent and moral subject [1]. A moral agent can act with free will, foresee the result of her acts, and take responsibility for them. The agency is a necessary condition of moral responsibility. By contrast, a moral subject is being which can itself feel pleasure, sometimes act voluntarily, and become a party of interest. Typical examples are babies and infants whose behavior can be sympathized by others. Pets like dogs and cats, and recent humanlike robots can be moral subjects. They often become parties of interest because they seemingly feel pleasure and distress.

For something to be a moral agent, it is necessary to be a moral subject. Being a moral subject necessitates, in turn, being something for which others can feel empathy. If something is to be empathized with, it needs, at the very least, to be on a vulnerable par with humans.

The traditional cognitive robotics seems to have focused on developing social robots which can be empathized with or cared for by people --- that is, robots as moral subjects. Though the endeavor might have enjoyed some success, it cannot be viewed as going far enough to implement moral agency. The looming problem is what is necessary for robots to gain moral agency and become members of our society. Analyzing situations in which something is deemed to be moral agents, there are, among others, three conditions to be met.

1. It can be seen as being basically similar with a human in terms of bodily structure, cognitive ability, and behavioral pattern, and so on --- this is related with being a moral subject, as well. (Cognitive-Behavioral Condition)
2. Despite those similarities, there is a variety of differences in each individual, some of which are impenetrable and incommensurable because of its autonomy and first-person perspective. (Ontological Condition)
3. Morality in general can be acquired only if we are mindful of our vulnerability and social

dependence on others, and attribute moral responsibility to each other. (Normative Condition)

In order to gain support for our argument partly, we designed an experiment of human-robot interaction. The interaction is based on bodily coordination since the latter is a social art and one of the key elements to have a social relationship with others. After the experiment, we measured how much morality the human participants attributed to a robot by setting them three ethical problems: Trolley problem, Dictator game and Ultimate game. We can know how much morality human subjects become attribute to our humanoid robot after the bodily interaction coordination with it.

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The dubious interdisciplinarity of the Cognitive Science

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In spite of the implicit agreement that cognitive science is by default an interdisciplinary research project (as introductory chapters in any textbooks or companions on Cognitive Science attest), some authors conclude that this interdisciplinarity [ITD] is not obvious at all, and we should consider whether there is any at all (Cohen-Cole, 2007; Graff, 2015). They argue, mainly based on historical data, that cognitive science tends to more and more divergent between disciplines, which are becoming more and more autonomous and self-sufficient (Graff, 2015). Is CS really turning away from its interdisciplinary beginnings or maybe it has never been fully interdisciplinary?

Starting from making a distinction between object-, problem-, method- and theory-oriented ITD (Schmidt, 2011), I will focus on the tension between object- and problem-oriented ITD in CS. More specifically, I will argue that: (1) interdisciplinary research is mostly problem-driven—there are INT-forcing problems, essential for lively interdisciplinary research; (2) although object-oriented INT in Cognitive Science seems non-controversial, most grand problems of Cognitive Science (the nature of mind or cognition) are not INT-forcing problems, but there is a lot of smaller interdisciplinary problems forced by the issues related by integration between particular disciplines of Cognitive Science (e.g., the stabilization of theoretical constructs between psychology and neuroscience (Sullivan 2017)). Therefore, following the classical work of Campbell (Campbell 2014) and contemporary rich research on interdisciplinarity (e.g., Grüne-Yanoff 2016; Huutoniemi, Klein, Bruun, & Hukkinen 2010; Klein 2010; Koskinen & Mäki 2016; MacLeod 2016), I will argue that cognitive science strives to fish-scale a model of plurality for interdisciplines, which is in accordance with the contemporary pluralistic stance in Cognitive Science (Dale 2008; Dale, Dietrich, & Chemero 2009).

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Delusions as Hallucinatory Ways of Being in the World: A Case for Perceptual Disjunctivism

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Hallucinations serve as special cases for philosophers of perception. Roughly, there are two general theories of perception and perceptual experience that philosophers may invoke to 'properly' accommodate hallucinations-these two theories are, respectively, representationalism and disjunctivism. In this paper, I wish to make an argument that gives credence to a certain form of disjunctivism about perceptual experience by showing how a plausible and explanatorily powerful account of delusional experience invites us to conceive of delusions as more like articulations of hallucinatory ways of being in the world. On this model, delusions are characterized as non-ordinary ways of being perceptually attuned to environmental affordances, which takes into account socio-cultural features that the individual is sensitive too as well as brain pathologies, as opposed to being characterized as obviously false beliefs that one firmly holds in the face of counter-evidence, where the pathology is explained as exclusively due to certain organic malfunctions that have taken place in the brain system. First I will gloss the difference between representationalist and disjunctivist views of perception as they bear on the special case of hallucinations. In turn, I will review top-down and bottom-up approaches to delusion, highlighting the ways in which they come up short in sufficiently explaining the phenomenon of delusions, and specifically I will focus on how these shortcomings stem from 1) their taking an approach to cognitive systems that is paradigmatically representationalist, whether concerning higher-order functions of reasoning or lower-order functions of perceptual experience, and 2) the fact that they focus on what causes delusions as opposed to what delusions are constitutively. Then I will review a plausible alternative framework of delusions that stems from the work of by Shaun Gallagher, highlighting how this alternative account makes up for the shortcomings found in the other approaches by committing us to a disjunctivist view of perceptual experience that I call affordance disjunctivism.

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Normative Mechanisms in Predictive Processing

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There are two main groups of objections against the use of Bayesian models in Cognitive Science. The first of these concerns the low explanatory value of these models (see Bowers, Davis 2012; Colombo, Elin, Hartmann 2018; Jones, Love 2011; Kwisthout, van Rooij 2019). On the one hand, the explanations formulated in this research framework actually refer only to Marr's computational level of analysis; on the other hand, Bayesian inference involves a computationally intractable problem (NP-hard). The second group of objections concerns the normative nature of Bayesian models. Proponents of prescriptivism (cf. Andreson 1990, Oaksford, Chater 1994; Oaksford, Chater 2007) claim that models using the Bayesian rule not only describe how cognitive and decision-making processes are realized, but also show how they should be realized. Critics of this approach (see Colombo, Elkin, Hartmann 2018; Elqayam, Evan 2011; Jones, Love 2011; Tversky, Kahneman 1974) point to a number of constraints that prevent the prescriptive approach (evolutionary limitations, heuristics; NP-Problem; presupposition of rationality etc.). Prescriptivism should be abandoned in favor of descriptive approaches.

In my presentation I will defend Bayesian PP against both groups of objections. (1) I claim that if PP is to explain something, the predictive mechanisms must be Bayesian mechanisms. Explanations are based on Bayes because the predictive mechanisms are Bayesian *per se*. I therefore assume the ontic hypothesis for PP (Phenomena are explained using Bayesian models because they are Bayesian by nature. If they are Bayesian by nature, it means that they should be explained using probabilistic modeling. This is an explanatory hypothesis). I therefore reject the epistemic hypothesis (phenomena are explained using Bayesian models for pragmatic, instrumental, and explanatory reasons). (2) Bayesian models are normative because (at least some) phenomena explained by these models are normative by nature. Therefore, I claim that Bayesian PP is normative because predictive mechanisms are normative, and not because, as supporters of other Bayesian approaches say (e.g., Rational Analysis), we use the models to formulate some rules or principles of acting or thinking. In my presentation I will present arguments in favor of this thesis.

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Embodied Emotion in Motion: E2M

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OWL training

This paper is based on a practice-as-research intensive project that will be carried out in August 2019, which in turn applies the doctoral research of Dr Jorge Crecis and Dr Lucía Piquero, respectively: Towards Vivencia: A dance training methodology that generates a peak performative state through the ritualisation of actions (2018) and Experiencing Emotional Import in Works of 21st Century Contemporary Theatre Dance (2019). The cohesion between their two approaches is provided by their base on embodied cognition, the understanding that mind and body are integrated and not separate. Dance can be understood as a medium for multifaceted emotional experience when conceptualised from enactive perception—including the spectators' background (as defended by Alva Noë (Noë, 2006/2004) or Francisco Varela (Varela, Thompson, & Rosch, 2016/1991)—and embodied cognition—a reflexive stance which understands mind and body as inseparable (Lakoff & Johnson, 1999).

The project the delves into ideas about embodied cognition to support a practice-led theoretical understanding of the experience of emotional import and peak performative states in theatre dance performances. Exploring from a multifaceted and interdisciplinary view, the project will join together performers, choreographers/directors, and scholars to offer a view from different perspectives, fitting to an investigation of the complex enactive perceptual experience that comes from any facet of performance. A series of creative sessions will be recorded and analysed, together with other data-collecting methods (mainly questionnaires both for experience and for observation), and then presented to an audience at the end of each day. The experience of the audience is also collected through questionnaires and open discussion, completing the multi-layered view.

The main aim of the work is to develop, through praxis, a multi-perspective understanding of the experience of emotion in performance, through the internal points of view of the performer and choreographer/director, as well as the external views of the informed spectator—the scholar—and the general public.

The particular objectives are:
- To develop a working understanding of embodied cognition which might allow participants from different disciplines and in different roles to work together.
- To facilitate the encounter between different perspectives on emotion in performance, questioning as well as gathering input, enriching the discussion on the experience of performance
- To develop the personal work of the participants at every level—emphasising the inseparable bond between theory and practice through the very notion of embodied cognition
• To develop as well the audience's understanding, and presumably enjoyment, of performance

The paper then proceeds through a dialogue between philosophical views of the spectator's and performer's experience and a particular focus on the analysis of training and performance, live and on video—including reference to the ontological issues which arise from using these different formats. The study explores the experience of emotions in works of contemporary theatre dance as neither raw—i.e. not intellectual—nor completely ineffable, and the understanding of peak performative states is conceptualised as an episode of

extreme awareness of praxis during the continuous present moment in performance. Both of these experiential elements are understood through a framework that integrates the bodily experience and the intellectual processing of information to create a complex approach of enactive perception and embodied cognition.

The paper develops a conceptual framework through the theoretical notions of emotion, experience, peak performance, embodied cognition, enactive perception, and emergence, and presents methods to analyse 1) dance through movement qualities, spatial-rhythm, and sound- movement relationships, considering these as perceptual properties of the work, and 2) peak performative states through particular training methodologies. These methodologies allow for analysis based on the experiences of multiple participants, and for an integration of views which might allow further discussion of the relationship between the experiences of the diverse agents who form part of a theatre dance performance. The intensive project itself brings together philosophical as well as psychological preoccupations on the performance participants: choreographer, dancer, audience. The research team allows a variety of approaches, from philosophy, psychology, or sports science, but also cognitive science and performance theory through the participation of researchers from other disciplines, and the invaluable input of dancers and audience members.

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Metro-rhythmical experience in dance and music as the example of cross-modal syntactic processing

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Music, similar to language, is an example of the Humboldt system (Merker, 2002) which consists of a restricted number of units organized according to particular rules. The arrangement of these units is often called 'syntax' and it necessitates a special form of neural processing (Patel, 1998). The neural processing of musical syntax is based on two types of analysis (i.e. spectral and temporal analyses) (Zatorre, Belin, & Penhune, 2002) which result in the experience of musical pitch and rhythm hierarchies. However, while the hierarchical schemes of discrete pitch patterns seem to be unique to music, the metro-rhythmical patterns can be produced both in the auditory and motor domains by the means of vocalizations and body movements respectively. As the result, the metro-rhythmical part of musical structure can be interpreted by the means of body movements in dance (Sievers, Polansky, Casey, & Wheatley, 2013). The main aim of this presentation is to propose that the syntactic processing of metro-rhythmical hierarchy in dance and music is based on a functionally different mental tool than the syntactical processing of musical pitch. Therefore, in contrast to the standard view that treats the musical syntax as a relatively uniform entity (Lerdahl, 2013) it is suggested that the metro-rhythmical experience in dance and music relies on a qualitatively distinct ability that is separated from the ability to process pitch hierarchy in music. As a result, both pitch syntax and metro-rhythmical syntax should be treated as separate phenomena. Moreover, the cross-modal character of metro-rhythmical syntax allows us to 'translate' musical patterns into dance movements and vice versa. This view is supported by neuroimaging studies which reveal activity within the basal ganglia and the motor cortex during the recognition of metro-rhythmical patterns in music and dance (Li et al., 2015). These results also suggest the possible different roles that are played by

different cortico-subcortical loops in the processing of various musical features. The different involvement of three cortico-subcortical loops (i.e. motor, associative, and limbic loops) in the processing of music and dance syntax will be discussed. In addition, the possible evolutionary origin of these two abilities will be presented. Although some scholars have proposed that musical rhythm is evolutionarily older than musical pitch (Mithen, 2006) the question of their functions remains open. The possible solution of this issue is that both metro-rhythmical and pitch syntaxes are related to a consolidatory function. However, the difference between these syntaxes can be based on the level of sublimation. While metro-rhythmical syntax is simpler and cross-domain, the pitch syntax is more elaborate and solely auditory.

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The work of feminine-masculine principle in Nietzsche's thought

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When we say, for example (as Deleuze said) "Now Nietzsche-is-becoming-a-woman," we definitely have some presuppositions as to what we think of the gender we presuppose. Nietzsche was an involuntary celibate and didn't achieve sexual fullfillment with Lou Salome. As he was unable to get-a-woman, he-became-her, as Deleuze would have said. One of the main presuppositions of Nietzsche and Deleuze, concerning gender, was pairing up the feminine with quality and the masculine with quantity. The qualitative-quantitative difference plays the main role in Nietzsche's rhetorical dynamism. Along with the development of Nietzsche's thought, the notion of will to power retroactively changes all other notions of the Nietzschean view. It is the principle of Nietzsche's later conceptual landscape. This principle is binary: qualitative (it is will—not desire, nor anxiety, nor sentiment etc.) and quantitative,

i.e. power. The power is the pure dynamic quantity of itself, it is the immense (Ungeheure), and it can be measured by scientists (its first synonym is the greatness of physical force). Will, which is considered regardless of power, can also be measured by psychologists (that is why Nietzsche values psychologists greatly and considered himself a psychologist). Taste is a trait of the human mind, by which we can measure the quality of will. Showing one's own taste and studying the taste of the others is the main subject of discourse, which Deleuze called *féminine*. Sometimes Nietzsche's language ceases to be tasteful, its appeal ceases (perhaps this is why Nietzsche would call us nihilists), and it becomes simple, flat, and stereotypical. Nietzsche seems to know this. Yet, he does not give up on using that kind of language, which is a glaring example of chauvinism. Why? He defends and expresses, in his opinion, the power, i.e., he tries to cultivate stronger discourse which results from the physical advantage of men over women.

The thesis of my lecture is: the manner of Nietzsche's writing manifests his metaphysical principle. The Will to Power, which demonstrates the duality of his writing, on the one hand is poetic-rhetorical and feminine, which may be an echo of his involuntary celibacy (from a psychoanalytical perspective, Nietzsche's feminine writing would be a sublimation of unsatisfied desire). On the other hand, his style becomes stereotypically harsh, accepting and only promotes the cultural inequality between men and women, which is allegedly founded on biological inequality. And for this reason (not despite this reason), women are more sophisticated than men. They need tricks because they are weaker, and they need clever deconstruction to deceive the simple male mind, as Derrida would have said. Nietzsche suffered from a sense of rejection by his contemporaries. Many fragments of his writing confirm this. He knew he didn't have the power he dreamed of. So, he used his feminine tricks and abilities (like artistic sensitivity and insight) to write Zarathustra's speeches, talking to animals and dwarfs, and to make beautiful lyrical compositions (his aphorisms from The Joyful Wisdom). The more misunderstood he was, the more sophisticated he became. In my lecture, I will show the flow between femininity and masculinity in Nietzsche's writing, which are, from theNietzschean point of view, a series of trials that express his will to power (recognized as feminine-masculine principle, since all former, pre-Nietzschean, metaphysical principles were purely masculine and logocentric). In summary, from a feminist point of view, Nietzsche's thought was a breakthrough, transient, and liberating phenomenon.

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Socially engaged design from a methodological perspective

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Published in the 1970s by Victor Papanek, "Design for the Real World" ignited a broad debate, as well as a wave of criticism of design, and thus prompted the next generation of designers to turn their backs on conventional product design. Inspired by Papanek, the students of that time adopted a "humanistic program", aimed at designing toys for disadvantaged children, hospital equipment, and technologies for countries in a difficult situation. This program was contrary to design, which was limited to the mere stylization of consumer items of desire. It may seem that contemporary designers, or even more broadly, contemporary design that positions itself as "socially engaged", follows the demands of Papanek. However, in my opinion, even if such premises are maintained by designers, the effects of their work are in many cases the complete opposite. In my address, referring to examples, I would like to show that even socially involved design, which is generally regarded as something rightful (something good) brings many negative consequences. The major example, which I refer to, is the case of hangars designed for refugees by Ikea. On the

one hand, these temporary homes in refugee camps improve migrant conditions, but on the other, they perpetuate the location of these people within the camps, while relegating their possible beginning of a "normal life". Of course, the Ikea program is just an example, I do not intend to focus on the company's policy; I just want to draw attention to a certain paradox into which it has fallen.

Referring to the concept of human rights, assuming that every man is entitled to certain rights, the source of which is the inherent human dignity, I would like to show that designers must face not only the practicality of their products, but also the transmitted meanings that they carry. Only such a complementary approach can ensure that design will not draw other groups into the embrace of consumerism, but on the contrary, will allow—even partially—counteracting social exclusion.

To sum up, I want to emphasize the methodology. I believe that methodological perspective is as important as the research itself, because it enables falsifying the results of speculations (including those of philosophy). In my address, I want to simultaneously show how the presented problem engages various fields: research on design, social philosophy, ethics, and research on cognition.

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Languaging and evolution

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How can the notion of languaging contribute to a broader understanding of human evolution? Based on the theory of Natural Drift, it can be hypothesized that the consolidation of languaging-based practices has acted as an attractor for homanization. This claim relies on three assumptions: 1) behavioral and relational habits may channel the course of genetic and structural change; 2) linguistic coordination and specific forms of sociality set the systemic conditions for coexistence-through-languaging to be conserved over generations; 3) the maintain of these conditions give rise to a spiraling, positive-feedback process that involves body, cognition, and culture, resulting in a unique ontogenetic phenotype.

Free energy principle: ergodicity & historicity

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Recently, a twitter post by Evan Thompson sparked an online discussion about the role of the ergodicity assumption in all formal theories of predictive processing, most importantly in Karl Friston's free energy principle. Ergodicity has many equivalent definitions, but in general, it can be understood as a tendency of some dynamical systems to exhibit the same behavior averaged over time as averaged over space of the system's states in its phase space.

Proponents of the FEP that took part in the debate downplayed the role of potential invalidity of this assumption. E.g. Micah Allen claimed that it is only "a convenient mathematical assumption" and approximate ergodicity is enough for the use of FEP formalisms to be justified, and Maxwell Ramstead stated that only "local ergodicity" matters and that "FEP isn't a theory of everything" and it "needs historically deep disciplines." The discussion was somewhat concluded a month later with a publication of a paper presenting direct evidence for ergodicity of human behavior in an economic context (Meder et al., forthcoming).

Despite the arguments of Allen and Ramstead, recent attempts of the proponents of active inference to account for deeply historical phenomena such as evolution or cultural transmission, in the form of the variational neuroethology and the Hierarchically Mechanistic Mind theory (e.g. Ramstead et al., 2018; Badcock et al., 2019 Veissiere et al., 2019), call for taking the role and implications of the ergodicity assumption under a closer scrutiny. There are implausible consequences on both sides: if those processes are not even locally ergodic, then FEP, and particularly the Markov blanket formalism, cannot explain those phenomena. While if the ergodicity assumption is met, then it would turn out that both biological and cultural evolution is, in fact, a deeply ahistorical process, even in the ordinary meaning of this word.

In my talk I will consider several definitions of ergodicity, trying to show the crucial role of this assumption for the applicability of FEP formulas. Given its importance, I will argue that FEP cannot by itself explain historical processes such as evolution or cultural transmission. Nevertheless, it is compatible with dynamical systems theory that is able to account for nonstationary processes and can explain the evolution of systems' attractors - a problem that escapes FEP. Finally, I will try to show that whether we regard FEP as a "theory of everything" or not it still allows an explanatory pluralism with regard to life and cognition.

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Suspension of the Self and Embodied Creativity - How the use of Metaphor enables a more embodied creative process

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How can performing arts in relation with other sciences like cognitive science and neuroscience create a new understanding about metaphor in embodied creativity? The article discussed here is "Neuroscience and creativity in the rehearsal process" of John Lutterbie (Co-director of The Center for Embodied Cognition at Stony Brook University) employs neuroscience and cognitive science to tackle the process of the actor in the rehearsal. What strategies are played to frame the performer creative exploration and decisions? My main focus is to grasp if the embodied aspects of the perception of the performance artist are indeed a relevant case study and strategy that deserve further study when thinking about the phenomenon of creativity and embodied epistemology. Lutterbie (2006) intention with this article is to study how two actors from very different backgrounds use a similar metaphor to describe their work in rehearsal. This metaphor the "self as a container" represents the will of the actors to suspend certain aspects of the self so they can enter some state of surprise and enhanced state of discovery in their rehearsal process. Lutterbie gives relevance to Lakoff and Johnson´s work on conceptual metaphors. Lutterbie surely investigates how does the repeated motif of the self "emptied" of thought and judgement actually allows the actors to experience a free flow of feelings. The actors believe that having present this metaphor in their minds allows them to have some kind of control over the modes of their mental processing and with the use of this metaphor they can maneuver the split between intellect and emotion. To see if this corresponds to neuro biology and cognition, Lutterbie adds to the discussion the research of the Neuroscientist António Damásio that suggest that even if that absolute rational control over modes of mental processing is very likely impossible it can be somehow possible due instead to an intensified form of general cognitive capacity that are a consequence of "lateralization across zones of convergence" known as synesthesia. Lutterbie also summon up the studies on cross-modality cognition in which concentrated neural activity reaches across the senses, allowing humans to create or recall unexpected associations. All together the works of Damasio, Lakoff and Johnson, and Ramachandran and Hubbard point to a convergence of evidence that are "underlining the centrality of associative cognition to an understanding of the acting process" (Lutterbie, 2006, p.150). In the book introduction Mcconahie & Hart affirm that ["what is at stake here is not whether an actor´s process is metaphorical or, for that matter, the fact that actors must use metaphors to describe their process. Rather, what matters is that "metaphors current in the culture best describe the creative process" (Mcconachie & Hart,p.163)"]. I would argue that what is at stakes here goes beyond that, it is the value of metaphor as a technique that allows the actor (creator) to have a more sharply focused attention that can helps them to have some sense of autonomy and control over the simultaneous cognitive feedback of intellect and emotion.

Mechanistic explanation as an interdisciplinary endeavor: the case of social coordination

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Talk of mechanisms is rife in many scientific disciplines, from physics and biology to the cognitive and social sciences. In recent decades, philosophical accounts of mechanistic explanation and mechanism discovery have been developed to explore research practices in fields such as molecular biology (Bechtel&Richardson 2010; Craver&Darden 2013), cognitive neuroscience (Bechtel 2008; Craver 2007), and analytical sociology (Hedström&Ylikoski

2010). These investigations have typically concentrated on some specific scientific discipline or sub-fields of a discipline, such as molecular biology, genetics and evolutionary biology. However, relatively little attention has been devoted to the roles that mechanism discovery and mechanistic explanation may play in the context of interdisciplinary investigation, involving numerous researchers studying the same phenomena from the idiosyncratic perspectives of their own disciplinary research programs, methods and theories.

This paper seeks to shed light on the roles that mechanistic explanation and understanding may play in the context of interdisciplinary research through a case study of three on-going research programs on the nature of social coordination in the behavioral and cognitive sciences. The first research program has to do with evolutionary anthropology, where it has been argued that the capacity for social coordination was the central evolutionary adaptation that set the human species apart on its own evolutionary pathway by making possible natural language, non-kin co-operation and cumulative cultural evolution (Tomasello 2014). The second research program has to do with developmental psychology, where the ontogenetic trajectory through which our species-distinctive capacity for social coordination and interaction manifest itself has been investigated in considerable detail (Rakoczy 2017; Warneken et al. 2006). The third research program has to do with cognitive science, where some researchers have recently argued that social coordination involves a distinctive form of co-representation, where the task representations of several agents are merged into a single.unified whole ((Sebanz et al. 2006; cf. Dolk&Prinz 2017).

These research programs have developed relatively independently from another, although they share a common interest in the phenomenon of social coordination. In my presentation, I will argue that the philosophical frameworks of mechanistic explanation and mechanism discovery may play an important role in unifying their research methods and theoretical contributions with one another. In defense of this view, I will draw on the idea that models of mechanisms are hierarchical and anti-reductive, that they are typically developed in a piecemeal and partial manner, and that there are different scientific strategies for finding out about mechanisms. These features are grounded in discussions of mechanistic explanation and mechanism discovery in contemporary naturalistic philosophy of science.

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The role of intuitions in the method of cases

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The new movement within analytic philosophy—experimental philosophy—initiated a debate regarding philosophical methodology. This debate takes place between supporters of traditional philosophical methodology and philosophers who argue that philosophy should become a more interdisciplinary field that engages empirical and experimental methods. The critique of the method of cases presented by the negative program of experimental philosophy (NPEP) contributed to this debate the most.

The method of cases works by indicating a counterexample for the criticized philosophical claims within the presented thought experiment. The canonical example of the method of cases is Gettier's arguments against the JTB theory of knowledge, or Kripke arguments against descriptivism.

Exponents of NPEP argue that when philosophers embrace the method of cases, they treat the intuitiveness of the proposition that "x is a counterexample to the claim that p" as evidence for that proposition. They argue, however, that philosophical intuitions are sensitive to factors that are irrelevant to the truth of intuitive philosophical claims. The results of some research conducted by experimental philosophers are interpreted as showing that intuitions are sensitive to such factors as culture, age of the experimental subjects, or the order in which they are presented with the thought experiments (Kerr 2015). Proponents of the NPEP call for a methodological revolution in philosophy and for including empirical methods in conceptual analysis.

In my speech, I will try to disprove this argument. I will defend the modification of the approach developed by Max Deutsch. Max Deutsch, using the example of Gettier cases, indicates that intuitions are not a justification for the content of the propositions that acts as a premise in Gettier arguments. Intuitions can play a causal role for such propositions. Justification for such propositions, are some arguments of some kind which Deutsch calls G-arguments.

I will point out that G-arguments can be interpreted as specific or general. According to the first interpretation, G-arguments are about the epistemic state of the protagonist in the Gettier scenario. According to the general interpretation, G-arguments are arguments about knowledge as such.

I will also present a distinction between extensional intuitions and intentional intuitions. The former are intuitions about whether a particular subject in a given case does or does not possess knowledge. The latter are intuitions about knowledge per se.

I will argue that the NPFE does not take into account an influential metaphilosophical view, according to which, conceptual analysis is normative, and not only descriptive, and its result may be the definition of a concept that deviates from the common use of this concept. Supporters of this approach were e.g., Rudolf Carnap, representatives of the Lviv-Warsaw School, and today's advocates of the so-called conceptual engineering (Cappelen 2018).

Finally, I will try to refute the NPFE argument. I will show that if we applied the general interpretation of the G-arguments, and if we accept the metaphilosophical view of Carnap and representatives of the Lviv-Warsaw School, we can indicate some intensional intuitions which are a justification of some of the propositions that act as premises in G-arguments. However, these intuitions could be justified, if they are philosophers' intentional intuitions about philosophical concepts which are formed in the context of philosophical conceptual analysis.

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Philosophy and media studies: interdisciplinarity as a platform for joint reflection on the media and social communication

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Media studies are based on the tradition of social sciences and humanities. The subject area of media studies is so diverse and multi-sectoral that it is certainly one, if not the only one, of the few scientific disciplines that combine so many aspects of other fields of science—in its subject and subjective character. In their research, scholars refer to the theories and methods of various scientific disciplines. From this perspective, it is worth presenting interdisciplinary media studies with particular emphasis on philosophy.

The purpose of this project is to raise the discussion about two important areas of science: philosophy, and media studies from a comparative perspective. The authors analyze and try to explain the methodological aspects of both areas of science and further argue that there is a common area of interest, which includes research on media and social communication. It is fundamental to precisely define the place and role of philosophy of the mass media within the system of both media studies and philosophy.

The scientific dialogue between philosophy and media studies is possible due to interdisciplinarity. Furthermore, a philosophical reflection, and analysis in some type of media studies research is essential. Therefore, the authors show the example of a PhD thesis in which philosophy and media studies are an integral whole.

It is important, worth noting, and stressing that media-related issues attract interest not only from sociologists, linguists, psychologists, political scientists, historians and theologians, but from a philosophical point of view as well. The platform for the scientific dialogue between philosophy and media studies will be provided by interdisciplinarity, which is a feature shared by both media and philosophical sciences.

The authors try to answer such questions: which areas and research problem areas particularly require philosophical and media studies reflection, and simultaneously pose a task and a challenge for it? What can philosophical reflection offer to media studies and in what areas can it prove useful?

The authors analyze the methodological aspects of philosophy, media, and sciences. They also show that, despite the apparent obstacles, those two disciplines share many common interests, such as social communication and media. It is especially related with critical scientific reflection on media and social communication. The project proves that these two areas have a lot to offer to each other and can complement each other not only in reflection, but also in another domains.

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Embodied perspective on mental disorder classification.

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According to the embodied cognition (EC) approach, motor, emotional and cognitive functions are not regarded as distinct properties, but closely tied together, furthermore, EC emphasizes the role of interactions between the brain, body, and environment. Although several neurobiological conceptions, that put stress on the role of the body and environment in constructing cognition have emerged, so far we do not have the main candidate supporting EC paradigm. In the presentation, we shall discuss the mechanism of cortical-subcortical loops (CSL) - the neurobiological conception that reflects the unity of the viscera-somatic and motor functions as well as emotions and cognition.

The CSL conception is an attempt to find a neurobiological mechanism, responsible for basic mental functions. In line with CSL, control of these functions is related to the activity of the cerebral cortex, thalamus and basal ganglia, which are structurally and functionally linked. These connections allow mutual activation or inhibition of the above structures by two neuronal pathways (direct and indirect), which play a crucial role in the regulation of the body movement, emotions and cognition. The mechanism of CSL explains in an original way the interrelation of these functions, which are realized simultaneously and inseparable. For this reason, CSL conception can be treated as an example of the minimal embodiment approach.

We are going to discuss the possibility of application of the CSL conception to the problem of the mental disorder classification. From our perspective, CSL can clarify this issue on the basis of the four-axis scheme (visceral-somatic, movement, emotion, cognition), which aims to allow a better understanding of the nature of a specific disorder. According to the CSL conception, the markers of these axes describe particular mental disorders, moreover, there is a close relationship between individual mental disorders and the motor skills of the body.

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The method multi-sited ethnography and research challenges in the intercultural education

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The presentation is a brief coverage of use to the multi-sited ethnography method in researching the issues related to intercultural education of immigrants and refugees living in the Poland. The author's will presents theoretical context and challenges of intercultural eduaction by describing its goals and assumption. The reflection on the use to multi-sited ethnography method (Marcus, 2003) in research relating to practical action in the area of intercultural education give interesting perspective in research of inter-cultural pedagogy. The use of Multi-sited ethnography method in pedagogice will help research development in the multicultural education area and the improvement of the activities concentrated on the intercultural competences development.

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The impact of shift work on cognitive skills in paramedics and firefighters

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Introduction
The study is the first attempt to present the impact of shift work on cognitive skills on Polish rescue workers and is the first comparison of 12-hours shift and 24-hours shift workers. The researches show that work at non-standard hours could be associated with sleep deprivation (Pilcher, Lambert & Huffcutt, 2000), deterioration in health, for example, sleep disorders, anxiety, cardiovascular diseases (Kecklund, & Axelsson, 2016). The result of others studies indicate that sleep deprivation negatively affects an alertness and cognitive efficiency causing a decrease in the quality of job performance, a decrease in ability to concentrate and working memory (Krishnan, & Lyons, 2015) and an increase in risk of errors (Caruso, 2014).
The purpose of the study was to investigate the impact of shift work on attention and working memory on selected groups of shift workers. The study also aims at examining the neurophysiological correlates of changes in cognitive performance. The results of this study will be used to prepare the recommendations for employers and shift workers to transfer knowledge to them how to deal with consequences of shift work.

Methods
The 32 shift-workers (Polish paramedics and firefighters) and 17 workers serving as control group (white-collar workers) participated in this study. Both questionnaires, being subjective

measures, and neuropsychological tests and the EEG technique as objective measures were used.

Changes in EEG have been proposed as a marker of alertness during performance of a cognitive task. This study examines the increase in fatigue levels and consequential drop in alertness during performance tasks. The EEG is used to investigate on which level of information processing there are abnormalities. The markers of cognitive changes are the evoked potentials (P300, CNV, P100) and relative energy of different energy bands - theta (4-8 Hz), alpha (8-13 Hz) and beta (13-30 Hz). The correctness of the answers and response time will be also analyzed.

The EEG was recorded during performance of Attention Network Test (ANT) and N-back Task. We also measured resting-state EEG. The EEG was recorded by using EEG equipment (G.Tec Medical Engineering GMBH, Austria) at a frequency of 256 Hz using 32 scalp electrodes following the international 10–20 system.

The cognitive functions specifically attention, processing speed, inhibitory, control and cognitive flexibility, were also measured using neuropsychological tests, such as D2 Test of Sustained Attention and the Color Trails Test (CTT). The present study, besides cognitive functioning, also deliberate the perceived workload during the shift, the sleep duration and quality of sleep (Pittsburgh Sleep Quality Index, PSQI), pro-health behaviours (Health Behaviour Inventory, HBI) and sleepiness (Karolinska Sleepiness Scale, KSS).

Results

Analysis of subjective measures, especially the assessment of sleep duration and sleep quality show that the paramedics sleep less hours than other groups and their sleep quality is lower. They also pay less attention to healthy habits than firefighters and control group. Moreover, perceived physical workload was higher in the paramedics group and firefighters than control group. Besides paramedics, who work 12-hours shift, assessed their level of tiredness to be higher after the night shift than firefighters after 24-hours shift but they also had less time for rest during the night shift than firefighters. Subjective levels of tiredness are also higher in the paramedics after night shift than day shift. For all that, there were no differences in cognitive functioning measured by neuropsychological tests, such as CTT and D2 tests. The results of performance of ANT and N-back Task and EEG data are still being analysed and will be presented at the conference.

Conclusions

The paramedics, despite tiredness and lower sleep duration, do not perform some of the tasks worst. The results indicates that paramedics, facing short cognitive tasks, present effort mobilization to perform task well despite tiredness. They are able to manage with sleepiness and continue the high level of performance. The level of performance of others tasks involving extended period of effort that could lead to decline in performance are still being analysed. Those results could help to present more details of cognitive functioning of Polish paramedics and firefighters.

Moreover, some of the results already analyzed, indicate that the paramedics experience the high extend of consequences of shift work, especially related to sleep duration and health behaviours. It may suggest that 12 hours shift work and less opportunity to rest during shift could affect their physical condition more negatively.

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Tin cans tied to a wedding car? On the relation between philosophy and cognitive science in the musical meaning problem

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In his (2009), Paul Thagard defends the views that (1) philosophy "needs" cognitive science and (2) cognitive science "needs" philosophy. (2) is justified by referring to the concepts of (2.1) philosophical generality and (2.2) normativity. In my paper, I critically investigate the arguments both for (2.1) and (2.2), and – with a reference to some other views (Bechtel, 2010, Bennet, Hacker, 2003) – I try to show that the role of philosophy as a cognitive science discipline might not be that obvious. While nowadays (1), at least on the grounds of broadly understood mainstream philosophy of mind, does not seem too controversial, (2) is still problematic. The concept of philosophy as a "part" of cognitive science needs further development, and its function more precise location, for it not to be the titular "tin cans tied to a wedding car".

Taking the – originally philosophical and today also cognitive-scientific – problem of musical meaning as an example, I am arguing against Thagard's views on (2): if philosophy is to be understood as epistemology or metaphysics (as "the attempt to answer fundamental questions about the nature of knowledge or reality"), then there is no place for philosophy in cognitive science. Furthermore, it seems that cognitive scientists do not need philosophers to equip them with any norms, as Thagard claims.

Instead, I am endorsing the view according to which a form of post-neopositivistic (or neo-Carnapian) approach to meta-metaphysics, or to philosophy in general, might be helpful in providing some minimal, but decent, role for philosophy in cognitive science research, namely the role of analysis of meaning and usage of some general concepts (like explanation, representation or interdisciplinarity).

On the other hand, I am pointing to some examples in cognitive-scientific practice to argue that cognitive scientists do – sometimes – use selected philosophical models of mental phenomena, here in particular, models of musical meaning (Koelsh, 2000), or – at least – they built their problems over philosophical ones, as it happened before in the history of relations between philosophy and science in general.

To extend the above-mentioned wedding metaphor – while philosophy is sometimes tin cans tied to a wedding car indeed, definitely it is not a priest, as some philosophers would like to see it. Instead, it is rather a – more or less expected wanted and usefull – guest.

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An empirical study on the aesthetic reception of interactive installations by creators and viewers – the trouble with interdisciplinary explanation

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Although the postulate of cooperation between artists and scientists as part of interdisciplinary projects appeared quite a long time ago (cf. Shanken, 2006), there is still a lack of research in the field of art that would characterize a broad theoretical framework (eg. the intersections of cognitive psychology, computing, science, the humanities, and the visual and performing arts) and approach to the methods used. The art of installation seems to be the area of contemporary art most suitable for interdisciplinary studies, as it often uses new media. The art of installation usually is site-specific and requires viewer interaction (cf. Pelowski et al. 2018a) – that is why if we care about the ecological validity, we should test the reception of installations in the natural context, i.e. in a museum or gallery (cf. Pelowski et al. 2017). The current study on reception of interactive exhibition Ventriloquist and Silent Paintings taken in the contemporary art gallery (the study is currently still in progress, because the exhibition has just been opened) is the result of establishing a collaboration between a cognitive experimental psychologist (the first author of a current paper) and a curator of the exhibition (the second author of a current paper). The exhibition itself is a kind of multi-sensory experiment and presents both new media and analogue installations. The participants of the current study are both artists creating installations for the exhibition, as well as viewers of the exhibition (both children and adults), whose aesthetic experiences we tested based on a previous study on emotion sharing and understanding between artists and perceivers of installation art (Pelowski et al. 2018a). The novelty of our research is that we control the level of engagement of viewers in the interaction with the given installation. The results obtained by us will contribute to expanding knowledge in the field of cognitive psychology and empiric aesthetics, as well as help to improve educational practices in the contemporary art gallery. We want to stress that the results of our research are difficult to interpret in the interdisciplinary approach of cognitive psychology and new media studies - although we will take on the challenge of a coherent discussion of results taking into account both theoretical frameworks.

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The problem of the origin of life. The „hidden" interdisciplinary approach

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In contemporary research on the origin of life (biogenesis) the so-called bilinear beginnings of life are most important and popular. These theories present the process of abiogenic formation of life as a process, which consists of physico-chemical changes occurring on the primary Earth and physico-chemical processes occurring outside it, in particular in the Solar System in the early stages of its formation. Bilinear theories of the beginning of life contain the idea of abiogenesis, which is a modern and scientifically transformed version of the old idea of spontaneous generation, and the idea of the cosmic origin of life, which has been modified and occurs as protoneopanspermia. The presentation will be devoted to the indication of dependencies existing between the mentioned ideas and contemporary empirical findings and also related to scientific theories on the origin of life. In particular, the development of the idea of the cosmic origin of life and the factors that determined the formation of contemporary theory of cosmic abiogenesis will be presented. In the presentation will be justified the thesis that the appearance of the theory of cosmic abiogenesis was possible primarily due to the prior appearance of the earth abiogenesis theory, and indirectly also due to the philosophical idea of earthly spontaneous generation transformed into the idea of self-organization of matter in accordance with findings of a scientific (empirical) nature and under the influence of theory of physical and chemical evolution. However, the idea of the cosmic origin of life (in the panspermia version), although it concerns the existence of life outside Earth, did not affect the appearance of the cosmic abiogenesis theory, but was reborn due to it in the form of different types of neopanspermia (eg. interstellar panspermia, cometary panspermia, interplanetary panspermia) as an explanation of the origin of life on Earth, alternative to earth abiogenesis. This is because the idea of panspermia does not directly concern the question of the origin of life, but its existence outside the Earth (and the spreading of the universe). In turn, the idea of the cosmic origin of life in the modified form as a protoneopanspermia has become useful for scientific attempts to explain the origin of life on Earth and together with the concept of earth abiogenesis is a component of contemporary theories of bilinear origins of life. The general conclusion obtained from the proposed analysis of the development of the specified ideas is the distinction of two components present in contemporary scientific theories about the origin of life: the ideological (philosophical) one and the empirical one, and clarification of the relationships existing between them. Individual researchers are most often unaware that by proposing their theories they accept one of the mentioned ideas and its philosophical consequences. Therefore, the solutions to the problem of the origin of life proposed by them are a hidden interdisciplinary approach to this issue. Unfortunately, the lack of awareness of this fact means that: 1) they consider their theories to be purely scientific (in empirical sense); 2) they are not aware of the philosophical assumptions of their own theories (which determine the specific interpretation of the data); 3) they do not see the philosophical consequences of their scientific solutions (which causes discrepancies between the declared beliefs and the consequences resulting from the proposed theories). It seems that researching the problem of the origin of life is doomed to interdisciplinary approach because of the specificity of the research problem. And such approach should be explicit and conscious. The point is to reconstruct the historical process, to which we do not have direct access, and we have to fill existing gaps in empirical knowledge with philosophical constructs, such as the idea of self-organization of matter or the idea of chance ("luck of coincidence") or idea of meta-information.

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Interdisciplinarity of the Modern Cosmology

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The methodology of science presents us with an interesting phenomenon. On the one hand, science is somehow condemned to a high degree of specialization even within one discipline. On the other hand, an interdisciplinary approach is being accepted, at least at the level of research practice. Cosmology is a field which, by its very nature, combines varies physical sciences: field theories (classical and quantum), theories of gravity, nuclear physics, astrophysics, thermodynamics, and others.

Heckhausen presents a six-level hierarchical scale of interdisciplinarity types (1972, p. 87-89). The most primitive are (1) indiscriminate interdisciplinarity; (2) pseudo-interdisciplinarity (the property of interdisciplinarity applies to the tools here (models etc.); (3) auxiliary interdisciplinarity means that a method used in a discipline provides another one with data. The fourth type (4) is composite interdisciplinarity. Technological contexts are a natural environment for this type of interdisciplinarity. The fifth (5) is supplementary interdisciplinarity, which appears when the methodological activities of different disciplines partially overlap. The last and most mature type of interdisciplinarity according to this typology is (6) the unifying interdisciplinarity.

Another useful typology has been proposed by Boisot (1972) who distinguishes between linear, structural, and restrictive interdisciplinarity. (1) The linear one occurs when a phenomenon can be transferred from one discipline and explained in the terms of another. Interdisciplinarity is (2) structural if the interaction between two or more disciplines leads to the emergence of laws, language, concepts that are new, original, and irreducible to the basic level of the original disciplines. The third type (3) is restrictive interdisciplinarity, which occurs when there is no interplay between the disciplines, yet together they contribute to solving a problem.

Walczak presents the following types of integration: (1) agglomeration; (2) loose-assemblage, (3) clustering, (4) distillation or (5) fusion. For Walczak, geophysics or econophysics will not be interdisciplinary at the terminal point or after geophysics, which constitutes a separate discipline. However, it will certainly be an interdisciplinary project at the starting point.

I am going to show that cosmology is interdisciplinary at both points. It retains, nevertheless, the distinctiveness of the disciplines that constitute its substantive contribution: elementary particle physics, gravitational theory, thermodynamics, and statistics. In the recognition of cosmology as an interdisciplinary field, a certain type of interdisciplinarity is of importance, which consists of the fact that the analysis of interdisciplinarity comes from the nature of the problem, and not from the nature of the discipline. Therefore, the nature of the research object may be such that it enforces interdisciplinary research. If so, then cosmology is

certainly interdisciplinary.

Contemporary cosmology aims at describing and explaining the accelerating acceleration of the universe on a large scale, as well as the shaping and evolution of structures in the universe using cosmological models. In order to do so, cosmology combines and integrates fundamental physical theories: the theory of gravity (General Theory of Relativity), mechanics (of fluids) in modeling the contents of the Universe, and statistics for the interpretation of observational data in the context of the cosmological model. I will show that cosmology fulfills the criteria of interdisciplinary learning in a functional sense, and above all when it comes to its effects, how it leads to interdisciplinary knowledge. According to Walczak, knowledge is interdisciplinary if (1) it combines elements from different fields; (2) it is integrated around a certain element, e.g., a central concept; (3) there are still various disciplines involved and no new discipline emerges (if it did, it would mean monodisciplinarity, not interdisciplinary). Considering the above-mentioned typologies, I will show that cosmology presents the type of composite interdisciplinarity in Heckhausen's typology, restrictive interdisciplinarity in Boisot's understanding or clustering according to Walczak, and that the problem of unifying the results of various disciplines is the cosmological issue, the solution of which is the cosmological model.

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Arguments for Extended Conscious Mind

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According to the 4E-framework, the mind is not merely restricted within the head, but is also based on interactions between the rest of the body, the environment and the tools in it, and on social, intersubjective and cultural relations. One of the central arguments for extended mind was introduced by Andy Clark and David Chalmers (1998). According to their extended mind thesis (EM), the vehicles of cognition can be extended across brain, body, and world. Andy Clark (and his version of EM), however, denies the extension of the material basis of perceptual experiences, whereas the extended conscious mind thesis (ECM) (e.g. Noë 2004; Ward 2012) adds that not only the material basis of cognition, but also the material basis of experiential states can be spread outside the head and body. Examples include e.g. blind person and her cane, and sensory substitution devices.

In this paper, I will give three arguments for ECM. The basic idea behind them is quite simple: if we accept the general 4E-framework, we have no other choice than to accept

ECM. The level of simplicity is noteworthy if we compare it with the arguments against ECM. Clark (2009; 2012) needs to use a very complex system to argue against ECM. He ends up making controversial claims in order to preserve EM. Clark's attempt shows that it is very difficult to argue for EM but leave ECM aside. The arguments from downright internalists are at least more consistent than Clark's in this case. The most important reason why EM cannot be accepted without ECM is that cognition and experience cannot be separated in a way they have been separated by the leading supporters of EM.

In a broad sense, the most important argument for ECM is simply the whole 4E-framework. For this paper, I have picked up the three most important subtypes of it regarding ECM. The inference relations are as follows. 1) If EM, then ECM. 2) If sensorimotor enactivism, then ECM. 3) If the embodiment thesis, then ECM. The arguments are presented respectively. This alone (showing that ECM follows from the three other theories) is an important result – regardless whether we accept those three theories or not. It is important because many writers are arguing for the other three theories, but denying ECM. However, my argument for ECM is stronger than this conditional acceptance. I argue that the three theories actually are true, therefore so is ECM. Thus, there are two ways one can digest the arguments. First, they can be taken as a clarification of where the other three theories lead, without the need to commit oneself to any of them. Second, they can be taken as reasons why we should accept both the three premise theories and ECM.

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Predicting Category Crises: Towards an Enculturated Predictive Processing Account of Monstrosity

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Within the emerging interdisciplinary field of "monster theory", the category of monstrosity—where "monsters" are understood broadly, as boundary-crossing category misfits—provides a powerful aesthetic lens through which the problematic construction of normative ideals can be rendered visible, and recognized for the violence they inflict (often invisibly) on those whom they have relegated to the status of "deviants" (e.g., racial, gendered, disabled, politically heterodox). The monster is conceived here as an embodied "category violation" which signifies (Latin: monstrare) the subject-generative power of culturally prescribed and sedimented boundaries that ought not to be crossed (Cohen 1996; Foucault 1993/2003). Following Levina and Diem-My (2013), we can distinguish three extant approaches to the study of monstrosity. According to the representational approach, which builds on the work of

Foucault and Halberstam, monsters represent the return of the repressed, in the sense that monsters as the Other are "not as external to our culture, but rather as representational of those characteristics that we repress in order to fit into the cultural normative regime" (ibid., 4). Rooted in the psycho-genetic accounts of Freud, Lacan, and Kristeva, the psychoanalytical approach to monstrosity "perceives the monster as that which used to be a part of the self and needed to be cast away in order for the self to become unified or, at least, functional." (ibid., 3). The ontological approach, which draws on Derrida, Deleuze/Guattari, and Haraway, associates monstrosity with futurity and with change itself, as an imaginary order that is not yet known, and thus has not yet been appropriated by existing discursive structures of knowledge and power. Though insightful and diverse, these approaches fail to account for the individual-psychological processes through which monstrosity is recognized, represented, and enacted.

In this paper, we employ the framework of enculturated predictive processing (EPP; Clark 2015, 2016; Fabry 2017) to supply monster theory with a psychological account of what is happening, on a perceptual and cognitive level, when subjects apprehend and deem certain stimuli as monstrous. Our core idea—the category violation hypothesis of monstrosity (see also Asma 2009)—is that what creates the "category-jamming" aspect of monstrous images or ideas which create cognitive (and associated emotional) arousal in the observer, are not any specific features (or combinations thereof). Succinctly put, we argue instead that the distinctive experience of monstrosity [1] stems from the perceived violation of certain psychologically salient, culturally acquired "default categories" laid down in our cognitive taxonomies that [2] induce a contextual blend of emotions, or "embodied appraisals" (Prinz 2004), comprised of fear, anxiety, and disgust, with a strongly negative valence, and [3] that are brought to bear on the social construction and enforcement of normative regimes in domain-specific, material-discursive environments.

The goal of our paper is two-fold. First, we seek to strengthen and render more precise existing versions of the category violation hypothesis by showing how each of the above three tenets [1]-[3] can be profitably cast within the framework of EPP. By infusing monster theory with a psychologically detailed account of category formation, we hope to enable more extensive experimental work on the detailed neural, cognitive, affective, bodily, and behavioral effects of monstrosity – understood as a powerful socio-political regulating device – which in turn can open up new vistas for the disruption and transformation of hegemonic normative regimes. Second, we suggest that the category violation hypothesis, when fleshed out more concretely in terms of EPP, has the potential of integrating, or at least interrelating, the three extant approaches to monstrosity distinguished by Levina and Diem-My (2013).

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The Relationship between Knowledge about the Artist's Mental Illness and Artwork Reception

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Art reception is a complex process influenced by many factors, both internal and external. A review of the literature shows that knowledge about the artist, including their mental health, has an impact on the general assessment of their artwork.

The purpose of our research was to examine the relationship between knowledge about the artist's mental illness and the perception of the artwork.

We focused on the subjective emotional experience and general assessment of ten specific pictures painted by patients diagnosed with schizophrenia. The emotional state was checked using the Self-Assessment Manikin (SAM) questionnaire (Bradley and Lang 1994). The aesthetic evaluation of the image was measured based on a seven-point scale covering the following aspects: pleasant–unpleasant; simple–complex; warm–cold; liked–disliked. It was a Polish-language version of the aesthetic evaluation test, used in research on differences in the reception of an artwork between non-experts and experts (Winston and Cupchik 1992)

The research followed four cohorts (two groups divided into two subgroups – art experts and laypeople) of students for over a month. The results revealed significant differences between the two general groups as well as between the 'expert' and 'laypeople' groups. The findings showed that non-aesthetic categories (e.g., knowledge about the mental illness of an artist) were related to artwork perception and support a holistic and dynamic approach to aesthetic emotions.

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Explanatory pluralism and the two-stage picture of psychiatry

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In this paper, I argue against the two-stage picture of psychiatry due to the many factors that underlie mental problems, and suggest that explanation and classification of mental problems should be based on interdisciplinary studies and pluralistic explanation. I provide an analysis on how to relate different explanations and what kind of practical implications these would have. Moreover, I argue that although psychiatric kinds and their definitions are partly socioculturally determined, they are nonetheless real kinds that ground inductive inferences and explanations.

The philosopher Dominic Murphy (2006) has coined the term two-stage picture to describe the medical model of psychiatry. According to it, psychiatric research is and should be divided into descriptive and normative stages. In the first stage, psychiatric research aims to discover and describe the dysfunctions that cause and maintain mental problems. The second stage is evaluative, and refers to the value-laden judgements of which dysfunctions are labelled as mental illnesses and how to treat them. Therefore, whereas the first stage is based on the scientific work of researchers, the second stage relies on the judgements of lawyers, bureaucrats, social workers and ethicists. Murphy argues that cognitive neuroscience provides the means to explain the dysfunctions as breakdowns in information processing systems in the nervous system. Although Murphy stresses that mental problems are brain processes, the processes can include causal variables from different levels. In other words, neurological processes are necessary but no sufficient in explaining mental problems. However, in Murphy's account, sociocultural factors are treated as environmental triggers and personal experiences only as epiphenomenal. Moreover, the medical model is based on the implicit belief that the problems of human psychology – and by implication the human mind in general – are the same everywhere.

However, understanding how human cognition varies cross-culturally has changed drastically in the past decades. In psychology and the cognitive sciences, it is becoming generally excepted that the human mind does not only vary in content but also in its cognitive processes. Especially Joe Henrich, Steven Heine, and Ara Norenzayan's (2010) article "The Weirdest People in the World" has intensified research on cross-cultural cognitive diversity. In the article, the authors demonstrate that there is considerable cross-cultural variation in self-concepts, norms of fairness and cooperation, folk-biological reasoning, spatial reasoning, representing integer amounts, the visual system, visual illusions (e.g. Müller-Lyer illusion), motor development (Henrich et al 2010). The conclusion is that the typical psychological specimen, WEIRD (Wester, Educated, Industrialized, Rich and Democratic) people, are not representative of the human species in general. Therefore, as Washington (2016) has pointed out, cross-cultural cognitive variation implies that mental disorders vary across cultures as well.

In light of the foregoing, I argue that cross-cultural cognitive variation supports a doubly extended view of mental disorders. First, mental problems are extended because sociocultural factors play a varying role in scaffolding the problems. That is, I argue that psychiatric problems do not form a uniform kind, but are caused and constituted by sociocultural factors to different degrees and in different ways. Second, mental problems are extended because our definitions of mental problems influence the sociocultural and material circumstances that facilitate the problems. Therefore, while asking what is normal and what is pathological, we should also ask whether our conception of normalcy is healthy. However, I argue that the challenge created by the doubly extended view of mental problems to classification and explanation can be answered with interdisciplinary work and pluralistic explanation. I aim to show that we should examine how deeply to integrate sociocultural factors to other explanations of psychiatric kinds based on "explanatory weighing": can the sociocultural factors render the explanation of the targeted psychiatric kind more powerful. Although deep integration may render the boundaries of the targeted psychiatric kind more culture and interest related, integration can also make the explanation of the kind more insensitive to different background conditions, and the kind's classification more relevant to circumstance-dependent interventions.

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Distribution of Cognition: from Ecological Heuristic to Mechanistic Criterion

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'Wide' perspectives on cognition (embodied, embedded, extended, distributed etc.) are essentially research heuristic for building mechanistic explanations – as the authors of the paper "From Wide Cognition to Mechanisms: A Silent Revolution" (Miłkowski et al., 2018) claim. Referring to some extent to this work, I would like to elaborate on the subject of distributed cognition in my short presentation. The concept of distributed cognition (e.g. Norman, 1994; Hutchins, 1995; Neersessian; 2006) differs in some important respects from the others. On the one hand, it does not contradict the findings of the classically oriented cognitive science. On the other hand, from its perspective, one can look at any type or case of cognition as distributed (see Hutchins, 2014). Therefore, distributed cognition approach can play a particularly important role in mechanistic integration of wide approaches with cognitive individualism and cognitive (neuro)science. I claim that distributed cognition approach is relevant to mechanistic explanation in cognitive science. I would like to outline the main points of the claim. (1) The example of the extended mind, which is most often referred to by researchers discussing the boundaries of cognition as well as some advocates of the mechanistic approach, is an inappropriate (misleading) example of wide cognition and should be replaced by the more general model of distributed cognition system. (2) Distributed cognition approach provides a universal (ecological) research heuristic that is useful in identifying the cognitive phenomenon and preliminary demarcation of boundaries of its mechanism. (3) Distributed cognitive system can be viewed as a mechanism(s). (4) The ecological heuristic is compatible with the homeostatic property cluster view of natural kinds (modified by Craver, 2009) in the context of mechanistic account of the kinds. (5) The mutual manipulability account applied to studies on cognition (Kaplan, 2012) seems to be the most useful and neutral criterion for distinguishing the genuine components of the distributed mechanisms from the merely background conditions.

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Theoretical entanglement after 'iconic turn'. Gestalt Public Relations—the interdisciplinary model in communication science and organizational aesthetics

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This paper will present the adjacency of Gestalt principles in public relations theory as an example of a cross-disciplinary approach to organizational communication phenomena. The heritage of Gestalt theory, thoroughly described by Wagemans et al (2012), remains largely ignored in the contemporary public relations research that is increasingly interested in visual

aspects of relationship building communication activities (Collister, Roberts-Bowman 2018). The paper will attempt to bring together the potential in research and practice of both scientific fields. The tools of visual PR will be attributed to each Gestalt principle. Perceptions do not rely solely and directly on the information present in the stimulus. Recipients' interaction with visuals is dynamic (Holsanova, 2014). Perception leading to cognitive activation, that may end up with understanding a PR message, has two directions: bottom-up and top-down. Fiske and Taylor (2013) call the first of the data-driven processes a shaping of abstract representation in the mind that is rooted mainly in external stimulus e.g., the initial communication campaign of a new organization in the new market segment. The top-down way, however, is organized by a category-driven processes, means perception is mediated by already existing cognitive schemes, and at the stage of receiving stimulus it's already a constructive process, as what we see in any given visual image always has a context. It's the strategic PR dialogue, not a single marketing action, that provides the cognitive frame for the public. "Our perceptions of the world reflect an interplay between what's out there and what we bring to it" (Fiske and Taylor 2013:112). The constructivist approach stresses the role of knowledge in perception and therefore is against the simplistic nativist approach to perceptual activity. It allows behaviour to be generally appropriate also to non-sensed object characteristics, like optical distortions, things that appear to be "real" but are only cognitive delusions. The public remaining in the dialogue with organization, with time learn specific aesthetics (e.g., Disney corporation visual standards) and starts to pay attention to specific institutional visual stimuli, like logo or CI typography or brand hero. PR encompasses constant researching, conducting and evaluating communication programs to achieve the informed public understanding necessary to the success of an organization's aims (see Swart 2012, Edwards 2018). PR adapts and PR moves with its public. Nowadays, it uses visual, interactive media as one of main channels to reach its recipients in their constant flow. Without combining theories of communication and media studies with cognitive psychology and organizational management, the elusive character of organizational image creation through visual channels will remain insufficiently demarcated. PR essence is based on a closure mechanism that engages stakeholder cognition, but in less direct way in contrast to marketing. When visual objects look similar to one another, people often perceive them as a group or pattern. PR theory often advocates for integration between communication channels in order to have a stronger impact and create the impression of unity. Rather than seeing separate communication lines and angles, singularly executed programmes are to be comprehended as belonging together and shaping ongoing dialogue (the good continuation). PR action is always conducted with a strong relation to context and organizational environment. In the presence of contemporary media noise (the ground), it is the goal of PR's coherent messages to be the figure, and by that one may assess whether the PR agenda stands out appropriately or blurs. And finally, proximity indicates that items (organization and its public) are connected or have a relationship with each other. Such unity helps to organize and gives structure to the communicative performance. Contemporary perceptual experiences of the media users might be explained through the of Gestalt lenses (see also Poulaki 2018). When an organization conducts PR strategically, it may influence the way people perceive reality.

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The relationship between cognitive psychological models of creativity and Somatics-based choreographic practices

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Recent research in creative cognition claims dance is a prime medium for exploring creativity. Somatics has become an integral part of dance training over the past five decades, and its impact on embodiment, autonomy, well-being, and artistic (aesthetic) integrity is well-reported. Each of these has implications for creativity in dance-making, yet little research exists that examines this intersection. This presentation aims to characterize the conceptualisation and facilitation of choreographic creativity; determine whether these reflect cognitive psychological models of creativity; and propose some theoretical analysis of creative cognition in dance-making, particularly in Somatics-based choreography. Three professional choreographers were selected for the study who were published authors, practicing Somatic Movement Educators, choreographing performance work, with a history of Somatics practice. Data was collected through open-ended interviews, participant-observation, and the participants' publications. A qualitative mixed-methods analysis, drawing on grounded theory, ethnographic, phenomenological, close reading, and feminist methods was used. Reliability and validity were ensured through cross-checks between multiple data sources, thick description, data triangulation, peer debriefing, and reflexivity. Analysis revealed a cluster of themes defining the unique Somatics pedagogical environment that lead to the central theme of a refined sensory perception. Refined perception is presented as the 'change agent' leading to themes of generation, novelty, and defeat of habit, reflecting consistency between psychological and Somatic paradigms. Refined perception is agential in meaning-making processes, through embodied cognitive processes and nonpropositional meaning forms. Each of these is mapped through the Interacting Cognitive Subsystems model. The cognitive psychological criteria of 'usefulness' in creativity is questioned, with some potential resolutions offered.

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Making sense of ur-intentionality

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It is uncontroversial that mental representation entails intentionality. But is there intentionality without mental representation and content? Hutto & Satne (2015) suggest there is a form of intentionality, viz. "ur-intentionality", that can be "construed as target-based" (2015, p. 530), without requiring content.

We propose that a viable notion of "ur-intentionality" should satisfy the following two desiderata:

D1) It should not be defined in terms of goal-directedness, but should instead provide an analysis of goal-directedness.

D2) It should not be defined in opposition to content-based intentionality, but it should clarify how content-based intentionality arises from more fundamental properties.

If "ur-intentionality" is construed in a way that satisfies both desiderata, it is not just explanatorily useful (D1), but also highlights the continuity with intentionality proper, and thereby justifies using the term "intentionality" in the first place (D2). In what follows, we will argue that there is a notion of ur-intentionality that satisfies D1 and D2.

DEF: A system possesses ur-intentionality if the dynamics of the system's internal states can be expressed as a gradient flow on a variational free-energy functional on probabilistic beliefs, i.e., on probability distributions encoded by internal states.

This definition is only applicable to systems for which a distinction between external and internal states makes sense, i.e., for systems possessing a Markov blanket. In order to establish a connection between ur-intentionality and goal-directedness, we shall refer to the notion of information geometry. Information geometry allows us to establish a calculus of beliefs in terms of probability distributions. This calculus enables a distinction to be made between the probability distribution about things and the probability distribution of things. Crucially, some of these probabilistic beliefs are also about how internal states couple to external states: they are beliefs about action upon the world 'out there'. We can make a distinction between systems that have a rudimentary information geometry of a reflexive sort, i.e., merely ur-intentionality – and systems that hold beliefs about the future, and have genuine mental representations (with intentionality proper). There is thus a quantitative distinction that may provide a spectrum of goal-directed or intentional agential systems.

How is the definition provided above connected to goal-directedness? A system satisfies the requirement specified in the definition if it is at non-equilibrium steady state and has a Markov blanket – which entails that the system's states can be partitioned into external, internal, and blanket states (which consist of sensory and active states). Internal states can then be interpreted as encoding a probability distribution over external states, given blanket states. Furthermore, the system can be described as minimizing free energy by changing the internally encoded probability distribution (Friston, 2013). Active states depend upon internal

states. But active states do not depend upon external states – and hence it will look as if the system behaves on the basis of probabilistic beliefs about external states, maintaining its structural and functional integrity (i.e., autopoiesis, cf. Allen & Friston, 2018). Hence, ur-intentionality goes along with a basic form of goal-directedness. This satisfies D1.

How is ur-intentionality related to content-based intentionality? Content requires representation. Representationalist interpretations of predictive processing refer to computations that are implemented (or approximated) by systems that perform predictive processing (see Głądziejewski, 2016, pp. 571-572). Such computations are defined with respect to exactly the types of probability distribution encoded by systems possessing ur-intentionality.

Note that, according to mechanistic accounts of computation and representation, physical systems can implement computations without representation (see Piccinini, 2008). Furthermore, mechanistically-oriented accounts of representation justify representationalist claims (partly) with reference to the computations implemented by a system (see Miłkowski, 2013, ch. 4). Hence, showing that a system has representational states requires showing that it implements computations of the type that systems with ur-intentionality appear to perform (e.g., Bayesian inference). Such computational ascriptions can be substantiated by adding a (mechanistic) account of physical computation that does not presuppose the existence of representational states (e.g., Miłkowski, 2013).

What is the difference between ur-intentionality and intentionality proper? Systems that are merely goal-directed, but do not possess intentional states with content, encode less sophisticated probability distributions (in particular, with less temporal depth, see Friston, 2018). There is thus only a difference in degree. If representationalist interpretations of predictive processing are on the right track, this clarifies how content-based intentionality is grounded in ur-intentionality. This satisfies D2.

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Post-philosophical Culture and Interdisciplinary Solidarity

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Complexities involved in physical-environmental and human-existential systems justify drawing information and methodological resources from a variety of disciplinary contexts. Interdisciplinarity can also be seen as a rightful demand of social justice in the idea of 'ecology of knowledges' against the hegemony of certain disciplines dividing the discourses as cognitive/non-cognitive, serious/non-serious. There is yet another sense of interdisciplinarity as a self-critical mood of challenging and expanding one's own disciplinary boundaries. The post-philosophical culture that pronounces the end of philosophy recasts it as an interdisciplinary enterprise. The paper examines this third sense of interdisciplinairty in the light of Rorty's anti-Platonic critique of western philosophy-as-epistemology. Rorty denies

philosophy, modeled upon science, any privileged status of having an ability to offer a grand theory of truth. The idea of reaching closer to reality is a misconstrued notion given our causal, pragmatic relation with the world, according to him. Any distinction of vocabularies as 'more objective' or 'less objective' is spurious; they can only be 'more useful' or 'less useful' in the coordinated efforts toward finding contingent solutions to our contingent needs and problems.

On this construal, philosophy as a preeminent truth-finding, rational, scientific, autonomous inquiry finds itself at margins in relation to other areas of culture. Rorty attributes this marginality to philosophy's professionalization, the quasi-scientificity to offer an absolute conception of the world, the desire to crack the Code of all codes. Philosophy is also being charged for weakening our socio-moral fabric as the sense of who we are and what we should do is dictated by some antecedent truths rather than being a result of our shared labor. Rorty conceives of a useful, labored role of philosophy in participating in the politics of human conversation, making prophecies and offering imaginative solutions to human needs and purposes. In this non-Platonic conception, where freedom, hope and social solidarity replace the ideas of truth, knowledge and rationality, philosophy is seen as cultural politics, a literary discourse, a sophistry to persuade and change the course of human conversation toward a democratic utopia. In this hermeneutic-humanist role, philosophy revisits its relation with other disciplines. As Rorty argues, philosophy should align more with literature, politics, religion and art rather than with science for a useful cultural position. In Rorty's anti-dualist, anti-essentialist critique, there are no disciplinary privileges as cognitive and serious discourses; all vocabularies are tools to cope with reality. Physics and politics, for that matter, are at the same platform. An inquiry, if it is not a mere wordplay, is essentially a collaborative task of problem-solving with the sole purpose of increasing self-reliance and altering human conditions for a Good Global Society.

The above discussion entails that we can talk about interdisciplinary solidarity by democratizing epistemic inquiry where what matters is the idea of a better world, a democratic hope. This pragmatic construal of interdisciplinary fitness, overcoming the binaries of reality/appearance, absolute/contingent, theoria/praxis begs a question of creating a schism between the absoluteness of past and openendedness of future. When philosophy as a search for antecedent reality is denied any cultural role, the past is considered too abstract to have any constructive role in human history; the disengaged philosophical theoria is denied to be any practical aid. We can think of a theoretical lebenswelt such as Indian culture where philosophical world-view is meaningful, instrumental to the goals of human life. Similarly, perceiving philosophy as a literary discourse and a general idea of inquiry that sees no demarcation between 'will to truth' and 'will to happiness', the pragmatic vision of a utopian society raises doubts, if what matters most are the contingent needs. Rorty's attack on the disciplinary hegemony of philosophy and subsequently its literary cultural position suggests that we can talk about interdisciplinarity by dehierarchising disciplinary autonomy. The paper instead argues that interdisciplinarity is a matter of dialectic engagement to address human contingencies effectively and justly rather than resisting binaries. In this regard, the paper analyzes the feminist critique of western epistemology for a constructive program of action, hybrid pedagogies by which complexities, singularities, interconnections of partial perspectives can be understood and practiced for a sustainable existence. Interdisciplinarity, a multivarient notion, a fractured discourse, a problematic actuality perhaps requires justification in the ethics of interdependence too.

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Why interlevel approaches to explanation in cognitive science presuppose a reductive metaphysics

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The conviction that the understanding of the mind should be pursued by adopting an interdisciplinary perspective is nowadays widespread. Among the theoretical issues such an idea raises, the question about how explanations in cognitive science should be construed is a particularly challenging one from a philosophical perspective, and a common answer is that they should be interlevel (among others, see Craver, 2007). In particular, the integration of neuroscience and psychology has been investigated, and debates upon the underpinning metaphysics of mind have arisen.

Starting from the 1960s, the dominant view has been the functionalist one taking the mental domain to be irreducible to the physical implementation one. More recently, arguments for a reductive metaphysics have been put forward — I have in mind Jaegwon Kim's causal exclusion argument (Kim, 2005) — but non-reductive stances are still present in the philosophy of mind and cognitive science. Interestingly enough, they are motivated by the assumption that reduction would preclude the possibility of explaining our psychological life in non-reductive terms (Antony, 2007; Ross and Spurrett, 2004). My aim is to provide some reasons for the view that, far from being incompatible with non-reductive psychological explanations, a reductive metaphysics is the best theoretical framework for supporting interlevel approaches in cognitive science.

The premise I will briefly argue for is that, contrary to what some have claimed, the reduction of mental properties does not in principle commit to any kind of eliminativist thesis concerning explanations in psychology. The reduction I refer to is a purely metaphysical one, distinct from explanatory reductionism. After that, I will focus upon interlevel approaches in cognitive science. There are, in my view, two senses in which such a terminology can be intended. One could take interlevel explanations to be the kind of result cognitive neuroscientists aim at reaching when engaged in the identification of neural correlates. In this sense, what they explain is how a given class of phenomena we observe at a behavioral level are enabled by the brain. In this sense, I take the investigated interlevel relationship to be a non-causal one. On the other hand, explanation could be interlevel in the sense that we may be interested in the relationship between two distinct events individuated at different levels. Take the case of a scientist investigating the effects of our conscious decision to move an arm upon the activity of our motor cortex. What she focuses on in such a case are causal connections, but for a number of reasons the descriptions of the cause and the effect are formulated at two different levels. One possible reason is that we do not perfectly know the neural networks subserving decision making, or simply that the manipulated independent variable is a behavioral one. However, if we are committed to the ideas that, in principle, a "neural correlate" for the conscious decision could be found and that a causal connection between this correlate and the activity of the motor cortex exists, then reduction turns out to be a judgement call.

Borrowing some intuitions from the causal exclusion argument, there seems to be room for claiming that interlevel explanations presuppose a reductive metaphysics. When we focus on

the causal connection between — let us say — a psychological event and a neural activation, two options are viable. On the one hand, we may argue that psychological phenomena are not reducible to their neural bases. Given the causal exclusion argument, however, we would be committed either to the implausible idea that neural events are systematically overdetermined or to the thesis that the real causal work is done by the brain. As a consequence, either we would subscribe a controversial metaphysics or we would have to bite the bullet and accept that our interlevel causal explanations referring to psychological and behavioral phenomena are literally false. Instead, I argue that we should accept that the psychological event we take as cause is reducible to the neural activation subserving it, and so its causal powers. In this case, choosing a description of the cause in a "coarse-grained" psychological language rather than in terms of neural activations is a purely pragmatical issue, but the truth of our explanation is preserved.

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