BECOMEBECOME - A TRANSDISCIPLINARY METHODOLOGY BASED ON INFORMATION ABOUT THE OBSERVER

Andrea T. R. Traldi

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BECOMEBECOME

A TRANSDISCIPLINARY METHODOLOGY

BASED ON INFORMATION ABOUT THE OBSERVER

by

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Becomebecome events which are based on the Becomebecome methodology have been conceived, designed and developed as collaborative projects from the outset. The idea of the first Becomebecome Masterclass was born out of the intuition of Katerina Karoussos, Agnieszka Pokrywka, and myself. The approach which underpins Becomebecome events has been developed and improved over the last 8 years, and it is based on the research developed in this thesis.

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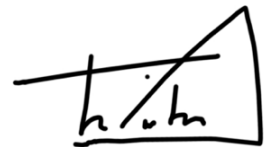
AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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ABSTRACT

Andrea T. R. Traldi

BECOMEBECOME

A Transdisciplinary Methodology Based on Information about the Observer

The present research dissertation has been developed with the intention to provide practical strategies and discover new intellectual operations which can be used to generate Transdisciplinary insight. For this reason, this thesis creates access to new knowledge at different scales.

Firstly, as it pertains to the scale of new knowledge generated by those who attend Becomebecome events. The open-source nature of the Becomebecome methodology makes it possible for participants in Becomebecome workshops, training programmes and residencies to generate new insight about the specific project they are working on, which then reinforce and expand the foundational principles of the theoretical background.

Secondly, as it pertains to the scale of the Becomebecome framework, which remains independent of location and moment in time. The method proposed to access Transdisciplinary knowledge constitutes new knowledge in itself because the sequence of activities, described as physical and mental procedures and listed as essential criteria, have never been found organised

in such a specific order before. It is indeed the order in time, i.e. the sequence of the ideas and activities proposed, which allows one to transform Disciplinary knowledge via a new Transdisciplinary frame of reference.

Lastly, new knowledge about Transdisciplinarity as a field of study is created as a consequence of the heretofore listed two processes.

The first part of the thesis is designated 'Becomebecome Theory' and focuses on the theoretical background and the intellectual operations necessary to support the creation of new Transdisciplinary knowledge. The second part of the thesis is designated 'Becomebecome Practice' and provides practical examples of the application of such operations. Crucially, the theoretical model described as the foundation for the Becomebecome methodology (Becomebecome Theory) is process-based and constantly checked against the insight generated through Becomebecome Practice.

To this effect, 'information about the observer' is proposed as a key notion which binds together Transdisciplinary resources from several studies in the hard sciences and humanities. It is a concept that enables understanding about why and how information that is generated through Becomebecome Practice is considered of paramount importance for establishing the reference parameters necessary to access Transdisciplinary insight which is meaningful to a specific project, a specific person, or a specific moment in time.

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INTRODUCTION

> If I chose here, following the advice of many friends in France and in other Countries, the form of a manifesto, it is not to give in to the ridiculous temptation to create a new "table of commandments" or the announcement of the discovery of a miracle cure for all ills of this world. The axiomatic form of a manifesto through the extraordinary cultural, historical, religious and political diversity of the different peoples of this Earth allows the intuitive understanding of what could be incomprehensible or inaccessible if in a thousand treatises on the same subject.

BASARAB NICOLESCU

> Here spoke something like a mystic which stammered in a foreign language, almost uncertain whether it wanted to communicate something or hide itself. This "new soul" should have sung, not spoken! What a shame that I did not dare to utter as a poet what I had to say at that time; perhaps I might have been able to do that!

FRIEDRICH NIETZSCHE

In 1872 Friedrich Wilhelm Nietzsche began dissemination of his text <u>The Birth of Tragedy</u>; after a few years of struggle when colleagues within his field expressed little enthusiasm for the work, it became a widely distributed opus, and turned into an important reference for all intellectuals who wish to reflect on the Western[1] way of thinking about experiences[2] and the way one

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[1] In the context of this text, 'western' culture refers to the analytical mindset which coalesced around the Apollonian approach to knowledge which emerged in Greece because of the decline of the tragic art from and the rise of the philosophical schools of Socrates, Plato, and Aristoteles.

[2] 'Experience' is defined in this thesis as 'involvement or exposure to an *event'*. Events are defined as 'objects in time'. Events are made of information that exists in a Temporal Dimension. An event can exist at a scale which involves two or more experiences. Events defined within single experiences are a consequence of a process which continues beyond such experience (see also Ch.3).

chooses to communicate about them. What might look at first glance as an essay that examines a niche topic confined within the interests of philology scholars, revealed itself as a major contribution to the understanding of the human mind, as it came to be considered a significant achievement, paving the way to move beyond all-encompassing interpretations of reality within precise theories and specific disciplines.

What Nietzsche managed to seize upon at that time was the problem of Disciplinary science itself; the practice of science was for the first time grasped as problematic, as dubious. The kernel of the present thesis should be dedicated to that "odd and difficult book. Created out of merely premature, really immature personal experiences, which all lay close to the threshold of something communicable." (Nietzsche 1871, p.3) It was built on the basis of art, a book perhaps for artists with analytical tendencies, with an artist's metaphysics present in the background.

The preface to the first edition proposed that "art, and not morality" (ibid, p.6) was the essential metaphysical human activity; in the book itself there appears many times the suggestive statement that the existence of the world is justified only as an aesthetic phenomenon. In fact, the entire book recognizes only "an aesthetic sense and — a deeper meaning under everything that happens — a 'God', if you will, but certainly only a totally unthinking and amoral artist-God... 'beyond good and evil'." (ibid)

My personal engagement with Nietzsche's *Weltanschauung* began 35 years ago, because of his unique approach to language and the way we

communicate experiences. At that time, while I was going through my teenage years, I found myself enraptured by the words of the only philosopher, the only person really, who managed to describe reality using sentences that *felt right from the inside*, instead of talking in some abstract way about how things should *make sense from the outside.*

Several years later, while researching second-order cyberneticians and developing my own approach to first-person methodologies through Somatics and embodied knowledge across media and disciplines, one of the texts I selected to build the theoretical foundations to my investigation was the <u>Manifesto of Transdisciplinarity</u> by Basarab Nicolescu. As I was reading through it, soon after going over Nietzsche's literature again, I felt enthralled by an astonishing number of clear connections between the language and purpose of the physicist's text, and the message behind Nietzsche's propositions. Moving from the words written in the <u>Manifesto...</u> to those in Nietzsche's book created a process that shone a unique light through the concepts and theories of the cyberneticians I was researching. This is the reason why each chapter of this thesis will draw on direct references and quotes from both authors using a varied range of literary devices. This strategy is devised for the purpose of creating a cognitive lattice[3] upon which all ideas associated to those references will reveal farther-reaching implications and create the necessary context to present new knowledge.

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[3] See Ch. 1.3.

Following from their introductory remarks, the need to regenerate the language used to communicate their arguments appears to be the first element of affinity between both Nicolescu's and Nietzsche's works. Both authors, in fact, take great care to explain the importance of addressing the reader in a language and a format that breaks beyond established conventions. The relationship between form and content is of decisive importance for the language created to clarify how 'information about the observer' organises the notions of time and process-based knowledge at different scales. This relationship will be addressed repeatedly in the dissertation to see how it applies directly to the cyberneticians' yearning for describing one's own observing, and not the supposed causes.[4]

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[4] See Ch. 1.2.

PART I

BECOMEBECOME THEORY

1.   RESEARCH FRAMEWORK

1.1   Research Interrogations

> Transdisciplinarity does not seek a mastery in several disciplines but aims to open all disciplines to what they have in common and to what lies beyond their boundaries.
>
> BASARAB NICOLESCU

Since the publication of <u>Manifesto of Transdisciplinarity</u> in 1996, there is a fundamental need to understand which means and methods can provide access to Transdisciplinary knowledge. This condition defines the essence of the research question investigated in this thesis which is: 'What intellectual operations and practical strategies can be referenced as meaningful tools to produce Transdisciplinary knowledge for Disciplines as distant from each other as those classified as hard science and humanities?'

It will be shown in the next chapters how this main research question begets the following subset of Research Interrogations:

1. Why are the notions of 'hidden information', 'process-based information', and 'information about the observer' central to the means and methods which provide access to Transdisciplinary knowledge?

2. Which model of time makes it possible to investigate process-based information when the observer is part of the process-observed?

3. How is 'hidden' information from the physical body of the observer connected to 'information about the observer' which is 'hidden' because it is intuitive and transpersonal?

4. What syncretic language can combine the eclectic insights identified via Research Interrogation 3 with information that comes from the rational mind, and with scientific logic?

5. How are practice and theory fundamentally intertwined in the Becomebecome approach described in this thesis as a method to create access to new knowledge about all of the above questions?

1.2 Methodology

The intellectual operations and practical strategies that produce the new knowledge analysed in this dissertation define the 'Becomebecome Transdisciplinary methodology' that connects PART I 'Becomebecome Theory', to PART II 'Becomebecome Practice'.

Before all else, Chapter 2 'Identification of the Field' and Chapter 3 'Literature Review', identify the knowledge resources which are necessary to designate the theoretical backbone of the research. This process generates a cognitive space[5] inside of which the intellectual operations necessary to create access to Transdisciplinary knowledge become visible. More specifically, a new frame of reference for understanding process-based knowledge that includes 'information about the observer' is proposed. The author refers here specifically to the interpretation of process-based

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[5] See Ch. 1.3.

knowledge that includes information about the observer given by second-order cyberneticians during the late 1960s and mid 1970s.

Although nowadays 'cybernetics' is often a term associated with research limited to the scope of computer science, the original groundbreaking approach of this new field of research has always been the idea to combine cutting edge knowledge from leaders and pioneers in the hard sciences as well as the humanities (Wiener, 1948). By this very definition, many renowned authors in the fields of art and science today can be considered cyberneticians, because their work continues to provide new insight into that same pursuit defined more than seventy years ago.

Between 1968 and 1975, Heinz Von Foerster and Margaret Mead introduced Second-order Cybernetics (Glanville, 2002) as a critique of realism and objectivity, and as a radically reflexive form of science where observers enter their domains of observation, *describing their own observing and not the supposed causes* (Krippendorff 2008). That approach is here combined with the Transdisciplinary idea[6] that *information about the observer* 'from the inside' (e.g. knowledge *from* dreams, and inner awareness of changes in the physical body[7]), is different from *information about the observer* 'from the outside' (e.g. knowledge *about* dreams, and information about changes of

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[6] See Ch. 2.1.

[7] Through process-based sequences of actions which combine movement, attention, awareness, and information from proprioceptors. See Ch.3.4 and 4.2 for an extensive characterization of this aspect of the Becomebecome methodology.

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the physical body observed only through the filter of the rational mind)[8] which only abides by the exclusive logic of the classic scientific approach.

The Becomebecome frame of reference for understanding process-based knowledge is based on a concept defined as 'information that exists in a temporal dimension', and its declinations, defined as 'temporal scales'. These two notions unveil the connection between a larger cosmological model of time and the process-based knowledge which is revealed as part of it.[9] A description of the process as a consequence of which every explanation always transforms process-based knowledge into a feature of a larger cosmological model of time establishes new bases to decipher the apparent paradox which precipitates the separation between knowledge *from the inside* and knowledge *from the outside*.[10]

In order to produce a coherent Transdisciplinary theoretical background to support such a claim, the reader is made familiar with a syncretic selection of foundational concepts which have marked the evolution of very different fields of knowledge. Chief among them is the notion of 'synkinesis'[11], which refers to the idea that *information about the observer* is 'hidden' and 'process-based'. Researchers in the hard sciences and humanities have each developed peculiar strategies to account for *hidden* and process-based

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[8] In this context the word 'rational' refers to 'Reason' as: 'the capacity of consciously making sense of things and applying logic' - Kompridis, N. "So We Need Something Else for Reason to Mean". *International Journal of Philosophical Studies*. 8, 3 (2000): 271–295.

[9] See Ch. 3.2.6.

[10] See Ch.3.2.

[11] See Ch. 3.2.4.

information. The wealth of resources produced as a result of their efforts generates access to a unique vantage point which is Transdisciplinary as it expands across centuries, cultures, and very different fields of knowledge (Ljubec 2015). It is Transdisciplinary[12] also because not one single concept, theory or strategy can ever describe information about the observer which is *hidden* and *process-based*. One always needs two or more 'sets of interactions in time'[13] to experience the process of alternation whereby information from the transpersonal self[14] is associated to information from the individual self. Since the times of ancient Greece and the birth of tragedy[15] this mechanism is defined as a central element of the dynamic that originates all knowledge in Western culture, which is why the process of 'alternation and coordination' between *information from the inside* and *information from the outside* is also settled at the very core of the Becomebecome methodology.

A significant part of the investigation which has produced this dissertation has been dedicated to gathering and selecting relevant sources on the topics of 'information about the observer' and 'process-based information', both from expert researchers in the fields of hard science and in the fields of the humanities. This made it immediately obvious that the purpose of a doctoral thesis on such matters should not aim to be exhaustive in the sense that it

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[12] See Ch. 2.1.

[13] See Ch. 3.2.1.

[14] See Ch. 3.3.

[15] See Ch. 2.2.

includes all possible information on a very limited subject; it should rather be exhaustive because it generates the best informed critical selection of the sources that are appropriate to support the production of new intellectual operations which are necessary to access Transdisciplinary information. And also, because it combines the new intellectual operations derived by the critical selection of the sources with practical Transdisciplinary strategies for the creation of 'new instruments of awareness'. The production of new Transdisciplinary knowledge is the result of the combination of the new intellectual operations described in PART I with the 'new instruments of awareness' generated with the practice described in PART II.

The second half of the dissertation, called 'PART II Becomebecome Practice', clarifies how to apply the concepts highlighted in PART I with exercises that are organised as a series of experiences. I.e. via 'PART II' one can appreciate how the notion that 'information about the observer is made of two sets of interactions in time' analysed in 'PART I' is transformed into a visceral understanding of processes within processes that are experienced directly:

- through the physical body

- because of group dynamics

- by including information which is intuitive

- by taking into account information from synchronicity.

These practical strategies generate new instruments of awareness which reveal the very origin of the intellectual operations that inform the

theoretical model 'explained' in PART I. In this manner, the process of mutual impregnation between Becomebecome theory and Becomebecome practice evolves into an extension of the very process which associates 'information from the outside' to 'information from the inside' in the transpersonal and Transdisciplinary approaches introduced by second-order cyberneticians, as well as Nietzsche and Nicolescu.

1.3   Outline of Thesis

INTRODUCTION

PART I BECOMBECOME THEORY

CHAPTER 1 RESEARCH FRAMEWORK

The research interrogations are identified and the methodology which is determined to investigate them is explained. An outline of the thesis is provided.

CHAPTER 2 IDENTIFICATION OF THE FIELD.

Where the author clearly delimits the field of investigation of this thesis. 'Information about the observer' is revealed as the notion that can be used as a common denominator to produce a new understanding of process-based knowledge in the hard sciences and humanities (Geerts, 1983, Rouse 1987, 1993). The Transdisciplinary approach which shall accompany the reading of this whole text is laid bare in the introduction of the <u>Manifesto of</u>

Transdisciplinarity by Basarab Nicolescu (1996), and Friedrich Nietzsche's The Birth of Tragedy (1872). Excerpts from these two texts are combined to create a 'carrier narrative' which will support and inform the cognitive space[16] upon which the rest of the ideas examined in this thesis project their significance. The rhythm built by the association of these two texts in the mind of the reader establishes a cognitive lattice upon which all subsequent theories will appear more meaningful to the purpose of developing practical and effective Transdisciplinary strategies. The importance of the message which radiates from both authors' perspective on process-based knowledge and information about the observer, guides the choice of all subsequent recommendations in the literature review which informs the Becomebecome theoretical background and practical application, to make it adequate to produce new insight.

CHAPTER 3 LITERARTURE REVIEW

The space inside of which Transdisciplinary knowledge is found is described as *hidden* and *process-based*, because it is generated by *information about the observer*. Information about the observer is process-based because it can be accessed only *as a consequence* of the action necessary to observe something, which is by definition a process made of at least two sets of interactions in time. Chapter 3 of the thesis focuses on explaining how

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[16] In this sentence 'Cognitive space' uses the analogy of location in two-, three- or higher-dimensional space, to describe and categorize thoughts, memories and ideas. A 'Cognitive lattice' is made of a repeating arrangement of such points of location.

different traditions of study have come to this same conclusion with very different modalities of research. Chapter 3 also points out how the explanations each tradition produced on this topic acquire an additional layer of meaning when connected to a common Transdisciplinary lattice by a unique model of time and process-based knowledge.

CHAPTER 3.1 THE OBSERVER OF HIDDEN INFORMATION

The main topic of Chapter 3.1 is information that is 'hidden' to the observer. No matter how strict and formal the system one wishes to develop to organise knowledge, one always ends up confronting some process which extends the realm of observation *beyond* the boundaries of theories based only on the idea of an absolute and objective truth. The truth values of knowledge are defined by a process which is local and is centred around *information about the observer*. Georg Cantor's 'diagonal method', George Spencer Brown's 'mark/no-mark' logic apparatus, and Kurt Gödel's 'incompleteness theorem' are brought as examples to illustrate this point. In particular, Georg Cantor's 'theory of sets' is also examined to introduce the idea that 'hidden' information is not flat and mono-dimensional, but rather process-based. Thus it is not enough to refer to 'hidden' information as a set of infinite information made of the opposite of visible information, because not all sets of infinites are created equal. This clarifies that 'visible' information is process-based, and 'hidden' information is process-based as well; which means it is based on layers of information that are themselves only possible

to access as a consequence of a process. This point is further illustrated with the theory of the black box by William Ross Ashby (1956, pp 86-117), and with examples from Douglas Hofstadter, who extends the notion of 'hidden information' from the realm of abstract science to ordinary life situations.

CHAPTER 3.2 THE OBSERVER OF PROCESS-BASED INFORMATION

Information about the observer was revealed in Chapter 3.1 because of a *process* which escapes all formal definitions, but is meanwhile intrinsic to all knowledge systems. This is a very peculiar Transdisciplinary quality, because it is a characteristic all Disciplines have in common. This is also the reason why process-based information becomes the main focus of the research on *information about the observer* developed in Chapter 3.2. Two concepts introduced by anthropologist and cybernetician Gregory Bateson are illustrated. The first one refers to the idea that 'two sets of interactions in time' transform all knowledge into process-based knowledge, and each action performed by the observer is taken as reference to define a step in the process. In more detail, when the description of an experience is made by an observer from the inside of a process *as it unfolds*, 'two sets of interactions in time' are transformed into information about 'action and consequence'. This means that *as a consequence* of each *action* performed by the observer, two sets of interactions in time are put into a temporal perspective which is not anymore absolute, invariant, abstract, and 'from the outside'.[17]

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[17] This perspective is defined as 'Time-oriented' and analysed in more detail in Chapters 3.2 and 3.3

One can imagine such a temporal perspective not unlike a spatial perspective, where two sets of interactions in time become one set of *infinite* interactions in time from the more *distant* future of the observer, and one set of *infinite* interactions from the more *immediate* future of the observer. Both categories of infinite contain *information which is hidden* (in the 'black box'), but not all set of infinites are created equal by the observer. These two sets of interactions in time produce a unique trajectory of process-based knowledge which is oriented by *information about the observer*.

The second concept Bateson illustrates is the idea of 'not-doing as an action'. This fundamental mechanism of the human mind is part of the most basic animal behaviour, and it is revealed *only through process-based experiences*. Contrary to what happens in the abstract world of the digital and time-invariant mind, where not-doing something subtracts information from a system, not-doing something in the analogue world of the animal mind *adds* information to the knowledge system of the observer. Not-doing is recognised as an action; knowledge which exists *as a* consequence of an action becomes knowledge which it is possible to access because of *not-doing* something.[18]

The analysis of two sets of interactions in time is continued with a more elaborate distinction between the observer of time-invariant events and the observer of time-oriented events. The theories of 'first-person methodologies' and 'the construction of reality' introduce new perspectives

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[18] Chapter 3.5 further elaborates on the possibility to explore not-doing with the body of the observer, as a strategy to acknowledge and understand 'from the inside' the action of not-doing with the mind.

on the differentiation between information about the observer *from the inside* and information about the observer *from the outside*. The notions of 'object-events' (Varela, Shear 2001), 'horizon of object-events', and 'events which exceed interpretations' (Woodward, from http://www.iep.utm.edu/lyotard/), connect explanations of 'action and consequence' with the idea of descriptions made by an observer *from the inside*.

These concepts align the scientific study of *information about the observer* with what Nicolescu and Nietzsche propose, i.e. a new kind of process-based knowledge is revealed when *information about the observer from the outside* is not artificially disconnected from *information about the observer from the inside*. This characteristic becomes more obvious when these concepts are integrated in a model of time which grounds all process-based knowledge about the observer into event-based descriptions of information that exists in a temporal dimension distributed at different temporal-scales. The latter part of Chapter 3.2 presents the cosmological approach to time illustrated by Professor Sean Carroll, which provides the scientific basis to better understand the interdependence of process-based knowledge *from the inside* and process-based knowledge *from the outside*. This new understanding of time also reveals the connection between *information about the observer* and the ideas of 'the Multiverse', the 'transpersonal self', and 'information from the future' developed by cyberneticians Hugh Everett III, Heinz Von Foerster, et al.

Information which is hidden to the rational mind but still available to the intuitive and subconscious mind of the observer is considered a foundational asset for the Becomebecome approach to Transdisciplinary knowledge. This chapter identifies the theoretical references which determine the connection between process-based knowledge, group dynamics, and the subconscious mind of the observer. Established notions and practices from the history of psychology, neurosciences, and anthropology, reinforce the hypothesis of Nicolescu and the historic analysis of Nietzsche. The idea of the *transpersonal self* is extended beyond the scientific examples of Chapter 3.3 to include documented reports and statistics on how different cultures integrate dreaming, visualisation, and working with intuitive skills in their systems of social norms. Such analysis reveals a description of practical strategies to access intuitive knowledge that can be explained with the same notions and visual representations used for the examples invented[19] to understand physics, cosmology and cybernetics exposed in Chapter 3.3.

The study of the *transpersonal self* across cultures and Disciplines produces valuable indications on how to talk about Transdisciplinary knowledge, but also on how to access Transdisciplinary information in practice. This is the reason why these practical strategies, notions and visual representations will be used as Transdisciplinary guidelines to access intuitive knowledge for the

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[19] See Gregory Bateson quotation in Ch.3.2.6 on the significance of invented ideas in the history of Science.

activities developed in each unique Becomebecome Intuitive Lab.[20]
Consequently, it is made clear how elements of the Becomebecome
Transdisciplinary theory set forth in Chapters 3.3 and 3.4 combine with
knowledge advanced in previous chapters to originate the first
Becomebecome practical strategies that produce (new) Transdisciplinary
insight. Examples of direct applications of such strategies are provided in
PART II of the thesis. An essential component of the analysis produced in
Chapter 3.3 makes it clear that working with the body of the observer
constitutes an immediate pathway to access *information about the observer*.

CHAPTER 3.4 THE PROCESS-BASED BODY OF THE TRANSDISCIPLINARY
OBSERVER

This chapter expands the research on Transdisciplinarity using concepts and
images that have been advanced in previous chapters and matches them to
practical methodologies for working with the physical body of the observer.
A brief review of the major traditions of investigation of the body and the
'process-body' (the *body in movement*) establishes the first criteria of
scrutiny to reveal which schools, authors, and texts can provide practical
support to the ideas at the centre of the Becomebecome theoretical
background.

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[20] 'Becomebecome Intuitive Lab' is the name given to a specific activity which focuses on working with
intuition, subconscious information, and synchronicity during each Becomebecome event.

Becomebecome events are created as unique propositions tailored to each specific location, a set theme, and a specialised team of facilitators. Nevertheless, a few well-defined notions create a coherent trajectory which is relevant to all Becomebecome workshops that focus on information about the movement of the physical body of the observer. These notions are made clear in the 'Becomebecome Analysis of Movement', which is why an important part of the chapter is dedicated to it. The Becomebecome Analysis of Movement is introduced to establish the criteria which connect the Becomebecome kinetic strategies[21] to the Becomebecome theoretical background. Among the sources mentioned as most relevant for the Becomebecome kinetic strategies, the research developed at the Wellco Wellbeing hub in Barcelona, Spain, is cited to connect scientific research on anatomy and biomechanics to the notions established in the Becomebecome analysis of movement. Several other sources are cited as established references for the creation of safe and effective practical exercises also analysed in Ch. 4.2 Stage 2 - Becomebecome Kinetic Routines. Through direct application of concepts such as 'fix-point, mobile-point', 'not-doing as an action', 'synkinesis', 'movements in open-chain', and 'movements in closed-chain', the Becomebecome analysis of movement makes explicit how Becomebecome kinetic strategies are guided by the knowledge trajectories revealed in Chapters 2 to 3.4. It follows that Becomebecome kinetic strategies make it possible to create a sequence whereby *hidden* and process-

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[21] Physical exercises which constitute the practical application of Becomebecome transdisciplinary body strategies.

based *information about the observer* is generated and transformed through direct and immediate experiences in the body.

Chapter 3.4 concludes the presentation of the theoretical background of the Becomebecome transdisciplinary methodology by stressing how the selection of Becomebecome kinetic strategies is always combined with the selection of other activities proposed during each Becomebecome event. All activities integrate a wider syncretic strategy that transforms information about the observer which is produced during each Becomebecome event. Participants in a Becomebecome event observe and create a process which changes information about the *object-observed* as a consequence of moments where *information about the observer from the outside* is associated to *information about the observer from the inside*, in a manner not unlike the original tragic device invented in ancient Greece at the very origin of western civilization.[22] It is a mechanism which includes transformation at the physical level, transformation at the level of the transpersonal patterns which influence the subconscious and group dynamics the observer is a part of, but also transformation at the level of the rational mind, where the observer must find the language which corroborates every step in the process that generates (new) Transdisciplinary knowledge.

PART II BECOMEBECOME PRACTICE

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[22] See Ch. 2.2.

PART II of the dissertation provides several examples of how the Becomebecome process-based strategy to access Transdisciplinary knowledge is designed to be open and reinforced with direct feedback from the participants in each Becomebecome event.

CHAPTER 4 BECOMEBECOME PRACTICE

In Chapter 4, comprehensive explanations of practical exercises which are proposed during Becomebecome events are provided, along with a detailed rationale which connects them to the Becomebecome Theoretical background expounded in PART I of the dissertation. These exercises and the sequences which connect them to one another are designed to elicit access to information about the observer which is process-based, transpersonal, and Transdisciplinary. They advance a line of investigation proposed in Manifesto of Transdisciplinarity that extends the research initiated by cyberneticians several decades before (Von Foerster, Bateson, Varela, et al., as detailed in PART I), and which itself continues through the work of cyberneticians who developed new educational models in more recent years (Ascott 1964, 2003).

Chapter 4 is divided into seven sub-chapters plus chapter 4.8 which examines the role of evaluation in Becomebecome practice. Each sub-chapter analyses a separate stage of the process setup to discover *hidden information about the observer* through Becomebecome practice. Becomebecome practice combines the new intellectual operations introduced in Becomebecome theory with

practical strategies that create *new instruments of awareness*. The syncretic union of the *new instruments of awareness* and the intellectual operations associated to them generates access to new Transdisciplinary knowledge.

CHAPTER 4.1 STAGE 1: BECOMEBECOME CFP

The Becomebecome Call For Participation (CFP) represents the critical moment when the Becomebecome approach enters the life of the participants. It is designed to act as a filter mechanism to ensure that candidates who are selected to join the residency programme belong to a group with a common 'hidden' characteristic: the desire to work on their personal process in order to transform the way they make Art. This is why following the CFP, the communication between the Becomebecome Team and the participants is established through a language of things 'hidden' because they are *not-said* (see 'not-doing' as an action in Ch. 3.2.1), and 'hidden' because they are *not-present*. The language of the CFP and the information which is absent from the CFP must always create an experience of trust which is based on things not-visible to the rational mind. This is done through a communication process which includes the dissemination of the CFP, the design of the website page which corresponds to it, and the language used to reply to official mails from candidates. Up to the very moment when participants arrive to the residency, something is missing; but most importantly, each time there is enough information available to create a feeling of safety which can generate trust in the process. This is how the selection process is

conducted. Candidates who cannot step out of the need for explaining everything with their rational mind are stuck in a cognitive space where knowledge must necessarily be present before experience. This makes them unsuitable for a fully immersive programme based on 'experience-before-knowledge'(see Ch. 3.3 and 3.4). It is paramount that all participants indicate this 'hidden' characteristic (the desire to work on their personal process in order to transform the way they make art) to create a safe space for all the following stages in the Becomebecome process. Other criteria which are relevant to the selection process include not accepting more than one or two candidates from the same country, and not accepting more than one or two participants from the same artistic field, or that work with the same media.

CHAPTER 4.2 STAGE 2: BECOMEBECOME KINETIC ROUTINES

Becomebecome Kinetic Routines (BKR) are practical sessions which are designed to transform *hidden* patterns of *information about (the body of) the observer*, thus making participants aware of a 'hidden' process which exists within themselves but is not visible to the rational mind. Exercises are always inspired by the research trajectories established in the Becomebecome Analysis of Movement (see Ch. 3.4 The Chronosoma), and they are always adapted to the specific characteristic of each group, location, and facilitator. Once or twice every two to three days, BKR sessions are proposed as activities that are complete on their own, but also as activities which combine to a larger process of transformation in combination with other

Becomebecome sessions. A detailed examination of Becomebecome Kinetic Routines is available in Appendices A.0 to A.5.

CHAPTER 4.3 STAGE 3: BECOMEBECOME INTUITIVE JOURNEYS

Becomebecome Intuitive journeys (BIJ) follow the guidelines exposed in Chapter 3.3 They are defined as moments of exploration with the subconscious which include exercises for personal practice and exercises in group. These are fun activities where participants play with visions, thoughts, and feelings that are provoked by from guided meditations. The language used by the facilitators of these sessions help the participants transform the information which is channelled from *the hidden* subconscious of the observer, to *the visible* and inquisitive part of their psyche. BIJ propose to work with a logic that goes beyond the limits of what is acceptable to the rational mind, thus relying on the wider Transdisciplinary logic of transpersonal processes and synchronicity.

CHAPTER 4.4 STAGE 4: BECOMEBECOME CRITIQUE LABS

Becomebecome Critique Labs (BCL) expand the process of transformation initiated with the BIJ, although they operate more directly at the level of the rational mind of the observer. On average, between three and four Critique Labs are set-up for each Becomebecome Residency programme. During these sessions, participants are invited to give feedback to each other in unusual ways and watch how their perspective on their own work is shifted because of

the interactions that are created. Critique Labs also present opportunities for exchange between Becomebecome participants and local artists.

CHAPTER 4.5 STAGE 5: BECOMEBECOME SYMPOSIUM ON TRANSDISCIPLINARY NARRATIVES

The Becomebecome Symposium on Transdisciplinary Narratives (BSTN) establishes a format for researchers and artists who are willing to talk about the personal reasons behind their craft. Artists mostly communicate through their artwork; for the majority of them, it is a rare occurrence to communicate about their personal process, and why they choose a certain style, a certain sensorial modality, or a certain language. The fact of having to communicate to a public about such facets of their work can bring to light aspects of information about the observer that Becomebecomers have never perceived. The BSTN has its own Call For Participation, which is independent of the Becomebecome Residency Programme CFP. Thus, the BSTN enrols participants that are external to the Becomebecome Residency as well and creates a favourable circumstance for new collaborations and exchange with presenters from other educational and art institutions.

CHAPTER 4.6 STAGE 6: BECOMEBECOME PROCESS-EXHIBIT

The Becomebecome Process-Exhibit (BPE) is held on the last days of the Residency. It is conceived as a show 'made of process' whereby the Becomebecome artists invite the public to enter their creative process. The

process-exhibit is advertised through the usual channels to the community local to the Becomebecome Residency as a typical Art Opening. Participants in Becomebecome do not have to show a 'finished' project; quite to the contrary, their project could actually be completed weeks or months after the Becomebecome Residency is finished. The BPE associates a trace of the project as it was when the residency began, to whatever else the artist decides to show at the exhibit. Each artwork is identified by the standard white rectangular labels found at exhibits in art galleries all over the world. The association of something that is still in transformation, found *inside* something that is presented using the format of a conventional Art Show, creates a new dynamic which can be used by Becomebecomers to attract an unpredictable response from the public. This response from the public is spontaneously converted in valuable feedback for the process of the artist. BPEs are also a moment for participants to show their work to local art galleries, agents, and clients. At least one half-day of the Residency is always set aside for this purpose.

CHAPTER 4.7 STAGE 7: BECOMEBECOME CONTINUITY

The Becomebecome process combines transformation at the scale of the individual participants, with transformation that happens at the scale of the social actors involved with each Becomebecome event. The stage of Becomebecome Continuity is revealed as a consequence of the Becomebecome Residency, in the weeks, months, and years after the

Becomebecome Residency is finished. Some participants send feedback about how refreshing the whole process has been for them, and how they continue to use the exercises that they discovered during the practical sessions for inspiration in their own creative process. Several encounters that were made possible during the Becomebecome Residency programmes mature into new opportunities for collaboration between artists, between social actors, and between artists and social actors. The Becomebecome website is currently expanding to include a platform where visitors, artists, educators, and other professionals who share an interest for Transdisciplinary art projects can find effective resources to advance the research based on the principles expounded in this thesis.

CHAPTER 4.8 THE ROLE OF EVALUATION IN BECOMEBECOME PRACTICE

In this chapter the role of evaluation is identified, framed and reflected upon to demonstrate evidence of relevant findings. These findings take into account participants feedback, e-mail exchanges, de-briefing with the facilitators and the organizers, the outreach achieved through media trace, and the observations about new professional collaborations.

CONCLUSION

LIST OF SOURCES

APPENDICES

Dedication

2.   IDENTIFICATION OF THE FIELD

The Observer, in the Transdisciplinary and in the Transpersonal

Chapter 2 establishes the frame inside which the main research question should be explained. The motives and descriptions that define the field of investigation reveal the features from which originate the definition of the five related Research Interrogations.[23]

2.1   The Manifesto of Transdisciplinarity

> Perhaps we may lead up to this primitive problem with the question: what æsthetic effect results when the intrinsically separate art-powers, the Apollonian and the Dionysian, enter into concurrent actions? Or, in briefer form: how is music related to image and concept?
>
> FRIEDRICH NIETZSCHE

2.1.1 One Nature

In order to define what we refer to when we talk about Transdisciplinarity in this thesis, we will introduce the conceptual framework laid out by Basarab Nicolescu in his <u>Manifesto of Transdisciplinarity</u>, published in 1994 (from now on simply 'the <u>Manifesto</u>').

In the <u>Manifesto</u>, Nicolescu explains that the very idea of Nature has changed many times in history, since *the beginning of time'*. Although in some measure all definitions refer to the same 'thing', what could the idea of

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[23] See Ch. 1.1.

Nature of primitive peoples possibly have in common with Nature as it was understood in Ancient Greece? What about Nature at the time of Nietzsche? And Nature after the digital revolution and the internet? In some respects, these definitions have nothing in common apart from man, the observer. No matter what definition one chooses, there is always one observer that grounds a particular definition of Nature to a specific set of parameters *in time*. These parameters have to do with the technology and science of the time of the observer, the social organization against which the observer produces meaning with the definition, the art to which he or she is exposed, the religious beliefs at the time, and so on. It is noteworthy to consider that the process after which such an image of Nature is cast projects a shadow which has influence on all knowledge domains. What is more, the passage between one vision of Nature and another is not progressive but sudden; and it is not uncommon to see that different models of Nature are imagined and coexist in the same historic period (Nicolescu 1994, p.xxxv). In the following chapter, Nicolescu's observation provides guidance for the analysis of two contrasting models that are the heart of the worldview which underlies the understanding of Nature in the current historical period .

2.1.2 Two Cultures and Beyond: Process-based Transdisciplinarity

> A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is the scientific equivalent of: Have you read a work of Shakespeare's? I now believe that if I had asked an even simpler question — such as, what do you mean by mass, or acceleration, which is the scientific equivalent of saying, 'Can you read?' — not more than one in ten of the highly educated would have felt that I was speaking the same language.
>
> CHARLES PERCY SNOW, THE TWO CULTURES

These words are taken from the Rede lecture, delivered in 1959 at the University of Cambridge by the British novelist C. P. Snow. Snow's thesis was that a worrying gulf had opened between science and the humanities; that they were now polarized into what he called 'the two cultures' (*Nature Phys* 2005, p.309). It did not take long, however, for a spirited rebuttal to appear. In 1962, the noted English literary critic F.R. Leavis replied with exasperation to Snow's thesis, thereby establishing the basis for the two-culture debate. Leavis countered Snow's position by asserting the superiority and moral authority of the humanities and, more specifically, by highlighting the value of literature in educating the future of British society (Cohen 2001, pp.8-12).

Benjamin R. Cohen (2001) reminds us that anthropologist Clifford Geertz has called the social sciences the third culture, which Snow excluded, and

maintained that *all* of our knowledge is local, and that "the most effective academic communities are not that much larger than most peasant villages and just about as ingrown." (Geertz, 1983, p.157) "Social sciences (e.g. sociology and anthropology) deny the need for a bridge and open up the way to contextualizing science" (Cohen, op cit p.10). In addition, Joseph Rouse, the philosopher of science and promoter of cultural studies of scientific knowledge, asserts much the same from within the field of Science Studies. He believes that scientific knowledge 'is an achievement always rooted in local knowhow'[24] (Rouse 1987, p.119) and that cultural studies of scientific knowledge "display a constant *traffic across the boundaries* that allegedly divide scientific communities from the rest of culture." (Rouse 1993, p.12)

This new perspective is quite fitting to the interpretation that Transdisciplinarity proposes when confronting the question of supremacy between the two cultures. One of the major principles in the <u>Manifesto</u>, in fact, is that there is not a single approach, or a single discipline that can be considered better than another, because no matter which set of parameters one selects or designs to 'make sense' of experience, there will always be knowledge about the experience that exceeds any given interpretation. This gives birth to a new relativistic principle strictly associated to the notions of 'open unity' and 'plural complexity' (Nicolescu 1996, p.xxi), two fundamental benchmarks that connect the mechanism through which knowledge is acquired to the language of process-based observations.

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[24] Rouse, J. *Knowledge and Power*. Ithaca, NY: Cornell University Press. 1987.

The idea that 'knowledge is local' and the idea of "constant traffic across the boundaries" point us in the direction of a process which exceeds the boundaries of the selected object of study to include *information about the observer* as it is modified in the relationship with its environment. The observer is now *connected* to the environment out of which it creates a selection. A process as a consequence of which information about the observer becomes relevant to the interpretation of experiences made in each selection, but also the distribution of knowledge into categories such as 'object', 'process', 'subject', and so on.

One could argue that this debate as it was formulated sixty years ago was only the latest instance of a comparison between two completely different yet complementary attitudes towards the study of Nature and the advantages that one approach is supposed to have over another. It is in fact a debate that has nourished our culture for millennia and can be traced as far back as the origins of western civilization itself, at the time when the Greeks gave birth to the Tragic art form.

One way to consider such controversy without the need to renounce the usefulness each knowledge trajectory has to offer, is to look at both the intelligence from the hard sciences and the intelligence from the humanities as the result of process-based knowledge at two different scales. There is a process which includes crossing the boundaries that allegedly divide scientific communities from the rest of culture', and a process which includes *knowledge about the observer* in a concrete period of time (*local knowledge*

i.e. in time *and* space). Chapter 3.2 analyses in more depth the intellectual operations that correlate process-based knowledge to *information about the observer*. For now, let's take a step back and consider a few moments in history which marked the separation between science and the data of the senses.

In the <u>Manifesto</u>, Nicolescu tells us that seventeenth century modern science was born as a consequence of a revolutionary idea: the fracture between 'the Subject' who makes the experience, and 'the Reality' of which 'the Subject' has experience. 'Reality' was thus supposed to be disconnected from the 'Subject' who was transformed into an 'Observer' of something that happens in a parallel *yet somehow connected* world. To establish this new vision for a reality based on reason and order, modern science created three foundational postulates:

1. Reality is governed by universal laws which are mathematical in their Nature.

2. The scientific method is the only experience that can create access to these laws.

3. It is possible to reproduce in a perfect way the same experimental results at a distance (in time and or space).

Objectivity was thus elected the supreme measure of truth, and this brought with it the inevitable consequence that the Subject was now transformed into an Object (Nicolescu 1996, p.ix). To know the truth about the Subject, one

would have to study the Subject from the outside. Any information about the Subject *from the inside* was to be discarded.

Scientism also carried a more insidious proposition: the idea that there is only one possible level of Reality, which is determined by only one possible time, invariant and absolute. This viewpoint entails that Disciplinary research should be concerned with one Reality level only. This begets the question: is there something in-between (ibid) Disciplines or beyond Disciplines? The answer that comes from 'classical' science is 'No. There is absolutely nothing.'

The 'Big Bang' generated by the explosion of scientific research in the nineteenth century created countless disciplines and stretched the limit of the scientific method to the point that even two specialists of the same discipline have very often a hard time understanding each other's research and results. The idea of being the ultimate expert in any major aspect of any discipline has become obsolete. This situation, combined with the requirement that knowledge should still be determined only as it is cast through the paradigm of one Reality level, has brought the consequence that, starting from finite postulates, each Discipline expands its reach not unlike a pyramid that grows from top to bottom without boundaries.

In this thesis, we argue that process-based knowledge characterised by mechanisms such as 'constant traffic across the boundaries' can provide the foundations to ground each discipline in *local knowledge* and create access to

Transdisciplinary knowledge beyond the confines of one exclusive and time-less Reality level.

The fact that it is not possible for any 'expert' to understand the results of all of his or her colleagues in the field can be seen as the result of a process which reveals 'incompleteness' as a fundamental aspect of knowledge, thus introducing the idea that the generation of *hidden* information is inevitably associated to the act of creation of any 'visible' information. The concept that the community attached to a discipline provides the necessary preconditions to support the growth of said discipline shifts the knowledge paradigm by transforming the knowing subject at the transpersonal scale of the community which surrounds the observer; and the only way of including information which is transpersonal inside information that can be accessed by a single individual, is by going through a process that, by definition, includes two or more experiences.

This is why understanding how to access process-based information becomes a fundamental mechanism which allows one to connect with *hidden information* that is transpersonal and Transdisciplinary.

The 'Disciplinary Big Bang' nourished a fundamental need for connectivity[25] which can be seen as a symptom of the need to recover part of the process-based elements artificially removed from the descriptions of experiences

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[25] Here, in the sense of the possibility of a subject to 'make connections' between things.

proposed by the rigid and time-less requirements of the Disciplinary scientific approach. This need is in fact at the origin of the twentieth century effort that gave birth to pluridisciplinarity and interdisciplinarity.

"Pluridisciplinarity is concerned with the study of an object which is the interest of a particular discipline, recruiting the expertise of researchers from another field of knowledge." (Nicolescu 1996, p.xxvi) Nicolescu makes the example of a painting by Giotto which can be studied by art historians, but also by physicists, chemists, experts in geometry, psychologists, and so on. Information about the object under observation will be much more abundant, but it will also remain at the service of the one discipline which promoted the collaborative effort. In other words, the objective of such collaboration remains to amplify and make more relevant the knowledge produced within the field of a specific discipline.

Interdisciplinarity has a different ambition, which is characterised by the transfer of methods from one discipline to another.

"It is possible to distinguish three different degrees of interdisciplinarity:

a) The degree of 'Applied Interdisciplinarity', whereby for instance, the methods of nuclear physics transferred to Medicine originate new treatments for cancer

b) The degree of 'Epistemological Interdisciplinarity', an example of which would be the transfer of the method of formal logic to the domain of Jurisprudence, which produces original analysis on the epistemology of the Law

c) The degree of 'Disciplinary Creation', which can be illustrated considering that Quantum Cosmology is born as the result of transferring the methods used in Particle Physics to Astrophysics" (Nicolescu 1996, p.xxvii)

Just as we observed with pluridisciplinarity, interdisciplinarity amplifies knowledge and create access to new knowledge, but the aforementioned insight proceeds to be understood within the boundaries of a specific discipline. What's more, Interdisciplinarity actually increases the sprawling of the Disciplinary big bang. "Transdisciplinarity on the other hand is concerned with something else. It is made with access to knowledge at a completely different scale. The prefix 'trans' in Transdisciplinarity refers to knowledge that can be found looking between Disciplines, beyond Disciplines and 'through' Disciplines." (Nicolescu 1996, p.xxvii)

If one looks at the space of knowledge as defined by the traditional scientific approach, Transdisciplinarity is absurd, because it has no object. On the other hand, Transdisciplinarity does not consider the traditional scientific approach as absurd; it just classifies its purpose and relevance as circumscribed. More specifically, Transdisciplinarity concerns itself with knowledge that is only possible to access looking at sets of interactions in time between two or more Reality scales. From such a vantage point, Disciplinary knowledge presents the characteristics of a unique set of Transdisciplinary interactions in time as observed from within the parameters defined by a single discipline. Transdisciplinary knowledge always exceeds the explanations provided at a certain moment in time by each and every

'expert' observer from any specific discipline. Under this new perspective, Disciplinary knowledge is not only important, but it also actually becomes the necessary gateway to access all Transdisciplinary knowledge.

The Transdisciplinary vision invites one to consider that Reality can be described as distributed across multiple layers, instead of being limited to a single dimension as proposed by the language of classic scientific interpretations. But where are these additional dimensions coming from? What is their relationship with time and process-based knowledge? What would be the nature of a language that can help one understand these parallel Reality dimensions and the mechanisms by which information can be communicated from one layer to another?

From the perspective of Transdisciplinarity, *complex plurality* and *open unity* are two aspects of the same phenomenon, which implies that the unity connecting all Reality levels, if it exists at all, is necessarily an *open unit*. It is a unity based on time, and it is process-based. What's more, "one can certainly find an element of coherence in the information that flows from one Reality level to another, but such flow is also associated to an arrow of time; it is oriented in time from one Reality level to another." (ibid p.xxxiii) Chapter 3.2 of this thesis analyses in-depth the idea of how the 'Arrow of Time' influences the process-based knowledge paradigm at the core of any Transdisciplinary approach.

2.2 The Birth of Tragedy: One Nature, Two Gods

> Entre le savoir et la comprehension il y a l'être.
> Mais, le sacré ne s'oppose pas à la raison : dans la
> mesure où il assure l'harmonie entre le Sujet et
> l'Objet, le sacré fait partie intégrante de la
> nouvelle rationalité. Le miroir transdisciplinaire se
> trouve à la fois entre et au delà de tous les domaines
> de la connaissance. Le monde classique est le monde
> de la figuration, tandis que le monde
> transdisciplinaire est celui de la transfiguration
>
> BASARAB NICOLESCU

> By no means is it possible for language adequately to
> render the cosmic symbolism of music, for the very
> reason that music stands in symbolic relation to the
> primordial contradiction and primordial pain in the
> heart of the Primordial Unity, and therefore
> symbolises a sphere which is above all appearance
> and before all phenomena. Rather should we say that
> all phenomena, compared with it, are but symbols:
> hence language, as the organ and symbol of
> phenomena, cannot at all disclose the innermost
> essence of music...
>
> FRIEDRICH NIETZSCHE

One of the reasons why the shift from Disciplinary knowledge to Transdisciplinary knowledge triggers a complete change of paradigm when compared to the postulates of the classic scientific approach is that classical science requires a radical separation between the observer and the object observed, while the Transdisciplinary approach asserts the value of experience as it is observed *from the inside* of the process which connects the observer and the object observed. This is an area of investigation that cyberneticians identified as the study of 'information about the observer'. In the <u>Manifesto</u>, Nicolescu indicates that the study of information that becomes

visible in dreams, and the study of information that goes through the physical body but not necessarily the rational mind should be of paramount importance for the Transdisciplinary approach to information about the observer *from the inside*.

Chapter 3.2 will illustrate the differences and complementarity between *information from the inside* and *information about the observer*.

Chapter 3.3 will elucidate the principles for practical strategies to access Transdisciplinary knowled*ge that passes through dreams, synchronicity and intuition*.

Chapter 3.4 will expound the theoretical tenets for practical strategies to access Transdisciplinary *knowledge that passes through the physical body*.

2.2.1 Transdisciplinary to Transpersonal: 100 years ago, and 2000 years ago

A century before the <u>Manifesto</u> found its formulation in the words of Professor Nicolescu, Friedrich Nietzsche was preoccupied with the same feelings and ideas. In <u>The Birth of Tragedy</u> he first laid out his thoughts on how to reconnect the irrepressible yearning to emerge beyond the limits of one's own rational mind to a foundational moment of Western civilization; the short period of time that saw the birth and decline of the Tragic art form in ancient Greece.

> We shall have gained much for the science of æsthetics, when once we have perceived not only by logical inference, but by the immediate certainty of intuition, that the continuous development of art is bound up with the duplexity of the Apollonian and the Dionysian: in like manner as procreation is dependent on the duality of the sexes, involving perpetual conflicts with only periodically intervening reconciliations.
> Nietzsche 1871, p.63

Apollo and Dionysus disclose the profound mysteries of the Greeks' view of art. It is thanks to this connection in Nietzsche to Apollon and Dionysus, the two art-deities of the Greeks, that we learn that there existed in the Grecian world a wide antithesis, in origin and aims, between the art of the shaper, the Apollonian, and the non-plastic art of music, that of Dionysus. Any language that guides awareness from descriptions made with the sensibility of Apollo to descriptions made with the sensibility of Dionysus, is a language that describes the path of Transdisciplinarity. The two deities of art represent also the foundational axis that connects the culture of hard sciences to that of the humanities; that connects the need for exactitude, with its expectation to

discover a final formula to include 'everything', and the need for being carried by the flow of Nature, which inundates any interpretation, thought or theory and makes it unique.

Apollo, the god of all shaping energies, is also the soothsaying god. He, who is the 'shining one',[26] the deity of light, also rules over the attractive appearance of ideals and the perfection of good theories, but only if these theories displace to a hidden, invisible role the mechanism from which they take existence. He is the god of complete and self-fulfilling explanations, in contrast to the only partially intelligible everyday world. Apollo is the glorious divine image of the *principium individuationis*, from whose gestures and looks all the joy and wisdom of appearances makes sense to us.

Nietzsche proposes to apply to Apollo what Schopenhauer says of the man wrapped in the veil of Maya:

Just as in a stormy sea, unbounded in every direction, rising and falling with howling mountainous waves, a sailor sits in a boat and trusts in his frail barque: so in the midst of a world of sorrows the individual sits quietly supported by and trusting in his *principium individuationis*."
Schopenhauer 1909, p.455

Nicolescu writes that Nature cannot be imagined, let alone described, divided from its relationship with the human being. The very word 'Nature' is intimately dependent on the word *Nascere*, Latin for 'being born' and 'giving life', two expressions that describe the same process-based experience *from*

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[26] Apollo's chief epithet was Phoebus (/ˈfiːbəs/ FEE-bəs; Φοῖβος, Phoibos Greek pronunciation: [pʰói.bos]), literally 'bright', very commonly used by both the Greeks and Romans for Apollo's role as the god of light. Like other Greek deities, he had a number of other epithets applied to him, reflecting the variety of roles, duties and aspects ascribed to the god. (Beekes, 2009)

the inside and *from the outside*. 'Living Nature' is the living process-based matrix from which men and women are born and give birth. The Disciplinary world of illusionary separation of man from Nature corresponds to the scientific gaze of Apollonian accuracy that produces powerful meaning, but only at the cost of removing information that connects man and women to the process of being born. It is an operation that works only by doing away with *information about the observer* that is included in every process necessary to describe each object-observed, making it a process which *hides information that exists in a temporal dimension* from the description of the object-observed. We will analyse in Chapter 3.1 how powerful it can be for any Transdisciplinary approach to work with the idea of a *hidden* space (from now on simply *the hidden*) that draws a separation between what should be visible and what does not fit the paradigm and therefore 'does not exist'.

> The apotheosis of individuation, the Apollonian operation that separates what is visible from what should be hidden, if it be at all conceived as imperative and laying down precepts, knows but one law—the individual, i.e., the observance of the boundaries of the individual measure in the Hellenic sense. Apollo, as ethical deity, demands due proportion of his disciples, and, that this may be observed, he demands self-knowledge. And thus, parallel to the æsthetic necessity for beauty, there run the demands "know thyself" and "not too much"
> Nietzsche 1871, p.90

In <u>The World as Will and Representation</u> Schopenhauer describes the stupendous awe which seizes upon man, when of a sudden he is at a loss to account for the cognitive forms of a phenomenon. Nietzsche tells us that one should recognise in this awe the sacred element of the Dionysian phenomenon, after which the entire symbolism of the body, not only the

symbolism of the lips, face, and speech, but the whole gesticulation of dancing, sets all parts of the body into rhythmical motion.

"Thereupon, the other symbolic powers, those of music, in rhythmics, dynamics, and harmony, suddenly become impetuous." (Nietzsche 1871, p.79)

To communicate experiences with a wording that honours their authenticity, one should try and find a language that triggers the same experiences, instead of a language that only describes their memory. Ideal, abstract, and time-invariant Apollonian descriptions become the memory of experiences defined by the thrilling Dionysian, body-shaking release that runs through the flesh and has little concern for the rational mind. In this account, Nietzsche is with Nicolescu in suggesting that perhaps one should look at *information* that *passes through the body*, if one is to search for knowledge that has to go beyond the limited confines of Disciplinary knowledge and the rational mind *from the outside*. Apollon describes experiences *from the outside*, he is the God that gives us shape, outline, image, a God that 'draws a separation'. Dionysus looks at experiences that *connect* the observer beyond but also because of that separation, *in a parallel movement to the one which connects Disciplinary knowledge to Transdisciplinary knowledge.* He is the god of information *from the inside*, interested in the consequences of experiences that are possible to know only by looking at *information* that *passes through the body*. To communicate such experiences, one cannot limit oneself to talking to the rational mind about it. It is necessary to recreate the conditions inside of which the person to whom our communication is directed can make

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direct experience of it in the body. In this respect, if the Apollonian description of events is artificially removed (i.e. 'abstracted') from the information about the visceral response of the person to whom we want to communicate such experience, then it becomes just a rationalistic pantomime of the process-based transpersonal experience of Dionysus, which is the other dimension of the action necessary to access the experience.

The task of communicating such an experience becomes impossible using the logic and rationale of the classic scientific method; one feels challenged by the requirements that 'It should be possible to reproduce in a perfect way the same experimental results at a distance (in time and or space)'. Apollonian perfection is created with the repeatability of a static language, which is time-invariant, because it removes the information that exists in a temporal dimension which connects a process-based event to local knowledge. *But the language to communicate a process-based event is process-based language* and it demands the honouring of the requirements of specific conditions inside of which the person to whom we wish to communicate such experience is to be found at a specific moment in time.

The language to communicate a process-based event is also transpersonal, because the person who communicates the experience can only do part of the movement necessary to trigger the experience. Action from the person to whom the communication is directed is required to complete the movement which brings one to the space where the experience happens. This is contrary to the Apollonian assumption that may lead one to believe that if one is

rightful and diligent, one can find the ultimate formula to encompass all knowledge in some abstract and time-less 'theory of everything', which is the equivalent of some all-encompassing Discipline above all other Disciplines. Information that is process-based will always connect such a formula to local knowledge which is *hidden* and process-based as well. By definition, it is only possible to access process-based information with two or more sentences, two or more experiences, two or more actions, etc. By grounding Apollonian idealized statements to *local knowledge*, Dionysus connects all sterile 'theories of everything' suspended in a time-less vacuum to fruitful, juicy and pregnant process-based 'theories of something' which carry unique access to knowledge that is time-oriented and meaningful *right now*.[27]

Nietzsche tells us that these transpersonal characteristics of process-based knowledge were carried by the Greeks into a revolutionary new form of art they called Tragedy, which is a tribute to both deities, Apollo and Dionysus. The tragic device generates a unique movement of alternation and coordination from the conscious to the subconscious, from individual consciousness to collective consciousness, from the movement of the rational mind that hides things to the movement of the transpersonal mind which carries knowledge from a *hidden* place.

Every true tragedy dismisses us—that, in spite of the perpetual change of phenomena, life at bottom is indestructibly powerful and pleasurable, this comfort appears with corporeal lucidity as the satyric chorus, as the chorus of natural beings, who live ineradicable as it were behind all civilisation, and who, in spite of

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[27] Chapter 3.2 provides a review of how different research trajectories define process-based knowledge using the notions of Time-less and Time-invariant information, in combination with the notion of Time-oriented information.

the ceaseless change of generations and the history of nations, remain for ever the same.
Nietzsche 1871, p.120

The idea of being separate, unique and absolute is thus connected to the feeling of being carried by Nature into a continuous process of transformation that appears in the form of an epidemic:

a whole throng feels itself metamorphosed in this wise. Hence it is that the dithyramb is essentially different from every other variety of the choric song. The virgins, who with laurel twigs in their hands solemnly proceed to the temple of Apollo and sing a processional hymn, remain what they are and retain their civic names: the dithyrambic chorus is a chorus of transformed beings, whose civic past and social rank are totally forgotten: they have become the timeless servants of their god that live aloof from all the spheres of society. Every other variety of the choric lyric of the Hellenes *(Disciplinary knowledge)* is but an enormous enhancement of the Apollonian unit-singer: while in the dithyramb we have before us a community of unconscious actors *(Transdisciplinary knowledge)*, who mutually regard themselves as transformed among one another.
Nietzsche 1871, p.130, italics mine

The tragic device destroys social barriers and all limitations of the rational mind. The Greek man of culture feels himself neutralised in the presence of the satyric chorus: this is the most immediate effect of the Dionysian chorus: the state and society, and in general, the gaps between man and man, give way to an overwhelming feeling of oneness. According to this view, we must understand Greek tragedy as the Dionysian chorus, which always disburdens itself anew in an Apollonian world of pictures.

What was noted in a previous paragraph: *'the action from the person to whom the communication is directed is required to complete the movement which*

brings one to the space where the experience happens',[28] refers to a similar mechanism that creates access to transpersonal knowledge. It is through the words of the person to whom one wants to communicate an experience that one can access new information about the experience. Any reaction, any verbal commentary produced by the person to whom the communication is directed, especially once the experience has been communicated, will generate a unique vantage point into new process-based knowledge about said experience. One can never access transpersonal knowledge with one action, one sentence, or theory, because it is always process-based. It is made of the Dionysian chorus, which always disburdens itself anew in an Apollonian world of pictures. In this thesis we show how this mechanism runs parallel and sometimes identical to the proposition by Nicolescu that one should break beyond the limits of the Disciplinary mindset and the logic of the rational mind to access Transdisciplinary knowledge. For both authors, working with body techniques and with subconscious knowledge from dreams and intuition is the way to create a ritual, and a language, like the Tragic art form, that connects the transpersonal world of collective narratives to the personal world of individual storylines. Chapters 3.3, and 3.4 present the Becomebecome working model for developing practical strategies to attain this goal; some of which are described in Chapter 4.

This primordial basis of tragedy beams forth the vision of the drama, which is a dream-phenomenon throughout, and, as such, epic in character: on the other hand, however, as objectivation of a Dionysian state, it does not represent the Apollonian redemption in appearance, but, conversely, the dissolution of the individual and his unification with primordial existence. Accordingly, the drama is the Apollonian

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[28] See also the analysis of the Hermeneutic Principle from Heinz Von Foerster in Ch. 3.2.7.

embodiment of Dionysian perceptions and influences... The one truly real Dionysus appears in a multiplicity of forms, in the mask of a fighting hero and entangled, as it were, in the net of an individual will. As the visibly appearing god now talks and acts, he resembles an erring, striving, suffering individual: and that, in general, he appears with such epic precision and clearness, is due to the dream-reading Apollo, who reads to the chorus its Dionysian state through this symbolic appearance.
Nietzsche 1871, p.132

The choric parts, with which tragedy is interlaced, are the Disciplinary points

of access to knowledge that is made of movement, is process-based,

transpersonal, and Transdisciplinary. The drama, which by the aid of music,

spreads out before the spectator with such inwardly illuminated distinctness,

attains as a whole an effect which transcends all Apollonian artistic effects.

In the collective effect of tragedy, the Dionysian gets the upper hand once more; tragedy ends with a sound which could never emanate from the realm of Apollonian art. And the Apollonian illusion is thereby found to be what it is, the assiduous veiling during the performance of tragedy of the intrinsically Dionysian effect: which, however, is so powerful, that it finally forces the Apollonian drama itself into a sphere where it begins to talk with Dionysian wisdom, and even denies itself and its Apollonian conspicuousness.
Nietzsche 1871, ibid, p.276

Information about the observer which is visceral and intuitive is mentioned

by both Nicolescu and Nietzsche as the essential feature which defines

Transdisciplinary and transpersonal knowledge. By revealing how such

insight is necessary to sustain any meaningful Disciplinary knowledge which

comes from the individual and the logic of the rational mind, they open the

field for an analysis which surveys each of the five Research Interrogations

as a unique feature of the main research question.

3.   LITERARY REVIEW

Information about the Observer, in the Transdisciplinary and in the Transpersonal

This chapter reviews established assumptions that define process-based knowledge in formal and non-formal systems, bringing attention to a set of notions that diverse research traditions from the hard sciences and the humanities have in common. Each subsection considers one concept and the relevant studies that have been produced to define it. The process of reading about the research on each selected concept, one after another, brings into view a Transdisciplinary vantage point for 'information about the observer that exists in a temporal dimension' that each author defines by reason of (or in some cases in spite of) the boundaries of their Disciplinary purview.

A cardinal idea of any Transdisciplinary methodology is to connect with knowledge that is fundamentally *hidden* to any Disciplinary approach. This is why it makes sense to look at famous examples from scientists and artists who have proposed original strategies to access knowledge fundamentally *hidden* to the methods available in each of their own fields of expertise. Thereupon, a novel theory of time and process-based analysis will be introduced to show how each example is not only relevant at the scale of Disciplinary knowledge, but also significant at the scale of a *hidden* Transdisciplinary intelligence.

3.1 The Observer of Hidden Information: Figure and Ground

> Apollo seeks to pacify individual beings precisely by drawing boundary lines between them, and by again and again calling attention thereto, with his requirements of self-knowledge and due proportion, as the holiest laws of the universe. In order, however, to prevent the form from congealing to Egyptian rigidity and coldness in consequence of this Apollonian tendency, in order to prevent the extinction of the motion of the entire lake in the effort to prescribe to the individual wave its path and compass, the high tide of the Dionysian tendency destroyed from time to time all the little circles in which the one-sided Apollonian "will" sought to confine the Hellenic world.
>
> FRIEDRICH NIETZSCHE

> The single basic difference between quantum mechanics and classical mechanics, which is both simple and world shattering in its implications: according to quantum mechanics, what we can observe about the world is only a tiny subset of what actually exists.
>
> SEAN CARROLL, <u>FROM ETERNITY TO HERE</u>

Based on the idea that logic and the rational mind can only account for a limited part of the Transdisciplinary and transpersonal experience, if one wishes to access more of it, then one should find a strategy to access *information that is hidden*. Nietzsche and Nicolescu suggest that *hidden information* exists as a consequence of the very process used to create meaning. So, how to construct a methodology that includes information one can access in a scientific format, but also embraces *hidden information* that goes beyond logic and the rational mind?

This chapter shows that the territory defined by the language of Disciplinary knowledge, and the logical operations of the time-less rational mind, always includes a *hidden* process-based dimension which is fundamentally connected to *information about the observer* as suggested in Research Interrogation 1.

A specific sequence of relevant literature from different fields such as mathematics, logic and cybernetics is introduced with the intention to generate access to a semantic space that is not visible when the same authors and theories are perceived as distant from each other, hence, disconnected. The reader will find that even the most rigid and abstract formal systems, developed with the specific purpose to be unaffected by information about the observer, are necessarily associated to a 'hidden' process-based dimension, that is joined to every operation underlying all 'time-less' and 'absolute' knowledge.

3.1.1 Hidden Logic and Mathematics: Cantor's Diagonal Method

A theory of different types of infinities, known as the theory of sets,[29] was developed by Georg Cantor in the 1880s. Soon afterwards, a variety of set-theoretical paradoxes had been unearthed. The most famous is Russell's paradox, which can be described as follows: most sets, it would seem, are not members of themselves. For example, the set of books written by Nietzsche is not a book written by Nietzsche, the set containing only Basarab Nicolescu is not Basarab Nicolescu (a set is not a person) and so on. In this respect, most sets are 'undistinguished'. However, some 'self-swallowing' sets do contain themselves as members, such as the set of all sets, or the set of all things except Basarab Nicolescu, and so on. Clearly, it seems that every set is either undistinguished or self-swallowing, and no set can be both. Now, if one considers a set U: the set of all undistinguished sets. At first, U might seem a rather undistinguished invention, but that opinion must be revised when one asks oneself 'Is U itself an undistinguished set or a self-swallowing set?' One might find oneself drawn to the answer 'U is neither undistinguished nor self-swallowing, for either choice leads to paradox.'

This paradox of language was very interesting to Cantor, who decided to describe its existence in the formal and time-less language of mathematics. Specifically, what Cantor wanted to show was that if a 'directory' of Real

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[29] Set Theory is a branch of mathematical logic that studies sets, which informally are collections of objects. Although any type of object can be collected into a set, set theory is applied most often to objects that are relevant to mathematics. The language of Set Theory can be used to define almost all mathematical objects.

Numbers were made, it would inevitably 'leave out' some real numbers so that actually, the notion of a complete directory of real numbers is a contradiction in terms. It must be understood that this pertains not just to directories of finite size, but also to directories of infinite size. This originates a much deeper implication than the statement 'The number of real numbers is infinite, so of course they cannot be listed in a finite directory.'

First, let us see how Cantor's argument involves the notion of the diagonal, in a literal sense. Let us consider just real numbers[30] between 0 and 1. Assume, for the sake of argument, that an infinite list could be given, in which each positive integer[31] N is matched up with a real number r(N) between 0 and 1, and in which each real number between 0 and 1 occurs somewhere down the line. Since real numbers are given by infinite decimals, we can imagine that the beginning of the table might look as follows:

r(1): .**1** 4 1 5 9 2 6 5 3

r(2): .3 **3** 3 3 3 3 3 3 3

r(3): .7 1 **8** 2 8 1 8 2 8

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[30] Real numbers can be thought of as points on an infinitely long line called the number line or real line, where the points corresponding to integers are equally spaced. Any real number can be determined by a possibly infinite decimal representation, such as that of 8.632, where each consecutive digit is measured in units one tenth the size of the previous one.

[31] An integer (from the Latin *integer* meaning 'whole') is a number that can be written without a fractional component. For example, 21, 4, 0, and −2048 are integers, while 9.75, 5 1/2, and √2 are not. The set of integers consists of zero (0), the positive natural numbers (1, 2, 3,…), also called *whole numbers* or *counting numbers,* and their additive inverses (the negative integers, i.e., −1, −2, −3,…).

r(4): .4 1 4 **2** 1 3 5 6 2

r(5): .5 0 0 0 **0** 0 0 0 0

The digits that run down the diagonal are in boldface red: **1, 3, 8, 2, 0**…. These digits are used in making a special real number d, which is between 0 and 1 but which, as it will be shown, is not in the list. To make d, you take the diagonal digits in order, and change each one of them to some other digit. When you prefix this sequence of digits by a decimal point you have d. There are of course many ways of changing a digit to some other digit, and correspondingly many different d. Suppose for example, that we subtract 1 from the diagonal digits (with the convention that 1 taken from 0 is 9). Then our number d will be:

.0 2 7 1 9

Now, because of the way we constructed it, d's 1st digit is not the same as the 1st digit of r(1); d's 2nd digit is not the same as the 2nd digit of r(2); d's 3rd digit is not the same as the 3rd digit of r(3); … and so on.

Hence, d is different from r(1); d is different from r(2) ; d is different from r(3); … and so on.

In other words, d is not in the list!

The essence of Cantor's result is that there are (at least) two distinct types of infinity: one kind of infinity describes how many entries there can be in an

infinite directory or table, and another describes how many real numbers there are (i.e., how many points there are on a line, or line segment) and this latter is 'bigger', in the sense that the real numbers cannot be squeezed into a table whose length is described by the former kind of infinity. The infinite of real numbers is bigger than the infinity of integer numbers. We will see how the notion of infinite dimensions of different sizes is very much relevant to the language used to describe the relationship between time and process-based knowledge in Becomebecome theory in the following chapters.

Cantor believed he was chosen by God to bring the truths of set theory to a wider audience (Dauben 2004). He also regarded the successive waves of manic-depression that began to plague him in the 1880s (peaks of intense activity followed by increasingly prolonged intervals of introspection) as divinely inspired. Long periods of isolation in hospital provided opportunities for uninterrupted reflection during which Cantor envisioned visits from a muse whose voice reassured him of the absolute truth of set theory, whatever others might say about it. He promoted set theory among mathematicians, philosophers and theologians; he even wrote to Pope Leo XIII at one point on the subject of the infinite. Cantor was convinced he would succeed in securing the recognition that set theory deserved (Dauben 1990, pp.146-8). He also noted in the third motto to his last publication, the Beitrage… of 1895: "The time will come when these things which are now hidden from you will be brought into the light." (Cantor 1895, p.481; 1932,

p.282) This is a familiar passage from the Bible,[32] and reflects Cantor's belief that he was an intermediary serving as the means of revelation.

Cantor's proof uses a diagonal in the literal sense of the word. Other 'diagonal' proofs are based on a more general notion, abstracted from the geometric sense of the word. The essence of the diagonal method is the fact of showing that *information about the observer* is hidden behind integer numbers, because each integer is used in two different ways, at two different moments of observation. At one moment, the integer is observed in a vertical index of positive integers, and at the other as a horizontal index of real numbers. This process-based truth cannot be revealed if one only takes information about integer numbers and information about real numbers as separate from one another. In Cantor's construction this is very clear, but in many examples that are put together with the specialised language of Disciplinary knowledge, as well as with many examples established using the common language of everyday statements, this may not be so evident. Since very often information about the observer and process-based knowledge are embedded into a *hidden* space that remains concealed by the visible words, this creates a tendency to use language as a consequence of which it is not possible to 'see' the fundamental relationship between process-based knowledge and *information about the observer*.

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[32] 1 Corinthians 4:5

3.1.2 Hidden Logic and Mathematics: Spencer-Brown, Something from Nothing

By the mid-nineteenth century, mathematics was undergoing a sea change. Cantor was not the only brilliant individual who developed new concepts based on intuition and visions; other important figures who are considered the pioneers of modern technological advances were establishing paradigm-shifting formulations with their ideas. Where previously mathematics had been considered the 'science of magnitude or number', mathematicians were coming to realize that their true domain was symbol manipulation, regardless of whether those symbols might represent numbers.

In 1854, the English educator and mathematician George Boole (1815–1864) produced the first major formal system embodying this new view of mathematics: <u>The Laws of Thought</u>. Bertrand Russell once said of this treaty that "pure mathematics was discovered by Boole in a work which he called The Laws of Thought" (Boyer 1985, p. 634). In a pamphlet Boole's wife wrote about her husband's method, she reported that he told her that when he was seventeen, he had a flash of insight where he realized that we not only acquire knowledge from sensory observation but also from 'the unconscious' (Bell 1965, 446-7), which means Boole considers intuitive access to the subconscious an important element at the origin of the logic process he devised to create meaning. In this discrimination, Boole was amazingly modern. He was intuiting a new approach to explore the fundamental nature of archetypal reality at its most basic level.

Almost a hundred years later, G. Spencer-Brown, with his book <u>Laws of Form</u>, was to influence cyberneticians like Von Foerster and Francisco Varela (among others) and bring Boole's new approach to another level. He created a very strange arithmetic based on Boolean algebra, in which the constants, which are symbols comparable to 1, 2, 3, . . . in normal arithmetic, are simply the ⌐ mark, and the non-mark. The symbol

called the mark, is the essential feature of <u>The Laws of Form</u>. It denotes the drawing of a 'distinction', and can be thought of as signifying the following, all at once:

- the act of drawing a boundary around something, thus separating it from everything else;

- that which becomes distinct from everything by drawing the boundary;

- crossing from one side of the boundary to the other.

All three ways imply an action on the part of the cognitive entity (i.e. person) making the distinction.

The first command:
- Draw a distinction
can well be expressed in such ways as:
- Let there be a distinction,
- Find a distinction,
- See a distinction,
- Describe a distinction,
- Define a distinction,
Or:
- Let a distinction be drawn.
Spencer-Brown, Notes to Chapter 2

The counterpoint to the 'Marked' state is the 'Unmarked' state, which is simply nothing, the void, or the inexpressible infinite represented by a blank space. It is simply the absence of a crossing. No distinction has been made and nothing has been crossed. The Marked state and the Unmarked are the two primitive values of <u>Laws of Form</u>. These were the two exclusive possibilities at the origin of his new system of thought, until something unexpected happened. Spencer-Brown had been working with his new techniques for over six years and was in the process of writing the book that became <u>Laws of Form</u> when he realised he had made use of the equivalent of imaginary numbers within his system.[33] Instead of the square root of a negative number, he found equations where a variable was forced to refer to itself. That is, if the value of the function is a mark, then it's not a mark; if the value is not a mark, then it is a mark. With the realization that these were equivalent to imaginary numbers, he understood what they represented and had an insight into how imaginary numbers could be interpreted as well: both imaginary numbers and his self-referential functions were 'oscillations' in and out of the normal system.

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[33] Imaginary numbers evolved in mathematics because mathematicians kept running into equations where the only solution involved something seemingly impossible: the square root of -1 (symbolized by $\sqrt{-1}$). If you will recall from your school days, squaring a number simply means multiplying it by itself. Taking the square root means the opposite. For example, the square of 5 is 25; inversely the square root of 25 is 5. But we've ignored whether a number is positive or negative. Multiplying a positive number by a positive yields a positive number; but multiplying a negative number by a negative number also yields a positive number. So the square root of 25 might be either +5 or -5. But what then could the square root of a negative number mean? This was so puzzling to mathematicians that they simply pretended such a thing could not happen. Finally, in the sixteenth century, an Italian mathematician named Cardan had the temerity to use the square root of a negative number as a solution for an equation. He quickly excused himself by saying that, of course, such numbers could only be "imaginary." The name stuck as more and more mathematicians found the technique useful, and the symbol for $\sqrt{-1}$ became i (short for imaginary) (Robertson 1999, pp.43-55).

Thus, in the system created by Laws of Form which contemplates only two possible solutions to an equation, i.e. mark or no-mark, there exist equations which Spencer-Brown calls 'self-referential' that have a third solution at a different scale, one that can only be understood by contemplating an 'oscillation' in and out of the system: first the solution is the mark, then it's not the mark, and so forth, endlessly. Since this solution cannot be found within the *space* created by the system, it has to be the result of *a movement in time* of the conditions which define the system, which is a process that includes movement not only *into* and *out of* the system, but *from outside* of the system as well. Spencer-Brown realized that even building his logical system using a minimalist time-less and absolute set of only two rules based on abstract space, the Laws of Form could not help but be influenced by *the passage of time that moves the observer* from one value of the equation to the other. He finished his work at the point when *information about the observer* entered the picture, advancing the deep insight that *information about the observer* is process-based because it is a result of a movement in time. This thesis postulates that the 'information about time' found in the equation that puzzled Spencer-Brown cannot be understood using a system that artificially removes *information that exists in a temporal dimension* from the axioms that define what makes the system's coordinates meaningful. As it pertains to Research Interrogation 1, the following chapters will be devoted to investigating in more detail how this information about time connects the notions of feedback and self-reference to *information about the observer*.

3.1.3 Hidden Logic and Mathematics: Gödel Incompleteness Theorem

At the beginning of the twentieth century, the study of mathematics as a subject in itself became known as metamathematics, or occasionally, metalogic, since mathematics and logic are so intertwined. The most urgent priority of metamathematicians was to determine the true nature of mathematical reasoning. What is a legitimate method of procedure, and what is an illegitimate one? Since mathematical reasoning had always been done in 'natural language' (e.g. French or Latin or some language for normal communication), there was always a lot of possible ambiguity. Words had different meanings for different people, conjured up different images, and so forth. It seemed reasonable and even important to establish a single uniform notation in which all mathematical work could be done, and with the aid of which any two mathematicians could resolve disputes over whether a suggested proof was valid or not. This would require a complete codification of the universally acceptable modes of human reasoning, at least as far as they applied to mathematics. Such was the goal of Principia Mathematica,[34] which purported to derive all of mathematics from logic, without contradictions. It was widely admired, but no one was sure if all of mathematics really was contained in the methods delineated by Russell and Whitehead, or if the methods given were even self-consistent. Was it absolutely clear that contradictory results could never be derived, by any

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[34] Principia Mathematica is a three-volume work on the foundations of mathematics written by Alfred North Whitehead and Bertrand Russell and published in 1910, 1912, and 1913.

mathematicians whatsoever, following the methods of Russell and Whitehead?

It was David Hilbert who set before the world community of mathematicians (and metamathematicians) the challenge to demonstrate rigorously that the system defined in <u>Principia Mathematica</u> (PM) was both 'consistent' (contradiction-free), and 'complete' (i.e. that every true statement of number theory could be derived within the framework drawn up in PM). This was a tall order, and one could criticize it on the grounds that it was somewhat circular: how can you justify your methods of reasoning on the basis of those same methods of reasoning? Hilbert was fully aware of this dilemma, of course, and therefore expressed the hope that a demonstration of consistency or completeness could be found which depended only on 'finitistic' modes of reasoning (Hofstadter 1979).

In 1931 Kurt Gödel published <u>On Formally Undecidable Propositions in Principia Mathematica and Related Systems I</u>, which revealed not only that there were irreparable 'holes' in the axiomatic system proposed by Russell and Whitehead, but more generally, that no axiomatic system whatsoever could produce all number-theoretical truths, unless it were an inconsistent system! Which meant that finally, the hope of proving the consistency of a system such as that presented in PM was shown to be vain: if such a proof could be found using only methods inside PM, then PM itself would be inconsistent. In its absolutely barest form, Gödel's discovery involves the translation of an ancient paradox in philosophy into mathematical terms. That

paradox is the so-called Epimenides paradox (or liar paradox). Epimenides was a Cretan who made one immortal statement: 'All Cretans are liars'. A sharper version of the statement is simply 'I am lying'; or 'This statement is false'.

The proof of Gödel's Incompleteness Theorem is based on *information about the observer* expressed in a self-referential mathematical statement, in the same way as the Epimenides paradox is based on *information about the observer* expressed in a self-referential statement made with ordinary language. Gödel had the insight that a statement of number theory could be about a statement of number theory, if only numbers could stand for statements. The idea of a code, in other words, is at the heart of his construction. In the Gödel Code, usually called 'Gödel-numbering', numbers are made to stand for symbols and sequences of symbols. That way, each statement of number theory, being a sequence of specialized symbols, acquires a Gödel number (like a telephone number or a license plate) by which it can be referred to. And this coding trick enables statements of number theory to be understood on two different levels: as statements of number theory, and also as statements about statements of number theory.[35] Much as the diagonal construction of Cantor proves the existence of an infinite space of real numbers which is bigger than the infinite space of rational numbers, Gödel´s construction proves that the system of <u>Principia</u>

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[35] It is not within the purview of this thesis to describe in detail how Godel's proof works. For a comprehensive explanation of its functioning the reader is advised to refer to specialised publications.

Mathematica is 'incomplete', because there are true statements of number theory which its methods of proof are too weak to demonstrate.

Also worthy of notice is the phrase 'and Related Systems' in the title of Gödel's article. If Gödel's result had merely pointed out a defect in the work of Russell and Whitehead, then others could have been inspired to improve upon PM and to outwit Gödel's Theorem. But this was not possible: Gödel's proof pertained to any axiomatic system which purported to achieve the aims which Whitehead and Russell had set for themselves. Gödel's formulation showed that no matter what axiomatic system is taken in consideration, including any system which defines Disciplinary knowledge in scientific research, 'provability' belongs to a smaller set of infinites than 'truth'.

Gödel's declaration can be considered a statement, made in mathematics and logic, that helps understanding the proposition introduced by Nicolescu in his Manifesto of Transdisciplinarity because 'the movement in the observer' they both produce is the same – they trigger the same experience in the observer. The proofs of Cantor, Spencer-Brown, and Gödel create access to a space beyond the limits of time-less and abstract statements in logic and mathematics, because they reveal the *hidden* element of process-based *information about the observer* which generates self-reference. Mathematical and logical statements have the form of compact formulations, but to understand them mathematicians have to weave a complex narrative distributed across several stages of demonstration. By the same token, Professor Nicolescu creates access to a cognitive space beyond the limits of

any time-less and abstract Disciplinary approach with the examples collected in his <u>Manifesto</u>. Using a language that is less formal, he brings the reader to a place where it is possible to access the same experience. Nicolescu's process can be defined as *a movement which associates to* the same 'consequence' but which is triggered by a different 'action' (see Ch. 3.2.6).

3.1.4 Beyond Hidden Logic and Mathematics: Cybernetics and *the Hidden*

Two famous examples of strategies for accessing information from *the hidden* that are often referenced in the literature of cybernetics literature, and which also push the boundaries of classic logic, are presented in this chapter. The first has to do with the definition of a 'black box' by W. Ross Ashby. Ashby designed an effective method for introducing *information that is hidden* into an 'open system', which is part of a mechanism that would be otherwise defined with language limited to abstract and time-less closed systems.

The second alludes to the way one communicates information about something that is *hidden* because it is 'not there' in the animal world. For this specific example, the reader will be introduced to the analysis of communication of 'negative' messages among animals developed by Gregory Bateson.

The black box was annexed to cybernetics by Ashby in 1956. Ashby uses the black box artifice to permit the (scientific) observer to construct a description explaining the behaviour of a system-observed which includes *information that is hidden*. The black box contains a presumed mechanism which cannot be seen and is the product of the observer's interaction with the 'whatever-it-is'. Ashby proposed that the black box might not be just a useful device, but a universal principle. He suggested that one never really sees the action that produces change in the system-observed, rather one can only adduce some explanatory principle as a description of the *consequence* of

change. The action inside the black box takes place at a scale that is fundamentally hidden from the observer (Ashby, 1956).

Open systems theory is the foundation of black box theory. Both focus on input and output flows, which represent exchanges of information with the surroundings. An open system is a system that has external interactions into or out of the system boundary. An open system is contrasted with the concept of a closed system, which exchanges no information with its environment. In the context of this thesis, the difference is comparable to the contrast between Disciplinary closed systems and Transdisciplinary open systems which include the exchange of information 'beneath, between and beyond' their boundaries.
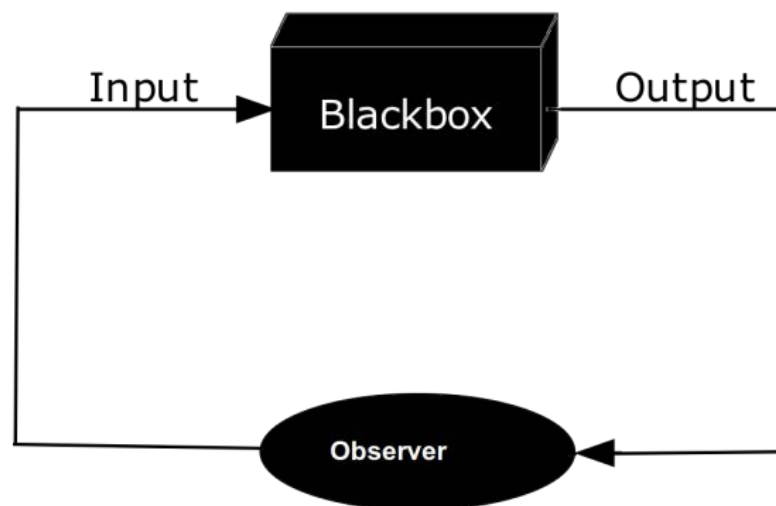
Fig.1 Krauss (2014a)
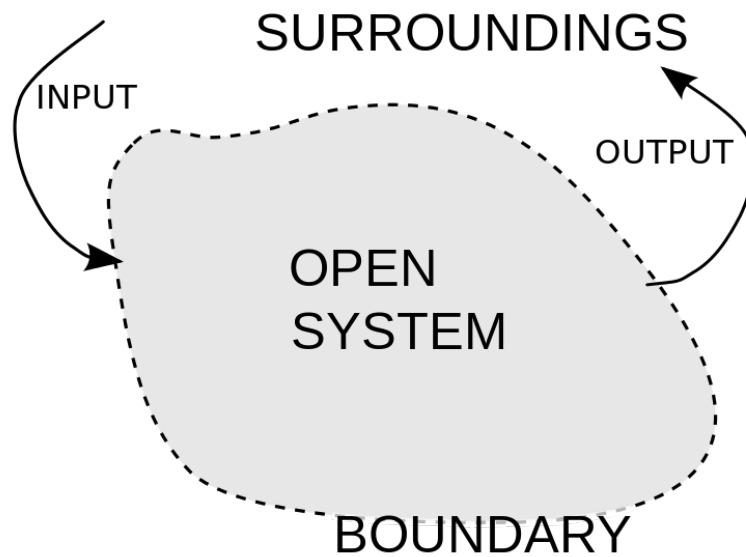
Fig.2 Krauss (2014b)

In his book <u>Steps towards an Ecology of the Mind</u>, Gregory Bateson

investigates at length the process as a consequence of which one can access

what he calls 'negative' information. He compares the behaviour of animals

with abstract communication among humans. He proposes that in the

analogue dimension of animal behaviour there is no possibility to separate

the word 'not' from the actual experience of taking something away:

Communication by actions cannot possibly have tenses, they are only possible in language. If an animal is not biting the other, he's not biting it, and that's it. But it might be not doing all sorts of other things, sleeping, eating, running, and so on, so how can it communicate that it is the act of biting that it is not doing" It can only do that if biting (*is process-based, because it is*) somehow been mentioned, for example it could communicate 'I am not biting you' by first showing fangs and then not biting... The 'not' attribute is absent in animal behaviour because 'not' is part of verbal language *(which includes the mechanism of abstraction[36])*, but there

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[36] Here we consider 'abstract' to indicate any form of behaviour that is not clearly channelled through a reaction in the physical body recognised and acknowledged by the partner in the communication exchange.

can-not be any action signal for 'not-doing' which is disconnected from the action of 'doing'. And because there is no 'not', the only way to agree on a negative is to act out the whole reductio ad absurdum. You have to act out the battle to prove it isn't one.
Bateson 1979 p.60, insertions in italics mine

An alternative statement to communicate the same idea is: 'The only way to access information that is negative is to *add the information of taking something away'*. In the search for the best strategies to access information that goes beyond the limits of the rational mind, what is essential to observe is that the animal channel of communication described in the examples provided by Bateson is still very much present and important in communications among humans. Information about living systems is time-oriented (Prigogine 1980), and the action of taking away something happens as a consequence of a transformation which increases entropy,[37] i.e. it increases *information about the system*, and it increases the number of possible ways to talk about the information of a system. It follows that the negative operation *adds* information *to* a system about 'taking something away'.

Here we are presented with an example of how information distributed in *the hidden*, the negative space, is not a subtraction of something, but an addition of an experience that is only possible to recognize as a consequence of something that happens to the body, not to the abstract rational mind. In the animal kingdom, information distributed in the negative space of Apollonian time-less subtractions exists as a consequence of Dionysian time-oriented

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[37] More on entropy in Chapter 3.2.5.

information one can access only through process-based experiences which require at least two or more sets of interactions in time.

3.1.5 Beyond Hidden Logic and Mathematics: Figure and Ground

> Everything which you cannot see, I removed with my bare hands
>
> HEINZ VON FOERSTER, <u>HUMAN BECOMING.</u>
> <u>BECOMING HUMAN</u>

> I remember quite vividly how puzzled and intrigued I was upon realizing the difference between a positive characterization and a negative characterization. I was quite convinced that not only the primes, but any set of numbers which could be represented negatively, could also be represented positively. The intuition underlying my belief is represented by the question: 'How could a figure and its ground not carry exactly the same information?' They seemed to me to embody the same information, just coded in two complementary ways. What seems right to you?
>
> DOUGLAS HOFSTADTER, <u>GÖDEL, ESCHER, BACH:</u>
> <u>AN ETERNAL GOLDEN BRAID</u>

The experiences that Spencer-Brown was trying to distinguish with a method for separation between mark and no-mark in abstract space have a correspondence at the scale of figures in physical space. At the physical scale of human interaction with the environment based on one's visual sense, it is easier to understand how and why considerations that address the definitions of positive and negative spaces are important not only for academic research, but for understanding and communicating experiences in ordinary life.

When a figure or 'positive space' (e.g. a human form, or the letter J, or a still life painting) is drawn inside a frame, an unavoidable consequence is that its complementary shape – also called the 'ground', or 'background', or

'negative space', has also been drawn. In most drawings, however, the artist is much less interested in ground than in the figure. But sometimes, an artist will take an interest in the ground as well.

Douglas Hofstadter, in his Pulitzer prize-winning book <u>Gödel, Escher, Bach, an Eternal Golden Braid</u> (1979), expands on these examples of strategies to explore *the hidden*. Using the language of formal systems in logic and mathematics, he shows examples that are striking because they translate the description of *the hidden* from a conceptual plane to a physical representation that is *immediate to the senses*. This allows direct insight and suggests that new possibilities for accessing *information about the hidden* might be found by looking at descriptions of the experiences of the observer in physical space, which is recognizable at the scale of the senses, instead of limiting meaningful interpretations to the range of those described with language mediated only by thought and abstraction.

Within the figure, the following labels appear: Theorems, Negations of theorems, Axioms, Unreachable truths, Unreachable falsehoods, Negated axioms, Well-formed formulas.
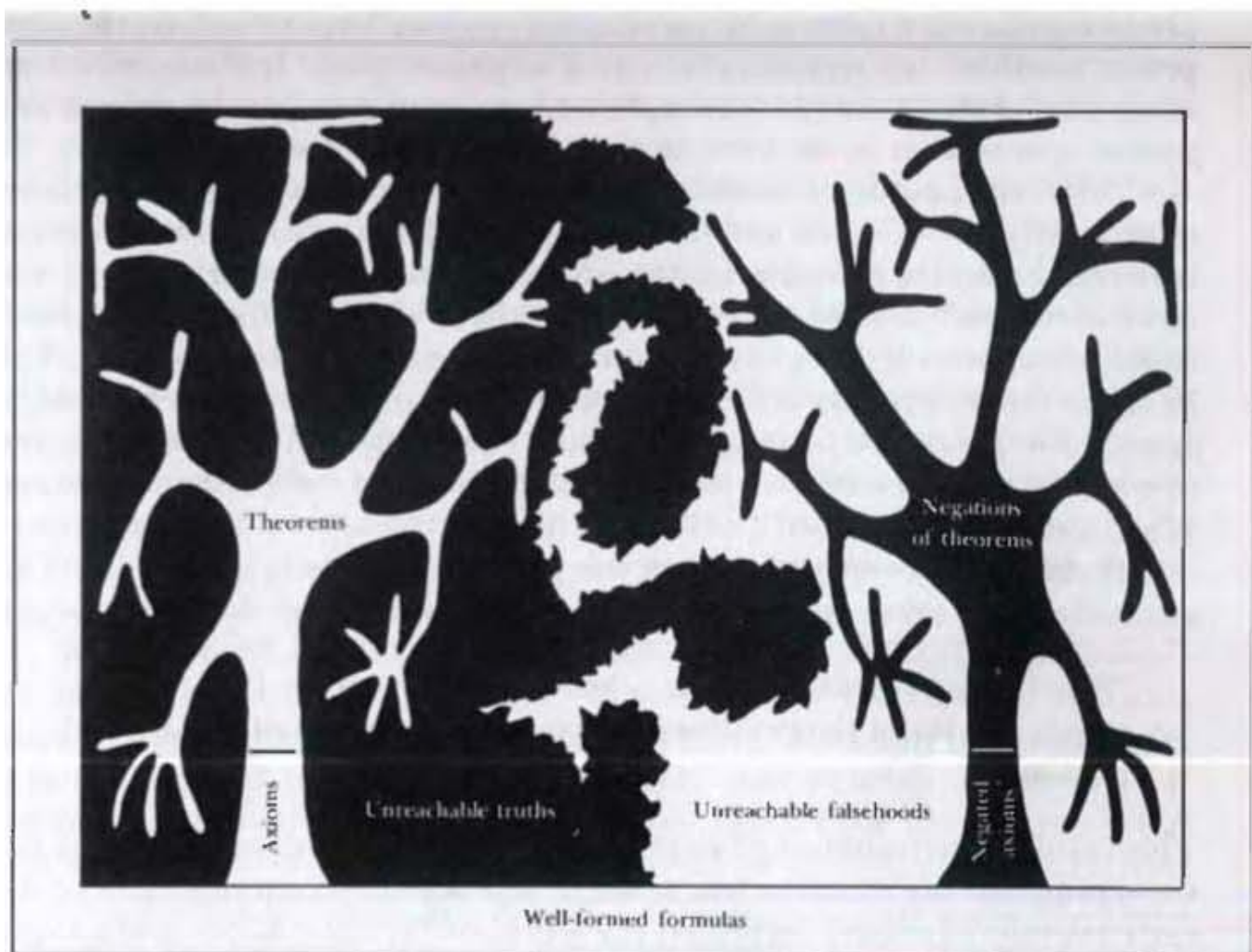
Fig. 3 There exist formal systems whose negative space (set of nontheorems) is not the positive space (set of theorems) of any formal system. There exist recognizable forms whose negative space is not any recognizable form. (Hofstadter, 1979)

Fig.3 illustrates the statement by Hofstadter mentioned in the quote at the beginning of the chapter. He proposes to distinguish between two kinds of figures: cursively drawable ones, and recursive ones. A cursively drawable figure can be considered one whose ground is merely an accidental by-product of the drawing act. A recursive figure is one whose ground can be seen as a figure in its own right. Usually this is quite deliberate on the part

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of the artist. The 're' in 'recursive' represents the fact that both foreground and background are cursively drawable. The figure is 'twice-cursive', *which means it has been drawn or watched at least twice.* If one considers a natural and intuitive notion of recognizable forms, one can ask the following question: 'Are both the foreground and background recognizable forms?' If so, then the drawing is recursive.

If one looks at the ground of most line drawings, one will find them rather unrecognizable. This characterization can also be used to describe the majority of situations that one encounters in everyday life, in that, when faced with the description of an experience, one choses language to communicate those elements which should be relevant ('figures') in a process that 'draws a separation' against other elements that should be put in *the hidden* ('ground'). This happens so often and in such a natural way that it becomes automatic to put one's focus exclusively on the process that takes place at the scale of figures, and to forget that *the language necessary to communicate the experience of figures includes the process of creating the ground.* One can see here an example of the Apollonian distinction of the *principium individuationis* claiming for itself the attention of the observer and banishing *into the hidden* all elements of the Dionysian process which connects the descriptions to the original movement *beneath, below, between and beyond* its pristine and time-less boundaries. A Transdisciplinary approach to knowledge, language and experiences is one that reminds us the following: *each action used to 'draw a separation' at the time-less scale of*

'figures' is also an action that carves an invisible space at the process-based scale of 'the hidden' from which the figures have been stylized and petrified.

A recursive figure, in which the observer goes through a process (i.e. composes a picture) after which the ground can be seen as a figure in its own right, communicates the experience that the space one separates off to create *the hidden* should be honoured with the attention and awareness usually granted to figures. In the presence of recursive drawings this experience happens because of *synchronicity*,[38] which here can be simplified as *a mechanism after which two experiences are associated in time*. If one artificially removes *information about the observer* (i.e. the fact that they are 'composing' the figure-ground distinction) from the language used to describe the object-observed, it becomes impossible to understand the synchronicity of process-based recursive figures.

With 'process-based', we mean the process of information about the observer that passes from looking at one composition in Fig 4 of Figure-Ground 'A', e.g. 'the birds that are lighter in colour', to information about the observer that looks at another composition, that of Figure-Ground 'B', which here corresponds to looking at the birds that are of darker hue. It is the process which combines one experience of Figure-Ground after another. Since it is not possible to look at compositions A and B 'at the same time', this process-based (which means not 'at the same time') movement, which is separated

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into two actions, one following the other, becomes the mechanism that channels to the observer the experience of *'information about Ground being transformed into information about Figure'*. This experience also carries the message that information that is *hidden* is information that is meaningful. One can literally see, feel, and perceive meaning that it could not be possible to access if the two actions had not been recognised as *connected in time* (i.e. process-based). The scale of one's observation is hence expanded, and one is considering process-based knowledge that can never be accessed at the scale of a single action, a single discipline, or any single experience by itself.

Fig. 4 Tiling of the plane using birds.
M.C. Escher was a master at drawing recursive figures (from a 1942 notebook).
(Hofstadter, 1979)

In particular, one can observe 'the movement which connects' *information that is hidden* as a consequence of the action necessary to create composition A to *information that is made visible* as a consequence of the action necessary to create composition B. What was void of meaning has become full of meaning. What was no-mark has become mark because of a movement that connects two actions of the observer. If one only looks at information at the scale of each action taken separately, one cannot see that *meaningful information about 'the hidden' is present although invisible at the scale of each action*. It is only after a movement that connects separate actions *in*

time that one can access such a unique vantage point. In Chapter 3.1.2 we mentioned a third solution (Spencer-Brown's self-referentiality at a different scale) and the supposed impossibility of making sense of how mark is transformed into no-mark. One could say that even making the best effort to forge the most abstract, absolute and Apollonian language such as the one developed by Spencer-Brown, one will never manage to abstract oneself from the process-based Dionysian mechanism which connects all experiences as they 'oscillate' between Composition A and Composition B.

The shift from a language that considers Figures as surrogates for 'marks' or 'no-marks' in abstract space (the space of the rational mind), to a language that acknowledges how physical figures are connected to the experience of something that goes beyond thought and abstract information from the rational mind, brings descriptions and interpretations of process-based knowledge closer to the kind of experiences one has in ordinary life. In particular, we refer here to *descriptions of experiences which include conspicuous physical changes that happen to the observer* as opposed to information that is valid only because it makes sense to the rational mind. Such descriptions of the observer in physical space are an example of *information that goes through the body* that reveals a promising avenue into developing a better language to understand process-based information beneath, below and beyond experiences described with the traditional language requirements of Disciplinary research. In this thesis, Chapter 3.4 addresses Research Interrogation 3, and is dedicated to the examination of knowledge strategies that focus on *information that goes through the body*.

The Hidden becomes visible in many other ways at the scale of figures and grounds where *information that goes through the body of the observer* has a more relevant role in the description of experiences. The figures and grounds in music for instance can be considered analogues of the distinction between melody and accompaniment because the melody is always in the forefront of our attention, and the accompaniment is 'subsidiary'. It can be surprising therefore when we find in the lower lines of a piece of music recognizable melodies. Although usually the harmonies are not thought of as foreground, sometimes, as happens with for example the compositions of J.S. Bach, the distinct harmony lines, whether high or low or in-between, all act as 'figures'; for this reason, such compositions can be called 'recursive'. Another figure-ground distinction in music is that between on-beat and off-beat. If one counts the notes in a measure 'one-and, two-and, three-and, four-and', most melody-notes will come on numbers, not on '-ands'. Nevertheless, sometimes a melody will be deliberately pushed onto the '-ands'. When this occurs, two or more musical lines are perceived as a sequence of processes which develop at different temporal scales simultaneously, so that the can separate them and hear two distinct melodies weaving in and out, harmonizing with each other.[39]

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[39] Hofstadter (1979) mentions examples from the Etudes for Piano by Chopin; Bach's Sonatas and Partitas for Unaccompanied Violin, as well as Bach's Suites for Unaccompanied Cello.

Nietzsche referred to something similar when he talked about the power of *the hidden*, the ground, and all that is 'left behind' in music; for him, the joy that the tragic myth excites has the same origin as the joyful sensation of dissonance in music. "It is the thrilling rapture of the Dionysian, with its raw joy experienced in the act of stepping beyond the Apollonian limitations of the chromatic harmony that reveals the common Dionysian source of music and tragic myth" (Nietzsche 1886 p.301)

3.1.6 References to Research Questions and Practice

Although each example in this paragraph comes from a different field of study, a different historical period, or a different research trajectory, in all instances analysed, information about the observer that is process-based becomes necessary to understand the truth values of the objects observed, even in the case of the most formal and time-less systems. The more the examples implicate the analysis of objects observed at the scale of experiences in ordinary life, the more it becomes obvious that information about the observer is essential to appreciate the process which defines them beyond the abstractions of the rational mind. In some instances, it becomes possible to access such knowledge *only after* looking at *information that goes through the body of the observer*. As it will be further elucidated in the next sections of the thesis, the features discussed in this chapter are not only a staple of cybernetic research on *information about the observer*, they also reveal some of the essential parameters used in the Becomebecome theoretical and practical approach to producing new Transdisciplinary knowledge.[40]

There is a specific quality of Transdisciplinary information which is *hidden* beyond the purview of any and all Disciplinary approaches. All Becomebecome exercises should be considered practical strategies for directly experiencing such Transdisciplinary *information from the hidden*. The reader is invited to consult Chapter 4.4.1.2 BCL Exercise 2 'Words Lab',

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[40] See also Ch. 3.3 and 3.4 for a combined breakdown of Research Interrogations 3, 4 and 5.

and Appendix A.1 BKR Exercise 1 'The Action of Not-Doing' for examples of how to make direct experience of the notions reviewed in Chapter 3.1, and transform the observer of Transdisciplinary information into an observer-participant[41] of Transdisciplinary insight.

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[41] An extended explanation of how the notion of the 'observer-participant' is characterised during the practice of Becomebecome exercises is available in Chapter 4.

3.2 The Observer of Process-Based Information: Two Layers of Process, the Temporal Dimension of Information

> Nevertheless, in some inaccessible abyss the spirit … still rests and dreams, undestroyed, in glorious health, profundity, and Dionysian strength, like a knight sunk in slumber: from which abyss the Dionysian song rises to us to let us know that this knight still dreams his primitive Dionysian myth in blissfully earnest visions. There we have tragic myth, born anew from music, and in this latest birth ye can hope for everything and forget what is most afflicting.
>
> FRIEDRICH NIETZSCHE

> Du point de vue de la transdisciplinarité, tout système fermé de pensée, quel qu'il soit, de nature idéologique, politique ou religieuse, ne peut que faillir. Un système fermé de pensée met inévitablement l'accent sur la notion de masse, indistincte et informe, concept abstrait qui élimine toute importance du développement intérieur de l'être humain.
>
> BASARAB NICOLESCU

Chapter 3.2 refers primarily to Research Interrogation 2.[42] Shifting the focus from scientific objects of investigation that are time-less, to scientific objects of investigation which are time-oriented*,* reveals that the question of 'information about the observer' is at the centre of *all* studies about process-based knowledge. Crucially, it also reveals how one's understanding of time itself must be taken into account to transform *hidden* information *about the*

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[42] Which model of 'Time' makes it possible to investigate process-based information when the observer is part of the process-observed?

observer into *hidden* information which is connected to all processes-observed.

The ancient Greeks knew that reasoning is a patterned process and is at least partially governed by stateable laws. Aristotle codified syllogisms and Euclid codified geometry; many centuries had to pass before progress in the study of axiomatic reasoning would take place again. One of the significant discoveries of nineteenth-century mathematics was that there are different, and equally valid, geometries.[43] It had long been assumed that geometry was what Euclid had codified, and that although there might be small flaws in Euclid's presentation, these were unimportant, and any real progress in geometry would be achieved by extending Euclid. This idea was shattered by the discovery of non-Euclidean geometry, a discovery that shocked the mathematics community because it deeply challenged the idea that mathematics studies 'the real world'. How could there be many different kinds of 'points' and 'lines' in one single reality? As the spirit of the Transdisciplinary approach suggests, it is because there is not a single 'Disciplinary Reality', but rather many 'Reality Scales', to which correspond many 'Reality Models' from many different selves. Any time-less description of experiences[44] is connected by figure or ground (through *the hidden*) to a process-based movement from which it originates. What is more, one could say that any time-less description of experiences is connected by figure or

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[43] Geometry is defined here as a Theory of properties of abstract points and lines.

[44] The word 'experiences' in this sentence refers to all formal or less abstract formulations from all fields of knowledge: the hard sciences, humanities, and ordinary language.

ground, to at least *two* processes: the process from which the interpretation of events originates, and the process that exists *after* the interpretation of events. For each of these two processes is artificially defined by an observer who 'draws a separation' with an Apollonian statement. Another way to say this is the following: as a consequence of 'the mark', 'the Apollonian statement', or 'the Figure', one finds oneself at a different place from which one can access the Dionysian movement of process-based events that continues beneath, below and throughout any abstract and isolated interpretation.

The idea that experiences *can* be described with one sentence or one theory is a direct consequence of the classic scientific paradigm that one *should* aim to describe experiences with one sentence, or one theory, which entails a natural bias to reduce all of them to one 'Theory of Everything'. Transdisciplinarity reveals the process-based nature of information about experiences and introduces a different quality of knowledge; one that can only be described with two or more interpretations, two or more sentences, two or more theories. Where static and time-less interpretations look at 'drawing a *separation*', the process-based Transdisciplinary approach to knowledge looks at such 'marks' as powerful instruments to 'draw a *connection*'.

3.2.1 The Observer of Process-Based Information: Two Sets of Interactions in Time

> As in the teaching of the great Heraclitus of Ephesus, all things move in a double orbit. All that we now call culture, education, civilisation, must appear some day before the unerring judge, Dionysus.
>
> FRIEDRICH NIETZSCHE

> That is how our language is made: "The stone is hard", "That is a new brand", "The potatoes are rotten", "The eggs are fresh", "The container is damaged", "The diamond is flawed", "A pound of apples is enough". And so on. But this way of talking is not good enough in science or epistemology. … To think straight, it is advisable to expect all qualities and attributes, adjectives, and so on to refer to at least two sets of interactions in time.
>
> GREGORY BATESON, MIND AND NATURE

Formal systems that are built to give maximum importance to the idea of keeping the element of time *hidden* from its formulations (like those mentioned in Ch. 3.1) can be defined as time-less systems. Formal systems built with the idea of keeping the element of time *described* within their formulations can be defined as Dynamical systems. Since the eighteenth century and the introduction of the study of thermodynamics and entropy in physics, the scientific world has slowly but surely turned its attention towards the study of dynamical systems and to "means of describing how one state develops into another state over the course of time" (Weisstein). Information that exists in a temporal dimension can be explored as the information about how one state (a set of interactions in time) develops into

another state (another set of interactions in time). It follows that dynamical systems can be explored as systems made of *information that exists in a temporal dimension*. Given that a system can be defined as a set of interacting or interdependent components forming an integrated whole,[45] then *'all qualities and attributes, adjectives, and so on'* (Bateson, quoted above) can be interrogated with regard to their quality as 'information that exists in a Temporal Dimension', because they refer to transformation, change, process, movement, time, and their synonyms.

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[45] http://www.merriam-webster.com/dictionary/system

3.2.2 The Observer of Process-Based Information: Time-Oriented and Time-Reversible Events

> La sagesse populaire exprime quelque chose de très profond quand elle nous dit qu'un bâton a toujours deux bouts. Imaginons, comme dans le sketch Le bout du bout de Raymond Devos (qui a d'ailleurs compris mieux que beaucoup de savants le sens du tiers inclus), qu'un homme veuille, à tout prix, séparer les deux bouts d'un bâton. Il va couper son bâton et s'apercevoir qu'il a maintenant non pas deux bouts mais deux bâtons. Il va continuer de couper de plus en plus nerveusement son bâton mais tandis que les bâtons se multiplient sans cesse, impossible de séparer les deux bouts!'.
>
> BASARAB NICOLESCU

Processuality is a primordial characteristic of the components that belong to a dynamical system. The term 'processuality' indicates 'a quality that is defined only through a process'. It refers to a quality that exists in connection to a temporal dimension that spans over two or more events and is only partially accessible within the context of a single event. What we mean by an 'event' can be illustrated through Jean-François Lyotard's interpretation, quoted by Woodward:

Lyotard sees reality in terms of unpredictable happenings (events), rather than structured regularities. These events can be interpreted in different ways, and no single interpretation will capture events accurately. Events always exceed interpretation; there is always something 'left over' that an interpretation does not account for

(Woodward Ashley, The Melbourne School of Continental Philosophy, from http://www.iep.utm.edu/lyotard/)

Events remain unpredictable dynamic structures; they have the characteristics of open systems (Von Bertalanffy, L. 1968) into which the dimension of change is associated to information that emerges from context (i.e. 'local

knowledge') at every step of a process that is only accessible by going through one experience after another. This is how the *hidden* element of incompleteness at the scale of single interpretations of events becomes part of a Dionysian processuality that continues beyond the specific context into which any Apollonian observed structure emerges.

A description of the world in which past and future play the same role does not apply to all circumstances. In fact, the challenge to introduce accountability for 'time-oriented'[46] complex phenomena inspires some of the most significant scientific research in academia and in the private sector.

> Irreversible processes are as real as reversible ones; they do not correspond to supplementary approximations that we out of necessity superpose upon time-reversible laws. Irreversible processes play a fundamental constructive role in the physical world; they are at the bases of important coherent processes that appear with particular clarity on the biological level.
> Prigogine 1980, p.xiii

Nobel Laureate in Chemistry Ilya Prigogine paved the way for a new understanding of information that exists in a temporal dimension; in his monograph, <u>From Being to Becoming</u> (1980), he expands on the idea at the core of Boltzmann's work on entropy[47] and examines how the temporal dimension of macroscopic irreversible processes influences the temporal dimension of the reversible processes governing the dynamics of the underlying elementary particles. He promotes an idea of complementarity that

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[46] In Prigogine (1980) 'Time-oriented' is analogous to 'Time-asymmetric'; they express the noncommutative quality of the position of the events in a given chain of events. On the other hand, 'Time-invariant', is analogous to 'Time-reversible' and 'Time-symmetric'; they express the commutative property of the events in a given chain of events.

[47] See Ch.. 3.2.5.

is isomorphic to the idea of incompleteness in the 'events' described by Lyotard. In Prigogine's corresponding definition, events become dynamic structures expressed by two sets of interactions in time through a 'noncommuting'[48] series of events that emerge one experience after another.

> Niels Bohr formulated the principle of complementarity based on the existence of physical quantities represented by noncommuting operators... the world is richer than it is possible to express in any single language. Music is not exhausted by its successive stylizations from Bach to Schoenberg. Similarly, we cannot condense into a single description the various aspects of our experience. We must call upon numerous descriptions, irreducible on the other, but connected to each other. Prigogine, I., 1980, p.71

As the analysis of objects-observed becomes a synonym for the analysis of process-observed, the time-less examples illustrated in Ch. 3.1 are replaced by time-invariant and time-oriented examples of process. This entails two noteworthy consequences: first, the idea that events exceed explanations, and that no single description can account for the various aspects of an experience, now suggests that information which is *hidden* with every statement is also *multi-layered* and *process-based*. Second, the fact that information about a process can be observed at every step of the process also means that *information about the observer can be observed at every step of the process-observed as it unfolds*. This creates a connection between two categories of *information about the observer*: information about the observer

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[48] In this paragraph, 'noncommuting' refers to the idea of attributes that exist at different temporal scales, which demands that the observer of such attributes always has to consider at least two theories, statements, measurements, and so on.

from the outside of the object-observed, and information about the observer *from the inside* of the object-observed.

In order to connect all Apollonian-Disciplinary statements, to the original Dionysian-Transdisciplinary process which is behind them, it is necessary to transform the language that expresses a time-less (or time-invariant) interpretation of process (which places the observer of process *from the outside* of Nature), into language that is process-based, because it includes information about the process as it unfolds *from the inside* at every step of the process observed. Fig.5 illustrates how transforming every definition of objects-observed into a definition of processes-observed made of two sets of interactions in time reveals that information about the observer unfolds from the inside at every step of the process observed, thus making it part of information about the process observed.

Since 'events (that happen to the observer) exceed interpretations', *information about the observer* belongs to a bigger set of infinites than interpretations about the process observed. In other words, there is still (and always will be) information about the process observed that comes from the *black box* of *information about the observer* which remains in *the hidden*. Nevertheless, as '*information about the observer*' is now revealed as a topic that has a real Transdisciplinary impact, it becomes a subject worthy of investigation in itself instead of being just a by-product of the limits of Disciplines which actually purport to study something else entirely. Chapters 3.2.1 and 3.2.2 directly inform Research Interrogation 1. In the following

chapters, it will be clarified how they also lay the foundations to understand

a new model of time and process-based knowledge which informs Research
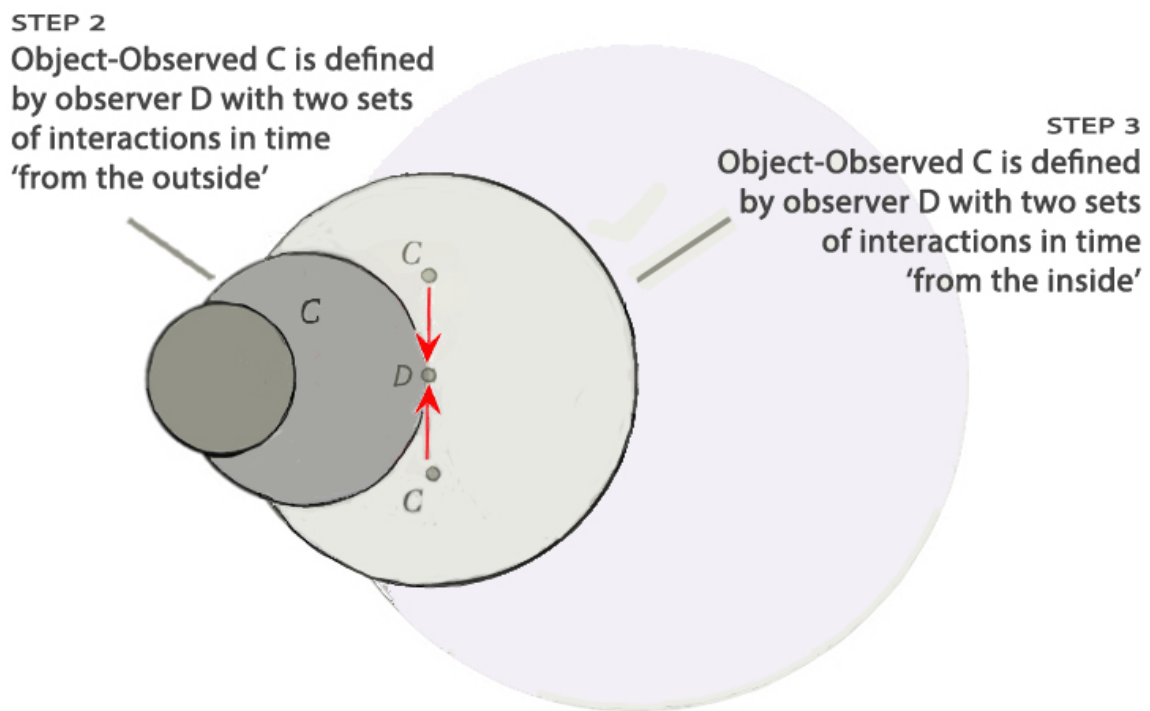
Interrogation 2.

STEP 2
Object-Observed C is defined
by observer D with two sets
of interactions in time
'from the outside'

STEP 3
Object-Observed C is defined
by observer D with two sets
of interactions in time
'from the inside'

Fig. 5 The transformation from object-observed into process-observed allows us to place *information about the observer* inside the process of the object-observed. In the background and the foreground are the volumes of STEP 1 (dark grey circle) and STEP 4 (pink circle) which include STEP 2 and STEP 3 as part of a bigger unfolding process.

3.2.3 The Observer of Process-Based Information: The Temporal Dimension of the Observer

> Le développement de la physique quantique ainsi que la coexistece entre le monde quantique et le monde macrophysique ont conduit, sur le plan de la théorie et de l'expérience scientifique, au surgissement de couples de contradictoires mutuellement exclusifs (A et non- A) : onde et corpuscule, continuité et discontinuité, séparabilité et non-séparabilité, causalité locale et causalité globale, symétrie et brisure de symétrie, réversibilité et irréversibilité du temps, etc. Par exemple, les équations de la physique quantique se soumettent à un groupe de symétries mais leurs solutions brisent ces symétries.
>
> BASARAB NICOLESCU

> In the classical world, it might be difficult to obtain a precise measurement of some quantity; we need to be very careful not to disturb the system we're looking at. But there is nothing in classical physics that prevents us from being careful. In quantum mechanics, on the other hand, there is an unavoidable obstacle to making complete and non-disruptive observations of a physical system. It simply can't be done, in general. What exactly happens when you try to observe something, and what actually counts as a 'measurement'—those are the locus of the mystery. This is what is helpfully known as the 'measurement problem,' much as having an automobile roll off a cliff and smash into pieces on the rocks hundreds of feet below might be known as 'car trouble.'
>
> SEAN CARROLL, FROM ETERNITY TO HERE

Both in science and the humanities, any action made with the purpose of accessing *information about the observer* (which will trigger a change in the observer) can also trigger direct consequences on *information about the object-observed*. This sets the conditions to study information *about the*

observer as Transdisciplinary information *about the object-observed*.
Quantum scientists have become the most influential representatives among
those researchers who advance the idea that in science the 'observer' is very
much part of the system observed. There is information that is only available
in the connection between the scientist and the experiment, and that cannot
be accessed if we do not take into account this connection.

If one considers the question of distributed authorship in the arts (Ascott R.,
1959, 1983), the 'observer' is not the scientist who set up the experiment, but
the receiver *at the other end of the process*: the spectator, the reader. In this
situation, there is information that is only available in the connection
between the public and the artwork, and that information cannot be accessed
if we do not take into account this connection.

One could consider that these two examples present elements of information
about something that must be taken into account *before* the experiment is
performed, and *after* the artwork has been presented to the public. One could
therefore appreciate the qualities that make these two circumstances separate,
and attribute value to those features that make them *unique*. In such a
representation it becomes easy to distinguish 'before' *from* 'after' the
moment ('now') when the scientist or the artist produce the experiment or the
artwork.

Still and all, one could also decide to explore the cognitive space where *both*
examples communicate about a temporal dimension that extends *beyond* any
single event. In this second representation, the elements that suggest

differences between the two examples have been shifted out of focus and into the background; a choice has been made to communicate with a formula describing two moments of a process which contributes to create the *same* experience.

Following that account, one could conclude that the conditions in which 'the observer' (the scientist or the artist) is included in one or the other example are created by changing the conditions in which 'the observer' (e.g. the person who reads this thesis) is addressed 'now'. Which means that it is not enough to acknowledge the influence of the observer upon the events examined *at the time of* our examples, because the temporal dimension of the information about what happens 'now' cannot be completely separated from the temporal dimension of the information about what happens in the illustrations we present. One can therefore observe that there is a quality of information that cannot be accessed if considered outside of the open-ended process that connects observers to events across several temporal scales.

This is another way to say that two sets of interactions in time which belong to two Reality Scales,[49] separated from each other as a consequence of the language necessary to create Disciplinary knowledge, can also be described as two sets of interactions in time *connected* to each other by a Transdisciplinary description that includes a process which takes place at the

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[49] We refer here to the definition of Reality Scales proposed in 'The Manifesto'. Chapter 3.3 will clarify how the idea of Reality Scales and its connection to the theory of Parallel Universes relates to the notion of 'information that exists in a Temporal Dimension' presented in this thesis, as well as the practical strategies to access Transdisciplinary knowledge developed in PART II as a result of this new approach.

scale of *information about the observer* from each Discipline, as well as the observer 'now'.

The fact that the observer must be included in the event-observed means that there is *information about the observer* that must be included in the *information about the event-observed*. If the asymmetry of time, or irreversibility, is a fundamental quality discriminating a certain class of events that develop over time, information that emerges one experience after another for the observer becomes information that emerges at every step in the timeline of *what happens to the observer* that is associated to the dynamical structure of the event observed. It follows that *no matter what kind of observer we admit in our models (before or after the time-invariant or time-oriented events) there is information about the event-observed that can only be accessed by passing through* information about the observer*, one experience after another.*

In cognitive psychology studies, one can find another reference to the notion of 'Reality Models'. In The Construction of Reality (1976) Olivetti Belardinelli suggests that human beings go through one subjective experience after another, and for every experience at any temporal scale of such process, there is a tendency to create a time-invariant (Apollonian) 'Reality Model' in a continuous process of time-oriented (Dionysian) 'Construction of Reality'. Reality Models are dynamic structures that emerge with information available from context, one experience after another. This is a straightforward definition of fundamental dynamics involved in the creation of the cognitive

space where consciousness emerges. This process can be compared to a series of events that are experienced *one after another* in an ongoing syncretic narrative whereby

the syncretic process is not in any way to be confused with synthesis, in which disparate things meld into a homogenous whole, thereby losing their individual distinction. Nor is it mere eclecticism, which usually signals a wavering course of thought of only probable worth. In the syncretic context, extreme differences are upheld but aligned such that likeness is found amongst unlike things, the power of each element enriching the power of all others within the array of their differences. Ascott 2005

Cybernetician and researcher Francisco Varela was a scholar that approached science with a remarkably broad and integrative perspective, deeply contributing to a diversity of fields from mathematics to epistemology, immunology to neuroscience. He was strongly influenced by Buddhism and actively participated in unravelling the relationship between science and spirituality (Dalai Lama, Hayward, Varela 2001). Varela insisted that if cognitive science continued to exclude conscious experience (*information from the inside*) from laboratory research (*information from the outside*), all that could be hoped for would be a regression to the mind–body duality of the materialists and their belief that all cognition is a matter of wiring and mechanics. This is the same debate that William James entered in 1899. "Something happens when to a certain brain-state, a certain 'sciousness' corresponds. A genuine glimpse into what it is would be *the* scientific achievement before which all past achievement would pale." (James 1892/1920, p.468; original italics)

Varela's ideas embrace many of the notions introduced in the previous chapters. He proposes that any description of 'objects' should be transformed into a description of 'object-events' (Varela 1999, pp.11-140)[50] as a way to incorporate the use of process-based language into scientific observations. Object-events can be defined as dynamic structures made of information that takes into account the role of the observer 'now'. His approach emphasizes the necessity to include the temporal dimension of personal experiences into the scientific method. Varela also advances the notion of a 'horizon' as the minimum distance necessary to project one event (and the 'object-events' that define its characteristics) into another:

> There is always a centre, the now moment with a focused intentional content (say, this room with my computer in front of me on which the letters I am typing are highlighted). This centre is bounded by a horizon that… projects towards an intended next moment…Then it plunges further out of view… (of) the minimum distance needed for two stimuli to be perceived as non-simultaneous. (Varela 1999, 112-113)

In this paper Varela presents a few recognisable sets of interactions in time: the temporal dimension of neuronal cycles (10msec to a 100msec), which becomes the incompressible temporal dimension of 'brief' conscious events (1-2 seconds duration, e.g. self-initiated arm motion), which in turn is independent but inseparable from the temporal dimension of our descriptive-narrative assessments and the flow of time related to personal identity (10 seconds or more). These three examples are designed to associate three

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[50] Francisco J. Varela, 'Present Time Consciousness', in The View From Within, First Person Approaches to the Study of Consciousness, ed. Francisco J. Varela and Jonathan Shear, Imprint Academic, Exeter, UK, 1999, pp. 11-140.

temporal dimensions of what happens to the observer, to the temporal dimension of the object observed within each interval of time. '*From the outside*' each interval of time presents the following dynamic: a scale-free set of infinite inputs are reduced to a recognisable set of object-events that emerge as a consequence of the temporal-scale inside of which the observer frames their meaning. What is innovative is the suggestion that knowledge *from the outside* about these object-events should be complemented *every step of the way* with information *from the inside* associated to the dynamics of what happens after each interval of time to the observer that frames them. Furthermore, in accordance with Varela's suggestions, it is defended in this thesis that while each (time-invariant) event can be considered dynamically dependent on a number of scale-free dispersed assemblies,[51] it becomes crucial to remember that the language one selects for interpretations of experiences resides in the temporal dimension of the observer 'now'. It is because of the limits of each communication at the scale of the observer 'now' that it becomes possible to ground the horizon of scale-free events in the present moment and distribute meaning across the horizon of each scale-free temporal cluster. This consideration applies both to the interpretations of events in scientific papers and to interpretations of events in everyday life. This element of 'grounding' that anchors information that exists in a temporal dimension at different scales to a specific moment will be critical to describing the notion of 'Arrow of Time' analysed in Chapter 3.2.5.

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[51] These assemblies correspond to Transdisciplinary Reality Scales or 'Layers'.

In the last chapters we have observed why descriptions of experiences which adopt the language of 'two sets of interactions in time' and the notion of a 'Construction of Reality' are useful to communicate process-based events. Nevertheless, we also found again the need to connect the timeline of what happens to the observer 'inside' of the experience to the timeline of the observer 'now'. Varela enhances our understanding of this process-based logic by contributing language that allows us to understand how one shifts the amount and the quality of information distributed *in the hidden* as a consequence of any interpretation of events chosen by the observer *now*. The suggestion of incompressible scale-free (i.e. infinite) temporal dimensions that are associated in a flow which becomes meaningful only as a consequence of parameters available at the unique coordinates of the observer, brings the ideas of Cantor, and different categories (sets) of infinites, in significant correlation with the notion of process-based information which is uniquely defined by constant *traffic across the boundaries* and *local knowledge* at the scale of the observer.

The notion of 'horizon' as 'the distance that projects one event into another', combined with the idea of 'object-events' as 'dynamic structures made of information that takes into account the role of the observer', create the ideal conditions for the introduction of a new concept: the 'horizon of object-events', which can be described as the threshold of any Apollonian definition which distributes Transdisciplinary Dionysian knowledge about process into unique intervals of time-invariant and/or time-oriented Disciplinary awareness. The 'horizon of object-events' uses the notions of 'horizon' of

events and process-based 'object-events' defined by Varela and Shear (2001) to set the boundaries of an observation of what happens to the observer *from the inside* of the sequence-observed. The idea of a 'horizon of object-events' which is uniquely defined by the observer *from the inside* as the process unfolds reinforces Ross-Ashby's statement about a *black box* of *information about the observer* which remains *in the hidden*.

The Transdisciplinary approach to knowledge suggests that at least part of this *hidden* information is revealed in what happens to the body and the dreams of the observer. Nietzsche reminds us that the Transdisciplinary mechanism at the origin of all Western culture, the tragic artform, introduces knowledge of process that only comes from the *alternation* between moments of shivering Dionysian rapture, and moments when information is produced by the Apollonian rational mind. The Becomebecome approach studies which *sequences* of *alternation and coordination* between these two syncretic layers of process (*from the inside* and *from the outside*) are most effective to produce access to Transdisciplinary information. For this reason, the ideas presented in Chapter 3.2.3 not only address Research Interrogations 1 and 2, but they also provide insight into Research Interrogation 4 and 5.

3.2.4 The Observer of Process-Based Information: Action and Consequence

Ch. 3.2.1 and Fig.5 describe the combination of 'two sets of interactions in time' as an 'intellectual operation' which connects two separate Reality Scales, because it transforms all statements and descriptions of knowledge into statements and descriptions of *process-based* knowledge. It does so by changing the scale of the process-observed to the point that it includes information about the process of the observer. This intellectual operation also introduces the idea that the arrow of time *from the outside* which connects the temporal scale of transformations that happen to the process-observed (even in the most abstract, simple and rigid of time-less formal systems) always depends on the arrow of time from the inside (of the *black box*) of what happens to the observer. It follows that there are elements of the arrow of time *from the inside* that exceed the set of all possible arrows of time *from the outside*. This is represented visually by the fact that the trajectory of any two sets of interactions in time *from the outside* (the interpretations), can now be positioned at 360 degrees inside the sphere of infinite possible trajectories of *information about the observer* (Step 3 in Fig.5).
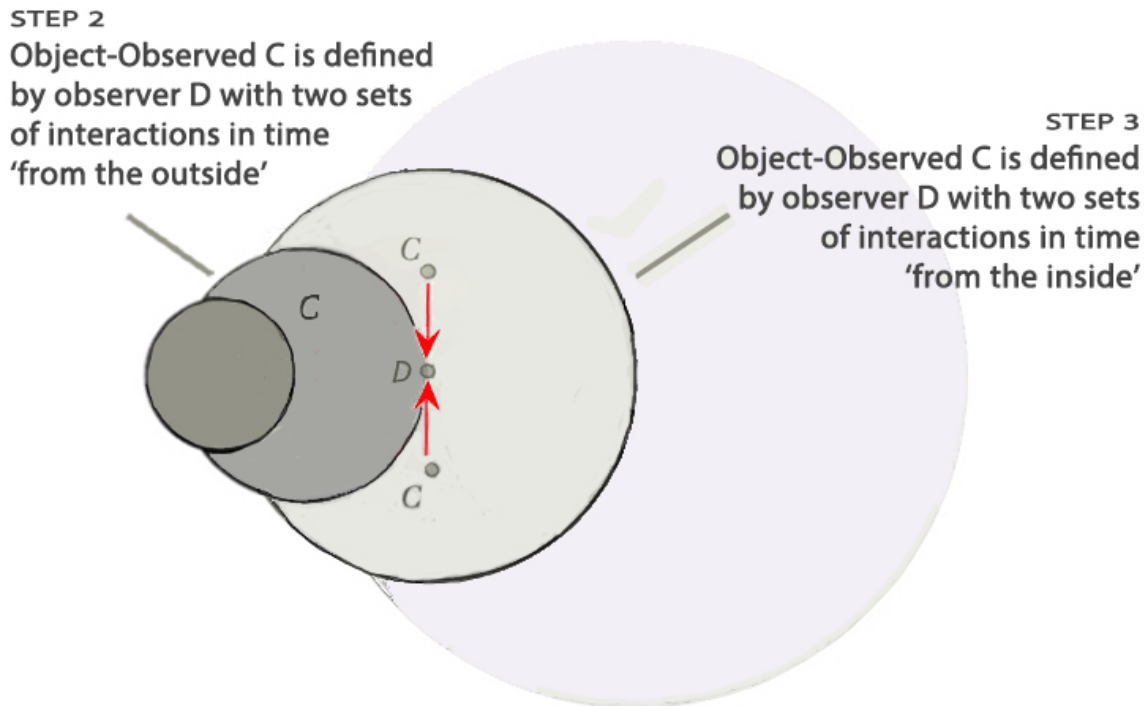
STEP 2
Object-Observed C is defined by observer D with two sets of interactions in time 'from the outside'

STEP 3
Object-Observed C is defined by observer D with two sets of interactions in time 'from the inside'

Fig. 5 The transformation from object-observed into process-observed allows us to place *information about the observer* inside the process of the object-observed. In the background and the foreground are the volumes of STEP 1 (dark grey circle) and STEP 4 (pink circle) which include STEP 2 and STEP 3 as part of a bigger unfolding process.

This also means that there is a sort of synkinesis[52] which characterises the process-based continuity of *hidden* (inside the *black box*) *information about the observer* whereby the movement of *hidden information about the observer* in Step 3 transforms *information about the object-observed* in Step 3, as a consequence of an *action* which starts in Step 2. This entails that there is *hidden information about the observer* 'from the future' (STEP 3 happens

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[52] From Ancient Greek συν- (sun-), from σύν (sún, 'with, in company with, together with') and κίνησις (kínēsis, 'motion, movement'). 'Synkinesis' here is intended in its generic meaning of 'movement at the same time'. For more details on the notion of *synkinesis* and the Becomebecome practical strategies to work with information from *synkinesis*, see also Ch. 1.2, Ch. 3.4.6, and Ch. 4.2.

after Step 2), which influences all statements, descriptions, theories, and so on.

The idea that information 'from the future' is part of a process which shapes information 'about the past' is not new to cybernetics, or cosmology,[53] and it can also be associated to the drawing by Hofstadter in Fig. 3 which represents 'recognizable forms whose negative space is not any recognizable form', because no matter which interpretation *from the outside* one decides to state, describe, or theorise, one is reducing a complex web of temporal trajectories of multiple processes into a flat sequence which always illustrates some aspects of process as *visible*, and illustrates some trajectories of process as *hidden*. It is an inevitable operation which encodes *hidden information about the observer* in all descriptions, statements, theories, and so on, made *from the outside*.

An example of this can be inferred when one considers that the progression visually represented by the illustration in Fig. 5 continues in a sequence before and after the interval depicted, which is artificially isolated from the others. The relationship between the progression-observed and the interval-observed indicates a fundamental process of selection which always defines the temporal scale at which the observer produces each thought, statement, description, theory, or movement. Most importantly, it also defines the *action* which is placed *in the hidden* at a temporal scale which is *necessarily not included* with every statement, description, theory, or movement produced by

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[53] See also Ch. 3.2.7 and 3.2.8.

the observer.[54] This *action* of the observer *in the hidden* which is included in any statement, description, theory, or movement, generates as a *consequence* a layer of information which is 'visible'. This can be considered an example of what is described as 'synkinesis' in the previous paragraph, i.e. because of the flat representation of all statements, descriptions, theories, and so on, there is a hidden action which positions the temporal trajectory of any description *from the outside* within a sphere of trajectories defined by *hidden information about the observer from the future*.

"…numerous descriptions, irreducible on the other, but connected to each other.'(Prigogine, I., 1980, p.71) are only the 'visible' *consequence* which is combined to the *synkinetic hidden action* of the observer who carves out a unique trajectory of "two sets of interactions in time" (Bateson, 1979, p.61) among the infinite possible temporal scales which define *information about the object-observed*. It follows that 'two sets of interactions in time', and 'action and consequence', are characterised here as two layers which alternate and coordinate a process that can only be defined in *a sequence of actions*. Such a sequence of actions places information about 'two sets of interactions in *time'* in *the hidden* of every *action*, whose *consequence* is only available because of an underlying process of *synkinesis* which connects information *from the future about the observer* to information *about the object-observed 'now'*.

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[54] See Ch. 3.1.4 Beyond Hidden Logic and Mathematics, and Appendix A.1 The Action of *not-doing*

Since all descriptions of process are fundamentally statements about information that exists in a temporal dimension, this means that all process-based information is fundamentally coupled to a model of how time unfolds in the universe. In the next chapters, it will be shown how the geometric illustration in Figure 5 is coupled to the relationship between the evolution of time and the evolution of any process-observed. It is as a consequence of this relationship that it becomes possible to frame the study of information about the observer advanced by the Becomebecome approach.

All statements, descriptions, and theories are 'explanations' of how *information about the observer* transforms such a model of time into a process-observed at a specific temporal scale influenced by *local knowledge*.

Therefore, the model of time expounded in the next chapters constitutes an essential aspect of the Becomebecome methodology. It also clarifies why the notions introduced in Chapters 3.1 and 3.2 are examples of *information that exists in a temporal dimension* at a specific temporal scale, and it provides guidance for the practical approach to access Transdisciplinary insight[55] which coordinates and alternates *information about the observer from the inside* to *information about the object-observed from the outside* across different temporal scales. For this reason the model of time presented in the next chapters directly addresses Research Interrogation 2, but also informs Research Interrogation 5.

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[55] See PART II of this thesis.

3.2.5 The Observer of Process-Based Information: The Arrow of Time

> D: Do you mean that you cannot use one explanatory principle to explain another? Never?
>
> F: Hmm... hardly ever. That is what Newton meant when he said, "hypotheses non fingo."
>
> D: And what does that mean? Please.
> F: Well, you know what "hypotheses" are. Any statement linking together two descriptive statements is an hypothesis. If you say that there was a full moon on February 1st and another on March 1st; and then you link these two observations together in any way, the statement which links them is an hypothesis.
> D: Yes—and I know what non means. But what's fingo?
> F: Well—fingo is a late Latin word for "make." It forms a verbal noun fictio from which we get the word "fiction."
> D: Daddy, do you mean that Sir Isaac Newton thought that all hypotheses were just made up like stories?
>
> F: Yes—precisely that.
>
> D: But didn't he discover gravity? With the apple?
>
> F: No, dear. He invented it.
>
> GREGORY BATESON, <u>STEPS TO AN ECOLOGY OF MIND</u>

> Prior to myself there is no such translation of the Dionysian into the philosophic pathos: there lacks the tragic wisdom, —I have sought in vain for an indication thereof even among the great Greeks of philosophy, the thinkers of the two centuries before Socrates. A doubt still possessed me as touching Heraclitus, in whose proximity in general I begin to feel warmer and better than anywhere else. The doctrine of 'eternal recurrence,' *(of being born)* — this doctrine of Zarathustra's might after all have been already taught by Heraclitus.
>
> FRIEDRICH NIETZSCHE

In the previous chapters, it has been made clear why a fundamental theory of time that connects *hidden* information to information *about the observer*

underpins all statements about process-based knowledge. In physics, the notion of 'entropy' is the principle underlying all irreversible processes. The original definition of entropy is summed up in the Second Law of Thermodynamics, which is arguably the most dependable law in all of physics.[56] The Second Law of Thermodynamics is based on the observation from Rudolf Clausius that heat never flows spontaneously from colder bodies to hotter ones. The insights into thermodynamics of Clausius and his colleagues all took place within a 'phenomenological' framework. They drew the big picture but not the details at the scale of the underlying mechanisms. In particular, they didn't know about atoms. It was Ludwig Boltzmann who first formulated a microscopic understanding of entropy (Perrot 1998), thus connecting two Reality Scales as two sets of interactions in time: interactions at the phenomenological scale of the observations documented by Clausius, with interactions at the scale of atoms and molecules. With its formulation, Boltzmann transformed entropy into a notion which belongs to a cognitive space from which one can look at processes that happen at two different scales. Boltzmann realized that observations at the scale of macroscopic systems necessarily hide the properties of every single atom. For example,

if one has a glass of water, and someone sneaks in and switches some of the water molecules, one would never notice, because there are many different arrangements of particular atoms that are indistinguishable from our macroscopic perspective Carroll, 2010, p. 46

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[56] Sir Arthur Eddington, a leading astrophysicist of the early twentieth century, put it emphatically: "If someone points out to you that your pet theory of the universe is in disagreement with Maxwell's equations [the laws of electricity and magnetism]—then so much the worse for Maxwell's equations. If it is found to be contradicted by observation—well, these experimentalists do bungle things sometimes. But if your theory is found to be against the Second Law of Thermodynamics, I can give you no hope; there is nothing for it but to collapse in deepest humiliation." (Eddington, 1935, 74)

Notice here that the mention of *perspective* refers to a formulation of entropy that brings to the foreground the importance of '*information about the observer* which is included in the entropy of the object-observed'. According to Von Foerster, this is the first time in scientific thought when the observer enters into their descriptive system. (Von Foerster, 2003b, p.277) The relevance of this new perspective becomes clear when one takes into consideration the process of coarse-graining that is associated with every measurement of entropy.

In statistical mechanics, it's useful to use the term microstate to refer to the precise state of a system, in contrast with the macrostate, which specifies only those features that are macroscopically observable. Under this perspective, the shorthand definition of Entropy becomes 'the number of microstates corresponding to a particular macrostate.' The process of dividing up the space of microstates of some particular physical system (gas in a box, a glass of water, the universe) into sets that we label 'macroscopically indistinguishable' is known as coarse-graining. Carroll, 2010, p.183

Coarse-graining is a process that plays a crucial role in the way we think and describe scientific observations about two sets of interactions in time, because it corresponds to the information about the temporal scale of process which is made *visible*, and the temporal scale of process which is made *hidden* with every statement, description, theory, and so on. This is why in the measurements of entropy, the choice of how to coarse-grain is not completely arbitrary, and some amount of human choice does come into the matter.

The fact is, one does coarse-grain in ways that seem physically natural and meaningful, not just chosen at whim. For example, when we keep track of the

temperature and pressure in a glass of water, what we're really doing is throwing away all information that we could measure only by looking through a microscope. We're looking at average properties within relatively small regions of space *(and time)*.
Carroll, 2010, p.186, italics mine
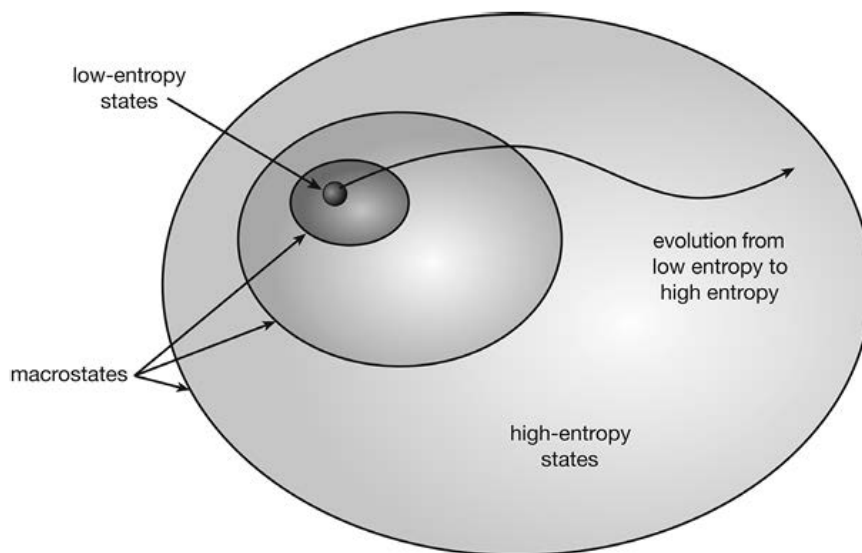
Fig.6 The process of coarse-graining consists of dividing up the space of all possible microstates into regions considered to be macroscopically indistinguishable, which are called macrostates. Each macrostate has an associated entropy, proportional to the logarithm of the volume it takes up in the space of states. The size of the low--entropy regions is exaggerated for clarity; in reality, they are fantastically smaller than the high-entropy regions. (Carroll, 2006)

This is the same coarse-graining process that Varela and Shear carried out when selecting which temporal scales should become meaningful parameters in the analysis of information that exists in a temporal dimension which goes through the human body. As a more general rule, the choice of which information about process to 'make visible' as a macroscopically measurable quantity, and which information to 'make hidden' as an irrelevant part of the microstate *is defined by the choice of the observer*.

One finds objects in some particular arrangement, *then* one finds them in some other arrangement. But one does not see the different configurations 'simultaneously' or 'at once'. That's because "time isn't just a label on each instance of the world; it provides *a sequence* that puts the different instances in order. So, the world exists, and what is more, the world happens, again and again." (Carroll, 2010. p. 18, italics mine)

Deriving the behaviour of macroscopic objects from their microscopic constituents, Boltzmann proposed to supersede Clausius' definition of entropy which is still used today under the rubric of thermodynamic entropy. Yet this predated Einstein's general relativity, quantum physics, or modern Cosmology. After quantum mechanics, John von Neumann proposed a formula for entropy that is specifically adapted to the quantum context. Claude Shannon in turn suggested a definition of entropy in the framework of information theory, rather than physics. The point is not to find the one true definition of entropy, it is to come up with concepts about distribution of information between two sets of interactions in time at a temporal scale *which serves useful functions in the appropriate context.*

Since the movement of Entropy defines an 'Arrow of time' from low entropy towards high entropy, one is presented with the same opportunity for adopting the best possible language, theory, or set of ideas, when faced with the task of communicating *what time actually is*.

Scientists and prescientific thinkers have always tried to understand time. In ancient Greece, the pre-Socratic philosophers Heraclitus and Parmenides

staked out different positions on the nature of time: Heraclitus stressed the primacy of change, while Parmenides denied the reality of change altogether. Just as there are many definitions of entropy, there are many different arrows of time. The thermodynamic arrow of time is the one defined by entropy and the Second Law, but there is also the cosmological arrow of time (the universe is expanding)[57], the acoustic or radiative arrow of time (waves flow away from moving charges, not toward them), the psychological arrow of time, and so on. Directions in space are easily distinguished in everyday situations; a compass can tell if one is moving north, south, east, or west, and nobody is in any danger of confusing up with down. This is because we live on a giant planet with respect to which one can define different directions. Another obvious example is writing, for which it's easy to tell if we are looking at a reversed image, because writing, like the planet earth, does pick out a preferred direction which has to do with *local knowledge defined at the scale of the observer.*

Like the up/down orientation in space picked out by observers from Earth, the preferred direction of time is also a consequence of the features of one's environment. In the case of time, it's not that one lives in the spatial vicinity of an influential object; it's that one lives in the temporal vicinity of an influential event: the birth of the universe. The beginning of the observable universe, a hot dense state known as the Big Bang, has a very low entropy. The influence of that event orients one in time, just as the presence of the Earth orients us in space. CARROLL, 2010, p. 41

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[57] See Ch.3.2.6.

3.2.6 The Observer of Process-Based Information: Parallel Timelines

> It was Einstein who first started me thinking about a relativity of time as well as space, and their psychic conditionality...
>
> CARL GUSTAV JUNG, <u>LETTERS TO CARL SEELIG</u>

> The best explanation is the one as a consequence of which one increases the number of choices
>
> HEINZ VON FOERSTER, <u>THE ETHICAL IMPERATIVE</u>

MOVE TO BELOW: Nicolescu explains in the Manifesto that quantum entities (also known as quantons) are very different from the objects of classical physics:

The emergence of at least two different levels of Reality *(Newtonian and Quantum, or the Apollonian and the Dionysian)* in the study of natural systems is a capital event in the history of knowledge. It can lead us to rethink our individual and social life, to give a new reading to ancient knowledge, and to otherwise explore the knowledge of ourselves *(the observer),* here and now. ... The equations of quantum physics obey to a group of symmetries, but their solutions break these symmetries *(action and consequence).*
Nicolescu, 1996, p. xxi ... p.xv, additions in italics mine

The *alternation* and *coordination* of the reversibility and irreversibility of time is one aspect of the existence of different levels of Reality. Thin matter slips through, penetrates and surrounds more grainy material at larger temporal scales, just as Transdisciplinary insight is found *beyond, beneath and in-between* the seams of Disciplinary knowledge. Both coexist, cooperate and evolve together.

The meaning of the arrow of time as embodied in the Second Law of Thermodynamics is defined by the idea that the universe goes from low entropy states to high entropy states. Nobody can say for certain what happens before the moment of lowest possible entropy known as the Big Bang, but it is commonly assumed in the scientific community that knowledge about this process of transformation in our universe will be clarified by the study of Quantum Gravity. Quantum gravity is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics, and where quantum effects cannot be ignored (Rovelli 2008). There is not much evidence to support a complete or coherent theory of quantum gravity, but there is a lot that scientists do understand about classical gravity, and about quantum mechanics, which means there are certain reasonable expectations for what should happen in quantum gravity. In particular, they expect that time itself should be susceptible to quantum fluctuations. One way in which time might fluctuate was studied in the 1990s by Edward Farhi, Alan Guth, and Jemal Guven (Farhi, Guth 1990, pp.149-155). They suggested that spacetime could not only bend and stretch, as in ordinary classical general relativity, but also split into multiple pieces. In particular, a tiny piece of spacetime could branch off from a larger universe and go its own way. This separate piece of spacetime is known as a baby universe. The process is illustrated in Figure 7. Now we have a baby universe that evolves according to the standard inflation-plus-Big-Bang story. The baby universe can grow to an arbitrarily large size, and there is no limitation imposed. *Considered as a whole, the entropy of the multiverse thus created*

doesn't go down during this process; the initial state is high-entropy, which

evolves into high-entropy plus a little extra universe.

One can observe entropy increasing simply because entropy *always* tends to

increase, but now it does so as a consequence of a process which also

justifies the observation of time-invariant symmetries in physics.[58]

> Given any state of the Universe, pick some favourite distribution of matter and energy and let it evolve. The natural evolution forward in time is for space to expand and empty out, eventually approaching a restless positive vacuum state. From there, we will see the occasional production of baby Universes via quantum fluctuations. These baby Universes will expand and inflate, and their matter and radiation will eventually dilute away until we achieve again restless positive vacuum. Both the original universe and the new universe can give birth to new babies. This process continues forever.
> Carroll 2010, p.407[59]

The cosmologic model of time described by Carroll and Chen in Fig.7

carefully reflects the empirical observation that entropy should always grow.

At the same time, it accommodates for an arrow of time which starts from a

low entropy big bang and towards positive vacuum maximum entropy.

Von Foerster, who based an important part of his research in cybernetics on

the observation of the phenomenon of ever-growing entropy (2003b), was

very fond of any statement, theory, or description which could produce 'the

maximum amount of choice' for the observer who was receiving such

communications. One of the interesting features of the cosmological

---

[58] This scenario was first suggested by Chen and Carroll (2004). They started by assuming that the universe is eternal, the Big Bang is not the beginning of time, and it is natural for the universe to be in a high-entropy fluctuation.

[59] This is what Bateson characterized as explanations, i.e. statement or theories that connect two sets of interactions in time. See Ch.3.2.1.

argument described by Chen and Carroll in this chapter is precisely that it provides such a model for the interpretation of time, hence for the interpretation of all process-based phenomena.
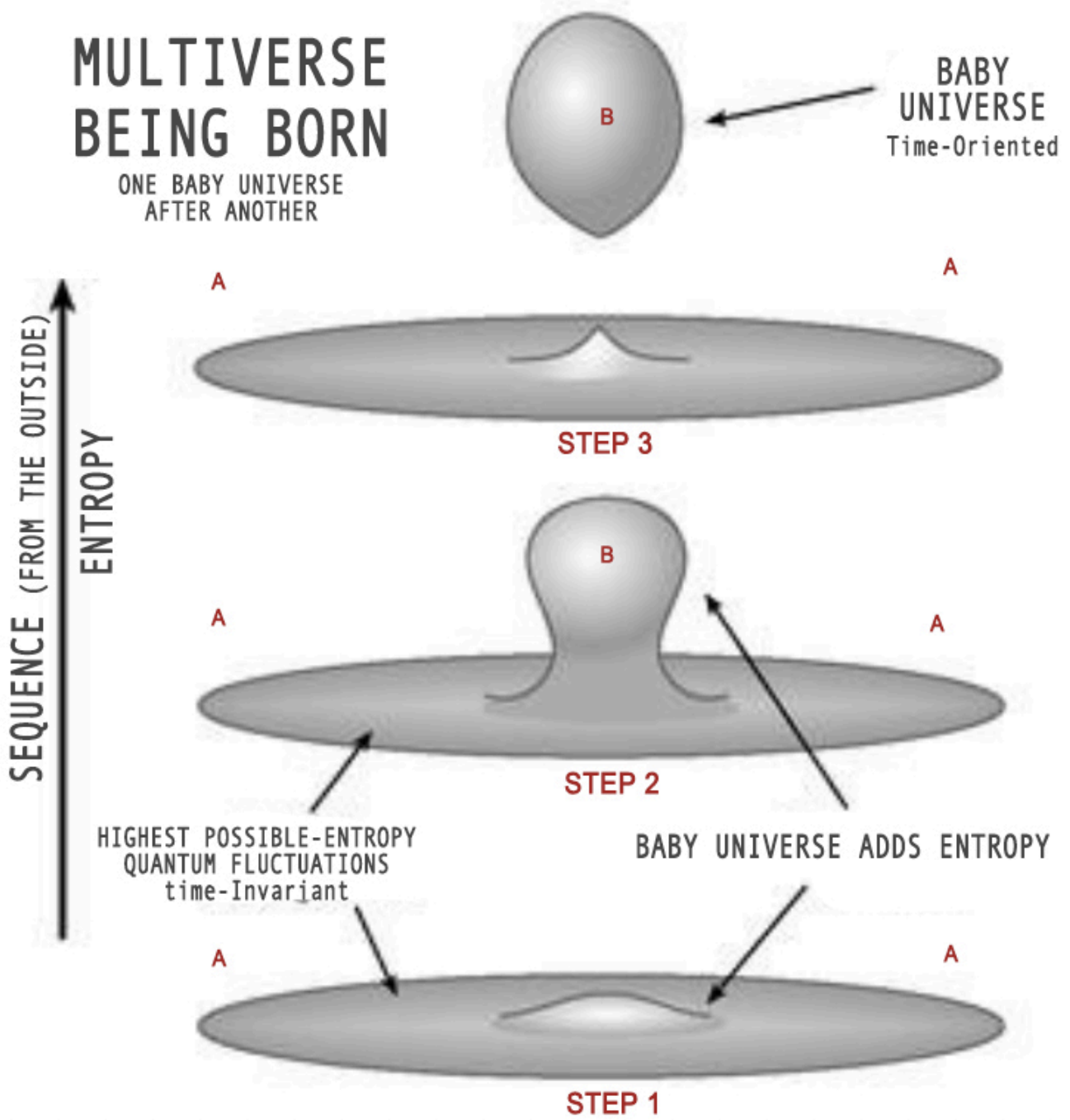
Fig.7 – Based on Fig. 85 of Sean Carroll (2006)

Any statement, theory or description that takes the model of time proposed by Chen and Carrol as reference starts from the maximum amount of entropy, which is *the maximum amount of possible interpretations* of a given system, and it creates the maximum amount of possible outcomes *plus some more*. For this reason, the cosmological argument for understanding time indicated by Chen and Carrol produces an ideal model to analyse the process-based information of second-order cybernetics that Von Foerster characterized as 'providing the maximum amount of possible choices'.

Any explanation, statement, and theory is process-based because it describes a process which connects a set of conditions at the beginning of the explanation, statement, theory, to a set of conditions at the end of the explanation, statement, theory. The explanation, statement, theory that provides the maximum amount of choices is the one that describes *the movement forward* from process-based information about an infinite set of time-less quantum fluctuations (Fig. 7, Step 1) at the beginning, to the time-oriented infinite set of ideas at the end (baby universe in Fig. 7, Step 3).

It is important to observe that the baby universe in Step 3 is created *in addition* to the universe of time-less quantum fluctuations in Step 1, but the observer inside of the time-oriented universe in Step 3 will access a universe of quantum fluctuations which is of a higher scale compared to the universe of quantum fluctuations in Step 1, because it includes all possibilities of the time-less Universe in Step 1 *plus* the conditions described in Step 3.

Since one *always* observes the process described in Fig.7 from *within* a Baby Universe (because the conditions necessary to the very existence of an observer occur only *within* a baby universe), this generates a model of time which supports in its very nature the same features observed in Chapter 3.1 and 3.2. Every statement, theory or description of process-based information is a process-based statement, theory or description *from the outside* which cannot be separated from a description *from the inside* of the time-oriented universe of the observer.

3.2.7 The Observer of Process-Based Information: Information 'from the future'

> Ancient Greeks saw the future as something that came upon them from behind their backs, with the past receding away before their eyes.
>
> ROBERT PIRSIG

> Here is Maturana's proposition, which I shall now baptize "Humberto Maturana's Theorem Number One": "Anything said is said by an observer." (OBSERVER 1)
>
> Should you at first glance be unable to sense the profundity that hides behind the simplicity of this proposition let me remind you of West Churchman's admonition of this afternoon: "You will be surprised how much can be said by a tautology". This, of course, he said in utter defiance of the logician's claim that a tautology says nothing.
>
> I would like to add to Maturana's Theorem a corollary which, in all modesty, I shall call "Heinz von Foerster's Corollary Number One": "Anything said is said to an observer." (OBSERVER 2)
>
> HEINZ VON FOERSTER, <u>CYBERNETICS OF CYBERNETICS</u>

The drawing presented in Fig. 7 illustrates the evolution from a state of maximum possible entropy to a state of yet higher entropy as a consequence of the creation of additional time-oriented entropy in a Baby Universe. The events characterised in Fig.7 depict the relationship between time-invariant and time-oriented processes according to the Chen-Carroll cosmologic model of time. Looking at the arrow to the left, one can read the statement: 'Sequence (from the outside)'. This short comment is to be justified with two observations. 'Sequence' does not mean 'time'. 'Sequence' is here defined

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as: 'the arrangement of events that the writer proposes to the reader'. The second part of the statement, '(from the outside)', is a reminder that this illustration should always be coupled to the same sequence of events described by the observer from the inside as well.

The relationship between all possible configurations of Quantum Fluctuations (Step 1), and time-oriented timelines (Step 3) *from the inside* is one that *transforms a bigger set of infinites into a smaller set of infinites*. This is because to the observer *from the inside*, Step 1 in Fig.7 represents infinite timelines with infinite possible futures and infinite possible pasts; while the observer *from the inside* of Step 3, at the other end of the transformation, finds a set of infinite timelines with infinite possible futures, *but not* infinite possible pasts[60] (which is precisely the meaning of time-oriented timelines). Since 'time-oriented' is a definition which refers to timelines that go from low entropy to high entropy, an arrow of time is created, and a recognisable past is created as a consequence of what the observer from the inside in Step 3 does with the information in Step 1.

---

[60] The transformation illustrated in Fig.6 also illustrates the process identified by Professor Nicolescu (Ch. 3.2.6), whereby quantum equations describe the relationship between conditions which belong to two Reality Scales: a set of infinite Time-less possibilities (first term of the equations) transformed into a set of infinite Time-oriented possibilities (second term of the equations).
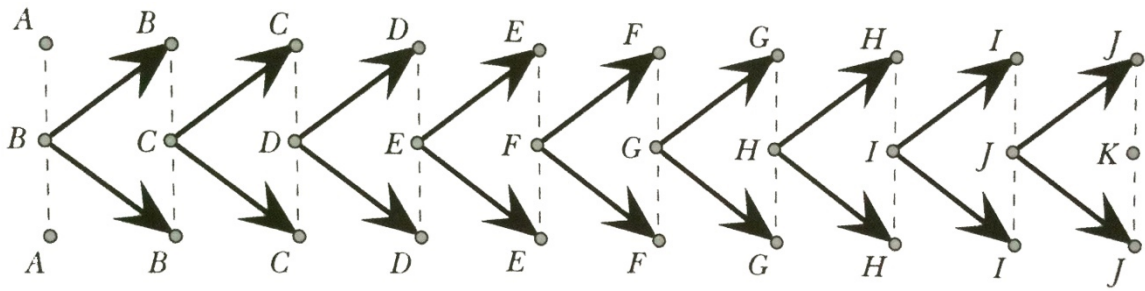
Fig.8 'Terza Rima' (Hofstadter 1997)

Figure 8 can be read as the illustration of two connected processes. The first process communicates what happens in Fig.7 along each vertical dotted line of Fig. 8. Infinite quantum fluctuations are represented as two sets of interactions in time at the upper and lower sequence of letters. A time-oriented transformation centred around *information about the observer* reduces the infinite quantum field of possible temporal scales into a *visible* and a *hidden* definition of what is *beneath, beyond and in-between* every action, thought, movement, statement, theory, etc.

The second process illustrates how this action produces a *hidden* consequence which influences information about the observer of a moment before. This is because the action of the hearer determines what the speaker communicates, i.e. information about the object-observed at Step C in Fig.9 (middle line) includes information about the observer in Step B (middle line).

The letters A,B,C,D... along the outer horizontal lines of Fig.8 (superior and inferior horizontal line), represent time-invariant trajectories from the Quantum Fluctuations field of all possible temporal scales (Step 1 in Fig.7)

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which are transformed into *visible* and *hidden* time-oriented information with every process represented in Fig.6, and along each dotted line in Fig.8.

The letters B,C,D,E … along the central line represents each observer who performs the transformation (made of the two processes described here above) indicated by the red and blue arrows in Fig.9. Fig.8 and Fig.9 connect a series of processes described in Fig.7 to each other, thus revealing the transformation 'backwards'[61] created between the hearer and the speaker as a consequence of each thought, action, movement, and so on.
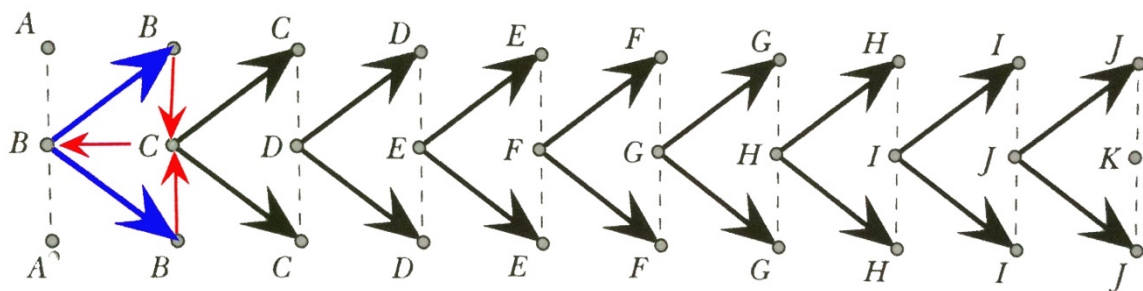
Fig.9 Adaptation of Fig.7a with emphasis on the transpersonal process which connects two observers

Fig.8 and Fig.9 also represent a mechanism created by a writer who wanted to convey the *feeling* of moving forward not only *from the outside*, as a schematic representation, but because of the consequence text generates from the inside of the reader. Fig.8 and Fig.9 are in fact, a representation of Dante's 'Terza Rima',[62] a stylistic device that Dante created when he wrote

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[61] See also Ch. 3.2.6.

[62] The literal translation of Terza Rima from Italian is 'third rhyme'. Terza Rima is a three-line stanza using chain rhyme in the pattern ABA BCB CDC DED. There is no limit to the number of lines, but poems or sections of poems written in Terza Rima end with either a single line or couplet repeating the rhyme of the middle line of the final tercet. The two possible endings for the example above are DED E, or DED EE.

the <u>La Divina Commedia</u>, precisely to the purpose of creating the experience of physically moving forward as the reader was advancing through the rhymes of the sonnet.

Nel mezzo del cammin di nostra vita	A
mi ritrovai per una selva oscura	B
ché la diritta via era smarrita.	A
Ahi quanto a dir qual era è cosa dura	B
esta selva selvaggia e aspra e forte	C
che nel pensier rinnova la paura!	B
Tant'è amara che poco è più morte;	C
ma per trattar del ben ch'i' vi trovai,	D
dirò de l'altre cose ch'i' v'ho scorte.	C
Io non so ben ridir com'i' v'intrai,	D
tant'era pien di sonno a quel punto	E

che la verace via abbandonai.   D

For each time-oriented process-based description, statement or theory represented at moment C (in the middle line) one cannot artificially remove information *from the future* which is process-based in the space *hidden* as a consequence of a description, statement and theory at moment B. The same goes for the relationship between D and C, E and D, and so on. The fact that *information about the observer includes information from the future* is a fundamental feature of the Chen-Carroll model of time that describes how quantum information is continuously transformed into time-oriented information at a different scale. This statement is isomorphic to the Hermeneutic Principle of Von Foerster: "The hearer, not the speaker, determines the meaning of an utterance." (Von Glaserfeld, 2003)

Artworks created by Escher and Dante are examples of a communication *from the inside* that goes through the body and beyond the threshold of the rational mind's logic of the observer.

What other information that passes through the body of the hearer contains *hidden information* about the speaker that is not possible to access with the rational mind? This question, which directly relates to Research Interrogations 3 and 4 will be addressed (in Chapters 3.3 and 3.4) using very concrete measurements in the science which studies sleep and dreams, and anatomy. This will provide also valuable indications on how to develop transpersonal strategies to reveal *hidden* information *from the Future* which

becomes accessible because it changes *information that passes through the body and through the subconscious mind* of the observers at any scale (speakers and hearers).

The process described by Chen and Carroll is based on the idea that one is always transforming infinite-past + infinite-future time-invariant quantum fluctuations into *finite*-past + infinite-future time-oriented timelines. From now on we will refer to this process also as the transformation of *information from the future* into *information about what happens next.*

It has been mentioned how the observer *from the inside* moves *forward* from one time-oriented description *to the next* one on the horizontal plane of Fig.9 as a consequence of each transformation that occurs along the triangle of red and blue lines of Fig. 9. This feeling of 'moving forward' can naturally be associated to the notion of *information about what happens next*, which is created as a consequence of *visible* and *hidden* information about the past, and information from the future. The process of *moving forward* and its association to *information about what happens next* connects what Dante generates *from the inside* (with the mechanism described in Fig.8 and Fig.9) to what Chen and Carroll describe *from the outside* in Figs. 7, 8 and 9. As information that is time-less sweeps through beneath, beyond and in-between the seams of time-oriented observations, the very mechanism which defines the observer as 'one' is disrupted. One has entered the transpersonal space of Dionysus and the realm of Transdisciplinary knowledge. One is dealing with information that is fundamentally out of reach of any single explanation. It is

transpersonal because it only exists as a consequence of action accomplished by another observer, and it is process-based because it connects an Apollonian (and Disciplinary) description to the original Dionysian (and Transdisciplinary) process *from the future* above, beneath and beyond itself. These considerations clearly address Research Interrogations 2, and 3.

…when Dionysian emotions awake, …the subjective vanishes to complete self-forgetfulness. Add to this awe the blissful ecstasy which rises from the innermost depths of man, ay, of nature, at this same collapse of the *principium individuationis*, and we shall gain an insight into the being of the Dionysian Nietzsche 1910, p.69

Chen and Carroll's model of time describe a subject inside of a baby universe which observes the continuous ebb and flow of time-less quantum fluctuations that are transformed into time-oriented descriptions of the universe *from the outside* and *from the inside*. Crucially these observations cannot exist simultaneously; they are produced *one after another*. The process-based meaning that is conveyed by their connection must be distributed in the *hidden* process-based space of meaning they produce, each one separate from the other.

The movement that Spencer-Brown describes as 'draw a separation' is transformed into 'draw a connection' by the 'oscillations' of the observer at the beginning of the sentence and the observer at the end of the sentence. Events exceed all single interpretations (Lyotard), and while the process-based information that exists as a consequence of such 'oscillations' is distributed into two separate experiences, part of the process-based information can only be communicated 'one experience after another'.

There is information about what one is saying that will only be available after the reaction of the person who receives the communication, because what one is saying is part of a larger *movement* which spans across temporal scales that distribute meaning within each word of each sentence, but also exceeds them. One can never really know what one is talking about if one artificially removes one's observations from the process which connects them to the observations of the person at the other end of the sentence. This is not just a paraphrase of Von Foerster's Hermeneutic Principle, it is also an example of the basic transpersonal nature of all process-based knowledge.

3.2.8 The Observer of Process-Based Information: The Transdisciplinary Observer

> The un-Dionysian:—it combats Dionysian wisdom and art, it seeks to dissolve myth, it substitutes for metaphysical comfort an earthly consonance, in fact, a *deus ex machina* of its own, namely the god of machines and crucibles, that is, the powers of the genii of nature recognised and employed in the service of higher egoism; it believes in amending the world by knowledge, in guiding life by science, and that it can really confine the individual within a narrow sphere of solvable problem. He who wishes to test himself rigorously as to how he is related to the true æsthetic hearer, or whether he belongs rather to the community of the Socrato-critical man, has only to enquire sincerely concerning the sentiment with which he accepts the wonder represented on the stage: whether he feels his historical sense, which insists on strict psychological causality, insulted by it. For he will thus be enabled to determine how far he is on the whole capable of understanding myth, that is to say, the concentrated picture of the world, which, as abbreviature of phenomena, cannot dispense with wonder.
>
> FRIEDRICH NIETZSCHE

> Great, universally gifted natures have contrived, with an incredible amount of thought, to make use of the apparatus of science itself, in order to point out the limits and the relativity of knowledge generally, and thus definitely to deny the claim of science to universal validity and universal ends: with which demonstration the illusory notion was for the first time recognised as such, which pretends, with the aid of causality, to be able to fathom the innermost essence of things.
>
> BASARAB NICOLESCU

Nietzsche had something poignant to say on the theme of what is made *visible* compared to what is real, which is to say what is shown and what is

hidden as a consequence of the use of logic. Already at the end of the nineteenth century he could observe how the whole modern world was entangled in the meshes of the Alexandrine culture which recognises as its ideal the theorist equipped with the most potent means of knowledge. This person had to be somebody labouring in the service of science. Nietzsche found that the archetype and progenitor of such a person is to be found in Socrates. He observed that all educational methods of the nineteenth century had originally the scientific ideal in view, which created the impression that "...every other form of existence should struggle onwards wearisomely beside it, as something tolerated but not intended." (Nietzsche 1910, p.185)

Nietzsche argues that after the death of Socrates, whom he identifies as "the mystagogue of science" (ibid, p.203) , one philosophical school succeeded another, which led the scientific mindset to a predominant position from which it has never been completely ousted. In this cultured world the specific task for every one highly gifted should be the study of science with the goal to uphold conformity to law across the entire solar system.

He who realises all this, together with the amazingly high pyramid of our present-day knowledge, cannot fail to see in Socrates the turning-point and vortex of so-called universal history... Optimistic dialectics drives music out of tragedy with the scourge of its syllogisms: that is, it destroys the essence of tragedy, which can be explained only as a manifestation and illustration of Dionysian states, as the visible symbolisation of music, as the dream-world of Dionysian ecstasy.
ibid, p.194

Nicolescu has a very similar approach to knowledge that goes beyond the limits of the scientific logic; in the Manifesto he proposes to expand beyond

the Aristotelian syllogism as the only acceptable instrument for creating

reason and meaning:

The intellectual scandal provoked by quantum mechanics consists in the fact that the contradictory pairs that it combines are only mutually contradictory when they are analysed through the reading grid of Aristotelian logic:

1. The Identity Axiom: A is A.

2. The non-contradiction Axiom: A cannot be Not-A.

3. The Axiom of the excluded Third 'T': there is no third event 'T' which is at the same time A & not-A.

The understanding of a new logic which is based on an 'included third' axiom:[63] 'there exists a third term T which is both A and non-A' becomes possible when the notion of 'Levels of Reality' is introduced.

Nicolescu 1996, p. xvi

What appears disunited (wave or corpuscle, visible or hidden information) is

in fact united (quanton, process-based transpersonal information). And what

appears contradictory is perceived as non-contradictory. Fig.8 represents one

version of the same triangular logic whereby *hidden information about the*

observer connects knowledge that is process-based across two 'Levels of

Reality' (the first and second dotted lines), which can be described as

separate only in the language that artificially removes the *information of the*

process from which they originate. *Hidden information* about *the observer*

from the future generates the origin of each pair of A & non-A The logic of

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[63] "It was the historical merit of Lupasco to have shown that the logic of the included third is a real logic, formalizable and formalized, multivalent (with three values: A, non-A and T) and non-contradictory. Lupasco's philosophy takes quantum physics as a starting point but the absence of the notion of 'levels of Reality' in his philosophy may have obscured the content. Many believed that Lupasco's logic violated the principle of non-contradiction - hence the somewhat unfortunate name of 'logic of contradiction'." (Nicolescu, 1996)

the included third is the transpersonal and Transdisciplinary logic of the Dionysian which is beneath, beyond and in-between all Apollonian declarations, statements, theories, thoughts, and so on.

…the public of the Attic tragedy rediscovered itself in the chorus of the orchestra, that there was in reality no antithesis of public and chorus: for all was but one great sublime chorus of dancing and singing satyrs, or of such as allowed themselves to be represented by the satyrs. … The chorus is the 'ideal spectator' in so far as it is the only beholder, the beholder of the visionary world of the scene. A public of spectators, as known to us, was unknown to the Greeks. In their theatres the terraced structure of the spectators' space rising in concentric arcs enabled every one, in the strictest sense, to overlook the entire world of culture around him, and in surfeited contemplation to imagine himself as a chorist.
Nietzsche 1910, p.127

The Attic tragedy is the very first Transdisciplinary and transpersonal device of Western culture. The spectacle becomes a ritual where every spectator becomes the hearer of the drama which presents the words of the speaker on the stage. Every spectator becomes also part of the chorus and learns how to transform the mutually exclusive contradictory pairs of the rational mind in a dance of *alternation and coordination* with the unified bigger set of infinites that is channelled by the chorus and its representative on stage, the satyr. The satyr represents the Dionysian chorist, it lives in a religiously acknowledged reality under the sanction of myth and cult.

That tragedy begins with him, that the Dionysian wisdom of tragedy speaks through him, is just as surprising a phenomenon to us as, in general, the derivation of tragedy from the chorus. The Dionysian Greek (*the Transdisciplinary man*) desires truth and nature in their most potent form; he sees himself metamorphosed into the satyr… here the illusion of culture is brushed away from the archetype of man; here the true man, the bearded satyr, revealed himself, who shouts joyfully to his god. Before him the cultured man shrank to a lying caricature.

ibid, p.127, italics mine

Dionysian (transpersonal) excitement is able to impart to a whole mass of people this artistic faculty of seeing themselves surrounded by such a host of spirits, with whom they know themselves to be inwardly one. This function of the tragic chorus is the dramatic proto-phenomenon: to see one's self transformed before one's self, and then to act as if one had really entered into another's body, into another character. This function stands at the beginning of the development of the drama. The Dionysian hearer *determines* what the Apollonian speaker says. Information *about the hearer* becomes information *from the future* about the speaker. *From the inside* such process *feels* like 'a surrender' of the individual (Apollonian) rational mind by allowing another nature inside one's own psyche. *From the outside,* it *looks* like a thoroughgoing stylistic measure of alternation and coordination between two Reality Scales. The language, colour, flexibility and dynamics of the dialogue which falls apart in the Dionysian lyrics of the chorus on the one hand, and the harmonious measure of meaning summoned up by the Apollonian scene on the other. They become entirely separate spheres of expression: Apollonian appearances in which Dionysus objectifies himself through the drama which communicates to the spectator's rational mind, and the Dionysian state which does not represent the Apollonian redemption in appearance, but, conversely, the dissolution of the individual and his unification with primordial existence.

The satyric chorus is first of all a vision of the Dionysian throng, just as the world of the stage is, in turn, a vision of the satyric chorus. Dionysus speaks the

language of Apollo; Apollo, however, finally speaks the language of Dionysus; and so, the highest goal of tragedy and of art in general is attained.

Nietzsche, 1910, p.128

The Dionysian ebb and flow will always demand: 'Do not judge!', because 'the dream is bigger than the rational mind.' That is, do not try and limit information *from the inside* that is beneath, beyond, and in-between every Disciplinary description of events and all Apollonian interpretations; embrace it and follow its transpersonal calling, because the movement of the observer is always part of a movement that is bigger than the object-observed. Instead of trying to look *from the outside* at things *hidden from the visible*, the correct way to honour all Disciplinary statements and Apollonian interpretations of things which are *hidden*, is to create a ritual (which can be made of an exercise, or a series of exercises) that conjures up the Dionysian experience beneath, behind and beyond it, *from the inside*. The birth of tragedy in Attic Greece was the original Transdisciplinary device; an example of how to develop a narrative where Apollonian statements *from the outside* are connected in alternation and coordination to the *hidden* Dionysian information *from the inside*; the *hidden* information from the future that can change information about the past.

3.2.9 References to Research Questions and Practice

In this final section of Chapter 3.2, a working model which admits *information about the observer* that is *hidden* because it is *from the future* has been introduced with indications from corresponding research in the fields of cybernetics and cosmology. In particular, it has been highlighted how it combines with the mechanism of *action* and *consequence*[64] in the following way: observers can access and modify information *from the future* about the *consequence* of the coarse-graining process which establishes the features of each statement, description, or theory observe. This happens because of the *synkinetic action* of the observer which is subconscious and necessarily *hidden* to the rational mind.

Research Interrogation 2 and the model of time which has been presented to support the Becomebecome approach to process-based *information about the observer* are of crucial importance to understand how and why Transdisciplinary insight can be connected to Disciplinary knowledge trajectories in each of the fields of the examples documented in the previous chapters. The Becomebecome Transdisciplinary approach to *hidden* information that exists in a temporal dimension combines the intellectual operations revealed in PART I of this dissertation with practical strategies to access information about the subconscious and synkinetic action of the observer. Chapters 3.3 and 3.4 will complete the literary review of the

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[64] See Ch. 3.2.6.

sources which are grounding the Becomebecome theoretical model to Becomebecome practice. PART II of the dissertation will elaborate on the practical strategies which are used to create the *instruments of awareness* necessary to access such *hidden information about the observer*. The *combination* of the intellectual operation defined in PART I and the actual *practice* of the strategies which creates *new instruments of awareness* analysed in PART II, is what produces access to new Transdisciplinary knowledge. This is what Nietzsche and Nicolescu want us to recognise. Namely, that it is not enough to create new intellectual operations which look *from the outside* at *hidden* information, because information about *the hidden* cannot be resolved *from the outside* with a calculation of what is complementary to information that is *visible*[65].

The observer-participant in Becomebecome events experience this through a selection of exercises which are designed to optimise the resources available in each Becomebecome event (time, props on location, characteristics of the physical space, background of facilitators involved, etc). In this thesis, the reader is invited to peruse Appendix A.2 BKR Exercise 2 'The Split Body', and A.4 BKR Exercise 4 'Open-Chain & Closed Chain' for a step-by-step description of actual practices which generate a direct physical experience *from the inside* of such notions as 'parallel timelines' and temporal scales *from the inside* or *from the outside*. Chapter 4.3.1.2 BIJ Exercise 3 'The

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[65] This is also the powerful message exposed in the drawing by Hofstadter (Fig.3, Ch. 3.1.5)

Dream Tarot' contributes a practice designed to generate direct experience of *information from the future*, as it applies to the specific timeline of each observer-participant *from the inside*.

■■■

3.3 The Transdisciplinary Observer: The Transpersonal Self, Dreams, Intuition, and Synchronicity

> All our hopes stretch out longingly towards the perception that beneath this restlessly palpitating civilised life and educational convulsion there is concealed a glorious, intrinsically healthy, primeval power, which stirs vigorously at intervals in stupendous moments, and then dreams on again in view of a future awakening... we have learned to comprehend at length that the scene, together with the action, was fundamentally and originally conceived only as a vision, that the only reality is just the chorus.
>
> FRIEDRICH NIETZSCHE

> It is not up to the neurobiologist to retrace the history of dreaming.
>
> MICHEL JOUVET, THE PARADOX OF SLEEP: THE STORY OF DREAMING

Chapters 3.3 and 3.4 take advantage of the results of Research Interrogations 1 and 2 that have been carried out in Chapters 3.1 and 3.2. In this chapter and the next, the goal is to select which studies should be included as meaningful references to investigate Research Interrogations 3 and 4.

The rise and fall of Attic tragedy happened in a short period around the fifth century BC. The ruin of tragedy and its final transformation into a spectacle *from the outside* was at the same time the ruin of myth. "Until then, the Greeks had been involuntarily compelled immediately to associate all experiences with their myths, indeed they had to comprehend them only through this association..." (Nietzsche 1910, p.292)

As a result of Socratism, which generates the disconnection of the Dionysian from the Apollonian, the abstract man proceeds independently of myth with its abstract education, abstract right and abstract state. "… all this point[s] to, .. the loss of myth, the loss of the mythical home, the source." (ibid, p.289) The loss of 'source' is the loss of process-based awareness and insight which comes from the bigger Dionysian movement created across the boundaries of each Apollonian statement, description, or theory. It seemed to Socrates that tragic art did not even 'tell the truth', not to mention the fact that it addresses itself to

him who hath but little wit, not to the philosopher, a two-fold reason why it should be avoided. There stands alongside of this detached perception, a profound illusion which first came to the world in the person of Socrates, the imperturbable belief that, by means of the clue of causality, thinking reaches to the deepest abysses of being, and that thinking is able not only to perceive being but even to correct it. ibid, p.202

The consequences of the Socratic approach is the suggestion that 'virtue is knowledge', 'man only sins from ignorance', and 'happiness comes only from being virtuous'. These three fundamental forms of defining what should be meaningful involve the death of tragedy.

For the virtuous hero must now be a dialectician, there must now be a necessary and visible connection between virtue and knowledge. How does the chorus, and, in general, the entire Dionyso-musical substratum of tragedy now appear in the light of this new Socratic stage-world? As something accidental, as a readily dispensable reminiscence of the origin of tragedy; while we have in fact seen that the chorus can be understood only as the cause of tragedy ibid, p.193

The chorus represents the origin of tragedy *from the future*, and not only the origin of tragedy that is past. With the Socratic approach, Dionysian truth is

thus chased into *the hidden* and takes over the entire domain of myth as symbolism of its knowledge.

One way to describe process-based knowledge is to imagine a place *hidden* to the rational mind which nonetheless has a superior influence on its modus operandi. 'The hidden' is a place where concepts, words, and percepts are reborn after they are sacrificed on the altar of the Apollonian scientific observation. This ritual creates access to the sacred place of transpersonal knowledge, a place where knowledge can only be described with words that are coming from someone else, that is, *information about the hearer* that affects *information about the speaker*. This mechanism is described by Nicolescu in the Manifesto:

In his Metaphysics, Aristotle distinguished four different kinds of causes, two of which have temporal character, 'causa efficientis', and 'causa finalis'. Physicists love the former, where causes in the past determine the effects in the present: 'Because she did turn the switch, the lights go on now.' Psychologists prefer the latter: 'In order to have the lights on, she turns the switch now.' Causes in the future 'to have the room lit' determine actions in the present, 'turn the switch now.' One nice feature of this notion is that it relieves one of the need to account for the way things are done which are intended. Every time I tie my shoelaces, or you slip into your pumps, we do it differently. We do it in thousands of unpredictable variations.
Nicolescu 1996

One is 'relieved of the needs to account' for the experience one wishes to communicate, because 'exact words' to communicate experiences depend on the hearer. *Information from the future* inside the *black box* of the speaker can only be accessed from a bigger set of infinites, which becomes available at the scale of the speaker only as a consequence of *information from the hearer*. There are infinite ways to approach a certain description, statement,

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theory, movement, emotion, thought, and so on. The cybernetician's *causa finalis* belongs to a bigger set of infinites inside the black box of the physicist's *causa efficientis*. The physicist's *causa efficientis* that is artificially disconnected from the Dionysian ebb and flow of information of the larger temporal dimension beyond, beneath and across its borders will not produce new life; it will become sterile because it will not be impregnated with information from the future. Figs. 10 and 11 add yet another layer of understanding to the mechanism previously represented by Figs. 7, 8, and 9. In Fig. 11 one can observe a representation of the relationship between the different sets of infinites.[66] Crucially, any description, statement, theory, movement, thought, etc of speaker B, C, D and all others along the middle horizontal line can be approached as a consequence of infinite trajectories created by hearer C, D, E, and all others that *follow* along the middle horizontal line.

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[66] Infinites from the future are bigger than infinites from the past. But depending at which speed each sphere grows, they can include more or less *information about the past* within the horizon of object-events portrayed in each description, statement, theory, and so on. The distance between the spheres (the black outline of each sphere) represents the fact that there will always be *information* about the *relationship* with other spheres which cannot be included in any representation of a single sphere, no matter how big it is.

A line is drawn from the middle of radius *a* to the opposite corner of the square over *a*. An arc over this line (blue) intersects the extension of *a*, establishing radius *b*. The base of the square over *a* is divided by Φ into *c* (green) and *d* (red). The zenith *z* of the hemisphere with radius *d* becomes the point of conversion for the sphere sections with the radii *a*, *b* and *c*. The formula for the radii of the sphere sections is (4 x *height* ² + *chord* ²) : (8 x *height*)

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Instead of the concentric arrangement in No. 27, the hemisphere in this relief intersects the next sphere section at its center. The other sections are likewise cut through their centers.

No. 28 / 1971

Fig.10, 11 Adaptation of Figs. 1, 5, 8, and 9.

The hearer *inside the black box* has 360° of access to *information from the speaker*[67]

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[67] Fig.11 from the author. Fig.10, Niemeyer 2018

The speaker communicates *information* about what is *hidden* alongside what is *visible* at the scale of each description, statement, theory, and so on. Because of the infinite ways that the hearer can put the words of the speaker in context, the process-based dimension inside of which visible elements in each description, statement, theory make sense is always revealed at a scale which includes *information from the future* that is *hidden* behind two or more sets of interactions in time. This Transdisciplinary consideration, which includes elements from all Disciplinary examples gathered so far in Chapter 3, exemplifies yet again the existence of a movement in time between the dimension of *the hidden* at the scale *of the individual*, and the dimension of *the hidden* at the scale *of the transpersonal*. The idea of a movement in time (or 'synchronicity') between *the hidden* at the scale *of the individual*, and *the hidden* that is *transpersonal* is one of the most important elements in the development of the theory of the collective unconscious proposed by Carl Gustav Jung at the beginning of the twentieth century.

At this point in the dissertation, it is becoming evident that the relationship between the visual representations proposed so far corroborates at the scale of geometrical illustrations the continuity between the *hidden* and the *visible*, in their alternation and coordination between the personal and the transpersonal processes. While each image has been chosen for its capacity to represent the specific ideas of each chapter, the process which connects the images to one another conveys *hidden* characteristics of the movement which associates the content of each chapter to the previous ones.

Such vehicles for communication of *hidden* meaning through images will continue to be relevant in the following chapters, which are dedicated to ground coherent strategies to access Transdisciplinary insight to ideas, examples and practical approaches developed by psychologists, neuroscientists and anthropologists who work with *hidden information* from dreams, visions, intuition, and synchronicity.

3.3.1 The Transpersonal Self: The Collective Subconscious

> When speaking about oneself, using "I," magic is performed. One creates oneself by creating oneself. "I" is the operator who is the result of the operation.
>
> HEINZ VON FOERSTER, <u>UNDERSTANDING UNDERSTANDING</u>

> Our project was fraught with peril. The ground we hoped to explore was untouched. No one had sifted through or even identified useful source materials... We had to clear away the brush, stake our claim, and, like archaeologists approaching a site known to contain riches too great to be systematically explored, settle for excavating a few preliminary trenches.
>
> GEORGES DUBY, <u>A HISTORY OF PRIVATE LIFE</u>

For most human cultures prior to the modern era, and for many non-Western cultures today, dreaming is less about personal psychology than it is about prediction, and transpersonal experience. Roger Knudson, a Professor of Psychology in Midwest America reports the following:

American psychology majors learn that dreams are meaningless by-products of brain processes. This is taught by every textbook in Introductory Psychology used in our department over the past decade. Not only are dreams dismissed in the standard psychology curriculum but also the imagination is denied or disparaged. In the same psychology texts, imagination is mainly a source of error in memory and therefore is not to be trusted. Most introductory textbooks do not have an entry for imagination in their index; but if they do, it almost always refers to a section on errors in memory.
Knudson, Finocan 2007, p. 13

It wasn't always so. Plutarch's works on the lives of the Greeks and Romans gives the same importance to dreams and coincidence that he gives to the chronicle of 'factual' events, understanding that life's dramas are played out

in more than one reality. The great Muslim historian Ibn Khaldun's fourteenth century introduction to world history, The Muqaddam, begins by describing dreaming as one of the six essential conditions for a human society: as important as climate, geography, and food supply. Dreaming is a vital understory in the human understanding of experiences past, present, and future. This is why the Transdisciplinary strategies developed in this thesis give importance to language that allows to understand how dreaming and intuition can lay bare the 'buried cities of the imagination'

and restore transpersonal consciousness to its rightful place in the study of history, art, and science.

Human consciousness is distributed across more than one individual, and more than one temporal scale.

The Chiquitano of eastern Bolivia believe a human has three souls, called the breath soul, the blood soul, and the shadow soul. During dreams, while the breath soul stays with the body, the blood soul (*otor*) can wander a little. The shadow soul (*ausipis*) can make longer journeys, leaving the body and the blood soul far behind. In the morning, it returns and gives the other souls an account of its adventures. The longer journeys of the shadow soul produce memories of big dreams in which the dreamer enters other realms and other times.[68]
Riester 1972

Among the Quichua of Ecuador, husband and wife sleep on either side of the centre of the house and take off on their dream travels from their respective sides. They frequently wake during the night and talk about their experiences. They may agree to return to a certain dream place and continue

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[68] Riester explains that 'Chiquitanos' (little people) was a name imposed on a number of peoples of eastern Bolivia and Mato Grosso amalgamated by the Jesuit missions in the seventeenth century.

an adventure together (Whitten 1976, p.58-9). It is not unusual among indigenous dreamers for two or more people to find themselves, like the Canelos Quichua, having adventures together inside the dreamspace. However, there are some dreams that are so powerful or so dark that they are to be shared only with specialists such as shamans or medicine people.

In Western culture, *hidden* or secret *information from dreams* is most closely associated with the terms 'unconscious mind' and 'subconscious mind'. These two notions were introduced by Sigmund Freud at the beginning of the twentieth century when he developed psychoanalysis. Psychoanalysis is a set of strategies to investigate information about dreams, visions, slips of tongue, changes in the physical body, and other elements of behaviour which are visible to the rational mind *as a consequence* of action that happens in a place *hidden* to the rational mind. The general notion of a psychic dimension of which a person is not conscious predates Freud by hundreds if not thousands of years. For Freud, however, the idea of memories, feelings, and other mental content outside conscious awareness took on a new, practical significance. It was a key element of the theory he was developing to explain the causes of mental and physical disorders and how to treat them. Put in the simplest terms, Freud theorized that *information which is hidden to the rational mind* was making people 'ill'. As he understood it, this information had been 'placed into *the hidden*' and made unconscious. As for the term 'subconscious', Freud used it interchangeably with 'unconscious' at first. The words are similarly close but not identical in German (subconscious: *das*

Unterbewusste; unconscious: *das Unbewusste*). Although the word 'subconscious' continues to appear in the lay literature, it is rarely defined carefully and may or may not be synonymous with 'unconscious'(Miller). In this thesis, the author refers to a layered representation of the psyche which include the 'Conscious', 'Subconscious', and 'Unconscious' layers as separate but connected as the floors of a house are stacked on top of each other. Each layer presents a set of recognisable processes connected to each other and to processes which include information that is produced as a consequence of what happens in another layer. The 'Conscious' layer is made of information that exists in a temporal dimension which is obvious to the rational mind. The 'Subconscious' layer is just under the liminal threshold of awareness of the rational mind. The 'Unconscious' is a deeper layer of *hidden* information that exists in a temporal dimension. Psychoanalysts and psychotherapists of varied traditions focus on transformation that happens in one or more of these three layers to explain and create transformation in the body and the mind of their clients just as shamans and healers have done before and since.

Psychoanalysts and psychotherapists, just like shamans and healers, work with strategies that focus on intuitions, feelings, sensations of the skin, reaction of contractile tissue and the whole musculo-skeletal system, as well as changes that occurs at a deeper level in the body, to the digestive system, to the tonus and awareness, to the circulatory system and the heartbeat rate, and so on. They create a setting inside of which an observer can create a new language made with *information which is not visible* to the ordinary

awareness spectrum of the rational mind. What happens in everyday life becomes part of what happens in dreams, what happens because of synchronicity, what happens because of *information from the future*.

In 1900, with the publication of <u>The Interpretation of Dreams</u>, Freud rescued dreams from nineteenth century psychiatrists who denied them meaning. In the terms of his epoch, Freud was a modern-day equivalent of the shaman, the medicine man to whom a Western person could tell the story that came in a dream and hope to receive guidance. But while Freud focused mainly on dream interpretation as a consequence of personal psychohistory, Carl Gustav Jung expanded the concept of information about what is hidden in the psyche to work with the idea that each dream can be considered a message which connects individual consciousness to the transpersonal consciousness of Nature across different scales and times. Each individual psyche contains elements of a transpersonal dimension which he called 'the Collective Unconscious'.

3.3.2 The Transpersonal Self: Synchronicity

> You are not the finger, you are not the eye, you are not the thing, you are not the thought… The person who sees is bigger than the person who looks
>
> ANONYMOUS

Jung liked to quote the Latin tag *Omnia plena diis esse* ('All things are full of gods'), and he was thoroughly familiar with the medieval worldview in which everything is connected and speaks of everything else through correspondences: 'as within, so without, as above, so below'. He spoke of signs and correspondences as 'symbolic enticements' (Jung 1970, p.77?). One day Jung was walking in his garden at Küsnacht on Lake Zurich with a woman patient, while at the same time observing the play of natural phenomena as he was talking with her. In the gentle sunlight, they walked beyond the garden, into a little wood. The woman was talking about the first dream of her life that had a huge impact on her; she called this an 'everlasting' impression. 'I am in my childhood home,' she recalled, 'and a spectral fox is coming down the stairs.' She stopped and put her hand on Jung's arm, because in that moment, a real fox trotted out of the trees, less than forty yards in front of them. The fox proceeded to walk quietly along the path in front of them for several minutes; "the animal behaved as if it were a partner in the human situation."[69] (Jung 1980, p.307)

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[69] The date of this incident is not known. Jung described it in a letter to J. B. Rhine in November 1945, citing it as an example of "the synchronicity of archetypal events." (Jung 1973, I.395)

Jung had long been in the habit of reading signs from the world, together with dreams, and drawing counsel from the convergences as he counselled his patients. He had been encouraged to do this in his celebrated breakthrough work with a female patient who had been seriously blocked until she dreamed of a scarab, the dung beetle of the Nile Valley. Despite its lowly origins, the scarab was one of the most important Egyptian symbols of rebirth and transformation. In Egyptian ceremonies, it was deified as Khepri and was placed over the heart of soul travellers to guide their journeys beyond the body and beyond death. As the woman discussed her dream, a flying beetle known as a rose chafer appeared at the window. It was the nearest match for the Egyptian scarab you could hope to find in Europe, and as the patient's eyes widened in recognition, she experienced a sense of confirmation of her dream and the work she was doing with Jung that carried her to deep healing. Jung was fascinated by the image of a multidimensional mandala displaying the interplay of time, temporal scales, and eternity (ibid, p.307). It took Jung more than twenty years to bring his theory of synchronicity into a form he was willing to publish. In a recent study, Suzanne Gieser calls this theory 'Jung's spiritual testament' (Gieser 2005, p.273) and defines it as follows: "The principle of synchronicity is an attempt to pinpoint, alongside the law of causality, another factor ordering the world of our experience — a factor which builds on *relatively* simultaneously occurring constellations of a certain quality or significance" (ibid, p.274, italics mine). When he gave his memorial address for Richard Wilhelm in 1930, Jung actually promoted time into the engine of synchronicity: he described time as "a concrete

continuum which possesses qualities or basic conditions capable of manifesting themselves simultaneously in different places by means of an acausal parallelism." (Jung 1967, p.81).

In 1930 Jung met Wolfgang Pauli, a brilliant researcher who, at that time, had already made the key scientific discoveries for which he was later awarded the Nobel Prize in Physics. Pauli invented the neutrino; he 'made it up' out of thin air in an attempt to salvage the laws of conservation that were threatened by experimental findings about beta decay. When he introduced the idea to the scientific community in a celebrated communiqué that began "Dear radioactive colleagues," some were dazzled and some were incredulous (Pauli 1992, p.18). It took more than thirty years before experiments proved that what Pauli made up was also real.

For Pauli as a scientist and intellectual explorer, dreams were, as he put it, a 'secret laboratory' where he received and tested some of his best ideas and where he was constantly encouraged to move beyond existing paradigms (Meier 2014, p.135). In 1934, a dream figure who seemed to be Einstein appeared to Pauli and told him that his quantum theory was a "one-dimensional section of a two-dimensional, more meaningful world, the second dimension of which could be only the unconscious and the archetypes." (ibid)

When they met, Jung and Pauli were both at the peak of their creativity and professional status; their minds were moving on parallel tracks in their separate explorations of the I-Ching, in their close attention to dreams, in

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their fascination with the pre-Newtonian worldviews of the alchemists and the Renaissance magicians, and in their quest for the common ground of mind and matter. Pauli thought that 'meaningful coincidence' (which was the notion he developed to explore synchronous occurrences) had to do with the intersection of time-less forces with the world of process, with the 'understory' beneath and behind the surface events of our lives irrupting into our field of perception. He believed this most certainly produces synchronous experiences, but it can also generate 'rhyming' sequences, played out in dream, and in waking, over days, weeks, or years. As Jung worked on draft after draft of his synchronicity theory, Pauli had a very clear personal idea of what is involved in meaningful coincidence. It is the sequence of an internal condition (*information from the inside*) whereby for instance, one thinks of someone or recalls a dream, followed by an external event (*information from the outside*) that is related to that condition. The inner condition and the external event are related by *meaning*. Sometimes it feels like the world is mirroring one's inner states or commenting on it (*action* and *consequence*). Pauli waged a long campaign to persuade Jung to drop the word *synchronicity* in favour of one that suggested connection through *meaning* rather than *simultaneity* (ibid, p.44). In the examples brought forth in Chapter 3, 'connection through meaning' refers to *information about the observer*. The meaning ultimately resides with the observer, the hearer, who decides what to do with the language produced by the speaker, and the signs from Nature which are created as a consequence of it. Pauli was constantly after Jung to clarify the distinction between the spontaneous

phenomenon of coincidence and the *induced* phenomenon,

as produced through methods of divination such as the I Ching (ibid,

p.44). This distinction was central to the ancients, as Jung knew well. In

Pauli's dreams, which often brought scientific terms alive as living symbols,

he was encouraged to substitute modern terms for 'synchronicity'.

Pauli suggested 'isomorphy' *to* Jung after he was told in a dream that

"cathedrals should be built for isomorphy" (ibid, p.69). Pauli expressed

satisfaction, after reading a near-final version of Jung's synchronicity paper,

that they were in full agreement on the necessity of a further principle of

interpretation of nature other than the causal principle(ibid, p.53).

It is easy to see a direct connection between Jung and Pauli's research on

synchronicity and the necessity of a principle that goes beyond scientific

causality introduced by Nicolescu in his <u>Manifesto</u>.[70] It is also easy to see

how such a principle refers to a process where *information from the inside* is

connected to *information (from the future) from the outside*. Something that

happens *outside* in Nature becomes part of something that happens *inside* the

psyche of the individual. Which is precisely the argument Nietzsche defends

to resurrect the importance of the tragic device against the model of making

sense of existence that took hold of the western mindset after Socratic logic

prevailed. The solemn function of the satyr as the intermediary of the

Dionysian sacred rhapsody imbues Apollonian wisdom of its spiritual

connection between Man and Nature; synchronicity addresses the same need.

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[70] See also Ch. 3.2.7.

Jung developed his own strategy to create access to information that is process-based, Transdisciplinary, and transpersonal, and where the presence of the observer changes what is observed.

3.3.3 The Transpersonal Self: Dreams and Neurosciences

> Brain science can no more tell us how our dreams are made than pulling apart a television set can show you how and where a movie is produced.
>
> ROBERT MOSS, <u>A SECRET HISTORY OF DREAMING</u>

Experiments by a team led by Dr Thomas Wehr at the National Institute of Mental Health in Bethesda, Maryland, have supplied compelling evidence that our technology has severed us from our natural cycle. Deprived of artificial lighting for several weeks, the typical subject evolved the following pattern: lying awake in bed for an hour or two, then four hours sleep, then two to three hours of non-anxious wakefulness followed by a second sleep, before waking for the day's activities. One of the most exciting findings in Wehr's study involved the endocrinology of the 'night watch'. The interval between first sleep and second sleep is characterized by elevated levels of prolactin, a pituitary hormone best known for helping hens to brood contentedly above their eggs for long periods. Wehr concluded that the night watch can produce benign states of altered consciousness not unlike meditation (Angier 1995). Wehr and his team put their subjects on the 'Palaeolithic plan', without alternatives to electrical light such as candles or fire or oil lamps. The Palaeolithic two-sleeps cycle wasn't only a Stone Age phenomenon; it was characteristic of how people spent their nights until gas lighting and then electricity became widespread. A seventeenth-century Scottish legal deposition describes a weaver as "haveing gotten his first sleip and awaiking furth thairof" (Ekirch 2001, p. 366). Sleep historian

Roger Ekirch notes that "until the modern era, up to an hour or more of quiet wakefulness midway through the night interrupted the rest of most Western Europeans", and presumably most other people, and that "consolidated sleep, such as we today experience, is unnatural" (ibid, p. 344). This may help explain the extent to which so many of us in our urbanized society are out of nature and out of touch with dreaming. 'Segmented sleep' was the norm for our ancestors until quite recently, as it remains for some indigenous peoples today. The Tiv of central Nigeria speak of 'first sleep' and 'second sleep.' They wake at any time during the night and will talk to anyone in the hut who is also awake, often about their dreams (Bohannon 1953, p.251-262). This intermediate state that the French referred to as *dorveille* was widely regarded as an excellent time to birth new ideas. In 1769, the artful London tradesman Christopher Pinchbeck advertised a device called a 'Nocturnal Remembrancer'; it was a parchment tablet inside a box with a slit to guide the writing hand in the dark to enable "philosophers, statesmen, poets, divines and every person of genius, business or reflection" to secure the "flights and thoughts which so frequently occur in the course of a meditating, wakeful night" (London Gazetteer... 1769, in Ekirch 2001, p.373). While our modern sleep patterns may interfere with our awareness of night dreams and our ability to share them, new technologies for imaging brain activity tell us we are dreaming at night nonetheless, perhaps dreaming all night long, and that some of the brain's behaviours during sleeping dreams are curiously similar to those associated with the creative flow in other states of consciousness. Mark Solms, in his work with brain trauma patients, has

supplied evidence that dreaming also takes place in other phases of sleep, when the higher visual centres and the emotional centres of the brain are activated. According to Solms, even someone who has suffered major damage to the brainstem or the visual cortex will continue to dream (Domhoff 2005, pp.3-20). While cognitive neuroscientists are notorious for dismissing dreams as nonsense, even within that field of study research supports the idea that dreaming plays a critical role in growing learning skills and consolidating memory. "Dreaming about newly learned material enhances subsequent recall of that material," report Tore Nielsen and Philippe Stenstrom (2005, p.1287).

Michel Jouvet was a neuroscientist who dedicated his life to researching the best strategies that enable the connection of *information* about dreams *from the outside* to *information* about dreams *from the inside*. In his book <u>The Paradox of Sleep</u> (1999), Jouvet reflects on the impact of his remarkable discovery in 1958 of a phase of sleep which he called Rapid Eye Movement sleep (REM), which he proposed indicates a quite different, paradoxical form of sleep, as different in many physiological respects from deep slow-wave sleep as it is from waking.[71] Jouvet shows that this state exists in mammals and birds. His theory of the function of dreams is still strongly debated today:

The paradoxical sleep would be a process of periodic reinforcement intended to maintain the genetic bases of the personality. That is to say, every night, an electrical rhythm starts from the pons and reaches the frontal cortex to establish

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[71] For his discovery of REM-sleep Michel Jouvet would receive the gold medal of the Centre National de la Recherche Scientifique.

and maintain the functional synaptic circuits responsible for psychological inheritance.[72]
Sciences et Avenir

In other words, the primary function of dreaming would be to help the brain with integrating new information, and it is better understood as a function of adaptation to what is new in a person's life. His theory invalidates the American hypothesis that paradoxical sleep helps to consolidate memory (*information about the past*). To this point, Jouvet mentions a patient affected by Morvan disease, which causes terrible insomnia, who "did not sleep for a minute for five months without having trouble with memory!" His theory gives credit to the hypothesis developed by Jung for whom the dream is at the origin of a process of differentiation and psychic development. This process plays an important role in the mechanism necessary to integrate *information from the future* to which the dreamer has been exposed during the time he or she was awake. As a consequence of the 'work' one does in dreamtime,[73] one can better participate in the creation of *information about what happens next* (see Ch. 3.2.7) in one's life. Because of the considerations of Dr. Jouvet the idea of *information from the future* was introduced as a defining parameter of research on dreams in neuroscience.

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[72] https://www.sciencesetavenir.fr/sante/cerveau-et-psy/mort-de-michel-jouvet-le-sorcier-du-sommeil-et-scientifique-du-reve_117034

[73] Dreamtime here refers to the time the person devotes to dreaming

3.3.4 The Transpersonal Self: Dreams for Guidance, the Shamans, the Healers

> The imaginal life is central to the human story and should be central to the writing and teaching of history. The world of imagination nourishes humans and leads them to action.
>
> JACQUES LE GOFF, <u>THE MEDIEVAL IMAGINATION</u>

Considering the limited theoretical consensus among the sciences that approach the study of dreams, Jouvet laments the 'very strange stature' of the 'hypno-oneirologist' who tries to deal with the history of dreams and the science of dreams 'at once'. (Jouvet 1999, p.177) What can possibly be gained, either historically or scientifically, by trying to do both? Be that as it may, the influence of culture on dream reports is at the very least uncontroversial. In modern Western societies, we think of dreams as sleep experiences. But for many cultures, dreaming is fundamentally about waking up. In the language of ancient Egypt, the word for 'dream' is *rswt*, which means 'awakening' (Szpakowska 2003). The implication is that, in much of ordinary life, we are in the condition of sleepwalkers, following programs and routines. In dreams, we wake up. This may happen during sleep, or in a twilight state of reverie, or in a vision or meditation or shamanic journey, or through the dreamlike play of coincidence and symbolic occurrences that 'pop up' in the midst of everyday life. All of these occurrences may be viewed as modes of dreaming and may provide experiences that can be reviewed and 'honoured' in the manner of dreams. When one situates this

dreaming activity in its social and cultural context, one can understand that communication at the scale of descriptions, statements, theories, etc, and communication at the scale of thoughts, movement and actions has a connection with the imaginal process which nourishes them across the border beneath, beyond and in-between each one of them. Language that describes strategies to access Transdisciplinary knowledge should put oneself and one transpersonal-self *inside* of the *hidden* process-based narrative which continues, one hidden scene after another. As a consequence of such process, one connects with the *hidden* dreamtime *information that exists in a temporal dimension* at the temporal scale of each thought, action, description, theory, and so on.

It is possible to observe that certain descriptions about dreamtime experiences emerge with regularity, while others are more ephemeral, irregular, and so on. The layout of the *hidden* space is just as colourful and varied as the part of experiences that is *visible* to the rational mind. Some aspects of *the hidden* are process-based at a scale which one can access only with two or more experiences, others are connected by a mechanism of *action and consequence* across different temporal scales. Such intervals of time span from the centuries-old connection between generations that belong to a certain land, or a certain family; to the quirky temporal scale of atoms, molecules, and microscopic processes in the body, which move 'very fast', and produce their own unique *hidden* signature in dreamtime. By selecting the language one uses to describe experiences in a way that does not artificially remove *information* that exists in dreamtime, one can access

process-based and transpersonal *information which is hidden* at the temporal scale of single experiences.

In the typical sleeping arrangement of the Mayoruna Indians of Amazonia (known as Cat People), one climbs into a hammock woven from vines and tied at one end to the centre pole of the communal hut, as are all the other hammocks. If one goes to bed alone, one will pull down the centre pole and all the other hammocks. One has to agree with at least one other person that they will go to bed at the same time. This makes it so that sleep and dreaming are shared experiences from the moment one decides to go to bed (Popescu 1991, p.60).

In certain cultures, shamans instruct or even command dream travellers to journey within a fixed imaginal geography. For example, in his fieldwork among a Nahuatl-speaking people in Mexico, anthropologist Timothy Knab was encouraged by his mentors to locate his remembered dream experiences within an Otherworld, or Underworld, known as Talocan. If there's a lot of water in a certain scene, that means he has travelled to a Water World on the east side of Talocan. If there are mostly women, that means he's gone to the House of Women to the west of Talocan. As the outsider is drawn deeper into the communal mind of his hosts, he begins to find himself dreaming inside their shared landscapes (Knab 1995).

Among indigenous peoples, dreamers are speakers for the earth and travellers between the worlds. They connect us with the web of life in an animate universe, with the ancestors, and with the needs of the whole. In the language

of the Iroquois, they also help us 'not to let our minds fall' (Moss 2004, p.106) from the memory of the deeper world in which human life has its origin and its purpose. Across most of history, no firm distinction has been made between looking for clues to the future in dreams and reading signs in other ways, such as from the flight of birds, or the fall of runes or yarrow sticks. Ancient dream interpreters often did more than decode symbols; they offered rituals to turn away the dark energy of an evil dream, to guard the dreamer's psychic space, and to tame and redirect a future event. The best among them were able to enter a client's dreamspace to find out what was going on there. In the Old Testament story of Joseph, we see that the ancient dream interpreter's role is not confined to reading the future from a dream; he must help determine what is to be done.[74] Likewise, the world and visions of Joan of Arc constitute a treasure trove for historians of insight into the medieval mind and visionary experience. Notaries at her first trial preserved remarkably detailed and seemingly accurate transcripts of her own testimony and that of witnesses, that contain vital clues to how and where she received her visions and was able to see into the future. Channelling from dreams and visions was vital to seize the minds and hearts of rough men in iron and rally a broken and defeated people, and their dissipated feudal lords, against their invaders. Joan's ability to see across time and space, to scout the enemy's position or discern the outcome of a skirmish, enabled her to win

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[74] For the full recount of the dream of Joseph, see Genesis 37.

the trust of brutal warlords who normally would have had no use for an illiterate peasant girl while preparing for battle (De Vrie 2003).

Dreams and visions channel information from the future in many ways across all cultures.

'Dream archaeologists' are the kind of investigators who are able to read all the clues from a scene in another time, enter that scene, and then bring back new discoveries that will stand up to cross-examination. While archaeology is often understood to be the science of unearthing and studying antiquities, the root meaning of the word takes us deeper into the future, as much as into the past; it is the study of the 'Arche', the first, primal, and essential things.
Moss 2007

Dreaming is also central to the history of medicine and the practice of healing. Ancient Greek physicians used dreams in diagnosis and created rituals to access the experience of healing in dream temples. Galen (128-210 CE) was one of the greatest scientists of his time and a pioneer of scientific methods of experiment. He was a prolific author in many fields ranging from psychiatry to linguistics and from pathology to mathematics. He was court physician to Marcus Aurelius and was able to influence the most powerful men in the Roman Empire. Second only to Hippocrates, Galen is the most important person in the rise of Western medicine. He owed his career and, by his own account, his life, to dreams of a God. He was born in Pergamon, a highly civilized Greek city renowned for its Asklepieion, a huge temple complex devoted to the healing religion of Asklepios. Galen's father, Nikon, was one of the top architects in the city. He initially opposed his son's desire to study medicine, until his mind was changed by vivid dreams of the God (Rufus in Oberhelman 1983, p.41-2). In his treatise, he explains how dreams

can provide accurate diagnosis because during sleep the soul travels *inside* the body and notices what is going on. He notes the need to distinguish a somatic dream of this kind, for which he uses the word 'enhypnion', from other types, such as those that originate in waking thoughts and actions, or the prophetic dreams, 'oneiros', which are visions of *information from the future*. In the precinct of a healing god (or later, a healing saint) one is assisted to drop one's old mindset and be open to the direct experience of healing during 'sacred sleep'. After the sacred sleep, one leaves with a story that is bigger and different from the one one was living before; and if one wishes to continue one's healing, one shall find ways to carry that story and create with its power.

3.3.5 The Transpersonal Self: Transdisciplinary Dreams

The use of dreams to discern orderly structures and to provoke reorientations in self-understanding may seem strange to us in the twenty-first century, but what has changed in comparison to ancient times is not so much the quality of the information that is available, but rather the language that people who belong to Western culture use to describe *information that comes through dreams and intuition*. Robert Moss is a researcher and author of eight books on dreams, and how *information from dreams* connects to *information about experiences in ordinary life*. He describes the imaginal realm as:

> a dimension beyond the physical that is the precinct and playground of true imagination, a creative realm that may be the seedbed of great discoveries and innovations, and even the origin of events and situations that are manifested in the surface world. Indigenous peoples call it the Dreamtime or the dreamworld. We go there when we go dreaming, which may or may not involve going to sleep.
> Moss, 2010, p.xii

The last part of this quote is necessary to understand the shift in perception, which allows elements of the subconscious to become accessible, and is key to creating transformation in all sacred rituals, as it is a central aspect of all psychotherapy techniques. The world of dreamtime[75] is always there, *beneath, beyond and in-between* information that is possible to access with the rational mind. Subconscious information is always there, *beneath, beyond and in-*

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[75] In this thesis, the word 'dreamtime' refers to the notion of 'Dreamtime' as it is defined by the Aboriginal tribes of Australia. Because of the associations (to the fields of Cybernetics, Cosmology, Synkinesis, and so on) made explicit in this dissertation, it is possible that a new territory for semantic and cognitive references has been created. I do not intend to pass such ideas as original material drawn from the Aboriginal culture and I take full responsibility for those cases where such associations generate new knowledge which does not correspond to any previously explicit references from Aboriginal culture. This is why the reader should consider the territory of 'dreamtime' as one that co-exists, is inspired by, and at times corresponds to the territory of the Aboriginal 'Dreamtime'.

between information that is possible to access with the rational mind. Transdisciplinary information is always there, *beneath, beyond and in-between* information that is possible to access with the rational mind (see Ch. 2.1.2). PART II of this dissertation will expound the Becomebecome practical approach for the design of simple strategies which create access to such subconscious and Transdisciplinary knowledge from dreamtime.

The way one understands the world is obviously tied to the way one organises information about experiences. Language is used to distribute patterns of *information that exists in a temporal dimension* across temporal scales, including descriptions of things, processes, places, and so on. An element which is central to all dreamtime rituals, and to the strategies used in psychoanalysis techniques, is the extraordinary attention that is given to the use of language to create a 'special place' where one can transform the way one understands these patterns. In order to materialise such 'place' a ritual is established, and intellectual operations are used to access a cognitive continuum that goes beyond the semantic space understood by the rational mind. The language which establishes the ritual space of dreamtime journeys and the therapeutic process of psychoanalysis includes the melody of words, the sounds of syllables, the absence of words (which adds information to a communication, see Ch.3.1.4), the silence, and the language that goes beyond the spoken word. The intellectual operations necessary to reveal *hidden information about the observer* which is transpersonal must take into account actions performed with the physical body, and things that happen around one because of *synchronicity*, which is the transpersonal 'language' of Nature.

The right word *at the right time* creates powerful change in the awareness and the consciousness of the person involved in the ritual inside of which one can access *information from dreamtime*. 'Kairos' is the Greek word which better describes this notion.

The Greek had their own way to understand *information that exists in a temporal dimension*. Chronos was the god of linear time, taken as an external and immutable reference for all that exists. Chronos is time-less because it cannot be affected by things that happen at the scale of human existence. Chronos stands at the root of 'chronology', the word one uses to describe a linear sequence of events. Kairos on the other hand represents the god of opportunity, the god of the right thing at the right time. In archery, *kairos* denotes the moment in which an arrow may be fired with sufficient force to penetrate a target. In weaving, *kairos* denotes the moment in which the shuttle could be passed through the threads on the loom (Stephenson 2005). It is a concept associated with rhetoric, where it is described as "a passing instant when an opening appears which must be driven through with force if success is to be achieved" (White 1987, p.13). It was central to the Sophists, who stressed the rhetorician's ability to adapt to, and take advantage, of changing, contingent circumstances as "the art which seeks to capture in opportune moments that which is appropriate" (Poulakos 1983, p. 36).

The Shaman, the Jungian analyst, and the Transdisciplinary researcher are 'Kairomancers' who pay attention to unique messages that are process-based and communicate *information which is distributed across transpersonal*

scales. Such messages are associated 'by meaningful coincidence' (as Pauli suggested), a sequence in time which revolves around the temporal dimension of the observer. The skill of the *kairomancer* is to access information which is uniquely associated to a specific process in the timeline of the person who experiences the ritual. Such information can be distributed across temporal scales that go *beneath, beyond, and in-between* the ordinary observations of the rational mind. Practicing such skill and developing a language that allows to communicate about it is the calling of the true *kairomancer*, and an essential characteristic of all successful shamans, therapists, and Transdisciplinary researchers. More than that, the *kairomancer* is the shaman, the psychoanalyst, and the Transdisciplinary researcher, who uses such skill to *create a sacred ritual* where the Dreamer (here defined as 'the person who is experiencing the ritual') can recognise *hidden information about the observer* (unique information which can only be accessed by the Dreamer himself or herself).

It is noteworthy to observe that at the heart of the skill necessary to understand and perform shamanic rituals, healing, psychoanalytical conversation, and Transdisciplinary research, one finds a common thread from which one cannot artificially remove explanations which are made with examples from the tradition of scientific research, as much as one cannot artificially remove explanations which are built on knowledge that goes beyond the tradition of science. This is another way of saying that the ritual which creates access to the transpersonal experience cannot exist if the

Apollonian elements of the narrative are artificially separated from the Dionysian moments that nourish them.

Artists belong to a category of *kairomancers* who are capable of putting *information about the observer* inside of their artwork. A sculpture, a painting, a tragic performance, or a written story trigger access to information from dreamtime which is subconscious and creates a lasting transformation *from the inside* of the spectator, or the reader. Such artwork has the same power as the dreamtime rituals of the shamans and the healers. From priestess scribes in ancient Mesopotamia to Stephen King or Neil Gaiman, writers have always known that dreams are central to literary creation and provide a cornucopia of material for stories and novels, scripts, and poems, which become stories, and novels, and scripts, and poems *about the readers*. This experience accomplishes the same transformation which puts the observer of 'two sets of interactions in time' on the inside of the object-observed illustrated in Fig.5. Rituals in psychoanalysis are also built using the power of language to create access to a completely new story about things which were subconscious. The words one uses to talk about the newly found information from dreamtime transform the language one uses to tell one's own story. Techniques based on free association or *synchronicity* can reveal surprising connections that remain *hidden* if one uses definitions which artificially remove subconscious and transpersonal *information* from the experience described. Such information is revealed as a consequence of introducing ideas, sounds, and designations that arise as a consequence of

group dynamics, personal meditations, *synchronicity*, or through other rituals to access dreamtime.

A process which introduces the collective subconscious to the personal storyline of the observer connects a bigger set of infinites to a smaller set of infinites; it transforms the language of the individual at the beginning of the sentence, into the bigger language of the transpersonal self, revealed at the end of the sentence, the ritual, the therapy session, or the Transdisciplinary exercise. It transforms *all qualities, attributes, adjectives, and so on* at the *beginning* of the sentence, description, and theory, into the consequence of *at least two sets of interactions in time* at the *end* of the sentence. This process is isomorphic to the ones described in Chapter 3.2.2 and 3.2.7 and adds new information about the relationship between Figs. 9, 10, and 11, as portrayed in Fig. 12.
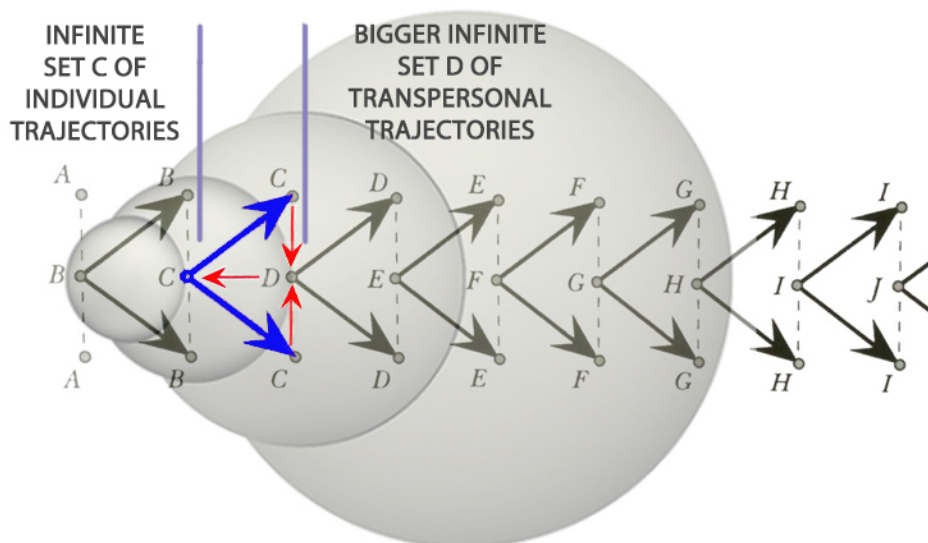
Fig.12 – A *kairomancer* produces a sentence, description, theory, ritual which connect moments C and D.

The language of infinite individual trajectories at STEP C becomes part of the bigger set of infinite transpersonal trajectories at STEP D. The process cannot artificially be removed from the repetition which connects steps B and C, D and E, E and F, and so on in both directions. The process highlighted in red indicates the moment where the Apollonian *principium individuationis* creates meaning out of the Dionysian larger set of transpersonal infinites.

One can imagine the transpersonal process starting at any moment marked by a letter in the horizontal middle line and finishing at the moment marked by the letter which follows it on the same line. For instance, a sentence introduced at moment C is transformed into the centre of the sphere created at the end of the sentence at moment D. This sphere represents the bigger set of infinite possibilities that includes one version of moment C (individual storyline) in any of the transpersonal trajectories triggered by access to dreamtime (transpersonal storylines). New information is introduced to any idea, thought, description, statement, theory of the individual rational mind, which is thus permeated *beneath, beyond and in-between* by the bigger story

which is subconscious and transpersonal. Shamanic dreamwork, psychoanalysis protocols, the tragic device of ancient Greece and the Transdisciplinary strategies developed for Becomebecome events, are designed as a ritual to generate the same process.

Each shamanic ritual, critique lab, Transdisciplinary workshop or exercise performed with the physical body[76] becomes a little window into *the hidden* and the subconscious dimension. At the end of each shamanic ritual, critique lab, Transdisciplinary workshop or exercise performed with the physical body, a bigger set of infinites originates a completely different story about the process described at the beginning of the shamanic ritual, critique lab, Transdisciplinary workshop or exercise performed with the physical body.

In many cultures and for thousands of years humans have used *information* from 'reality when we dream' to make sense of *information* about 'reality when we are awake'. Military commanders received indications for important decisions at war, kings would consult their oracles to access information about the consequences to a specific course of action; inventors, artists and scientists found crucial inspiration from dreams and 'daydreaming'. The Becomebecome network of researchers, artists and educators is actively building a growing corpus of Transdisciplinary strategies to access subconscious information, working with exercises that increase awareness of *information from dreamtime*. These exercises are distributed at temporal scales connected to each other that range from activities that last for a few

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[76] See also Ch.6 The Chronosoma, and Becomebecome Kinetic Routines in Ch. 4.2.

seconds or minutes, to workshops and residency programs that span the duration of hours, days, and year-long training programmes. Through the process-based design of conversation protocols, kinetic practice that includes movements of the physical body, and strategies to access *hidden information* which becomes visible because of group dynamics and *synchronicity*, the Becomebecome team creates modern day rituals that reveal how *information from dreamtime and intuition* makes sense to the rational mind. The new knowledge can be used to create a bigger story, a more accurate and more positive story about a situation in the personal life of the Dreamer, such as a new story about an art project, or any other practical endeavour towards which the observer wishes to receive transpersonal guidance from his or her subconscious psyche.

One cannot artificially remove *information about the observer* from the *hidden* information that is revealed after each exercise, workshop, and training programme. This is why a ritual for the observer must be created to hold the space where access to transpersonal and subconscious information becomes possible. The necessity of ritual is a fundamental requirement of dreamtime explorers in all cultures; this is why an important part of the Becomebecome methodology is dedicated to tracing the theoretical and practical trajectories after which *the context of the observer becomes part of the process of the observer.* The process-based *information which is transpersonal and subconscious* exceeds the temporal scale of each exercise, critique lab, or workshop for itself, and includes attention to the details of the bigger process that defines what is happening to the observer who

approaches the cybernetic *black box* of Transdisciplinary information *hidden from the inside*.

In ancient Greece, the Asklepieion was the temple where one would go to receive healing. It was built on the southwestern edge of the city and was approached through a long colonnade. Visitors seeking help and guidance for impediments of the body or the psyche were directed to pass through a courtyard that featured at its centre a white marble pillar adorned with the snakes of Asklepios, and from there through an arch that lead into the holy precinct. The main feature of the sacred area was the round temple of Telesphoros, the Finisher, "an enigmatic figure sometimes described as the son of Asklepios, but depicted as a hooded dwarf whose name and image carried the sense of 'nearness to death': he was 'the Finisher of human affairs". (Tick 2001, p. 121-123) On the subterranean level of this temple, patients were immersed in purifying baths, and

rites of dream incubation took place This is an example of a ritual designed to prepare the observer who was going to access *information from dreamtime* in ancient Greece. Many comparable examples exist in all cultures from ancient and modern times.

The 'rituals' conceived to access information from dreamtime in Becomebecome events combine practical strategies designed to reveal new awareness to language strategies made of intellectual operations that associate each process to the *hidden* transpersonal information which is revealed. The practical strategies take the form of guided meditations,

exercises to enhance perception of information that goes through the physical body (instead of the rational mind), sound journeys, and an assortment of protocols for sharing information about intuition, visions, and feelings, that are generated during group activities or individual practice. The function of the language strategies is distributed in a two-fold process. On one side, they consist of explanatory sessions which appeal to the rational mind need for *causa efficientis* and coherence *from the outside*.[77] This is when the Becomebecome theoretical background and its main references provide important support for understanding the process of the observer *from the outside*. On the other hand, one can find language strategies which are used to navigate the process of the observer *from the inside*. This category comprises the phonation and physical element of verbal interactions, the free association logic of the subconscious, the transpersonal logic of *synchronicity*, and the *open unity* logic of the *causa finalis*, which includes information *from the future* as the process unfolds *beneath, beyond, and in-between* the temporal scale of the *principio individuationis* of the observer.[78]

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[77] Such is the role of the 'Analysis' phases of Becomebecome Kinetic Routines and Becomebecome Intuitive Journeys in PART II of this dissertation. See also Nicolescu's explanation of *causa efficientis* and *causa finalis* in Ch. 3.3

[78] See also Ch. 3.2.6 'Action and Consequence: Two layers of process'

3.3.6 References to Research Questions and Practice

Many authors are at the origin of the ideas which inform the details of each Becomebecome practical strategy; some protocols can be traced back to the history of art education, others come from innovators in the world of design, dance, or anatomy. Some come from cybernetics literature, others are from authors who explored dream techniques in first person, and who developed their own protocols for kairomancy. PART II will review a few of these protocols in detail; it will be explained how they advance the Becomebecome approach, and why they have been profoundly influential for the creation of the Becomebecome theoretical background as well.

Chapter 3.3 shows that *information about the subconscious mind from dreams, visions, and intuitions*, can create far reaching transformations of the patterns of *information that exists in a temporal dimension which passes through the body of the observer*. This also means that transformations in the body allow knowledge to be obtained that is *hidden* to the rational mind. Chapter 3.4 continues to inform the Becomebecome response to Research Interrogation 3 and 4 by presenting a review of the main techniques and studies that have influenced the design of the physical exercises proposed as practical strategies to reveal *hidden information about the observer* and new Transdisciplinary knowledge.

Practical applications of the notions presented in Chapter 3 can be found in Chapter 4.4.1.3 BCL Exercise 3 'The Shrine', which is designed to access *information from the collective subconscious of the participants*; in Chapter

4.3.1.3 BIJ Exercise 3 'Synchronicity & Shamanism', which proposes simple meditative routines that bring the awareness of the observer-participant closer to *hidden* yet meaningful events in everyday life; and in Chapter 4.3.1.4 BIJ Exercise 4 'Embodied Knowledge, Embodied Intuition', which offers direct experience of transpersonal guidance through exercises which include *information from group dynamics*.

3.4 The Process-based Body of the Transdisciplinary Observer: The Chronosoma

> There is more wisdom in your body than in your deepest philosophy.
>
> FRIEDRICH NIETZSCHE

A distinctive element of the Becomebecome approach is the idea of creating a protocol to look at information about changes in the body of the observer as a consequence of a process that goes beyond what happens in the rational mind. This last part of the research on the theoretical background of Becomebecome strategies is crucial to establish an organised set of trajectories from which it is possible to understand thoughts, feelings, movements, and ideas as projections of information that is process-based and transpersonal.

This chapter presents a collection of historical material allowing us to recognise a central idea that is common to many disciplines which focus on practice-based research about the physical body. This central idea is that the physical body is a process-based structure, and that the movement of the physical body is part of a transpersonal gesture made of *information* that exists in a temporal dimension which passes *through* the physical body, but also extends *beyond* the physical body. In this thesis the word 'Chronosoma' refers to this notion. This chapter serves as main reference for Research Interrogations 3 and 5.

Information that exists *in a temporal dimension* through the chronosoma can be distributed at different temporal-scales: the speed of bone tissue, the

speed of blood in the circulatory system, the speed of fascia with its different properties across different areas of the body, and the speed of transpersonal movements which require the participation of the physical body of the individual in a process that can only be completed with information that comes from *outside* of individual. A new aspect of the connection between *information that is process-based* and *information that is hidden* is revealed as a consequence of the transformations in the physical body of the observer. This is why Nicolescu and Nietzsche point us in the direction of strategies to raise awareness about the chronosoma i.e. the transpersonal, process-based body. The next sub-sections introduce examples that clarify the historical and Disciplinary context of a fundamentally Transdisciplinary approach to *hidden information that passes through the physical body*.

3.4.1 The Chronosoma: Information about the Body through Time

Dr. Jacques Samuel, Director of the French School of Orthopaedics and Massage in Paris, reports that anatomists, for many centuries, were concerned almost exclusively with precise description of the body's structures. Inevitably, he explains, they began by treating the locomotor system in the same way as the internal organs, i.e. actual functions were either unknown or described independently of structure. Gradually, around the beginning of the twentieth century, anatomists began paying more attention to the actions of muscles and joints. Such functional studies remained at an elementary level for several decades. More recently, some researchers began looking at biomechanical properties (such as elasticity and resistance) of the locomotor system. However, these studies were focused on isolated components in the laboratory, not on how muscles and joints are used in 'real life.' Functional aspects were often viewed in terms of 'efficiency', i.e. how to make the body an obedient instrument of various physical disciplines. In physiotherapy, body movements are analysed in terms of both neurophysiological and mechanical components, thus allowing better definition of therapeutic effects (Samuel 1993).

With the progress of science and technology it has become possible for anatomists to go beyond the dissection of corpses. A new level of accuracy in the description of the body has been revealed by radiography, image scanners, MRI, and other techniques. Medical researchers have thus improved their ability to generate internal representations of the physical body to get a

more direct understanding *from the outside* of what happens inside the physical body of a living being. The medical image, however, presents some limits due to its particular context. One can observe two of these limits.

First, it is rarely proposed to the student to live an experience of knowledge that has to do with their own body, the body of the *observer*. Quite the opposite: anatomy students always study the body of somebody else; thus the value of the knowledge about the body has been associated to *information about what happens to somebody else*. This occurrence reinforces the bias towards descriptions of the body *from the outside*, which artificially removes from the picture of what is meaningful any information about experiences *from the inside* of the body.

Second, the main interest of medical studies is the sick man, which is in itself an immense field of study. This reality can sometimes leave the impression that there is no time or place for a description of the healthy body, let alone for research on it.

A separate corpus of knowledge on human anatomy has been built with research that has to do with sports and gymnastics. However, in this field of investigation many interdisciplinary bridges have been established using widely acquired knowledge and tools from the medical environment. In fact, part of the study program in sports disciplines is nowadays borrowed directly from the medical curriculum, and specialized departments in sports medicine have been created everywhere. This field is conditioned by a need to achieve better results in competition, and in almost all degrees of practice. This goal

defines a very selective kind of research on the body: the suffering of the body under stress of a specific sports challenge, its endurance, capacity for recovery, performance, and so on. The language and the results that have been gathered as a consequence of such investigations have often little to do with the movements of the body in its natural environment and ordinary daily gestures.

Research on human anatomy and movement has also been developed by pioneers in the arts of movement: theatre, music, lyric art, dance, and so on. Thanks to the work of numerous researchers, what was not evident a century ago, has now become obvious: the performing arts all pass through the body. Each profession has developed a specialized preparation curriculum for a practice that is based on a solid knowledge of the body; conversely, each of these arts contributed, with its original propositions, to the research on the body and human anatomy. That is why it has become commonplace to see that a training course for some musical instrument, or a rehearsal of dramatic art, begin with a time of physical preparation. Dance and circus practice have a separate status, as among all the performing arts they are the ones that demand the most from the body. Many studies have stressed, for more than a century, the importance of body knowledge in the work of preparation for dance, circus practice, and acting. A body of knowledge specific to the practice and theory in these fields has been established by several well-known schools. It seems normal today that a dance teacher must have a basic knowledge of anatomy, as well as physiology and movement analysis. This is one way to help the performer generate movements that are not a repetition of

what has been transmitted by the preceding generation but can be born of a genuine reflection on analysis and anatomy. The basic preparatory practice for dance is being transformed little by little in the last decades. However, here too, we are in a context which specializes and colours the research on the body with specific needs. Dance, circus and acting are essentially performed to be seen, and the imperatives of choreography and aesthetics are often those that prevail (Calais-Germain, 2001).

I have just evoked, without being exhaustive, some of the fields in which information *about the body* and the *movement of the body* is put into practice. In all these domains, bringing them together and linking them to a greater or lesser extent, some well-known innovators have proposed completely new approaches to bodywork in the last century. Among the most famous who have been brought to the attention of the western public for their capacity to develop techniques which can be of interest beyond the confines of specific disciplines are D.H. Alexander (of the Alexander method), Joseph Pilates (of the Pilates method), and Moshe Feldenkrais (of the Feldenkrais method).[79] It is nonetheless obvious to all students of any specific discipline that other important pioneers are immediately recognised for their unique and original contributions to each specialised field of body practice. This is how independent investigations have emphasized one particular aspect or another: the importance of correct muscle tone, the coordination of different

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[79] Heinz von Foerster was a friend of the Feldenkrais family. Moshe invited him to the 1977 training in San Francisco to participate in an Awareness Through Movement session and then talk about cybernetics and much besides. He gave the opening address at the 1989 conference of the American Feldenkrais Guild, and during the Strasbourg Feldenkrais training presented three days of talks on what he called Systemics (Lafrentz 2011).

neuromotor pathways, the priority of stretching exercises, the techniques to work with 'muscular-chains'[80], the relevance of a qualitative approach to breathing, the usefulness of reconciling movement and body states with their emotional correspondences, and so on. These insights have given rise to protocols and work programs that are sometimes very intense and specialized. In particular, the trajectories of research developed within the Authentic Movement, Bartenieff Fundamentals, and Body-Mind Centering schools are of notable interest because of their proximity and overlap with the Becomebecome methods of investigation.

Authentic Movement was developed in the 1950s by Mary Starks Whitehouse, a dance therapist who had experienced her own Jungian analysis and studied at the Jung Institute in Zürich. She developed an approach to working with the unconscious which she initially called movement-in-depth; this idea was based on Jung's concept of active imagination.[81] Authentic Movement got its start through Whitehouse's expressive movement work with the people she treated early in her psychotherapy career. This work was expanded further with the help of two of her students, Janet Adler and Joan Chodorow. The three were interested in the ways dance and movement could bring about the integration of mind, body, and 'spirit'. Whitehouse, Adler, and Chodorow moulded Authentic Movement into a therapeutic approach based on the tenets of Jungian analysis and the inner wisdom of spiritual practice.

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[80] See Ch.3.4.6.

[81] Although he did not develop his ideas on movement as a form of active imagination, Jung (1957) noted that some of his female patients used spontaneous dance as a means of relating to the unconscious.

> Participants are encouraged to focus inward and attend to any bodily sensations, images and feelings which may arise… What was previously conserved on the somatic level as unmentalized experience, can now begin to be taken up into the mind, thought about, and made available for analysis.
> Wyman-McGinty 1998, p. abstract - https://doi.org/10.1111/1465-5922.00023

The purpose of focusing inward is to encourage a state of reverie, of being with oneself. This is best described by Winnicott's intermediate area of experiencing (Winnicott, 1951), a transitional space between the inner and outer world, in which image and affect are linked and which gives rise to phantasy and imagination, "…a kind of kinaesthetic free association."[82] In Authentic Movement, the analyst acts as a silent witness to the patient's explorations. This marks an obvious difference to the Becomebecome techniques used to access *hidden information inside the body*. Nevertheless, the idea that *hidden information about the observe*r can be accessed through a protocol which focuses on the movement of *the body of the observer* is explored at length by Authentic Movement practitioners who produced a remarkable corpus of knowledge throughout the several decades that the school exists. In Authentic Movement sessions, the focus is on therapy, and it is commonplace to talk about participants as 'patients'. Becomebecome exercises *can* be used for personal growth and well-being but the nature of the insight produced as a consequence of Becomebecome practice is framed within a methodology that is fundamentally transpersonal (not necessarily

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[82] Ibid.

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centred on language which refers to information about the individual) and Transdisciplinary (not limited to therapy).

Also in the 1950s, Irmgard Bartenieff, a physiotherapist, dancer, and disciple of Rudolf von Laban, created Bartenieff Fundamentals, which is a body approach that proposes a sensory-kinaesthetic and cognitive experience, taking the body's totality as well as movements' connectivity into account. Laban (1879-1958) was an Austro-Hungarian dance artist and theorist. He is considered one of the pioneers of modern dance in Europe as the 'Founding Father of Expressionist Dance' in Germany (Dorr 2008). He is the author of Laban Movement Analysis (LMA) which was developed and extended by Irmgard Bartenieff herself as well as others. LMA draws from multiple fields including anatomy, kinesiology and psychology. Bartenieff's Body Fundamentals consists of six basic exercises and their variations, as well as some preparatory exercises. "They are considered as basic because they relate to the basic activities of human beings and act towards reorganizing daily actions like sitting, walking, standing up etc., through the activation of the deep musculature." (Fernandes 2010, p. 42-43) Bartenieff came to the conclusion that change is fundamental, because the body can only be understood as a process-based system which is manifest at different temporal scales through a sequence of neuro-motor development stages which are relational (De Lima Caetano 2015). She also emphasizes the internal connections that are key to dynamic rather than static movement (Bartenieff, 1999). This process happens using patterns of body connectivity that she calls 'Body Organization Patterns'.

In the Becomebecome methodology, the fundamental idea that movements can be 'dynamic' rather than 'static', provides an excellent semantic reference to the notion that process has to be understood within a model of time where information that exists in a temporal dimension *expands* at different scales.[83] This is used as a reference for the design of practical exercises that produce direct experience of this notion in the body.[84]

Bonnie Bainbridge Cohen founded the Body-Mind Centering School in Massachusetts, USA, in 1973. She initiated her career as a dance teacher and worked as a therapist in hospitals and rehabilitation centres from 1962 to 1972. She trained as a neurodevelopmental therapist in England with Dr. Bobath, and she also studied neuromuscular re-education with Barbara Clark and Andre Bernard, *katsugen undo* (the art of training the nervous system) with Haruchi Noguchi in Japan, Laban Movement Analysis and Bartenieff Fundamentals with Irmgard Bartenieff, as well as dance therapy with Marian Chase (Hartley 1994).

In continuity with Bartenieff Fundamentals, Body-Mind Centering (BMC) somatic practice considers the primacy of movement and of change as central elements for understanding and approaching the body. However, BMC doesn't suggest a method which would be centred in predetermined exercises through which a reorganization of the body would operate for a more adequate motor use; it is rather concerned with an experimental learning

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[83] See Ch. 3.2.
[84] See Appendix A.1 BKR Exercise 1: The Action of *Not-Doing* (Step 4)

process through which the body "explores its own means of composition, both material/energetic and formal" (De Lima Caetano 2015, p.213). Cohen uses the word 'somatization' to define a direct kinaesthetic experience by which the body is lived based on its own constituting matters. In this experience, the body and the cognitive mind influence each other: "...through somatization, the body's cells inform the brain just as much as the brain informs the cells" (ibid, p.211).

BMC concerns a dynamic alignment related to the micro and macro-dimensions of the body, as well as a balance through the interrelation between body systems. This aspect of BMC is very much aligned to the Becomebecome transpersonal model of alternation and coordination of information (that exists in a temporal dimension) *from the outside* to information (that exists in a temporal dimension) *from the inside*, which happens within the individual body of the observer-participant.[85]

In addition, BMC concerns the exploration of patterns in the development of movement, which is also present in Bartenieff Fundamentals. Cohen calls them Basic Neurological Patterns. Both in Bartenieff Fundamentals and in BMC, the task of 'repatterning' movement focuses on reliving the stages of neuromotor development concerning childhood, which, when brought to adulthood, helps in somatic reorganization. Repatterning refers to an experimentation strategy through motion by which it is possible to reconnect

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[85] See also Chapter 3.4.6 Becomebecome Analysis of Movement for a more thorough explanation of specifics in the Becomebecome approach.

fluidity and bodily integration, making patterns of body stiffness (automatisms) – which resist changes – more flexible. The patterns of movement development make the body available to a learning process of multiple variations of motion (Fernandes, 2006). In similar fashion, this process of repatterning is explored as a model of change at the scale of the connective tissue (see Chapter 3.4.3 The Fascia), and at the scale of practical exercises throughout the Becomebecome Kinetic Routines (see Chapter 4.2). It is interesting to notice however, that at a conceptual level the Becomebecome approach integrates movements associated with neuromotor development as a technique that introduces *information from the future* (see Chapter 3.2.7, Appendix A.1).

It is also noteworthy to observe how the association between many body-mind techniques and other psychotherapeutic models that are relevant to this section of the thesis first arose in Berlin circa 1930, when psychoanalysts Otto Fenichel and Wilhelm Reich met the work of Laban, Elsa Gindler and their pupils (Weaver 2010).

Gindler (1885–1961) was a somatic bodywork pioneer in Germany. From her personal experience of recovering from tuberculosis (by concentrating on breathing only with her healthy lung and resting the diseased lung), Gindler originated a school of movement education in close collaboration with Heinrich Jacoby. Their work influenced the practice and understanding of body psychotherapy also through the workshops that Charlotte Selver (1901-2003) gave at the Esalen Institute in the 1960s, as Mary Starks Whitehouse

studied briefly with Selver, as did Mary's students, Joan Chodorow and Janet Adler. Bonnie Bainbridge considers her 'one of the forerunners who prepared the way for me. ...I'm very influenced by that whole school which came out of Germany ().' (Gilliat) The teachings of Elsa Gindler also had a major influence on the technique developed by Dr. Lily Ehrenfried, which ultimately also influenced the approach developed by the Anatomy of Movement school.

3.4.2 The Chronosoma: Information about Time which passes through the body

This dissertation refers to a few specific notions that will be used as reference to build the semantic space inside of which Becomebecome practical strategies to access Transdisciplinary knowledge make sense. The first among such notions is the idea of a connective tissue which extends the movement of some parts of the body to other parts of the body, and even to what happens outside of the body itself. The fluidity and adaptation of all movements (gestures, habitual efforts and sports movements) depends on the quality of the connective tissue which envelopes and penetrates the other tissues of the body. The connective tissue (also called the fascia, fasciae, or fascias) changes its composition and its properties in harmony with the needs of the part of the body that it is connected to. When wraps of connective tissue are retracted or shortened, the movements are slowed down or poorly performed. This explains in part the aging, fatigue and suffering of the body. It is obvious that what affects the movements of the body affects *information that exists in temporal dimension which passes through the body*. In The Antesala of Gesture: The Mobility of the Movement Structures (2001), Patrick Germain proposes to define gestures as a set of movements and actions made for the purpose of a purpose. He observes that the components of a gesture are:

• the breathing,

• the need to maintain balance,

• the search for efficiency and precision of the gesture,

• the need to maintain the effort for a certain time, which simultaneously brings into play a set of structures (fascia, muscles, bones and joints).

The language used to analyse the gesture of an observer constitutes a particular way to look at specific *information about the observer*. As an extension of the considerations presented in previous chapters, one can contemplate gestures that do not finish at the threshold of information which is personal, rather they continue with a movement in a space defined by a process that is transpersonal. For instance:

1. breathing can be observed as a transpersonal process which involves the connection between two or more people breathing;
2. the need to maintain balance can trigger action that is directed more to the individual body of another person than one's own;
3. the search for efficiency and precision of gesture is distributed into *action and consequence* at the scale of group dynamics;
4. the need to maintain the effort for a certain time brings into play a set of structures that are distributed across more than one individual body.

Such considerations expand the field of our analysis and provide an ideal opportunity to reveal a characteristic which remains *hidden* when the language to describe gestures is limited to what happens to an individual taken as separate from the outside world.

In the context of transpersonal gestures one can advance a definition of actions as: 'movements made with intention performed as a consequence of

instructions from the conscious mind of the observer'. The other movements, which are part of the transpersonal gestures but are not *actions*, can be defined as movements 'which are not made with intention from the conscious mind of the observer'. This is how 'actions' and 'movements' as a *consequence* of a mechanism which exceeds one individual are examined in the analysis of the four parameters outlined above.

It is not only the transformation of the analysis of gestures from personal to transpersonal that brings forth characteristics of what happens inside the body of the observer that are not possible to see when looking at individuals separate from each other. More importantly, because of the creation of a new transpersonal framework, new information is revealed in the analysis of gestures that are transpersonal but happen inside the body of single individuals, *also when they are analysed as separate from each other* (see also Chapter 3.4.4).[86]

The study of the mobility relationships between transpersonal gestures within the body of a single person shall include the examination of the conditions of each gesture as a progression which follows the needs of a unique sequence. The information acquired after each movement or action aligns the following movement or action in a desired logical order, which is process-based, and for this reason it must include information that can only be accessed as a consequence of each movement being taken as separate.

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[86] Information about gestures that are process-based and transpersonal (they exist at the scale of two or more descriptions, statements, theories, etc) is *hidden* at the scale of each gesture taken as separate, in a process isomorphic to the one described in Ch.3.2.7.

A brief introduction to the study of the fascia and the connective tissue will show a set of meaningful notions that clarify the relationship between *information that exists in a temporal dimension that passes through the body* and the new strategies to access Transdisciplinary knowledge developed by the Becomebecome team.

3.4.3 The Chronosoma: The Fascias

Fascias are membranes of connective tissue that constitute envelopes or connections around and in-between the organs. The fascias compartmentalize the body and create spaces by dividing, subdividing, and reuniting, like the different skins of a grapefruit. This organization of the flexible tissue of the fascias allows the organs to move in relation to each other. The elasticity, the size of these membranes, and their friction capacity condition the transmission of movements in the body. These membranes are also irrigation pathways and drainage pathways for the body. They are places of cellular change, cleaning, and defence of the organism. The fascia is made up of connective tissue, which is omnipresent in the body and contains

• elastic fibres,

• resistant fibres,

• and a fundamental substance with a role essential in tissue exchanges.

The ratio between elastic fibres and resistant fibres varies depending on the connective mechanical role of the tissue. For example, the muscle envelope (muscular aponeurosis) is more elastic than the articular ligament. Irrigation, drainage and nutrition of the organs depend on the mobility and elasticity of the connective tissue.

"The fascia that forms the muscles and bodywraps retains the images of the regular movements by a slow modification of its texture, length, and particular qualities such as extensibility" (Germain 1993, p.xviii). One could

say fascias are made of nutrient flows within a gelatinous sea, rivers of preferred passage which are defined as a consequence of faster or slower movement of *information that exists in a temporal dimension*, rather than having a totally homogenous consistency. Similar river-like flows have been found in glaciers - the ice moves faster in some parts of the glacier then others (Mysers 2018). The speed at which movements in the fascias slow down produces physical transformations and sometimes alter the body's shape and well-being. In these cases, they imprison the movement and prevent its adaptation to new situations. Therefore, the possibility to perform simple exercises that 'smooth out' the folds adopted by the body can trigger the surprising discovery of new possibilities for the circulation of *information that exists in a temporal dimension through the body* and generate access to new trajectories of movement.

The influence of the quality of the fascias on all forms of movement can be generally categorised into:

• the movements of the limbs,

• respiratory movements,

• the blood circulation,

• the movement in the fascia of the nervous system.

Psychic structures responsible for voluntary and involuntary actions condition the movements of the body in general, these movements model soft tissues which influence body shapes. In this chain of dependencies,

"breathing acts as a point of articulation and balance between psychic and motor behaviours" (Germain 1993, p.xvii) For this reason, the study of breathing and its eventual reintegration are at the centre of the process of reorganization of movement habits (ibid). Breathing patterns are mostly subconscious, since it does not require action from the individual. Nonetheless, they are also processes in the body that can be influenced by will. A careful study and design of exercises that centres on breathing kinetics and the structures in the locomotor system which bring about the respiratory gesture can create significant consequences for the transformation of movement patterns both in the conscious and the subconscious physical body. In the next chapter the notion of 'subconscious body' will be analysed and clarified.

3.4.4 The Chronosoma: Conscious Body and Subconscious Body

Ancient dreamers assumed that the gods specifically work *through* the body, with physiological and religious speculation often taken to be mutually supportive. Gregory of Nyssa invokes *sympatheia* as a principle linking divine (i.e. psychic) and bodily causes of dreams (Cox Miller 1997). Recent research has similarly shown how our feelings determine whether we are more open or closed to a viral infection. Candace Pert explains that "viruses use the same receptors as neuropeptides to enter a cell and depending on how much of the natural peptide for a particular receptor is around and available to bind, the virus that fits that receptor will have an easier or harder time getting into the cell." (Pert 1997, p.190) For example, the rheovirus, held to be a cause of the common cold, uses the receptor for norepinephrine, a 'feel-good' natural chemical, to enter the cell. If you're happy, it would seem, the cold virus can't get in. There is a "psychosomatic communications network" (Pert, Dreher, Ruff 1998, p.30) that operates not only in the brain but also in all parts of the body. Our conscious or unconscious thoughts and feelings are constantly affecting our health by sending directives to a pharmaceuticals factory inside the body.[87] Our mind, Pert maintains, is in every cell of our bodies. A 2007 study by medical insurance company Blue Shield decided to test the effect of guided imagery on 905 health-plan members who were scheduled to undergo surgery. Researchers did this by playing a simple guided imagery tape designed to allay fears about the procedure and

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[87] Pert, interview, in Moyers, B. (1993).

promote recovery. The results of the study were very alluring for number crunchers. Seventy-four percent of patients 'adopted' the imagery regardless of upbringing or prior attitudes. The general effect was to relieve anxiety, speed recovery, and reduce time spent in the hospital after surgery (Schwab et al. 2007), despite no direct mechanism being observed between the imagery and the effect.

For many movement pioneers and researchers, the subconscious body is more intelligent than the body controlled by the rational mind, i.e. the body of voluntary movements. Lily Ehrenfried (1896-1994) was a medical doctor and physiotherapist; she was also a refugee escaping Nazi Germany during World War II. She settled in Paris and developed a ground-breaking movement method called Holistic Gymnastics, which was strongly influenced by the research of her mentor Elsa Gindler. In her foundational book De L'éducation Du Corps À L'équilibre De L'esprit (1956), she explains that: "The reasons of the subconscious body cannot be explained by Cartesian logic. When one correctly interprets its language, one sees that the facts often give it reason. One shall, therefore, do well in this case, to listen to a warning, for the subconscious body seeks, by the means at his disposal, to let one escape a dead end." (Ehrenfried, 1956, p.11) She guided her students to follow the principle that "integral re-education of physical behaviour" (ibid, p.12) does not appeal to the conscious thought, nor to deliberate movements. Quite to the contrary, it is the action of *not-doing* that creates access to new information, through the perception of a sensation that "'there are defective movements and attitudes executed involuntarily 'by way of reflex'"(ibid) She

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reports that when students of hers become aware of an awkward movement or attitude, this often triggers an unpleasant, almost embarrassing feeling, but now they must find a remedy to this unpleasant feeling. "The pattern of movement that is perceived as unpleasant is modified, thus the feeling is transformed, the action is perfected, no further attention is required." (ibid) A *sequence* is created as a *consequence* of *not-doing.* First, the act of *not-doing i.e. simply observing the unpleasant pattern of movement* creates the *possibility of awareness.* Second, the act of *not-doing releases the part of the body which was imprisoned* by the reflex movement. One immediate consequence of this transformation in the physical body is the sudden acquisition of better performance independent of a conscious motivation to do-something.

One can see that what happens in the body mimics mechanisms that were described in the early sections of Chapter 3.[88] The actions of *not-doing* in the body triggers the *maximum amount of choice possible* because it creates access to a set of infinite movements which is bigger than the range of infinite movements available to the observer before the action of *not-doing*. This new mode of functioning surprises the student because it appears unexpectedly from the subconscious body to the conscious mind. As a consequence of this new mode of functioning one can observe a more rational use of the muscles and the internal organs, which brings a better economy in the distribution of efforts, and relief from exaggerated muscular tension.

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[88] In particular see sections referring to Gregory Bateson, Heinz Von Foerster and Cantor.

Performance becomes better despite the economy of muscular and nervous forces, which is felt as a relaxation.

Ehrenfried continues to illustrate her theory of the subconscious body proposing the idea that the human body seems to have an orderly tendency to put everything 'in its place' when given the least opportunity to do so, that is, when the mind of voluntary movements does not interfere (ibid, p.16). It is therefore never a question of teaching a correct attitude to *the mind* of a pupil by showing him or her the right movement, it is rather the question of creating the best conditions so that the *body* of the student has an opportunity to become aware of the subconscious and *synkinetic*[89] action. This way of proceeding is the equivalent *in the body* of the cybernetic idea of *action and consequence*:[90] it is *information from the hearer* (the subconscious body of *synkinesis*) which is inside the *black box* of the process-based sentence created by *the speaker* (the exercise) that ultimately defines what the speaker is saying. The method conceived by Ehrenfried puts the body of the person at the end of the movement sequence into a space where it has access to a higher infinite range of movements than it had at the beginning of the movement sequence. This process is independent to what happens to the mind of the person, which is treated as a screen that reflects thoughts and images connected to old movement patterns which are 'going away into the past'. The transformation achieved by the physical movement sequence is

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[89] See also Ch. 1.2, Ch. 3.2.4, Ch. 3.4.6, Ch. 4.2.

[90] See also Ch. 3.2.2.

isomorphic to the transformation that the hearer at the end of a sentence performs for the speaker at the beginning of a sentence.[91] Ehrenfried also emphasize that this transformation is never possible via explanations of the movement to the rational mind, but by knowledge that can only be acquired after direct experience *from the inside*. She argues that communication through the rational mind risks conditioning the observer with knowledge *from the outside*, "purely theoretical and quickly forgotten" (ibid, p.25) In this fashion, she develops a whole trajectory of practical strategies to approach the body based on the recognition of feelings that go *beneath, beyond and in-between* the rational mind. This is precisely the strategy vigorously endorsed by Nietzsche and Nicolescu who guarantee such resolution is one that produces information *from the inside* of the observer which is transpersonal and Transdisciplinary.

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[91] See also Ch. 3.2.7.

3.4.5 The Chronosoma: Wellco Wellbeing

Wellco Wellbeing[92] (Wellco) is a research hub created in Barcelona, Spain, which is born from the idea of collaboration between professionals in the fields of somatics, movement education, and personal growth. In the years during the writing of this research essay, Wellco has become one of the primary settings for research on Becomebecome practical strategies, the study of the fascias, the conscious and the subconscious body, and the Becomebecome Analysis of Movement (see Ch. 3.4.6). Artists, researchers, and educators from different schools have joined the Wellco project and contributed their unique knowledge trajectory and creativity to the common goal of establishing an original space for well-being and self-development which does not separate personal life from professional life. Wellco has been designed to be an extension of this principle, and this is achieved by connecting in *hidden* as well as obvious ways the rooms in which various activities are performed. There is a co-working space, a room for movement classes and workshops, and another room for small groups or individual sessions. This is worth mentioning because although it might seem an unimportant detail, or an inconspicuous arrangement of rooms, it is in itself a *hidden* way to insert a person (an *observer*, in reference to the examples in previous chapters) in a space where three different category of processes are connected: a process which centres *action*[93] on changing patterns in the

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[92] www.wellcowellbeing.com

[93] See also Ch. 3.2.4 Action and Consequence.

physical body, a process which centres *action* on changing patterns by working with the mind at a specific task or project, and a process which is more intimate and centres *action* on looking *from the inside* at one's own patterns during individual sessions with osteopaths, psychologists, and other holistic practitioners. *From the outside* of each room, one can always see or imagine 'something' is happening to the people in the other room. A system which allows for different degrees of visual transparency and acoustic isolation establishes a connection which is not possible when solid walls or distance are blocking all communication. The separate personal processes taking place for the *observers* in each room are thus associated to each other because of the architectural layout of the physical environment which is also designed for natural exchange between visitors to take place before and after an activity is finished. An open kitchen and comfortable foyer or 'chill-out' space is available for tea, snacks, casual conversation.

While it is certainly not the purpose of this thesis to mention every teacher and activity that took place since the Wellco Wellbeing Hub opened its doors, it is worth mentioning some of the research that has been developed, because it shows some of the essential components in the development of the Becomebecome methodology. With Hervé Baunard,[94] we created a series of courses focused on the connective tissue called 'Fascia in Movement'. The series is composed of three initial modules: 'Touch & Fascia in Movement: Perceiving and Inducing Change in the Neuro-Myo-Fascial Network Through

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[94] Fascia therapist, Pilates Teacher Trainer and teacher at the European Rolfing Association Faculty.

Touch'; 'The Three Diaphragms of Breathing'; and 'The Sacro-Iliac Joint and the Neuro-Myo-Fascial Network'. With Loredana La Torre,[95] we introduced the DeVis method,[96] to Spain, as well as the course 'The Dynamism of the Seated Position', where participants are encouraged to explore spiralling trajectories to preserve the natural curves of the spine, while stretching and grounding the extremities of the body, to compensate for unhealthy postural habits which occur in sedentary life. Both projects include exercises that allow *the observer* to become aware and transform *hidden patterns in the body*. With Angels Massagué[97] we created the workshop 'The Birth of the Conscious Gesture' (El Nacimiento del Gest Conscient), where recent mothers playfully mirror the movements of their babies which naturally occur in the neuro-motor development of the first months and years of growth. This helps in the pelvic floor recovery process for mothers, while also providing access to fundamental subconscious pathways that transform primary body-mind patterns. With Enrique Vargas,[98] Aiden Condron,[99] and Dasha

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[95] Associate Professor, La Sapienza University, Rome, Italy; physiotherapist; Feldenkreiss teacher; 'Bones for Life' teacher; rehabilitation specialist for pelvic-floor and uro-genital pathologies at Policlinico Gemelli Hospital, Rome.

[96] Management of visceral pressures and decompression techniques between the pelvic floor, the abdominal cavity, and the thoracic cavity, for the whole body in movement.

[97] Senior teacher with the Anatomy of Movement School. Creator of the 'Gest Conscient' methodology. Senior teacher of the 'Sensory Awareness' approach. Expert in movement and health for women during pregnancy and post-partum.

[98] Founder and Director at 'El Teatro de los Sentidos' - http://teatrodelossentidos.com/en/

[99] Programme Leader & Senior Lecturer BA (Hons) Acting – Falmouth University; Lecturer in Acting, Institute of the Arts, Barcelona; Director & Lead Tutor, Living Acting Studio; Associate Editor, Theatre Dance and Performance Training (Routledge).

Lavrennikov,[100] we have researched and helped each other develop acting, performance, and educational projects which focus on 'sensory awareness', and the experience of the actor, the artist, the performer, or the spectator *from the inside.*

One of the programmes which stayed relevant to the Becomebecome methodology throughout the years at Wellco Wellbeing is the curriculum of courses developed in collaboration with the Anatomy of Movement, a school founded by Blandine Calais-Germain, who also had the opportunity to study directly with Dr. Ehrenfried, and Françoise Mézières.[101] Calais-Germain is an artist and an educator who developed a field of investigation uniquely characterised by two fundamental notions which underpin the Becomebecome approach: *information that exists in a temporal dimension* (movement) which *passes through the physical body* (anatomy). The idea of time and process-based information is thus deeply ingrained in the Anatomy of Movement approach to knowledge. Calais-Germain began her career as a professional dancer then went on to study physiotherapy, where she was required to study anatomy. However, medical anatomy books are concerned with dead bodies, cut into pieces to study sickness; the standard way to approach scientific information about medical anatomy is through *flat* representations of *orthogonal* sections of *dead* bodies. Although this perfectly suits the

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[100] Visiting Professor, Institute of the Arts Barcelona (IAB); Visiting Professor, UFF Masters in Contemporary Arts Practice; Guest Professor, Niteroi, Brasil; Harvard University, Critical Media Practice, 'Art as Research...Dance Labs', Boston; Moscow University, Visiting Professor, Theater Studies Program, Moscow.

[101] See Ch. 3.4.6.

scientific ideal of a clear-cut Cartesian logic, one can also see how this can be considered just another example of the Socratic and Aristotelian debauchery exposed by Nietzsche and Nicolescu. It was immediately obvious to Calais-Germain that she could not communicate *information that exists in a temporal dimension through the body* using language or images which are frozen in time in unnatural positions, hence disconnected from the essential movements which sustain life in everyday situations. Calais-Germain needed to communicate that a new knowledge of anatomy appears as a result of taking into account the fundamental reality of movement which is inevitably connected to any description of *living* bodies. Her idea was that anatomy should tell the story of bodies that are whole and alive, which means bodies in movement as an expression of the basic quality that influences the description of the truth values associated to anatomical structures.[102] This is why since the publication of the first Anatomy of Movement manual she took the radical decision of creating herself new illustrations to represent the structures in the human body. Since then, she has sketched tens of thousands of drawings which are based on portraits of people who posed for her, paving the way for a new language to visualise anatomy which *connects* the logical structure of movements from real life to the logical structure of the truth values necessary to anatomy which is scientifically correct.

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[102] As Von Foerster puts it: "The logical structure of descriptions arises from the logical structure of movements … not only the logical structure of descriptions but also their truth values are coupled to movement." (Von Foerster 2003b, p.185). See also Ch. 3.4.6.

In the Becomebecome methodology it is critical to work with movements which are not artificially removed from live bodies and frozen into abstract orthogonal representations. This is because they are *spontaneously* recognised by the reader without the need for abstraction, which happens when one has to imagine the connection between one's own body and the corpses depicted in classic medical treaties. As a consequence, words and images which make it possible to analyse *from the outside* anatomy structures that exist at a *hidden* scale in the body are combined to the feeling of awareness that comes with direct experience *from the inside* through movements in the exercises performed during Becomebecome events, and movements in ordinary life. This creates the immediate experience that there is information about anatomy which is scientifically correct and that one can *only* understand when the movement *from the outside* in the drawings and written descriptions of the rational mind is in *alternation and coordination* with the movement *from the inside* generated as a consequence of direct practice. The language which describes human anatomy down to the scale of the shape and constitution of the various structures in the body can thus easily be recognised as a consequence of an *open process in time* which starts with *fix-points* and *mobile-points* that are necessary for movement in real life. Transdisciplinary Dionysian trajectories of movements in the body which go through Apollonian scientific Disciplinary knowledge about anatomy allow Becomebecome participants to directly experience that *explanations made with insight gathered at one scale of process (the movement from Transdisciplinary to Disciplinary) are not inherently more*

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valuable or definitive than explanations made with insight gathered at the other scale of the process (the movement from Disciplinary to Transdisciplinary). Suddenly it becomes possible to experience *within oneself* the anatomy of a gesture which connects information *from the inside* of a person to information about a person *from the outside* which is scientifically correct.

The moment which connects the words to the experience in the body is always the consequence of a movement which connects knowledge *from the outside* to knowledge *from the inside*, and it has more than one direction in time. It passes from the body to the mind or vice versa, and it goes from the inside towards the outside of the body and vice versa. These trajectories are independent but sometimes coupled to each other in surprising ways which are revealed only from the subconscious of the student ('the observer-participant') who goes through a process of *alternation and coordination* that includes individual practice and group practice.

Facilitators of Becomebecome Kinetic Routines[103] learn to measure whether it is ideal to use 'explanations' *before* physical movement, or whether it is advisable to keep 'explanations' for another moment which happens *after* the physical experience. Sometimes the moment for 'explanations' is not included at all. The student is thus invited (subliminally) to find their own words which better illuminate the experience at that point in time for them. This process is often associated to moments of group feedback, which allow

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[103] See Ch. 4.2

individual 'explanations' to emerge from a shared experience. Each participant will acquire information from the consequences of what happens in the body of other participants, and from the consequences of what happens in the mind of other participants, *after* they have practiced the same movement together or separately. In this way, explanations which are exclusive to each participant's unique experience provide a transpersonal access to a shared learning which 'makes' (i.e. generates) sense for everybody.

3.4.6 The Chronosoma: Becomebecome Analysis of Movement

The Becomebecome analysis and practice of accessing information that exists in a temporal dimension through the body proposes that one combines information *from the outside* to information *from the inside* of the body of the observer. This is generated as a consequence of a movement of *alternation and coordination* that always provides enough scientific information to bridge the flow of the personal experience with the consistency of the collective knowledge accepted by the establishment (i.e. scientifically correct anatomy research).

When Von Foerster notes that "the logical structure of descriptions arises from the logical structure of movements ... not only the logical structure of descriptions but also their truth values are coupled to movement" (2003b, p.185), he refers to the relationship between the movement which transforms *information about the observer*, and the movement which transforms the *object-observed*. Various examples that refer to the same principle from different knowledge trajectories (which is here a synonym for Disciplinary knowledge) have been presented in previous sections of Chapter 3. In this section, it will be explained why the Becomebecome approach to body strategies presents a unique opportunity to see how *the movement-observed (or the process-observed, the object-observed) can be transformed because of the changes provoked in information about the observer.*

The trajectories to work with *information that exists in a temporal dimension through the body* that have been selected to create the first Becomebecome

Transdisciplinary strategies are represented in the notions listed below. These notions are directly connected to the examples which establish the larger theoretical framework of the research introduced in the previous segments of this thesis, in particular where it pertains to Research Interrogations 3, 4 and 5. The following list has not been prepared with the purpose of exhibiting a complete record of all meaningful parameters that should accredit the design of the best Becomebecome 'body' strategies. It should rather be considered a catalogue of notions which refers to an essential set of ideas made obvious in the theoretical part of the research. For any new partner in the Becomebecome network, and every new project that is created to access Transdisciplinary knowledge, the list shall be updated with new examples and information freshly harvested from the unique circumstances that inform each Becomebecome event.

- **Fix-Point – Mobile-Point**

There are infinite ways to describe a certain process observed in the body. Even if the movement associated with the process 'does not change', every 'repetition' can be traced to different trajectories of knowledge conjured with each interpretation. Becomebecome body strategies are created with descriptions that can transform (and are influenced by) the knowledge heritage of scientific research in anatomy because of a process which connects them to information *from the inside* about the observer who performs the movement. In a very similar format to the one developed for the

ancient tragedy art form in Greece, moments of observation *from the outside* (the Apollonian moments of the drama) are put in a sequence with moments of observation from the inside (the Dionysian times of rapture) which exceed the thinking ability of the individual and call upon a reaction from the *body* of the participant instead of their rational mind. The mechanism of *action and consequence*[104] allows one to observe more in detail how this process unfolds. Every experience designed for Becomebecome Transdisciplinary strategies is created by distributing patterns of knowledge that exists in a temporal dimension across moments of *action*, and moments of *consequence* as they are experienced *from the inside* by the observer as the process unfolds. Sometimes *action and consequence* happen at a scale which is *visible* through information that is accessed by the rational mind. In other moments the action happens at a more transpersonal and *hidden* scale which is not *visible* through information that is accessed by the rational mind, yet the contents that pass through the mind are still part of the consequence. The 'essential set of ideas' mentioned in the previous paragraph refers precisely to the choice of words or concepts one adopts to create reference points which allow participants to see how *action and consequence* interact with each other, and what it looks like *from the inside*.

On a very basic level the anatomy of movement in the body mainly involves the interaction of three systems:

- the **bones** of the skeleton,

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[104] See also Ch. 3.2.6.

- linked together at the **joints,**

- are moved by the action of the **muscles.**

One can also observe a relationship of *action and consequence* that connects these basic anatomy systems to the following three elements in the Becomebecome analysis of movement:

- fix-points,

- mobile-points,

- connection areas.

For each movement in the body, one can observe a set of structures that are displaced at the end of the movement, associated to a set of structures which are not displaced at the end of the movement. In this thesis, 'Fix-points' are those parts of the body that do not move between the observations at the beginning and the end of the movement, and 'Mobile-points' are those parts of the body which are displaced at the end of the movement. Fix-points, mobile-points, and the structures which are recruited as connection areas between them, belong to a scale of process-based *information about movement in the body* which is separate yet superimposed onto the scale of the anatomic description of movement.[105] More than one muscle, bone, or joint can be engaged in the role of fix-point, mobile-point, or connection areas. Since it is always possible to resolve more or less detail about the anatomical transformation created by the 'fix-points / mobile-points' analysis

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[105] The three basic elements of anatomy of movement (bones, joints, muscles) can be recruited into infinite trajectories conjured up by the three basic parameters identified with the Becomebecome analysis of movement (fix-points, mobile points, connection areas).

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of a given exercise, the horizon of object-events considered valuable for each

Becomebecome description is established to be at the scale of instructions

which it is possible to communicate to a public which is not trained in

anatomy. This endows Becomebecome exercises with the property which

makes them relevant to any group of participants involved in the practice.

Becomebecome descriptions should be Transdisciplinary in the sense that

they belong to a bigger set of infinite trajectories not bound by the

Disciplinary knowledge each participant brings to the exercise. This approach

channels the strength of anatomic research *into* the practice, and it allows the

theoretical background of the Becomebecome methodology to be constantly

renewed by knowledge which it is only possible to access *from* the practice.

The fix-point / mobile-point criteria proposed in the Becomebecome analysis

of movement are an extension of the fix-point / mobile-point definitions

studied in Biomechanics.(Deplano 2018) In the Becomebecome analysis of

movement, fix-points and mobile-points represent two sets of interactions in

time that reveal how muscles, sets of muscles, and the structures they include

in their pattern of contraction, can be engaged in many different ways

(*action*) which allow the possibility for infinite trajectories of

consequence. In classic anatomy textbooks the action of muscles is always

limited to the movement which pulls the insertions points of a muscle

towards each other. The importance of connected structures in the body

(muscular chains, fascia, etc.) transforms information about the movement

which 'pulls the insertions of a muscle towards each other' into information

about *action and consequence* that are part of a trajectory which connects all

structures in the body (and some external to the body as well). This trajectory describes a pattern of activation which produces two sets of interactions in time: a fix-point and a mobile-point. Fix-point / mobile-point descriptions produce a complete paradigm shift that enables an understanding of the movement of anatomy structures as part of a larger movement.

Based on the assumption that "the fascia that forms the muscles and the body wraps retains the images of the usual movements by a slow modification of its texture, its length, and certain qualities such as extensibility" (Germain 1993, p.xviii), as noted in Ch 3.4.3, Becomebecome kinetic strategies create exercises which generate direct experience of breaking beyond repetitive involuntary (*hidden*) actions which reduce the possibility of movement in the body. Becomebecome body routines are designed to create an experience of transformation in the body which brings the participant from a place where the possible movement is limited and repetitive (or even *hidden*), to a place where a new range of movements is revealed. The experience of going from 'feelings in the body before the Becomebecome exercise' to 'feelings in the body after the Becomebecome exercise', corresponds to the experience of generating the possibility of a new dimension of movement where there was none. It is a direct experience *from the inside* of what it means to 'move forward'[106] by introducing a bigger set of infinite movements into a smaller set of infinite movements. A new set of trajectories is available to the participants in the Becomebecome kinetic routines, who are invited to engage

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[106] See also Chs. 3.2.6 and 3.2.7.

different parts of the body in patterns of fix-points / mobile-points. Each Becomebecome exercise creates an opportunity to experience two sets of interactions in time as a pattern of *action and consequence* in the body.

For any exercise in a given Becomebecome event, a person can receive instructions according to which he or she will distribute action in the body at the scale of fix-points and mobile-points of the conscious body. As a *consequence* of that, *information from the subconscious body* will also trigger the *action* of some muscles in the body. In the next two sections we will see how the movement of the subconscious body is revealed as an essential component of Becomebecome kinetic strategies.

- **Synkinesis**

The word 'Synkinesis' is used in neurology to describe when a voluntary muscle movement causes the simultaneous involuntary contraction of other muscles. An example might be smiling inducing an involuntary contraction of the eye muscles, causing a person to squint. Muscular excitement of structures in the cranium and neck area triggered by movements that have no need for that excitement is frequently observed as an example of synkinetic behaviour (Mehta et al. 2007). *Synkinesis* is relevant as one of the Becomebecome essential notions of movement analysis because *synkinesis* is involved when structures in the body combine to define a fix-point which connects the beginning of the movement to the end of the movement. In this thesis one should distinguish between:

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A) *synkinesis* which is easier to observe because it is made by the involuntary contraction of large superficial muscles, or muscles that involve smaller structures in the body which are visible *from the outside* (i.e. hands, fingers, facial muscles, etc);

B) *synkinesis* of the subconscious body which is an involuntary contraction of muscles that is not easy to notice, especially on one's own body. This last kind of *synkinesis* usually involves smaller muscles and/or deep layers of contractile tissue in the body, and it is not immediate to the perception of the person who performs the movement.

This last class of movements is especially relevant to the Becomebecome methodology in that *specific instructions can be given to the body of the participant thanks to the synkinetic action that is carried out by their subconscious body.*[107] Becomebecome kinetic strategies[108] are designed to address the movement of the subconscious body which is revealed as a result of *synkinesis*. As a consequence of Becomebecome body exercises a space for new awareness *from the body* which did not exist at the beginning of the movement is created at the end of the movement. Becomebecome kinetic strategies connect information *from the outside* (information given to the body with the rational mind i.e. voluntary movement) to information *from the inside* (information revealed from the unconscious body, the *hidden* body) as

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[107] A wide range of practical examples are documented in the second part of the thesis. See Ch. 4.2.

[108] 'Becomebecome body exercises', 'Becomebecome body strategies', and 'Becomebecome kinetic strategies', are synonyms.

a consequence of a process which can only be understood because it involves two or more steps, two or more experiences.

These moments of new awareness in the body can be integrated into a bigger sequence of movements that are easy to recognise and to perform; this operation advances the penetration of the new insight and transforms the experience of the larger movements as well. By extension, one can see how gestures performed 'to the purpose of a purpose'[109] *that has nothing to do with a Becomebecome body exercise* but involve the movement of the same physical structures, can become new instruments of awareness in the body of the observer and produce access to new insight which is by definition Transdisciplinary.

As a consequence of the exercises practiced in Becomebecome kinetic strategies, the observer has access to the 'larger movement sequences', and gestures 'to the purpose of a purpose' from a place that did not exist before. A new 'maximum amount of choice' (the ethical imperative of Von Foerster) is created as a consequence of information from *the hidden* that reveals new infinite trajectories for approaching 'larger movement sequences', and gestures 'to the purpose of a purpose'. New information is created *from the hidden* inside of a process which continues to display recognisable features to the rational mind. This is an example of a Transdisciplinary strategy that uses *information from the body* to create access to *information that goes beyond knowledge from the rational mind*. It is also an example of a

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[109] See also Ch. 3.4.2.

Transdisciplinary strategy which creates access to *information about the observer* which is used to transform *information about the object-observed*.

Becomebecome kinetic strategies are discipline-agnostic because they create access to a set of infinite knowledge trajectories which is bigger than any Disciplinary set of knowledge trajectories that the observer brings with them at the beginning of the exercise. The image in Fig. 13 illustrates how the process unfolds.
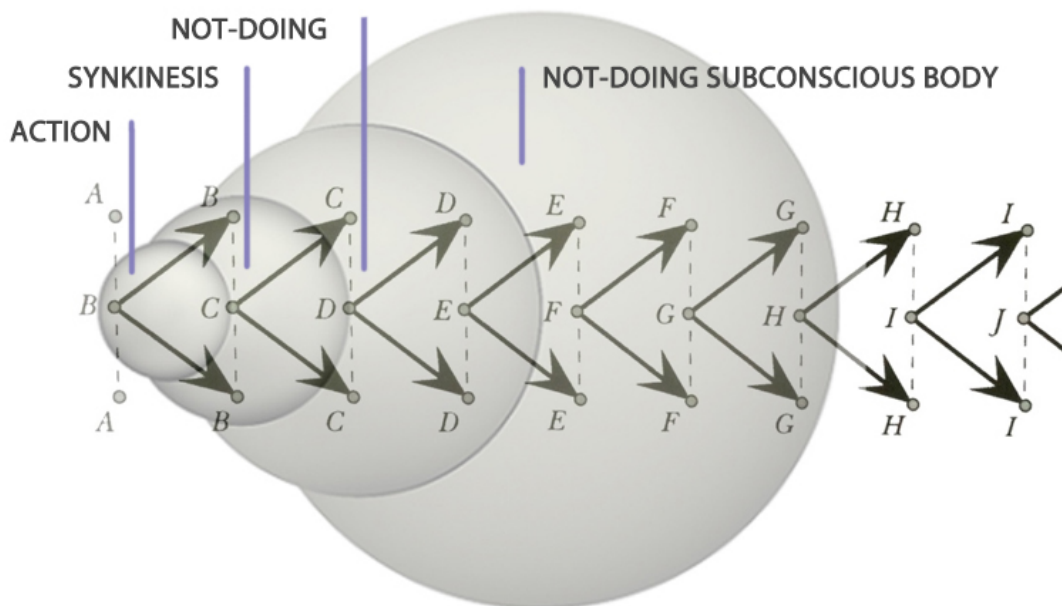
Fig.13 Step 1 ACTION: Instructions given to the conscious body trigger *synkinesis*.
STEP 2 SYNKINESIS: This produces an infinite set of involuntary movements which is bigger than the set of voluntary actions.
STEP 3: The action of Not-Doing with the involuntary body becomes possible.
STEP 4: The action of *Not-Doing* with the subconscious body of *synkinesis* become possible also. The *consequence* of the action *from the hidden* body of *synkinesis* is visible at the scale of conscious body.

- ***Not-Doing* is an Action**

The idea of *not-doing* as an instruction that is given to the subconscious body combines the principle of *action and consequence* (see Ch.3.2.4), with the notion of *synkinesis*. It is also an essential asset of Becomebecome kinetic strategies which provides a critical perspective on the common territory explored by Fascia therapists and movement researchers.

Many contemporary avenues of investigation on the topic of Fascia can be traced back to the work of two women who pioneered the research in the United States and Europe respectively. Ida Rolf developed the Rolfing Method in the United States between 1940 and 1950. In the mid-1960s she began teaching at Esalen Institute, where she gathered a loyal following of students and practitioners (Riggs, Grant 2014). She declared that Rolfing constitutes an "approach to the personality through the myofascial collagen components of the physical body" (Feitis 1990), which underscores the importance that fascia therapy assigns to developing techniques and exercises to work with information that passes through the *body* of the observer *as action* in order to influence information that passes through the *mind* of the observer *as consequence*.[110]

In a parallel unfolding of events in Europe, in 1947 French physiotherapist Françoise Mézières developed the Mézières Method, a complete set of tools

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[110] In more recent years, Tom Myers published the book <u>Anatomy Trains</u> (2001) and sparked a renewed worldwide interest around the idea and practical approach to the fascias as a network of connective tissue which extends not only to the personal body and the mind of the individual, but also to the transpersonal elements of the body and mind within each individual.

for analysis, diagnosis and treatment of problems in the musculoskeletal system based on interconnected muscle groups that she names 'muscular-chains' (which is a synonym for myofascial chains). Mézières method combines postures, massages, stretching and breathing exercises. The work done on myofascial chains helps restore muscles to their natural size and elasticity. Once relaxed, they release the tensions applied to the vertebrae, and the body is free to move again. The study of strategies to address the body of fix-points which are recruited in an involuntary way proposed by Mézières practitioners since 1947 has contributed a significant amount of ideas and exercises that can be used to address the subconscious body.

A specific branch of the Rolfing Method called Rolfing Movement has been developed in the last decade of the twentieth Century. Rolfing Movement is interesting for Becomebecome research because of the attention it puts on fascia and movement exercises, rather than fascia and hands-on therapy exclusively. Many of the movement propositions taught in Rolfing Movement today consider that the body has a natural movement intelligence that does not need input from the rational mind, and that natural movement intelligence is strengthened when the client becomes consciously aware of their subconscious body patterns.[111] This approach shows remarkable similarities to the one described by Dr. Ehrenfried in Ch.3.4.4.

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[111] "Hubert Godard, Director of the Dance and Movement Analysis Department of the University of Paris 8 developed a theory of the 'Movement Brain' which is formed by the natural 'Body Schema' and the super-imposed 'Body Image'. The 'Body Schema' knows how the body moves harmoniously, with little effort and as gentle as possible for joints, muscles, and fascia. According to Godard, people develop their 'Body Image' throughout life and in specific situations. They adapt their movements to their socio-cultural environment, their

The notion of '*synkinesis* which activates the subconscious body', and the notion that '*not-doing* is an action' which have been selected as essential criteria for the Becomebecome Analysis of Movement produce a transversal approach that allows to take advantage of the research advanced by fascia and movement schools in a way that is respectful of their foundational ideas, and at the same time it breaks beyond the limits of the Disciplinary purview that each school has developed for itself. The practice of Becomebecome Kinetic Routines creates access to a body which only exists because of the action of *not-doing*.

From the inside to the person who performs the movements, a subconscious body, completely inaccessible to the awareness maintained by ordinary movements in everyday life, is revealed. For instance, there exists a specific set of parameters which are necessary to work with joints[112] that is completely different from the criteria which define the guidelines for exercises with muscles and tendons. Joints are one of the least known structures in the practice of movement techniques; however, very often it is the lesion or aging of the cartilage in the joints that imposes a limitation of movements and body awareness. This reduces the quantity and quality of information that exists in a temporal dimension that can circulate through the

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personal self-confidence, and their mood – which can lead to unfavourable movement and breathing patterns." (Kallina 2008)

[112] These principles apply to all synovial joints, which are the most common and most movable type of joints in the body of a mammal.

body. It is precisely for all these reasons that joints constitute an ideal resource to investigate and create awareness of the subconscious body.

In order to work with a specific joint (its capsule, synovial liquid, ligaments, etc) it is necessary to *not-do* with the muscles and tendons which connect to the joint. The *action* of the muscles which connect the bones on either side of it produces a compression of the structures in the joint, which are 'squeezed' as a *consequence* of muscle activation.[113] In order to *not-do* with the muscles which compress the joints, the parameters that must be respected are absence of gravity, slow movement with no sudden change of rhythm or direction, and lastly, that all movements should be passive.

NOT-DOING BECAUSE OF GRAVITY

Gravity exerts a force upon the parts of the body connected by the joints. When a force is exerted to separate the parts of the body from each other, the muscles which keep them connected are triggered. The muscles that protect the structures of the joint are activated by a mechanism which reaches beyond voluntary commands and is triggered automatically even if one gives one's own body the instruction to relax them. Because of the action of these muscles the structures of the joints are compressed towards a minor overall volume and the possibility of movement in the joint is reduced. For instance,

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[113] It is worth observing that many muscles in the body are active all day from the moment one gets up from bed in the morning to the moment one lies in bed to sleep again (and sometimes, they continue to work during the night as well); even if one does not think about them, or does not impart direct instructions to activate them, they are active in *the hidden*.

giving instructions to orient the body in such a way that the action of gravity on a specific joint is eliminated (for instance, laying on the floor allows the muscular muscles of the spine to relax and generates space to work with the joints between the vertebrae) is an example of how to *not-do* with the involuntary body, which is part of the subconscious body. For each joint a different set of strategies to compensate for the action of gravity must be prepared.

NOT-DOING FAST MOVEMENTS

Slow movements are necessary in order to stay below the threshold of activation of speed movement receptors in the area of the joints. The body which handles fast movements is different from the body that handles slow movements; each produces different requirements to the structures which have an impact on the amplitude of movement in the joints.

Fast movements rest upon a system which prevents the joints to go too far in their transformations, to avoid risks of breaking apart because of the increase in the weight displaced by the parts of the body connected to the joints. To achieve the maximum possible transformation in the joints, it is necessary to *not-do* fast[114] movements. Not-doing with fast movements includes the category of *not-doing* with surprise movements. Sudden changes in rhythm,

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[114] Fast and slow are relative concepts. Since the temporal horizon of object-events in Becomebecome kinetic strategies is set at the speed of ordinary movements in everyday life, and the movements described to work with joints are slower, the instructions necessary to create the experience for the participants is to *not-do* the speed which comes 'normally', and *do* the 'slow' version of the movement which comes spontaneously.

direction, or speed surprise the nervous system, which is activated to a state of alert and reacts by triggering the muscles that protect the joints. As a consequence, the amount of possible transformations in the joint is reduced, and the possibility of *not-doing* with the muscles is reduced.

NOT-DOING ACTIVE MOVEMENTS

Passive movement is produced when a section of the body connected to a given joint is displaced as a consequence of action which does not trigger the muscles connected to the joint. This can be achieved by working with one or more persons who produce the movement, and it can be achieved autonomously by resting the part of the body which needs be moved upon an external support (a wall, a stool, a table, etc.), then producing the movement with the rest of the body. Finally, it can be produced by resting the part of the body one wishes to move upon another part of one's own body which acts as a support. In this last modality, the support can be active, and the movement can be initiated from the part of the body which acts as a support.

DO NOT INTERRUPT THE BREATHING GESTURE

Exercises for *not-doing* because of the orientation of the body in space combined with the synkinetic effects of gravity are a distinguishing feature of Becomebecome Kinetic Routines which extend beyond exercises for joints. The same can be said of instructions for *not-doing* fast movements (see examples of 'do the slow', 'work with the slow body', in Ch.4.2), and

exercises which include passive action (see open-chain – closed-chain section of this chapter).

This fourth class of Becomebecome Kinetic Strategies for not-doing which transforms the respiratory gesture belongs to a category of its own, because it can impact all other movement sequences in a transversal way.[115] In PART II of this dissertation it will be shown how this principle is put into practice during the physical exercises. An example of why it is so comes from Dr. Ehrenfried herself: "One should insist on an exhalation as complete as possible, to make room for the next breath. For we see most of our students holding some air in the lungs, which then remain partially distended and lose the habit of exhaling the air; the inspiratory muscles are then always overworked, the exhalation muscles become numb." (Ehrenfried 1956, p.24) As a solution to this problem, Ehrenfried proposes that the respiratory sequence should be defined by three moments: inspiration, exhalation, pause.[116] In Ch.3.4.3 it was explained how 'breathing acts as a point of articulation and balance between psychic and motor behaviours', which explains why the introduction of a third step (pause) in the respiratory cycle completely transforms the experience *from the inside* created by the other two

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[115] To each one of the parameters highlighted in the Becomebecome Analysis of Movement corresponds a unique repository of exercises ('Gravity and Orientation of Body in Space', 'Passive Action and Closed-chains', 'Breathing Kinetics and the Breathing Gesture', 'Do The Slow', 'Enter the Body of Synkinesis and Not-doing', 'Breathflow and Pelvic Pulse', 'Voice and Emotions, channelling deep tissue vibrations through the body', and so on) which catalogues the growing set of Becomebecome Kinetic Routines that facilitators develop for every new event. An online version of the 'Chronosoma archives' which systematise the information available in these repositories is under development for public access.

[116] Dr. Ehrenfried here quotes 'integral breathing' or 'complete breathing' as advocated around 1903 by Leo Kofler and later by the Schlaffhorst-Andersen School.

steps (inspiration, exhalation). The modified respiratory sequence can then be integrated into a bigger sequence of movements that are easy to recognise and to perform.

More detailed examples of Becomebecome kinetic strategies which include exercises for *not-doing* with the conscious body, as well as exercises for *not-doing* with the subconscious body of *synkinesis* are examined in PART II of the thesis.

- **Open-Chain – Closed-Chain**

Another essential notion which serves as a reference trajectory for the Becomebecome Kinetic Strategies is based on the observation that each mobile-point in the body is attached to a fix-point in the body on one side, and on the other side it can either be free to move 'in the air', or it is touching, grasping, laying on top of a resting point. When the movement of the mobile-point is free, we call it a movement in 'open-chain' mode. When the mobile-point is attached to some external surface, grasping or resting upon it, we call it a movement in 'closed-chain' mode. When movements are performed in closed-chain, an infinite set of movement possibilities become available which are not available to movements in open-chain. In closed-chain movements, instead of one fix-point connected to one mobile-point, the mobile-point is attached to two fix-points at two connecting areas, one at each end.

Just as two sets of interactions in time reveal new characteristics for each description of each event,[117] when there are two fix-points, new possibilities for transformations are revealed in the mobile-point of the body. The contractile fibres in the muscles can pull towards one fix-point or the other. What is more, a new set of *actions* appears as a *consequence* of how this contraction is distributed along the muscle. In this thesis the 'actor of the movement' is defined as 'the body of fix-points which is not affected by the transformation between the beginning of a movement and the end of a movement'. One can see that in closed-chain movements the 'actor of movement' is made of elements which *exceed* the individual body of the person who moves.[118] External elements are necessary to explain the movement in closed-chain performed by the mobile-point of the individual body. Without information about external fix-points in the transpersonal body of the actor it is not possible to explain, understand, or communicate the experience of the movement in the individual body of the actor. It follows that, just as previously observed in Chapters 1, 2 and 3, in the analysis of process-based events, the *actor of movement* (which is synonymous with 'the observer', 'the participant', 'the student', 'the dreamer', as characterised in the examples from previous chapters) has a personal body and a transpersonal body. The careful design of body exercises which *alternate* experiences of movements in open-chain with experiences of movements in closed-chain

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[117] See Ch. 3.2.1.

[118] Some exceptions occur when parts of the body are considered 'external' elements within the individual body of the actor, see Ch. 4.2.2, Exercise 4.

provides a unique possibility to access information about the transpersonal self *from the inside* of the individual physical body. The practice of these experiences triggers specific feelings in the body that one learns to recognise long after the practice of Becomebecome kinetic strategies. The feelings in the body associated to the *movement which alternates between the personal and transpersonal body* (in both directions), in all its nuances particular to each repetition of the exercise, allows one to develop an acquired sensibility. This new sensibility becomes *a new instrument of awareness* which grants one the facility to recognise *from the inside* of one's body the transpersonal elements which are *beneath, beyond and in-between* other experience they will have in the future.

Examples of Becomebecome kinetic strategies which alternate the experience of open-chain and closed-chain movements are analysed in PART II of the dissertation; nevertheless, general observations can be made for all of them.

- Some Becomebecome body exercises are designed to discover how the same movements, depending on whether they are engaged in closed-chain or open-chain, transform different parts of the body in transpersonal mobile-points or fix-points. In closed-chain movements muscles can transform parts of themselves into *actors of movement* or places of movement (connecting areas).[119]

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[119] As a general rule, muscles in the body have several points of innervation divided into areas of contractile tissue which it is possible to activate independently to one another. In closed-chain movements, the presence of

- The transpersonal quality of action that is possible to explore in closed-chain movements allows muscles to expand the range of kinetic trajectories that are available to the body taken as separate in open-chain movements.

- Each individual has the possibility to experiment with the alternation of fix-points and mobile-points within their body. This generates independent access to a coarse-graining instrument that defines which parts of the system serves as reference (fix-points) for the process observed (mobile-points), and which part of the system serve the role of connecting areas.

- Participants in Becomebecome body exercises discover that there are parts of the body that can only relax as a consequence of touching external surfaces (which become *actors of movement*).

- An infinite range of transformations in the individual body becomes available as a consequence of the quality of touch which connects the individual body with an external surface (light touch, grasp, pull, push, resting more or less weight, more or less surface of the body, and so on).

Various partners in the Becomebecome network have developed an initial range of kinetic strategies that draws inspiration from all the schools and movement traditions mentioned throughout Chapter 3.4. The ideal exercises proposed in each Becomebecome event should take into consideration the

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a second fix-point allows the participant to anchor the contraction of the fibres of a specific area of the muscle to create a range of combinations of movements in two opposite directions.

experience of the facilitators, the features of the space where the exercise is taking place, the props available, the characteristics of the group gathered for the specific Becomebecome event, the moment of the process that the group is going through, the time of the day, and many other factors which makes the selection of the kinetic strategies a unique proposition for each Becomebecome event. Some partners in the network will create an activity based on their experience with theatre, dance, art, performance, and so on, others will have ideas and exercises based on group dynamics, movement therapy, sports, games, recreation, and so on. This makes Becomebecome body strategies an open-ended catalogue of propositions that is continuously growing. Still and all, the essential four parameters of the Becomebecome Analysis of Movement which connect the body practice to the theoretical background of the Transdisciplinary methodology remain the same.

3.4.7 The Chronosoma: From Thought-experiments to Body-experiments

The Becomebecome network of artists, researchers, and educators is committed to expanding the Transdisciplinary approach to scientific research by continuing the tradition of alternating transpersonal knowledge *from the outside* to transpersonal knowledge *from the inside* that was at the very origin of the western civilization since the time of ancient Greece.

The language of the Becomebecome transpersonal Analysis of Movement coupled with the design of Becomebecome kinetic strategies allows work on the same areas of the body as structures which are part of the *process-observed* (the movements described), and structures which are part of the *observer* (fix-points). The possibility to observe *from the outside* and *from the inside* the experience of moving something, and also the experience of being the *actor of movement*, is one fundamental aspect of the transpersonal design of Becomebecome strategies. The *alternation and coordination* between these two actions, which is a fundamental aspect of Becomebecome physical practice, expands the awareness of the observer at a scale where a new sensibility for noticing transpersonal and Transdisciplinary processes in the body becomes available. The language of Becomebecome Analysis of Movement clarifies the intellectual procedures that the observer can use to operate with this new transpersonal and *Transdisciplinary instrument of awareness*.

Becomebecome Kinetic Routines allow the freedom to explore patterns of *action and consequence* which distribute *information that exists in a*

temporal dimension through the body of the observer, and to see what happens to the object-observed. This provides a unique opportunity to experience in the body what it means to alternate information at the scale of *consequence*, to information at the scale of *action*. Information about the *consequence* of a movement is information *from the future* and as such it is always transpersonal,[120] because it includes information *from the inside* of the *black box* that can never be acquired at the scale of the set of infinites available *at the beginning* of the movement (i.e. the *action*). The notion of the Chronosoma thus combines every movement of the personal body to a movement of the transpersonal body.

The term Chronosoma, which stands for 'body made of time',[121] has been coined to assemble under the same denomination a number of techniques to approach *information that exists in a temporal dimension which passes through the physical body*. All of them can be considered an extension of the theoretical trajectories analysed so far, but crucially, *all of them can also provide new knowledge to clarify the assumptions that each Discipline mentioned in the examples of PART I has developed for its own*. The Chronosoma is the strand of the Becomebecome methodology which addresses body routines, but because of the unique insight which is possible to access only with direct experience *from the body*, the Chronosoma becomes a privileged instrument to produce new knowledge.

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[120] See Ch.3.2.7 and Ch.3.2.8.

[121] From the Greek words σῶμα /söma, meaning 'body', and Χρόνος /kroʊnɒs, meaning 'time'.

As Nietzsche and Nicolescu suggested, focusing on *information that passes through the body* produces access to a space of Transdisciplinary sensibility which exceeds any knowledge trajectory limited to the mental representation of experiences. The observer becomes aware of process-based subliminal feelings which are revealed as a consequence of guided movement strategies that associate the new intellectual operations brought forth by Becomebecome theory to sensorial experiences triggered in the physical body. Furthermore, once a person who has participated in a Becomebecome kinetic strategy exercise makes another experience which connects them to a space of Transdisciplinary sensibility, they will notice in the body this corresponding feeling *again*. In time, this 'recognition in the body' feeling will develop into an established mechanism which can be used as a *new instrument of awareness* to recognise Transdisciplinary elements that are *beneath, beyond and in-between* every experience one will have from the future onwards.

3.4.8 References to Research Questions and Practice

The analysis of the data assembled in Chapters 3.3 and 3.4 refers directly to Research Interrogations 3 and 4. Because of the examples about *practical strategies* to transform *information about the observer*, Chapters 3.3 and 3.4 also reveal essential features of the intellectual operations which inform Becomebecome practice, as well as Research Interrogation 5.

Practical applications of the notions presented in Chapter 3.4 are included in all Becomebecome Kinetic Routines (BKR), but they are not exclusive to practice limited to physical activity. BKRs are always designed to prepare the body of the observer-participant in a way which makes it easier and more obvious to develop *new instruments of awareness* of *hidden* processes which take place in their own physical body. The reader is invited to look at Appendix A.0 'Why the Appendices?' to understand the sequence of 4 stages which has been developed to this purpose and which is applied to all BKRs. Furthermore, Appendix A.3 Exercise 3 'Two Scales of Movement' provides an example of how to generate direct experience of process-based *information through the body*. Lastly, Chapter 4.3.1.4 BIJ Exercise 4 'Embodied Knowledge, Embodied Intuition' illustrates how to mesh the insight generated because of the *new instruments of awareness* in the body with intuitive and transpersonal information produced during other activities.

PART II

BECOMEBECOME PRACTICE

How suddenly this gloomily depicted wilderness of our exhausted culture changes when the Dionysian magic touches it! A hurricane seizes everything decrepit, decaying, collapsed, and stunted; wraps it whirlingly into a red cloud of dust; and carries it like a vulture into the air. Confused thereby, our glances seek for what has vanished: for what they see is something risen to the golden light as from a depression, so full and green, so luxuriantly alive, so ardently infinite. Tragedy sits in the midst of this exuberance of life, sorrow and joy, in sublime ecstasy; she listens to a distant doleful song—it tells of the Mothers of Being, whose names are: *Wahn, Wille, Wehe* [madness, will, birth contraction] —Yes, my friends, believe with me in Dionysian life and in the re-birth of tragedy. The time of the Socratic man is past: crown yourselves with ivy, take in your hands the thyrsus, and do not marvel if tigers and panthers lie down fawning at your feet. Dare now to be tragic men, for ye are to be redeemed! Ye are to accompany the Dionysian festive procession from India to Greece!

FRIEDRICH NIETZSCHE

4. BECOMEBECOME PRACTICE

> An appropriate education should not value abstraction over other forms of knowledge. It should teach contextual, concrete and global approaches. Transdisciplinary education is founded on the re-evaluation of the role of intuition, imagination, sensibility and the body in the transmission of knowledge.
>
> BASARAB NICOLESCU
>
> Sense-perception happens without our awareness: whatever we become conscious of is a perception that has already been processed.
>
> FRIEDRICH NIETZSCHE

BECOMEBECOME PRACTICE: INCEPTION

PART II Becomebecome Practice directly addresses Research Interrogation 5 and shows how the practice component is central to the process of alternation and coordination which is necessary to create new Transdisciplinary insight with the Becomebecome approach.

Becomebecome events have been conceived, designed and developed as collaborative projects since the beginning. The idea of the first Becomebecome was born out of the intuition of Katerina Karoussos, Andrea Traldi and Agnieszka Pokrywka. In 2013, Ms. Karoussos was Director of the I-Node of The Planetary Collegium in Kefalonia, Greece, and she was in charge of developing a 10-day program of activities for an event to be hosted at the Ionion Center for the Arts and Culture (ICAC) during the month of September 2014. I happened to be a fresh Ph.D. candidate with the Planetary Collegium at that time, and we were having regular conversations on how our

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own research trajectories matched the evolution of the educational programmes to be developed at ICAC. Katerina knew that I was establishing the Wellco Wellbeing hub, and that the vision for a Transdisciplinary model in education that I was developing in my research for the Planetary Collegium could be ideally set up to strengthen the calendar of activities to be presented at ICAC. One day, during a brainstorm exchange on how to energize the September 2014 event with original ideas, she just asked 'why don't you do something for those ten days!?' As a consequence of those words a spark was generated in our heads, and I immediately thought of contacting another fellow Ph.D. Candidate at the I-Node, Agnieszka Pokrywka. I had a feeling that a project developed between the three of us could attract and inspire people to visit the ICAC, and maybe even join the Planetary Collegium programme. During the ten-day residency we would explore different learning modalities, and new ways to work with creativity and intuition that go beyond the patterns each participant repeats at home or in their studio. We developed a call for participation based on this idea, and we initiated dissemination across academic networks, social media, art platforms, etc. Once the selection process was over, we identified twelve participants who came to the first Becomebecome Masterclass. We felt very excited because we could see the idea kindled the interest of professionals and students alike, across a very eclectic range of disciplines, and from ten different countries. Since then, Becomebecome has expanded into a full-blown methodology which has inspired many events, workshops, and the Becomebecome Residency Programme as well.

THE OBSERVER OF *HIDDEN* INFORMATION IN PRACTICE

In PART I of this thesis the Becomebecome approach has been introduced as a methodology to study *information about the observer* using a unique set of concepts which include and transcend the process-based notions of 'the transpersonal', 'the Transdisciplinary' and 'the temporal dimension'. It has also been explained why the Becomebecome approach is also built on the *practical* application of such concepts and the central assumption that new insight can be gained only *after* the practical application of such process-based concepts.

Hidden information about the observer can thus be described as something that lies beyond immediate rational thought or reasoning and reveals itself only through process and over time. This assumption is the foundation for the idea of 'information that exists in a temporal dimension at different scales', where each scale of process intersects with one another creating *black box* pools of *hidden information about the observer*, and therefore about the object-observed. *Hidden information about the observer* is acquired in a space which is continuously expanded as a consequence of the actions of the observer-participant. This entails that the agency of the observer-participants extend from the *visible* to the *hidden*.

In PART I it has also been postulated that *hidden* process-based information which exceeds what is possible to access by a single individual or through a single action includes the category of what happens because of *synchronicity*, *synkinesis* and *information from the future*. During Becomebecome events,

this translates into a sequence of moments where personal and Disciplinary statements anchor moments for transpersonal and Transdisciplinary insight. Becomebecome facilitators have the responsibility to maintain a balance of *alternation and coordination* between both moments, because they represent stages in the process necessary to create *new instruments of awareness*.

Becomebecome strategies to access *information about the observer* that is *hidden* but 'makes sense' (because it contributes to create meaning and understanding of an experience) are thus based on the same approach initiated 2500 years ago in ancient Greece with the birth of tragedy. Such strategies rely on the same mechanism of *alternation and coordination* between moments when hidden information about the observer is *hidden* (Dionysian) transpersonal and subconscious, and moments where hidden information about the observer is *visible* (Apollonian) i.e 'explained' in a language that 'makes sense' and rationalises the importance of the invisible, the *hidden*, the process-based, the Transdisciplinary. Becomebecome facilitators that are involved in each event participate in this process and are uniquely positioned to provide relevant examples for interpretation so that participants can generate their own 'explanations', and 'make sense' of each Becomebecome activity in a way that integrates to their own personal storyline. This is one of the characteristics that keeps the Becomebecome methodology process-based and open-source. This is also why the purpose of PART I in this thesis is to administer a syncretic corpus of foundational knowledge trajectories which can be used for inspiration and research to accomplish such process-based union 'on the ground'. In particular, the

concept of the 'observer-participant' and how to access transpersonal *information about the observer* within 'oneself' are notions that must be experienced through lived practice in order to understand and expand the value of the examples proposed in PART I. A crucial element that is necessary to integrate and understand the notion of the 'observer-participant' is to transform the temporal dimension of the composite word into the sequence of words which represent the process it describes. The *observer-participan*t is identified by an alternation of experiences (observation and participation) that are separate but united in a sequence. A moment where an activity is observed *from the outside* is coupled to a moment where the activity is experienced *from the inside* as a participant. As happens much too often with descriptions of process that are reduced to single words, the nature of the sequence of these two experiences(observation and participation), which are *both* necessary, is 'con-fused`. The temporal dimension of this sequence is often lost in a 'time-less' abstraction which reduces the importance of the information generated by the participant *during* the experience compared to the importance given to the interpretation afterwards which is provided in the Apollonian 'observation' moment where things 'make sense'. Becomebecome Kinetic Routines, Becomebecome Intuitive Journeys, and Becomebecome Critique Labs are designed to protect the generative process which occurs *during* the practice and bring forth essential Dionysian elements of such first-person experiences.[122]

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[122] See Chapters 4.2, 4.3, and 4.4.

THE TRANSPERSONAL-SELF IN PRACTICE: ALONE, WITH OTHERS

The notion of the Transpersonal-Self, and the understanding that different cultures have built around such concept over time has been referenced throughout PART I of the dissertation. Becomebecome Intuitive Journeys group together some of the most straightforward practical strategies used to explore transpersonal insight during Becomebecome events. Step 5 in the 'Seven Steps into the Imaginal Realm' (Ch. 4) is a moment where participants in a group exercise provide intuitive feedback on a story brought forth by one of them.[123] This is an opportunity to share spontaneous and unfiltered insight as part of a structured and coherent exercise. The information available because of such insight is transpersonal and cannot be accessed by one participant alone. A similar process is experienced during the exercise called 'The Dream Theatre',[124] where instinctive behaviour from the participants in the group is channelled not only through thought and mental intuition, but also through movement of the body and the intuition of the physical self.

Transpersonal insight from the physical self is also made available during Becomebecome Kinetic Routines that introduce exercises with closed-chain movements.[125] Here the *actor of movement* is made of elements which exceed the individual body of the person who moves. External elements are necessary to explain the movement in closed-chain performed by the mobile-

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[123] See Ch. 4.3.1.1.
[124] See Ch. 4.3.1.4.
[125] See Appendix A.4.

points of the individual body. Without information about external fix-points in the transpersonal body of the actor it is not possible to explain, understand, or communicate the experience of the movement in the individual body of the actor.[126] As has been explained in Chapter 3.4.6, closed-chain exercises can be performed by participants that use external surfaces or even parts of their own body as external support. This creates the opportunity to produce within the body the consequence of an action which is generated because of something which is 'external' to the body. Such practices expand the sensorial awareness to transpersonal insight which is available to the observer-participant. BKR and BIJ exercises can also be combined to access *information about the observer which is hidden* because of *synkinesis*.[127]

Becomebecome Critique Labs, the Becomebecome Symposium on Transdisciplinary Narratives, and the Becomebecome Process-Exhibit are three stages of the Becomebecome residency programme that are also designed to provide access to *hidden*, intuitive and transpersonal information about any project the participants bring to a Becomebecome event. Attendants to these events take turns in giving and receiving feedback for each other in a selection of activities where rigid formatting is subverted in a playful yet respectful way to create a subconscious dynamic of deep sharing and empathy between the participants.[128]

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[126] See Ch. 3.4.6 for an extended purview of the corresponding theoretical background.
[127] See Ch. 4.3.1.4.
[128] See Ch. 4.4, 4.5 and 4.6.

WORKING WITH INFORMATION FROM THE FUTURE IN PRACTICE

One of the primary suggestions that plays an influential role in the design of Becomebecome strategies and Becomebecome 'explanations' is that one should consider the space inside which *hidden information about the observer* is found, as always associated to information which is process-based and, in particular, to the category of process-based information which integrates with *information from the future*.[129] This is because in western culture (but not exclusively) there is a habit of connecting the idea of 'knowledge' (and even process-based knowledge) to the idea of 'information about the past'. Socratic and Aristotelic logic have reduced all knowledge to 'knowledge based on something that *happened* (*before*)', hence not part of a process which is unfolding, but rather only knowledge *about the past*. The assumptions that knowledge is influenced by information *from the future*, or that it is even possible to access information *from the future* which influences the consequence of our actions just as much as information *about the past*, are quite ground-breaking ideas for most people. This is shown by the fact that not a lot of language has been produced to explain how it is possible to access *information from the future*, which makes these ideas difficult to grasp.

Talking about *information from the future* and creating activities which revolve around direct experience of it, never fails to generate a surprise effect, a useful 'cognitive jolt' as a consequence of which observers start to

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129 See Ch. 3.2.7.

consider that one cannot look at important elements of process-based information until one begins to use process-based language to describe one's own observations. Becomebecome Intuitive Journeys[130] introduce experiences where it is possible for the participants to associate moments of logic and coherence to moments of synchronicity and *information from the future*. Exercises such as 'The Seven Steps into the Imaginal Realm' and 'Dream Tarot' create operational insight with reports generated from the *black box* of transpersonal and subconscious observations. Playful exercises to access *information from the future* become practical strategies to access *hidden information that exists in a temporal dimension at different scales*. During the course of longer Becomebecome events, participants are invited to put together different procedures to access *hidden* information. When Becomebecome Intuitive Journeys are combined with Becomebecome Kinetic Routines, *synchronicity* and *information from the future* produce *information from hidden temporal scales* that becomes available through *synkinesis* and feelings in the body. Correspondingly, the practice of BKR produces better awareness of subconscious and transpersonal information.[131]

Becomebecome facilitators guide participants in the discovery of process-based knowledge which can be explained with language and experiences that refer to the following concepts related to each other: *information from the future*, the transpersonal Self, learning that *not-doing* is an action, the

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130 See ch 4.3
131 See ch 4.3.1.4

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importance and necessity for always including 'incompleteness' in one's observations and thus going beyond the idea of 'not doing things right' (because there is not enough information to know what is right before the process is unfolding), and so on. When and how one decides to look deeper into such concepts, which knowledge trajectory speaks to one first, how and why one decides to 'play' with the idea of *information from the future* at any of the scales mentioned here above, is entirely a personal matter in the hands of each participant. Becomebecome facilitators are reminded that they should always consider their task is to offer an opportunity to examine a specific theme or a specific project using techniques and resources that put the observer into a space where *their* exploration of a corresponding process-based language becomes possible. Such exploration should feel easy, playful, and completely open, so that each participant can decide for himself or herself at which rhythm they wish to engage with the modality available during each activity in the daily schedule.

The wealth of research sources selected in PART I of this thesis represents a selection of theories about process-based *information from the future* developed by cosmologists, quantum physicists, cyberneticians, psychologists, and anthropologists who study contemporary and ancient traditional cultures. Such wide-ranging collection of material provides expansive opportunities for each participant to identify the Disciplinary trajectory of knowledge which matches their specific need to explain the

unfolding process they are experiencing. Becomebecome Continuity[132]

describes how *after* the practical application of such concepts during

Becomebecome events Becomebecomers (both participants and facilitators)

can *expand upon the research into each of these topics with their own*

contributions. Guided by their intuition they can continue to delve deeper

into each topic and into each practice long after the Becomebecome event is

finished.

SEVEN STAGES FROM THEORY TO EXPERIENCE IN PRACTICE

The practical application of the Becomebecome methodology revolves around

the idea of creating *new instruments of awareness* to access one's own

information about the observer which is *hidden*, and which is only possible to

access by going through a process. This method of inquest is distributed at

different scales throughout Becomebecome events. Over the first seven years

that the Becomebecome Residency programmes were processed, the

organisers, the facilitators, and the participants contributed together to

identifying seven elementary stages which characterise a *sui generis*

Becomebecome Residency experience. Each stage is defined by its own set of

strategies, yet each stage also combines with others in a process which

frames the cognitive space where *new instruments of awareness* become

available. The list of the seven main trajectories of practical research that are

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[132] See Ch. 4.7.

deployed to study informatio*n about the observer which is hidden and process-based* during Becomebecome residency programmes is as follows:

Stage 1: Becomebecome Call For Participation

Stage 2: Becomebecome Kinetic Routines

Stage 3: Becomebecome Intuitive Journeys

Stage 4: Becomebecome Critique Labs

Stage 5: Becomebecome Symposium on Transdisciplinary Narratives

Stage 6: Becomebecome Process-Exhibit

Stage 7: Becomebecome Continuity, Individual Participants and Social Actors

4.1 Stage 1: Becomebecome CFP

Information about *the hidden* starts with discovery. A call for participation (CFP) to a Becomebecome event is usually the first introduction to the methodology for participants in Becomebecome residency programmes. The Becomebecome team responsible for each residency programme takes great care in carving a narrative structure which prompts the reader into a process of self-exploration. This is generated as a consequence of the interplay between the theme of the residency programme (which changes every year), the use of language in the description of the CFP (print and digital channels), and the calculated attention applied to 'leaving out' as much detail as possible from the description provided, while making sure to establish a strong sense of reassurance and solidity at the same time. In Ch. 3.1.4, it has been mentioned how Gregory Bateson formulated a simple explanation to understand why 'leaving out' information constitutes a fundamental mechanism used in the animal world for the production of new information. The temporal dimension plays a critical role in this process because it is only possible to introduce *left-out* information *going beyond* (i.e. after) information that is known.[133] Stage 1 immediately announces that the Becomebecome residency programme 'feels' different because *something is missing* from the basic description available in the CFP. It 'looks like' other residency programmes because information about Becomebecome events is found at the same location where information about the other residency

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[133] See also point 3 in the description of CFP main requirements which follows.

programmes is catalogued, yet this knowledge is used to build upon a narrative of what is *hidden*, instead of what is revealed. This is how a strategy of *not-doing* is activated in Becomebecome residencies starting with the call for participation. Taking great care to acknowledge the current panorama of offers in the same category of events, the Becomebecome team in charge of each specific residency programme generates a description that includes real information about concrete elements of the event, such as location, accommodations, local and international partners in the event, price, and so on, then uses such concrete knowledge which produces a feeling of confidence and safety and attaches to it a *suggestive* idea of the activities that will be offered during the event. Contrary to what is readily available in most calls for participation, a final calendar of activities is *not provided* until the very beginning of the residency programme. By then, the selection of the candidates has been completed, and commitment from each participant has been secured through a number of verification mechanisms.[134]

Upon arrival at the location of the residency, the participants receive a detailed list of activities for the following day. The proposition for the activities of the first day should be a simple one, and it is always made clear that the schedule includes the possibility for change in accordance with the response from the group (because the methodology is process-based).

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[134] Commitment is secured through three main mechanisms: candidates have certified their intention to participate repeatedly through a series of emails; they have provided a copy of their transportation arrangements; and they have sent at least 50% payment for the fees necessary to cover their participation in the residency. Two of the emails sent to the participants are introductions to the general principles of the methodology. This helps to position any feeling of uneasiness about the original approach of Becomebecome into a cognitive space which puts the participants in charge, i.e. where one understands that if one decides to participate, this is what one is going to experience.

Participants are usually also struck by the amount of free time they have available (approx. half-day, every day).[135] Only the main activities are revealed about the following days after the first one. This strategy of communication connects the *hidden* space of *not-doing* created with the initial call for participation, to another *hidden* space of *not-doing*, made with *information which is not-there* at the moment of arrival. This process which connects *hidden* spaces to each other will be reinforced during the whole duration of the Becomebecome residency many times, and through different modalities. Most important at this point is that abundant information is provided about the accommodations, the practicalities, and that the general impression about the housing and boarding at a Becomebecome residency is one that enables participants relax into the experience. Participants know they are safe and feel comfortable at all times, which puts them in ideal conditions to integrate *information from the hidden* at their own rhythm, through two main mechanisms. First, participants know they can always decide how much time and energy they are willing to commit to any hidden, unexpected, and potentially disruptive activity during each day of the Becomebecome residency. Second, participants know they have a lot of free time to *integrate* the activities in a safe and comfortable setting.

In consideration of all of the above, the CFP can be seen as the beginning of a process which connects one's own professional trajectory to the desire to explore one's own *hidden* and *process-based information about the observer*.

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[135] This is consistent with the necessity to create transformation in *the hidden* (while *not-doing* activities). More on this in Chs. 4.1.2, 4.1.3, 4.1.4.

For this reason, it is essential that the CFP stage (which extends from the moment of first contact, to the day of the arrival at the residency location) achieves the following three main objectives:

1 The CFP as a filter mechanism.

It is paramount to the positive outcome of Becomebecome residency programmes that the selection of candidates includes participants who are ready for a programme which places experience *before* knowledge. One of the important mechanisms to access *information about the observer* explored extensively during Becomebecome residencies is brought about because of different opportunities to experience the process which connects rational mind explanations to experiences which go beyond the rational mind (experiences of the body, experiences from the subconscious, experiences of synchronicity and the transpersonal self). This process allows the clear separation, identification, and *alternation* of moments where participants make experiences, from moments where participants think (or 'know') about experiences. It is not commonplace for people to decide to take part in an experience without having knowledge about the experience before they make the choice. This is why the Becomebecome CFP is designed to elicit a realistic first taste of what will happen repeatedly, and in many different forms if one decides to participate in Becomebecome programmes.[136] Some

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[136] The rationale of why Becomebecome activities put 'experience before knowledge' is a direct consequence of the Transdisciplinary approach to *information about the observer that passes 'beyond the rational mind'*

people will be attracted by this feature of Becomebecome CFPs, others will be put off. It is conducive to the optimal unfolding of each Becomebecome event that the group of participants gathered as a result of this selection process share a clear interest towards this mechanism of 'attraction from the hidden'. Only the people who write because they want to participate belong to the category of people that for personal or professional reasons are ready and eager to appreciate the 'liminal' experiences proposed in Becomebecome events.

2 The CFP creates the first experience of *not-doing*.

Information which is deliberately left-out of the CFP introduces a first opportunity to create access to *hidden* information by *not-doing* something. This is also repeatedly mentioned, and formulated in different ways, in the main theme of each residency – that there is something important about Becomebecome experiences that goes beyond what is *visible*. The consequence of *not-doing* reveals *information* about the *observer* that is *hidden*. In particular, it reveals *hidden* information about something that the observer is *doing*, but which is not *visible* until one is given the opportunity of *not-doing*. This is manifested through the *synkinetic* processes in the body that are experienced during Becomebecome Kinetic Routines,[137] which are

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detailed in PART I, in particular Ch. 3.3 and Ch. 3.4. The next chapters provide more examples of how this understanding is transformed into practice during Becomebecome Residency programmes.

[137] See Chs. 3.4 and 4.1.2.

reinforced by *synchronicity* and the *information about the transpersonal self* that are brought to light because of group dynamics during Becomebecome Intuition Journeys, and Becomebecome Critique labs also.[138]

3 The CFP introduces the first stage of a *hidden* process-based strategy.

The CFP initiates a typical Becomebecome process which begins with the experience that something appears to be missing, but actually enough information is available to decide and continue the experience based on intuition, 'gut feelings', and so on. It is a first opportunity to become aware of the influence that the body has over the processes in the rational mind. Since the usual amount of information which is enough to make a decision is 'not-available' (deliberately), one has to accept to make a decision not because it 'makes sense', but because it 'feels right'. This process will continue at all stages of the Becomebecome residency, and participants will learn to recognise it. First, as a powerful tool to access *information about the observer which is hidden*; then they will experiment with it as a tool which is necessary to sculpt information *from* the *hidden* when communicating to others.[139]

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[138] See Chs. 3.3, 4.1.3, and 4.1.4.

[139] See also Chs. 3.1.4, 3.1.5 and 3.2.

4.2 Stage 2: Becomebecome Kinetic Routines

One of the first trajectories of practical research to study *information about the observer that is hidden and process-based* which has been introduced since the conception of the Becomebecome Residency programmes focuses on a repertoire of physical routines which are proposed to the participants almost daily and that came to be referred to as Becomebecome Kinetic Routines (BKR). The characteristics of each sequence of movements in the BKR are influenced by a set of parameters which are available only at the location of each residency programme (characteristics of the space available for movement: i.e. indoors or outdoors, which props are available, weather conditions, temperature, and so on). Nevertheless, the main features which define the research behind each of the BKR and the overall design which connects them to one another are always the same and can be found described in detail in Ch. 3.4 The Chronosoma.

4.2.1 Becomebecome Kinetic Routines: The Exercises

BKR Exercises 1 to 4 are explained in detail in Appendices A.1 to A.4.

The reader is advised to continue reading Appendices A.0 to A.5 then proceed to Chapter 4.3.

Figs. 17, 18, 19 – Illustrations of Becomebecome Kinetic Routines during the practice

4.3 Stage 3: Becomebecome Intuitive Journeys

> Contemplate the human with the human, and you will
> see the dynamic duality, the essence together: here is
> the giving and the receiving, here is the aggressive
> and the defensive power, here the quality of
> searching and of responding, always both in one,
> mutually complementing in alternating action,
> demonstrating together what it is: human. Now you
> can turn to the single one and you can recognize him
> as human for his potential of relating. We may come
> closer to answering the question "What is human?"
> when we come to understand him as the being in
> whose dialogic, in his mutually present two-
> getherness, the encounter of the one with the other is
> realized and recognized at all times.
>
> MARTIN BUBER, DAS PROBLEM DES
> MENSCHEN[140]

Becomebecome Intuitive Journeys (BIJ) draw inspiration from the tradition
of research developed in the fields of psychology and anthropology and are
designed with the aim that participants in Becomebecome events should
become aware of *information from transformations that happen at a
subconscious level*, which it is possible to access through intuition,
synchronicity and group dynamics.[141] The transformation in the capacity for
awareness happens to be a major component of meditation exercises,
shamanic rituals, psychotherapy, placebo medicine, and so on. This
transformation has been traditionally inferred *from the outside* principally by
measuring its impact on the abilities of the observer (productivity, creativity,
strength, resilience, etc), or the changes it produces in the body of the

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[140] Cited in Von Foerster (2003a).

[141] See Ch. 3.3 The Transpersonal Self.

observer (fluctuations in values for indicators of hormone secretion, heartbeat rate, respiratory function, etc).[142] It is obvious that all of these correspond to aspects of the life of the observer *from the inside* (stable mood, less stress, more serenity, higher capacity of attention, less fatigue, improved mental agility, etc). The Becomebecome approach produces research based on the Transdisciplinary idea that the space of transformation of information about the observer *from the inside* cannot be artificially removed from the description of experiences observed *from the outside*. That is to say, all strategies which describe *information about the observer from the outside* belong to the bigger set of infinite trajectories which include information about the *black box* of information *from the inside* of the observer. It is only through process-based strategies which alternate awareness *from the outside* with awareness *from the inside* that some aspects of *information about the observer* 'from the *black box*' become visible. Chapter 4.2 Becomebecome Kinetic Routines (and Appendices A.1 to A.4) provided several examples of strategies that create access to *hidden* information about (the body of) the observer as a consequence of physical movements which transform the awareness of the observer. In particular, examples introduced in Category 4c focus on the feelings generated by physical exercises that create awareness of *information about the (the body of) the observer which is transpersonal*. Becomebecome Intuitive Journeys expand upon that approach to create a syncretic alliance between transpersonal and subconscious information about

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[142] A selection of scientific studies of strategies which transform awareness and their impact on bodily functions can be found, in the bibliography section at the end of this thesis.

(the body of) the observer, and transpersonal and subconscious information about the observer as it is studied through the disciplines of psychology and anthropology.[143]

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[143] See Ch. 3.3 The Transpersonal Self.

4.3.1 Becomebecome Intuitive Journeys: The Exercises

> Sharing dreams is not so much a matter of puzzling over obscure texts but a means of developing practical wisdom, community guidance, and grand entertainment as well!
>
> ROBERT MOSS, <u>DREAMWAYS OF THE IROQUOIS</u>

The transformation from knowledge to process-based knowledge requires the transformation from descriptions of objects to descriptions of object-events. This is made using a language strategy which causes '*all qualities and attributes, adjectives, and so* on to refer to *at least* two sets of interactions in time'.[144] This is why in each Becomebecome exercise, the facilitators take great care to use a language from which awareness originates as a process made of a*t least* two sets of interactions in time. In the previous chapter it has been shown how Becomebecome facilitators construe a space for awareness, which is part of the *action* performed during BKR, and how that produces a difference kind of awareness which is part of the *consequence* of BKR. Instructions given to the body as *part of the action* create a separation between the movement of *awareness*, and the movement which is made with *other processes* in the body. This is a first important transformation which is achieved through the separation of the breathing gesture from other movements in the body. *As a consequence* of BKR a new Transdisciplinary instrument of awareness is available to the observer of *hidden information about (the body of) the observer*; it is *the awareness of hidden information*

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[144] See Ch. 3.2.1.

about the (body of the) observer made of synkinesis. This possibility for new insight (which produces new knowledge) is established through an elaborate protocol of *alternation and coordination* between movements, exercises, and explanations,[145] when the language to support the *new awareness* from the body is introduced to the mind.

During BIJ another set of language strategies are engaged, this time is to produce the transformation from awareness of *hidden information about (the mind of) the observer* into *process-based* awareness of *hidden information about object-events.* In the next chapters it will be explained how this process unfolds and how it is connected to the overall learning experience taking place during Becomebecome events.

BIJ usually take place once a day, mostly in the form of group-exercises. As the Becomebecome programme unfolds, participants have the option to go deeper into the techniques in their own time. The origins of BIJ have deep roots in the historical and anthropological reports of shamanic practices, as well as research in psychotherapy and the cognitive sciences. This research is distilled into a set of simplified protocols made accessible in complete safety to Becomebecomers in a manner which is independent of each participant's personal or professional background. Just as it was for BKR, BIJ reveal *an elementary set of steps which can be easily learned and used by each participant to reshape a project, or change a specific aspect of a project, as*

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[145] See Ch. 4.2.2

a consequence of the transformation in the patterns of awareness of the observer of the project.

The following examples show how BIJ are implemented during a typical Becomebecome Residency programme.

4.3.1.1 BIJ Exercise 1 Seven Steps into the Imaginal Realm: Imagination from the outside transformed into imagination from the inside

Participants gather into a room, or an outdoor space where it is possible to sit comfortably. The night before, the facilitator has asked everyone to join the BIJ and bring a notebook, coloured pencils, a pen, or any other device they feel appropriate to take notes. A brief introduction to BIJ is offered by the Becomebecome facilitator in charge of the activity. In this introduction, the first BIJ should provide enough background information to explain how working with dreams and intuition has been a staple of traditional cultures worldwide, including western culture until recent years. Any introductory discourse about BIJ shall include the following themes which are to be made clear by the facilitator.

- Intuitive knowledge is knowledge which comes from a process of 'harmony' with Nature.[146]

- *Information about the observer* is made of transpersonal processes which can be observed in Nature *from the inside* of the body, and Nature *from the outside* of the body.

- The idea of the body exceeds the strict definition of the physical body and extends to the mental body, the emotional body, the energetic body, and so on.[147]

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[146] Harmony is defined here as the process which connects Nature *from the inside* of the observer, to Nature *from the outside* of the observer.

[147] See Ch. 3.3.

The facilitator gauges which examples from research in psychology and anthropology[148] should be selected as conducive to the best communication of the topics here above, taking into consideration the background of the participants, the theme of the Becomebecome event, the settings at the location, the hour of the day, and the connection of the BIJ to the larger process which includes Becomebecome activities before and after the BIJ. The facilitator will refer to 'information from Nature at different temporal scales'. For instance, information from *synchronicity* provides inspiration at the temporal scale of the 'immediate', information *from the natural surroundings* provides a connection with Nature which is visible from the outside, but has also impregnated the participants *from the inside* since (before) the moment they arrive at the Becomebecome Residency location, and until (after) the day they depart. Both scales of the process which connects *information about the observer* to *information about Nature* provide essential inspiration in the choice of the language which will be used for the instructions of the BIJ also called 'the meditations', 'the dream journeys', 'the ceremonies'.

In the introduction to a typical BIJ, which should not exceed 15-20 minutes, the facilitator explains that a conspicuous amount of research from the outside (with accompanying texts, bibliographic references, and so on) is available and will be mentioned again in the following days. The facilitator also explains that the BIJ should rather be a moment to focus on the practice

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[148] For example, those cited in Ch. 3.3.

of dream journeys to tackle transpersonal intuition *from the inside* of the individual, and *from the inside* of the group.

The text in italics is the script repeated to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*, or to offer a shortened digest of the instructions in the sequence of movements.

Now, the only rule when we work with dreamtime is:

'Do not judge'.

The Dream is bigger than the rational mind.

Whatever you might think is right, or wrong,

it belongs to a space which is inadequate to receive the message which is channelled from dreamtime.

There will be a moment for the rational mind,

but the fundamental key to revealing new insight is created as a consequence of the process which separates the Dream from the rational mind.

Separate the intuition, the channel, the visions that come with Nature from the inside,

and the intellectual strategies which the observer will use to explore it.

Do not judge the content of your mind, your feelings,

do not expect to see spaceships from Venus or impossible colours and unicorns.

Whatever thought or image comes during the ceremony is already happening in Dreamtime; it just looks like you know it from ordinary life, but you don't.

Follow any thought or image that comes and ask, 'I would like to know more about this', then let synchronicity take control; whatever image follows ask again 'I would like guidance on this'…

Whatever feeling in the body, or noise from the environment, is part of dreamtime.

..

Only once the journey is finished will we 'think' about what came from dreamtime,

and we will use very specific language and thought techniques to do so.

The BIJ session today is divided in four stages:

- *The dreamtime journey*

- *The dreamtime channel report*

- *The Seven Steps into the Imaginal Realm*

- *The transpersonal journey*

The only rule you need to remember during the dreamtime journey and the dreamtime channel report is:

'Do not judge';

do not filter, do not explain, do not second-guess; there is no wrong, and there is no right.

You have all experienced how 'not-doing' is an action in the physical body.

(This comment only if the group already had relevant previous experience during BKR)

Now it is time to not-do with the mental body.

The only rule is not-doing the explanation, not-doing the interpretation.

...

I am going to lead a short meditation to give your body time to relax.

Then I am going to play the shamanic drum for a period of approximately ten to fifteen minutes.

After that I will gently guide your awareness back towards your physical body sensations.

And this is the twilight moment,

the perfect moment to roll over and channel the vision from dreamtime into the recording device of your choice. Write words, draw, channel the story ***exactly*** *as it happened*

Do not judge.

The dreamtime channel report is still a stage where it is important to not judge.

It is an extension of the dreamtime journey which unfolds through pen and paper, through your fingers, through your mental colours.

You are still in dreamtime and channelling straight from the imaginal realm.

Whatever came is whatever comes.

If it has the shape of thoughts,

write them down.

If you do not know what to write,

write the sensations you had in your body during the journey,

the sensations you noticed from the outside.

Maybe they connected to something which is still there.

Maybe you will find out later in the following steps of the ceremony.

Sometimes a big part of the dream blossoms out during the moment of the dreamtime channel report.

Remember, you are writing from dreamtime, you are drawing from dreamtime.

...

When all have finished, we will proceed to the following stages together:

The Seven Steps into the Imaginal Realm and the transpersonal journey

The facilitator then asks participants to bring out their preferred tools for annotation and keep them within reach. They then proceed to make sure that everyone sits or lays comfortably in the room (or outdoor space). It is good to have yoga/pilates mats available, but any other comfortable resting surface will do (pillows, covers, towels, etc).

The dreamtime journey

Find a comfortable position and relax

Give your body the time to relax

Relax your jaw

Relax the tongue in your mouth

Go deeper inside your head

Ten cm behind the top of your nose

Relax

Maybe you feel the need to sigh

Keep all these areas relaxed

Do not interrupt the breathing

...

Stay with the sound of Nature around you

(This is for the version of the dream journey portrayed in Figs. 20-24 at the end of the chapter; the facilitator should be inspired by the features of the location where the meditation takes place and the environment of the Residency programme at large.)

The voice of the facilitator is soothing, low, and slow.

Maybe you noticed a certain clearing, a tree, the light of the sun, something that captured your attention in the hours we have already spent here,

something that captures your attention now…

Ask Nature around you to connect with Nature within you and guide you into this journey.

Do not interrupt the breathing.

Relax and ask: 'I would like guidance on…'

You might ask for guidance about a personal aspect of your work,

a specific aspect of a project which remains mysterious, something which is there but hidden.

'I would like guidance on…'

Here the facilitator starts playing the shamanic drum for approx.. ten minutes. The preferred instrument can be other than the shamanic drum - a gong, shaman sticks, a slow acoustic guitar melody, and so on. A meditative state can be invoked by walking in circles, looking at a candle, and many

other ways. When the facilitator feels the time for drumming is finished, they lead the awareness of the observers to their own body sensations.

The dreamtime channel report[149]

Slowly go into your breathing again.

Give your body time to lead you from dreamtime into channelling.

Write what comes from dreamtime and what you saw.

The thoughts that came to you are words, images and the feelings as the journey unfolded.

Everybody takes time to write in their notebooks or other recording devices. After five minutes or so, the participants should have finished writing and the facilitator checks that almost everyone has finished. When only a couple of people are left, the facilitator speaks again.

The Seven Steps into the Imaginal Realm

Now that you have your dreamtime channel report ready, we are going to transform it into a multidimensional space for the exploration of the subconscious. The way we are going to do that is through a simple conversation strategy established by a process in seven steps. We are going

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[149] Dreamtime Channel - The full, unedited, unfiltered channelling of emotions, ideas, sensations that make up the experience of the participant during a dreamtime activity.

to see if an unconventional use of language can convert information about our projects into an extension of information that is coming from dreamtime.

So maybe you asked for guidance about something very specific?

Or you received information about something very specific!

In BIJ we postulate that the intuitive way does not follow rational mind logic. So, maybe the answer to your question arrives today, and you can see obvious connections between the channelling from dreamtime and the intention you set for the meditation.

Maybe the connection is process-based at a larger scale which includes information that is not available yet, and you need to continue the exploration of the subconscious to find out more in the next days. So, to show you the steps I will need a volunteer. Is there anybody who would like to go first?

Facilitator makes a joke to break the tension.

Somebody comes forth or is chosen randomly in the group, and the facilitator asks:

Ok, now step one,

and you can write it down in your notebook:

Step 1 is TELL – Tell the Dream

No interpretation, no censorship, no judging.

Just tell what came during the meditation.

Whether is feelings in the body, thoughts, images, or other sorts of messages.

The participant tells the dream. Maybe they had quite an articulate experience and vision, maybe they 'blanked out' because it is the first time they have engaged in a practice of this sort.[150] No matter what the case is, we will see that when a group works the seven steps it is not necessary that everyone comes forth with a story, a dream report. Those few who actually do so, provide enough material to ground the experience for everybody else. Once the dreamer has finished telling the dream the facilitator immediately says:

Step 2 TITLE: Give the Dream a Title

If it were a movie, what would it be called?

The participant replies...

The facilitator says to the group:

You can mark down the second step too: What's the title of your dream?

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[150] The facilitator of the BIJ has been working with BIJ before and has been trained in the basics of mental resistance to dreamtime journeys. Every participant will have something to work with. Often, it is something they do not consider 'a vision, a channel', and they let it slip under the awareness threshold because they 'judge' it not worthy, perhaps out of shyness, or for other reasons.

Step 3 FEEL: Feelings

How did you feel after the dream, or even now, after the dream report?

It is more like a positive feeling, a feeling of adventure, excitement, or something else entirely?

The participant replies...

Step 4: REAL – Reality Check

Which parts of the dream look like something you recognise from real life, and which parts look more symbolic. It could be something you recognise from real life from the future, not only the past... It could be something that you know you are going to see. A building where you have an interview, a country that you are going to visit, a restaurant where you have a date once you go home, etc. You might not have been there in the past, but you have been there in the future already. Separate two columns with elements from dreamtime you recognise, and elements which are symbolic, more abstract, generic.

The participant replies, then the facilitator proceeds to STEP 5.

The transpersonal journey

Step 5 SHARE: Dream Sharing – If it were my dream...

This is the step of dreamwork which is transpersonal.

Did you have an intention for the dream?

Did you ask something specific?

Is it OK to share the intention with the group?

The participant replies...

This is the step where people who travelled in dreamtime with you share their intuition about the vision you had.

The facilitator now addresses the group:

If anyone has a feeling that you want to share with ___ (insert name of participant sharing their dream here; below they will be referred to as 'X')

This is the time where the dreamtime becomes transpersonal.

This is the time for the collective subconscious and group intelligence.

If during the telling of the story you had a feeling, a thought, and intuition, an idea such as...

'If it were my dream I would go there, I would open the blue door, I would lift that rock to see what's underneath...' this is the time to share your intuition.

It is precious information for the dreamer, and it is information that the dreamer could never reach by themselves. And most certainly, do not judge!

This is a playful exercise; we are doing this for fun!

No need to be serious or double check your hunches and feelings with poor logic!

Just tell the dream!

Be generous and share your intuition with X.

For the transpersonal step of Dream sharing,

the proper way to offer your insight to the Dreamer is:

'If it were my dream…'

*This is because one fundamental rule of the way we work with dreamtime in Becomebecome exercises is that the Dreamers themselves are the ultimate authority on what is most relevant to make decisions. The Dreamer is the only person who has access to all (*the hidden*) information about the Dream. We can only help along, offering our insight when it feels right. We are not interpreting the dream. NEVER! When we share our intuition for somebody else's dream, we offer it as a gift. We offer the feelings and intuition that came to us when the Dreamer was telling their story.*

Participants volunteer feedback. The facilitator as well. The facilitator goes first if it is necessary.

Step 6 INTENTION

What are you going to do with the insight from the Dream?

Is there a part of the vision that came during the meditation, or during the channelling, or during the Dream sharing exercise that inspired you? Made you curious to go deeper?

Or maybe you just wish to celebrate? Or maybe just let things stew for a while…

The participant replies, then the facilitator proceeds to STEP 7.

Step 7 *THE KAIROS BRIDGE RITUAL – Honour your dreams*

Facilitator to the group:

This is the most important step in the whole process.

This is what anchors your dreams to the transformation that happens in ordinary life.

…

Dreams and visions are made to be honoured.

Once considered visions from gods and goddesses,

in modern western culture we have stopped honouring dreams,

and this is how we lost a fundamental element of the ritual which channels information from the personal and transpersonal subconscious in our everyday life.

Honour your Dream!

Make an action plan to honour your Dream.

Whether you want to know more, receive more clues from the subconscious, or just thank the gods and goddesses for the channel they show you. Any of the intentions you have chosen, this is how you make it happen.

Action Plan.

You could go and walk in the forest for 10 minutes with the intention to honour the dream. See what happens. See what signs from synchronicity come from Nature around you. What signs come from Nature within you while you honour the Dream?

You could meditate in your room, with a candle.

You could touch a tree and wait for the message that comes.

You can honour the Dream by going to a very special restaurant or any other place you choose.

Just make it a ritual, a special moment.

It is not something you do every day; it is not something you do without thinking.

It is something you do with your physical body.

You bring your physical body somewhere, or in a certain position, to do something.

This is how you honour the Dream and unlock information from the collective subconscious that channels information about the intention you have.

But of course,…

Do not judge!

Just take notes, mental notes, or actual writing if you prefer.

Finish your ritual and take the time to do a dreamtime channel report.

This is the Kairos Bridge Ritual.

This is how you establish a bridge from dreamtime to dreamtime.

It is a process-based bridge from the hidden *to the subconscious that spans into ordinary life and the realm in which we operate at the scale of the rational mind.*

Information from Dreams is real!

It is always there; it is all around and inside us.

It is information from Nature and the spiritual realm, all around and inside us.

Take the time to honour it and expand the knowledge you have from logic and the rational mind with knowledge you receive from the personal and transpersonal subconscious.

Facilitator to the Dreamer X:

So, tell us…

How do you intend to honour the Dream?

What is your action plan?

It can really be anything you like. Maybe you draw that part of the Dream about which you want to know more. Maybe you go investigating on Google and Wikipedia on the etymology and mythology connected to the animal that showed up in your vision…

Or you actually go out and take a walk, meditate, go to sea!

Whatever you feel like doing, intuitively.

You do not need to think about it too much.

What is the first thing you thought about when you told us your intention?

Facilitator repeats the intention of Dreamer X to the group.

At this point it might be that Dreamer X feels a little overwhelmed; the facilitator can always say:

You can take your time to think about it more, of course.

It also works like that, don't worry (smile).

Just remember that the Kairos Bridge is the ritual which honours the Dream and connects rational mind explanations of your life from the bigger space of subconscious and transpersonal information from dreamtime to the next opportunity for subconscious and transpersonal information from dreamtime.

The facilitator takes questions and clarifies any point which seems relevant, but swiftly moves forward to the next Dreamer, to repeat the Seven Steps process:

- TELL

- TITLE

- FEEL

- REAL

- SHARE

- INTENTION

- THE KAIROS BRIDGE RITUAL

The main attitude during the whole exercise should be playful. BIJ are never dull or too serious; there should always be an element of adventure, and excitement, and mystery, and fun! People must remember they are artists and this is an artist's project which is made to create transformation of awareness through exercises with Dreams and intuition.[151]

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[151] More on this in Chapter 4.3.2 Becomebecome Intuitive Journeys: Analysis.

4.3.1.2 BIJ Exercise 2 The Dream Tarot: A group ritual for transpersonal imagination

This is an exercise to connect with intuition and synchronicity through a technique which transforms Dreamtime Channel Reports into Tarot cards. The participants in the Dreamtime Tarot read Dreamtime Channel Reports to each other as if they were selecting and interpreting Tarot card for each other. The group is convened as explained in BIJ Exercise 1. The only difference is that the facilitator provides every participant with a couple sheets of paper, coloured pencils, and/or pens. The facilitator asks that the Dreamtime Channelling for this journey is put on paper this time. Not on a personal notebook, not on an electronic device.

Script:

Today we are going to consult the Dream Tarot,

and to do so, there are a few simple steps we should honour:

at the top of the page write down your question,

which should be in the form of: 'I would like guidance on...'

Then turn the page, lay it face down where you can find it easily after the journey, and prepare to travel in dreamtime with all the comforts you need today.

The meditation starts in the same way as Exercise 1 until, and including, the dreamtime channel Report. When the facilitator see that everybody has completed their Dreamtime Channel Report they say:

Now, when you are finished,

fold your sheet of paper three times,

(Facilitator shows the group how to fold the paper.)

so that every dreamtime channel report has the same shape, but smaller.

If you used two sheets of paper, fold them together.

The facilitator goes around the group with a sack, a bag, or a similar container to collect the dreams. It is better if it is a nice container, not a random plastic bag.

Now we are all going to put our dreams in the shamanic bag,

and maybe you guessed already what's next…

Once we all put our dreams in the shamanic bag

I will give it a shamanic shuffle like this

(Facilitator holds the bag closed and shakes it.)

and I will go around to each one of you

so that you can pick one channel each.

Do not open it.

Do not look at it yet.

Do not read it.

I know you feel the urge to do so!

But please…

In a second, I am going to explain to you all the details of the ritual for the

Dream Tarot

Once everyone has picked one dreamtime channel report the facilitator

continues:

Now this is how it works. Let's everybody make a circle.

(Participants and facilitator make a circle.)

I am going to spin the shamanic drumstick

and we will start with whoever is chosen first.

Facilitator spins drumstick in front of themselves and selects the first Dream

report. The facilitator tells the person who has been selected:

Open the dreamtime channel report *and show it to the group.*

Does anybody recognise their own handwriting?

Who had this dream?

Somebody will raise their hands and confirm it is their Dream report

dreamtime channel report . The facilitator addresses this person and says:

Ok then

You can now go to the person who received your dream report and read it out

loud to them, so that the rest of the group can also hear the story.

Now addressing the group:

This is how it works; it is a transpersonal process of divination.

The answer to your question came as a vision to somebody else's dream journey.

The Dream report dreamtime channel report *that you picked from the bag is the answer to your question. And the person who had the vision for you is going to read their report to you.*

…

This is how we work with the transpersonal element of intuition today.

You had a question for the Dreamtime Oracle, and somebody else had the answer to your question

The facilitator takes care that the person who wrote the dreamtime channel report reads the report to the person who picked the paper from the bag. When the reading is done, the person who had the question (who picked the report from the bag) can ask questions about specific aspects of the Dream that was channelled through the partner (the writer of the Dream Channel Report).

Sample questions:

How did you feel when this aspect of the dream came up?

What's behind this element?

Could you perceive other things in the space around you?

…

Sometimes the conversation happens in part already before the reading of the dreamtime channel report is over. When the questions are finished the facilitator asks if it's okay to share the question with the group out loud. Then it is time for a round of 'If it were my dream…' contributions from the group. Once that is also complete, the person who wrote the dreamtime channel report goes back to their place in the circle and opens the dreamtime channel report they have picked out of the bag, shows it to the group to see who had the visions for them, and the exercise continues as in the example before.

In case the circle of channels is closed before all had a chance to receive their dreamtime channel report , then the facilitator spins the shamanic drumstick again to pick who goes next among the remaining participants. In case somebody picks their own vision, it works just as well. They read it out loud to the group, and the group give them back their intuition during the round or make contributions in the formulation 'If it were my dream…'.

4.3.1.3 BIJ Exercise 3 Synchronicity & Shamanism: Information that exists in a temporal dimension, signs and visions from Nature in everyday life

At the end of a BIJ exercise from the second or third day, the facilitators ask the participants to bring dreamtime into their private life. The task they are required to do is to play with intuition and bring three things they notice because they feel different, exceptional, or just 'straight out of dreamtime!' to them. The facilitator explains that this is an exercise for *synchronicity*. Signs might arrive when least expected, but participants can also take the time for a personal ritual where they ask for guidance while walking around the city, the woods, the beach, whatever they have available around them which feels appropriate and/or fun! It is a moment to navigate their 'normal' environment with new eyes, look at the city from dreamtime, and find out mysterious creatures, objects, invisible things made of feelings, which suddenly pop to their attention and bring a message that all will explore together in the next BIJ session.

In the following BIJ session participants are asked to keep close the objects they found, and or note the notes and the thoughts that came with them. Before the group enters the dreamtime journey meditation with the drumming the facilitator asks that each person focus on a question which feels appropriate; it might be a personal question, an idea which has been revealed by the objects found with *synchronicity*. Those who wish can request a piece of paper and write the question on top of one side, then lay it face down,

ready for the dreamtime channel which comes soon after. Others who take notes in a different way should also write down their question which starts with: 'I would like guidance on...'

After the journey, once the report of the dreamtime channel is written, the facilitator asks if somebody wishes to volunteer their report to receive visions and intuitions from the rest of the group. The protocol described in BIJ Exercise 1 is used to that purpose, and each step is clearly put on a big sheet of paper or projected to a wall by the facilitator.

After one or two dream journeys have been shared though the Seven Steps protocol, the facilitator divides the group into smaller groups of three or four people and asks them to practice both roles in the ceremony. The two persons who had their dream processed by the bigger group should not be together in a small group. Each person should take a turn and be the facilitator for another person in the group who will be the Dreamer.

All participants wrote down the steps the day before; they have them available on the big paper sheet (or projected on a wall), and the facilitator is there to assist if necessary. Each ceremony should take no more than ten to fifteen minutes. Then the facilitator signals for a change of roles and the groups move to the next ceremony.

For the Kairos Bridge step, i.e. the 'action plan', the facilitator suggests that those who brought objects from *synchronicity* have the option to craft a

talisman, or a shamanic stick out of them.[152] It is a way to honour the dream which came from the objects and build their own personal ceremony around them. It is a performance which includes the element of *synchronicity;* it is also a ritual for divination and channelling they can keep for themselves long after the Becomebecome Residency is finished.

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[152] On some occasions, a full BIJ session is set up to support the process of creation of such devices.

4.3.1.4 BIJ Exercise 4 Embodied Knowledge, Embodied Intuition: Information from the body as a central element of the compass to move into the imaginal realm

Among the many other options available for BIJ exercises, it is noteworthy to mention the 'Dream Theatre', and also to briefly explain how participants are encouraged to develop their own syncretic strategies to access *hidden* and intuitive knowledge which associate BKR and BIJ.

The Dream Theatre

After the participants finish the dreamtime journey and the dreamtime channel report, the group start working with volunteers on the Seven Steps protocol. At the Kairos Bridge step, the facilitator offers the opportunity to perform a Dream Theatre session with the group. The Dreamer who choses this option selects people from the group for the various roles in the vision he/she received. Three or four people can 'do' or 'be' the waves, one person can be the fisherman, two people can be the house, another one the grandmother, and so on. It is a process similar to the one used for Family Constellations; a strategy to transform the awareness and hidden patterns of the observer based on subconscious group dynamics which are reflected in the spontaneous individual behaviour of the participants during the performance.[153] In Becomebecome BIJ, the Dream Theatre process

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[153] In Becomebecome events, this process is not presented as a therapeutic strategy, rather as a playful exercise to access *hidden* transpersonal information about the vision of the observer. The systemic family therapy and the beginnings of Virginia Satir's constellation work was founded in the late 1960s in the USA. Satir's concept was

incorporates elements of acting and spontaneous performance which are foundational strategies in the training of the actors and performers.[154] The facilitator should always be clear that these exercises are never intended as 'therapy' sessions. They are simple and fun strategies which can provide important insight into the question of the Dreamer (articulated as 'I would like guidance on…'). BIJ Dream Theatre sessions are fun performances that create a setting where group dynamics and the natural intuition of each participant contributes to unearth exciting and revealing *information about the observer* which is otherwise *hidden* and subconscious. The BIJ Dream Theatre session should always propose at least these three opportunities for hidden information to be revealed:

First – The Freeze Frame

in which the process that unfolds in the dream is slowed down to the point that the Dreamer can navigate *inside* the *hidden* aspects and connections between the elements in the 'picture' and reveal process which is *hidden* at 'normal speed'. While the performance is slowed down to a standstill, the Dreamer can ask questions of the participants, who will respond with feelings and intuitions that emerge as a result of the role they are interpreting. There

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further developed in Germany by Matthias Varga von Kibéd and Insa Sparrer (Systemic Structural Constellation). Thea Schönfelder's work has also significantly inspired that work. References are found in the bibliography section of the thesis.

[154] Depending on the background of the BIJ facilitator, Dream Theatre sessions will be coloured with inspiration which has more elements of the psychology/cognitive science trajectory, or the performance/artistic tradition. More references available at the end of the thesis.

is also a participant who plays the Dreamer; the Dreamer can ask questions of them as well.

Second – The Transformation

Inspired by the response from the performers, the Dreamer models the picture of the Freeze Frame asking the participants to exaggerate their feelings and transform them into visual representations of their inner yearning. The Dreamer can modify the position of the participants during the Freeze Frame and ask questions again, before or after the performance restarts.

Third – Sharing

When the performance is complete, the participants can share feelings that the images triggered, and which did not emerge during the session.

Finally, after the Dream Theatre is complete, the Dreamer can ask that the performance be replayed; they will now play their own role themselves.

If the BIJ session continues, a short break is given at the end of each Dream Theatre performance for more spontaneous, free-form exchange. This is also necessary to create a pause, a moment of separation between the Dream Theatre process, which can be intense, and the following activity, which deserves a time of its own.

BIJ mixed with BKR

After the first BIJ, the facilitator asks the participants to bring their recording devices with them when they come to the BKR sessions also. The facilitator of the BKR sessions tells the participants to keep their recording devices within reach. Participants should feel free to channel a vision or a text, or any other form of insight which is revealed during an exercise. This is a very natural system as a consequence of which participants learn to associate the awareness of *hidden* patterns of information about *(the body of) the observer* to the movement of *hidden* patterns of information about the observer which are *revealed at the scale of their sensorial and intuitive revelations*.

Hidden knowledge about the observer which is transpersonal and can only be revealed because of 'exercises' which transform patterns of information about (the body of) the observer can also be introduced as an element of BIJ sessions, or 'meditations' that participants perform themselves in their own time. Exercises proposed in BIJ sessions are never extreme, too demanding, or perilous. They are rather focused on accessing *hidden information* 'from the slow', which means, through the modification of patterns of information about (the body of) the observer which are revealed because of *synkinesis*, by *slowing down movements* and *not-doing* invisible processes, which make one think one is standing still (which is in fact impossible).

In many modern and traditional religious rituals, choreographies of movements performed with the body are used to elicit a powerful 'trance',

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which is intended as the space from which the connection with the Gods becomes possible. Information about such knowledge trajectories and the related practices is provided to the participants during the BIJ Analysis sessions which are described in Chapter 4.3.2.

4.3.2 Becomebecome Intuitive Journeys: Analysis

The Analysis presentations for the BIJ sessions usually take place only once or twice during the typical ten-day Residency programme. A process which is started during the BIJ Analysis sessions extends naturally into conversations during BIJ practice sessions. BIJ Analysis expands the research introduced with the BKR analysis sessions. A process which connects

- Mind >< Body
- Inside >< Outside
- Personal >< Transpersonal
- Conscious >< Subconscious

is here scrutinised through a survey of the most relevant sources listed in Ch. 3.4 The Transpersonal Self. After a general introduction to the notion of dreamtime as the dimension through which all subconscious and transpersonal insight is received,[155] the facilitator suggests the idea that all strategies for intuitive insight can be considered as 'little windows' into dreamtime. The facilitator continues to build the case for a visual representation of the relationship between knowledge which comes from the rational mind, and knowledge which comes from the bigger space of dreamtime and intuition, as a sphere within a sphere.

These 'little windows' represent the processes through which one can access *hidden information about the observer*. It can be through movement

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[155] See Ch. 3.3.

exercises, religious rituals, shamanic ceremonies, meditation prayers, hypnotic trance, dreaming during sleep, and many other practices one might decide to start 'on purpose'. Still and all, *synchronicity* is always there, no matter whether we decide to look at dreamtime or not; and there is a *synkinesis* of the intuitive body of the observer, which it is possible to access in everyday life.

In the examples provided during the practice and analysis sessions for BKR, the participants learn exercises to move their awareness, to reveal *synkinesis* which applies to personal and transpersonal hid*den information about (the body of) the observer*. In the examples provided during the practice and analysis sessions for BIJ, the participants learn exercises to move their awareness to reveal *synkinesis* which applies to personal and transpersonal *hidden information about (the intuition of) the observer*.

BIJ Exercise 1 is a protocol which is designed to transform awareness of intuition into (360-degree) process-based awareness of (trajectories of) intuition.[156] This exercise in Seven Steps extends the temporal dimension of the process which is used to channel intuitive information from dreamtime. It creates the opportunity to formulate seven different explanations (trajectories) about intuition which are otherwise lost.

Because of the limited importance that western culture has attributed to dreams and visions in recent years, there is an absence of language and

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[156] This process is isomorphic to the one which generates 'Two sets of interaction in time' as described in Fig. 5.

explanations to process intuitive knowledge that is part of everyday life, which has de facto become 'invisible'. Images that come while driving, taking a shower, washing one's teeth, and so on, are usually explained as 'parasite images' (*images parasites* in French). The Becomebecome approach to intuitive knowledge considers them as 'little windows' into *synchronicity* that are rich with subconscious and *hidden information about the observer*. During Becomebecome events, the observer learns how to transform these ordinary activities into rituals to access information from dreamtime. Intuitive knowledge from 'parasite images' which was 'invisible', is exposed as *hidden* knowledge. *From the inside*, there was 'nothing', then there is 'knowledge', which is therefore intrinsically 'new'. This operation, which produces 'new' Transdisciplinary knowledge, describes precisely one of the mechanisms through which the Becomebecome methodology addresses the main research question of this thesis.

Through a series of BIJ exercises, the participants in Becomebecome events learn practical strategies that convert such *hidden* information into rich insight which can inspire their creative endeavour. During the BIJ Analysis sessions, participants plunge into the pool of references which support Becomebecome theory and examine in depth the knowledge trajectories which they consider the most adequate to explain their personal process.

Since the knowledge trajectories which traverse BIJ exercises can be exceedingly diverse, the facilitators in charge of these sessions should keep an open mind and be ready to accommodate their presentation with input they

receive from the group. During BIJ Analysis sessions, it is commonplace that participants 'get stuck' in a mental process which is limited by the logic of the rational mind. It is important that the facilitator points out how, in these cases, the answer emerges after a process which demands *more practice* of BIJ and BKR. Becomebecome events are an opportunity to understand rational mind logic as a limited piece of dreamtime logic. There is a process which connects *information from dreamtime* to *information from dreamtime* which completes the answer and expands the question formulated by the rational mind.
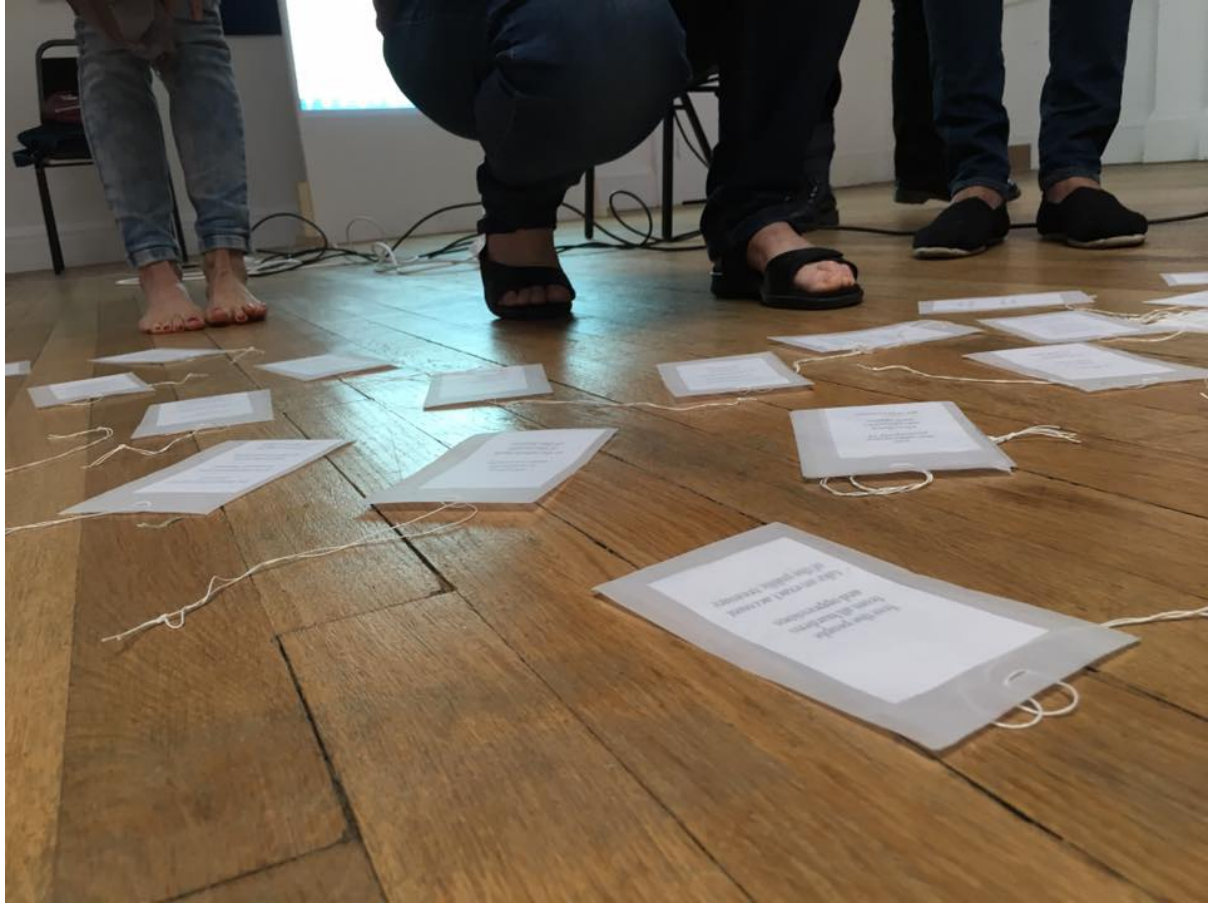
Figs. 20, 21, 22, 23, 24 From the practice of Becomebecome Intuitive Journeys

4.4 Stage 4: Becomebecome Critique Labs

Becomebecome Critique Labs (BCL) are an extension of Becomebecome Kinetic Routines and Becomebecome Intuitive Journeys, in the sense that the *consequence* of BCL is the same as the *consequence* of BKR and BIJ. The three of them are comprised of exercises which aim to *transform* the awareness of the participants apropos their own *hidden information about the observer*. Wwhile in BKR the *action* is created through transformation of patterns in the *body*, and in BIJ the *action* always includes intuitive journeys into *dreamtime*, in BCL the *action* is made with clear instructions that communicate to the *rational mind*. During the ordinary period of a ten-day Residency programme, BCL are offered two to three times. On some occasions they are combined with an activity that includes local actors (cultural associations and/or University students), local artists, and/or non-profits for social impact (community projects).

4.4.1 Becomebecome Critique Labs: The Exercises

4.4.1.1 BCL Exercise 1: Presentations and Opening Ceremony

The first day of each Becomebecome Residency is dedicated to a specific activity called 'BCL – Presentations'. Depending on the number of participants, this activity occupies the whole morning and perhaps part of the afternoon as well. If the number of participants is not too high, a Becomebecome Kinetic Routine takes place early in the morning of the first day, then the participants have breakfast, followed by BCL Presentations starts at around 11.00.

Each participant is invited to give a twenty minute presentation in any format that they feel is best to reflect their work. Ten minutes should be devoted to the presentation of previous work and their trajectory thus far, in a way that allows all other participants to get an idea of what is important for them as artists, and/or as researchers. Ten minutes should be devoted to the presentation of the project that the participant wishes to develop in the Residency and going forward. A video projector, a sound system, a surface for projection, and the necessary technical accessories are available to each presenter should they wish to make use of them. After the presentation a short Q&A session with the other participants is arranged. Depending on the number of participants, the whole session for each presenter should take between twenty and thirty minutes maximum. Various breaks are scheduled to allow for freeform interaction between participants.

The BCL Presentations is a first opportunity for everyone in the group to meet each other. It is also a ritual after which one can communicate a lot of interesting aspects about their own work, their own story, their cognitive and behavioural biases, and the secret wishes which are dear to their heart. Later in the afternoon or evening of Day One, a Dream Meditation[157] is proposed as a free activity to meet each other in a looser and more unstructured format. The facilitator does not prepare as for a Becomebecome Intuitive Journey. There is no task whatsoever which the participants are expected to perform. It is an opening ceremony to welcome the *hidden information about the participants* who joined the programme and celebrate the beginning of a personal journey into a shared process that goes beyond, beneath and in-between all that we have said during BCL Presentations.

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[157] The Opening Ceremony usually starts with a welcome ritual. If possible, a flower decoration is prepared in the centre of the room; participants are invited to gather in a circle around it. A brief inaugural speech is made by the facilitators, who sincerely welcome and thank all participants for being present. A relaxing meditation exercise ensues (yoga mats and other comfortable supports are provided), followed by a shamanic drumming session for a Dreamtime Journey; there follows a time for integration; then a goodnight closing ritual in a circle around the central decoration.

4.4.1.2 BCL Exercise 2: Words Lab (and Sketch Lab)

Words Lab is a practical strategy to transform *hidden information* about the mental process of the observer that 'takes notes'.[158] The basic idea is that the process as a consequence of which an explanation is written or a sketch is drawn, can always be analysed as *a process which connects two moments in time* inside of which *information about the observer* has changed. The observer who *finishes* the description belongs to a bigger set of infinites than the observer who *started* the description. And this is true at every temporal scale of the writing (and sketching) process, at the scale of a sentence, at the scale of a paragraph, at a scale of a book, and so on. Words Lab is an exercise to practice what Von Foerster suggested: "The hearer (who is the observer at the end of the sentence), not the speaker, determines the meaning of an utterance" (1995, p.1).[159] It is the knowledge that comes to the observer at the *end* of the sentence which illuminates the knowledge of the observer at the *beginning* of the sentence, a proposition which in practical instructions given to the participants in the exercise is transformed into: 'What happens when you take the words you wrote at the end of the sentence and put them at the beginning of the sentence?'

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[158] It is based on the working assumption that whenever one creates a description for an experience, one is creating a description of a process which transforms *information from the future* into *information about what happens next*. This is a direct application of Becomebecome theory assumptions on the nature of time and its relation to the process which creates a movement across consecutive sets of infinite information about the observer at different temporal scales; see also Ch. 3.1.1 and 3.2.7.

[159] See also Ch. 3.2.7 Information from the Future.

Becomebecome Words Lab should run two or three days after the Presentation Lab, to give time to participants to familiarise themselves with each other's project details, and with the practice of other Becomebecome exercises. This produces a more comfortable and immediate sharing of intuition during the transpersonal stage of the exercise (Step 3).

Participants are invited to join Words Lab with a collection of all the notes and sketches about their work they have available. They are seated around tables which allow them to work in groups of four or five. The exercise is divided into three rounds.

The text in italics is the script repeated to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*, or to offer a shortened digest of the instructions in the sequence of movements.

Words Lab Round 1 – Pairs of sentences are revealed to be process-based

In the last days, months, maybe even years,

you took notes about your project and what should go into it.

Look at your notes and select two consecutive sentences or quotes that have special meaning for you, sentence number one and sentence number two.

When you read them together as a sequence, the process which connects them makes them more powerful, inspiring, revealing.

Now, let's invert the position of the sentences.

Sentence number two goes first.

And sentence number one goes last.

Do you feel something changed when you read them in this order?

Give yourself time to read them again, as they were at the beginning, and as they are now.

Is there an opportunity to perceive something different about your project because information from the future *has been placed first in the description of your project?*

Does the connection in-between the two sentences reveal new insight because of the change in the process which puts them in a temporal sequence?

...

Try and select intuitively a couple of sentences from your notes; see which ones work best when you play with them this way.

Facilitator gives thirty seconds to one minute to the group.

When you have found the couple of sentences which you prefer, please raise your hand so I know you are ready for the next part.

Now as we did with the steps for the dreamtime journey, we will use feedback from the group to multiply the intuitive power of the sentences you have selected.

The persons in the group who are closer to me will start first

Facilitator nods in the direction of the participants who start first.

Here are the steps for this exercise:

The facilitator writes the title of the steps on the paperboard.

Step 1 TELL: Tell the sentences out loud to the group

Tell the sentences out loud to the group, in their initial order.

Wait a few seconds.

Tell the sentences in their new order.

Step 2 FEEL: Tell the group what you feel

Tell the group why you feel this switch changes your perspective of the project or illuminates a new aspect of it. Tell the feelings that came up as a surprise when you selected these two sentences. Why did you decide to choose them? Maybe it is because of a feeling from the body, and you have no words to describe it. Maybe it was because of information from the future, *and somebody else from the group will give you the answer.*

Step 3 SHARE (transpersonal feel): 'If they were my sentences…'

Give feedback to the person who offered their sensibility to you. If a feeling or thought comes to the surface, tell them. It does not have to 'make sense';

the person who offered the sentences is the Dreamer, they will know what to do with it.

Also, it is possible that another piece of the information that is channelled through you will come to the Dreamer over the next days. Do not judge your feedback! Be generous!

GO!

You have four to six minutes for each couple of sentences.

The facilitator keeps the time, goes around the tables checking that everything moves forward and participants have fun. After four minutes, the facilitator announces out loud.

One minute left before switching to the next person!

The facilitator might wait a couple minutes before announcing:

Move to the next person!

If somebody has not given feedback, do it quickly and move to the next person; we'll have more time to go into details later.

Words Lab Round 2: One sentence is process-based

When everybody has finished the first round, the facilitator asks for a quick feedback sharing with the larger group.

OK!

How was it for you?

In ten words or less, can you share a feeling you had during the sharing that surprised you?

It might have been during the sharing of your own sentences, or somebody else's…

Participants tell the group one moment that surprised them. The facilitator might want to note on a board one or two words that represent each comment received, so that they remain visible.

Very well…

Now we are going to work individually again.

We are going to perform the same transformation, but with one sentence only!

You can pick and choose any sentences that draw your attention today.

Divide them into two parts,

and switch the part at the end of the sentence with the beginning of the sentence.

…

There is what happens at the beginning of the sentence,…

which becomes what happens at the end of the sentence.

…

To transform each sentence into a process we can use this simple technique:

Facilitator writes the steps on the board.

Step 1 REMOVE CONJUNCTIONS: *Remove conjunctions from the sentence (and, because, so, which means, …)*

For instance,

'I did this because *of that', can be transformed into, 'I did this, I did that'*

We are looking at putting the sentence into perspective.

The first and second parts of the sentence are visible*;*

Conjunctions (connective areas)[160] *fall far away into the background;*

Only the first and second part of the sentence remain visible.

The facilitator writes one or two sentences on the board as examples, goes through the steps of the process.

Step 2 *READ: Read your sentence without conjunctions*

Now, read your sentences without the conjunctions!

Find more sentences and play with them.

Facilitator gives a minute to participants.

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[160] See Ch. 3.4 – The Chronosoma

Step 3 INVERT: Invert the position of the two parts

Now invert the position of the first and last parts of the sentence.

Step 4 READ: Read your new sentence without conjunctions

And read your new sentence!

The facilitator explains that the exercise is practice-based, and that an 'Explanatory Text' to the Becomebecome theory behind it will be provided to all those interested. The full description of BCL2 Words Lab, with notes for the facilitators, is sent to the participants via email, or in the digital Campus created for the event.

Explanatory text:

In this exercise, we are working under the assumptions that written sentences are made of an alternation between two sets of interactions in time: the process of the observer that *reads* the sentence (*from the outside*), and the process of the observer who *writes* the sentence (*from the inside*). We decide that these two processes happen at different scales, and it is only possible to access them with a strategy of *alternation* between one and the other. This means, one cannot be the observer who reads the sentence, and the observer who writes the sentence, at the same time.

First, we work at the scale of *the observer who writes the sentence*.

The process of the observer who writes the sentence is also made of two sets of interactions in *time*: there is a movement from the observer at the *beginning* of the sentence, and a movement of the observer at the *end* of the sentence.[161] The first half of the sentence that we have created by removing conjunctions is the movement of the observer at the *beginning* of the sentence. The last half of the sentence that we have created by removing conjunctions is the movement of the observer at the *end* of the sentence. We

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[161] In all BCL, instructions which 'break down' a cognitive gesture into the steps of a process that reveals *hidden* information about (the mind of) the observer, are isomorphic to instructions for 'slowing down the movements' to access hidden information about (the body of) the observer in BKR.

are looking at what happens when we put at the beginning of the sentence the words of the observer at the end of the sentence.

Follow Steps 1 to 4, read one part of the sentence after another, and play without conjunctions. How does that change the quality of the sentence at the scale of the observer that reads the sentence?

The exercise continues with Step 5.

Step 5 PLAY: Play with alternative conjunctions that could go in the new sentence

Play with alternative conjunctions that could go in the new sentence.

Put (and, because, so, which means, etc) in your new sentence.

How does it feel?

Can you see other unexpected elements of your process emerge when you read the new sentence?

The facilitator gives another minute or so to experiment with the words.

Step 6 SHARE! 'If they were my sentences…'

Attention! This is a little different from the process we did before:

Facilitator has written these instructions on the board the during Step 5:

Tell original sentence with

- *Pronounce the sentence in the original order **with** conjunctions*

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Tell new sentence without

• *Pronounce the new sentence **without** conjunctions*

Feel

• *Describe to the group the feelings that are different because of the new order*

Share

• *The group gives feedback to you, in the format of 'If it were my sentence…'*

Go!

You have four to six minutes for each couple of sentences.

The facilitator keeps the time, goes around the tables checking that everything moves forward and participants have fun. After four minutes, the facilitator announces out loud:

One minute left before switching to the next person!

The facilitator might wait a couple of minutes before announcing:

Move to the next person!

If somebody has not given feedback, do it quickly and move to the next person; we'll have more time to go into details later.

Facilitator gives fifteen minutes break.

Words Lab Round 3: Sketch Lab

When the participants reconvene, the facilitator announces the Sketch Lab.

In the last days, months, maybe even years,

you made sketches about your project and what should go into it.

Select one that has special meaning for you.

Prepare a blank sheet of paper as well.

Step 1 SPLIT IN TWO

Look at the sketch / draft you selected. Draw a vertical line in the middle of it. It can be a mental vertical line if you do not want to modify the original drawing.

Now the right part of your work stays fixed and imagine that the left part of your work starts moving in some way.

What do you see? How does the movement transform your work?

Draw the transformation in the blank sheet you have available.

Now the left part of the drawing stays fixed, and imagine the right part of the drawing starts moving

What you see? Draw the transformation on a new sheet of paper.

Look at your original sketch with your first drawing from today.

Take notes:

How does it make you feel?

What comes to mind?

What comes to body?

Look at your original sketch with your second drawing from today

Take notes:

How does it make you feel?

What comes to mind?

What comes to body?

Step 2 TRANSPERSONAL SPLIT

The facilitator has the steps for the Transpersonal Split already available on a board, and announces:

Now we are going to work in groups.

Take the time to show your original sketch to everyone in the group.

Take the time to show your original sketch, along with your first drawing from today, to everyone in the group.

Take the time to show your original sketch, with your second drawing from today, to everyone in the group.

Now put your original sketch at the centre and put the transformation drawings to each side.

The parts that move should be at the extreme right and the extreme left of the arrangement.

They represent information about the drawing from the future.

How do they change the perspective of the drawing in the middle?

Take notes.

People in the group share their intuition in the form of:

'If it were my sketch, I am interested at what happens to here…, there…'

What comes to mind?

What comes to body?

You can ask questions of the group, and the group can ask questions of you as well.

How has it evolved after one week?

How has it evolved after one year?

How has it evolved at different scales of information from the future?

Or the past!

…

Take notes.

You have six minutes for each drawing.

GO!

The facilitator keeps the time, goes around the tables checking that everything moves forward and participants have fun. After four minutes, the facilitator announces out loud:

Two minutes left before switching to the next person!

The facilitator waits a couple minutes before announcing:

Move to the next person!

If somebody has not given feedback, do it quickly and move to the next person; we'll have more time to go into details later…

When the groups finish with the last person, the facilitator asks for a quick round of feedback sharing all together:

OK!

How was it for you?

…

In ten words or less, can you share a feeling you had during the Transpersonal Split that surprised you? It might have been during the sharing of your own sketch, or somebody else's…

Participants tell the group one moment that surprised them. The facilitator might want to note on a board one or two words that represent each comment received, so that they remain visible.

Then the feedback sheet is put side-by-side with the feedback sheet from Words Lab.

A quick round of comments and considerations ensues.

Very well…

This was Becomebecome Critique Lab Number 2

Thank you very much for participating, let me know in the digital campus or through any other channel if more feedback comes up.

Thank you!

This simple strategy of switching the position of the words on paper (and in mind), or the position of the elements of a drawing, changes the direction of the *hidden* mental process associated to it and channels *information from the future* into the description, or the drawing, of the object-observed at the beginning of the sentence. The first element of surprise which often hits the participants after they finish the lab is: 'How is it possible that what looks like a trivial manoeuvre had such a profound power of transformation?' It is because the transformation which is generated is not a consequence of the *visible* movement of switching words around; it is a consequence of the *invisible* movement that displaces all information about the *observer-from-the-future* to the beginning of a sentence such that information about the *object-observed (from before)* now looks completely different. With a simple switch of visible information about the object-observed (the sentence, the paragraph, etc), all *hidden information from the future about the observer* is now available at the beginning of the sentence as well. It is not the *visible*

result of the exercise (i.e. the words change place), but rather, the *hidden* result of the exercise (i.e. information about the observer who creates the meaning of the words has changed place) which creates the real change in perspective. A strategy which transforms the object-observed as a consequence of splitting the *hidden* process of the observer into *two sets of interactions in time* is exactly what the participants experience in BKR 3 Two Scales of Movement (Appendix A.3), which is why it is suggested that Words Lab should be proposed to the participants the same day as BKR 3.[162]

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[162] Ideally, the sequence should be: BKR 3 Two Scale of Movement, then a break for going to the bathroom or have breakfast, then Words Lab. This order of activities reinforces the learning experience of each as separate, while also adding the unique insight of the process which combines them, which is the knowledge of something that happens at a completely different scale. In Chapter 4.3.1 'BIJ mixed with BKR' this combination is produced as a consequence of a strategy which transforms *information about the observer* in a way that is more *visible*, because it includes a voluntary action from the participants themselves. The process which transforms *information about the observer* because of the experience of the sequence 'BKR3, then Words Lab' is more *hidden*, because it does not include the 'control' step of the voluntary action from the participants.

Taking for reference the circuit in Clerk Maxwell's example (Appendix A1), one could say that in 'BIJ mixed BKR', the participants decide when they are ready to activate the switch of the circuit which connects *hidden* information about the observer *from the body*, to *hidden* information about the observer *of the mind*. In 'BKR3 + Words Lab', the process which connects *hidden information about the observer from the body* to *hidden information about the observer of the mind* is experienced *from the inside*. Participants never 'move the switch', in fact they are not in control of the switch at all, because the transformation in the bigger circuit happened as a consequence of the schedule of activities, which corresponds to the "emergent properties of the system" (Bateson 1979, p.119) in Clerk Maxwell's example. Participants simply find themselves moved from a circuit where *hidden information about the observer* is limited to the mind (the moment when the facilitator introduces Words Lab), to a bigger circuit where *hidden information about the observer* is connected to feelings and visions *from the body* triggered as a consequence of the recent practice of BKR 3.

4.4.1.3 BCL Exercise 3: The Shrine

The Shrine is typically an exercise which takes place in the last days of the residency programme. Participants convene to an indoor location where they are invited to bring records or traces of all things which inspired them in the weeks or months previous to the Becomebecome. When participants submit their CFP, they are also required to send the abstract for a project proposal which they intend to develop during the period of the Becomebecome residency. The project has usually started long before they actually joined the residency, and participants are asked to bring to the location of the residency objects, mementos, pictures, and any analogue or digital traces of everything that was of significance for them in connection to that project, including personal memories, references to people who inspired them maybe even years before the project started, fragments of conversations, quotes, and any clue from the subconscious about where the project was going before, and where it is going now (i.e. indications of what they expected to achieve). Ideally, the facilitators make sure to have a printer available at the location where the Becomebecome takes place, so that twenty four hours before the Shrine Lab, everybody has a chance to go and print any digital material they have brought with them. Elements of the subconscious process can include things that became of significance during the residency. In some cases, participants have started a completely new project inspired by the process of transformation during the first days of the Becomebecome; that works just as well, because this new project certainly touches upon *hidden* parts of the life of the artist that extend to the larger network of remembrances and experiences from

years before. The artist can pull elements of those subconscious traces from the internet or chat backups/mail, they can write about it, take pictures inspired by the thought of those moments, and so on. *Hidden information about the observer* in BCL3 becomes *hidden information about the artist*. Each participant builds a shrine made of their own subconscious fragments of memories, expectations, and things that happened to them because of *synchronicity* during the process of creation of that specific project.

Once arrived at the location selected for the Shrine exercise, participants are invited to walk around the space, relax their body, their jaw, their neck, their breathing, and just wander around wherever their body leads them and they feel more comfortable.

The text in italics is the script repeated to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*, or to offer a shortened digest of the instructions in the sequence of movements.

Which part of the room feels more attractive to you today?

Go there and stand (or sit) where you feel comfortable, where it makes you smile or relax.

Take a moment to appreciate the features of this spot. Look. Extend your arms in space to feel more about where you are. Relax your jaw, breathe.

...

Now orient your body in the direction which makes you feel more harmonious, at ease.

Once you have found it, you can use this location and this direction as foundational elements to build your shrine.

Take all the objects you collected from the subconscious process of your project and carry them to the area where you are going to build your shrine.

Participants are instructed to put together the various elements they brought to the lab and build an altar to the *hidden* elements of their project, with everything they have. Facilitators have brought scotch tape, cotton threads, thumbtacks, scissors, a stack of plain A4 paper, pens and pencils, which are available to the participants. Once the artists have finished, each one of them is asked to go around and visit each shrine to leave feedback. In front of each altar the facilitators have put a stack of papers with the following text:

"*This is the altar of project*: (title of the project here)

Which words come to mind when you look at it?

Write them down as they come without thinking.

[Blank space]

Continue to look straight but change the orientation of your body in the room, until you find the position which feels good for you. Maybe you are not even seeing the altar anymore, but you are still in front of it. Why does it feel

good? How has the relationship with the altar changed? What images do you see now?

[Blank space]

The altar is a portal into the subconscious realm of the project; enter the portal.

In which direction do you want to go?

When you go there, what do you see?

[Blank space]

You are looking at this altar in '2021' [current year]

Now you are looking at this altar in '2031' [add ten years to current year]

What has changed?

Look at this altar from the future and describe what you see.

[Blank space]

Imagine an animal, a mineral and a plant are hidden behind the board.

Can you tell me which ones you see?

[Blank space]

Participants are asked to leave feedback for each other, using the format provided.

When possible, the Shrine exercise takes place in a public location, for instance, in collaboration with a local art organization, or social impact non-

profit. This makes it a good opportunity to recruit local artists in the Becomebecome process. After the process of the artists with each other is finished, the Shrine Lab is immediately converted into an exhibition open to the public. A vernissage announcement has been made in the days immediately before the event, and local visitors come to enjoy the installations as in any standard opening for a show. A presentation text which introduces the unique approach behind the exhibit is available at the entrance, and the public is also invited to leave feedback using the format provided, as the participants did for each other. The time of the public show is also an opportunity for local artists and Becomebecome artists to get to know each other better, possibly to establish a connection for more interaction.

Figs. 26, 27, 28, 29, 30, 31 The practice Becomebecome Critique Labs

4.5 Stage 5: Becomebecome Symposium on Transdisciplinary Narratives

Becomebecome participants in the first five editions of the Residency Programme were for the most part artists, but nonetheless there was always a percentage of curators, and university teachers at each Becomebecome event. The Becomebecome Symposium on Transdisciplinary Narratives was born with the idea that artists seldom have the opportunity to speak for themselves, because usually they speak through their art.

What is the relationship between an artwork and the person who made it? Why has an artist chosen that specific media or method to express themselves? What is possible to channel because of that language that allows them to search and explore new ideas? These are a few of the critical questions around which artists are invited to offer a presentation at the Symposium.

Rather than a review of their projects and a presentation of their current endeavour, which was the main purpose of BCL1 Presentations, the artists talk about their craft in connection to their sensibility. Each artist has developed their own language, and each artwork is a narrative about the subconscious of the viewer. What is that language made of? What *instrument of awareness* is created with each artwork?

The Becomebecome Symposium on Transdisciplinary Narratives (BSTN) is often an opportunity for teachers and educators to justify their participation in Becomebecome Residencies through grants from their alma mater. While art students or professional artists usually receive funding for art projects,

artists whose main profession is teaching usually have easier access to funds for research. This balances out the possibility to include in each Becomebecome Residency Programme a truly diverse field of expertise which makes the experience of each participant more valuable.

The BSTN is held in collaboration with a university or art institute that can provide a large venue for presentations. Parallel to the CFP for the Becomebecome Residency Programme, a separate call for the BSTN itself is launched two to four months before the date of the Symposium, through the appropriate channels. A local dissemination to recruit researchers and artists who operate in the geographic area of the Becomebecome is also prepared and executed in collaboration with local partners.

For Becomebecome participants, the BSTN arrives at a moment when the Residency is in its last days, after they have gone through a journey of transformation which has (hopefully) revealed *hidden* aspects of their process. Because their awareness is now tuned so closely to their personal process, the BSTN presents a unique opportunity for an alternative look at the sensibility of the artists in relation to their craft *from the inside*. For professional researchers and teachers who join for the BSTN but not the rest of the Residency Programme, this is an opportunity for presentations to talk about their undertakings. Since this category of participants did not go through the whole process of the Becomebecome Residency, their presentations usually resemble more the format of BCL1 Presentations. The contrast is sometimes striking, yet imperceptible, because it reveals a unique

hidden Transdisciplinary quality of the BSTN, which is made of the *alternation* of presentations which feel more *from the outside*, to presentations which feel more *from the inside*. This contrast is created on purpose and it is another practical example of how the principles of Becomebecome Theory are transformed into Becomebecome Practice.

Due to the high number of participants, the schedule for the BTSN is usually very tight. Each speaker has ten to fifteen minutes max., with no Q&A. After four to six presentations a twenty minute break is announced, and participants can mix and mingle at the buffet table for casual talk and more meaningful interaction. If necessary, a larger lunch break of forty minutes is provided. The BSTN is also a good opportunity to invite actors who have an important role in the local art scene to give a keynote presentation at the beginning of the Symposium.

Figs. 32, 33, 34, 35, 36 Becomebecome Symposia on Transdisciplinary Narratives

4.6 Stage 6: Becomebecome Process-Exhibit

The Becomebecome Process-Exhibit (BPE) usually takes place on a Saturday evening and Sunday morning, which are the two official last days of the Becomebecome Residency. In the previous eight to ten days, participants have gone through a number of experiences which have influenced their idea of the project they brought to the residency. The fundamental approach of the methodology is that if one works on the observer (*action*), the *consequence* will be *visible* in the object-observed. Which is why the BPE is not conceived as a typical show; rather, it is a moment when the process of the artist is open to the public.

Participants are not expected to finish their project at the end of Becomebecome Residency, because their project might continue for several weeks or months after the residency is complete. From the outside, the BTE looks like a visit to the atelier of the artist. The public is invited to participate in the process of the artist and give feedback on the work in progress.

Participants are invited to show an A4 printout of an image which represents the state of the project at the beginning of the residency and build an installation which represents the state of the project 'now'. A presentation sheet is also part of the installation and made available to the public. The sheet includes the title of the work (which is also displayed on a tag on the wall in traditional 'museum' fashion), and a short story that the artist wants to tell the visitors to create the context inside of which the visitors will

originate their feedback to the author. The story is completely free form: it is an extension of the installation which extracts the reader from the traditional practice formalised in museums and art galleries, and entices the observer to give feedback *from the inside* of the installation. It can be shaped in any form or fashion the artist considers advantageous to this purpose. It might include a description of the project, the intentions of the artist for the project, direct questions to the visitors, or completely unrelated text and images which combines with the installation.

Saturday evening is the opening of the Process-Exhibit, and a complimentary buffet of snacks and drinks is offered to all visitors. Sunday morning is the time for the artists to meet local professional actors in the field, present their work, and gauge the opportunity for future collaborations. Sunday afternoon is takedown time. All participants are in charge of dismantling their artwork with an official policy of leaving 'zero trace', unless different arrangements have been made with the exhibit space.

Figs. 37, 38, 39, 40, 41, 42 Becomebecome Process-Exhibits

4.7 Stage 7: Becomebecome Continuity, Individual Participants and Social Actors

Late afternoon on Sunday Becomebecomers are invited for the official closing ceremony, which takes place where the initial 'Opening Ceremony' took place ten days before. After that, participants and facilitators enjoy a last meal together. It is commonplace that participants meet also the following morning during breakfast, which is an interesting complementary experience, because it is automatically compared to all the breakfasts that they have shared during the residency programme, which were marked by the feeling of mystery and expectation for the activities of the day.

The Becomebecome journey will actually continue in the following days, weeks, and months ahead. Some of the participants pick up the body routines and continue to exercise to watch how that influences the projects they are developing, or just because they are fun. Furthermore, it is not uncommon that some of the Becomebecome Intuitive Journeys and Critique Labs become a source of inspiration for participants who are teachers and facilitators. These facts, which have been reported by several participants, form part of the feedback which will be taken into account to evaluate the effectiveness of the methodology.[163]

Still, the goal of Becomebecome residencies is not only to transform process at the scale of *individual participants*, but also to transform process at the

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[163] See Chapter 4.8.

scale of *social actors* and create new opportunities for the organizations and institutions who are involved in each Becomebecome project.

It can be an exciting prospect for an artist in a squat to create a project in a major museum, and it can be desirable for a teacher in a private university art programme, to develop a social impact idea with a local nonprofit. Very often though, it is not so easy to find the person 'on the other side' who has a similar sensibility and predisposition. And even when two people agree to propose a collaborative project to their respective organizations, because of internal mechanisms in the distribution of power in each structure, and other complications which are unrelated to the idea in itself, the majority of these projects are quickly abandoned. Becomebecome provides the ideal alibi for social actors who want to participate in a joint project but have a hard time communicating with each other because of their social mandate. In doing so, Becomebecome events transform process at the scale of the *social tissue* at the location of each Becomebecome Residency, reduce cultural barriers and social class differences, and generate ideal conditions for subsequent collaborative projects between local actors long after the period of the residency is over.

In addition, the Becomebecome website has been conceived from its inception to evolve into a platform for learning and collaboration. The goal is to create completely horizontal access to the Becomebecome network of partners for anyone who visits the website, as well as a direct connection among Becomebecomers for the development of new projects. A marketplace

and digital gallery infrastructure for artists who participate in Becomebecome events, online and in person, is currently being tested. An expanded section of the website with access to an e-learning platform with didactical material for current Becomebecome facilitators which includes a full training program for new facilitators, is also in the process of being established.

4.8 The Role of Evaluation in Becomebecome Practice

Becomebecome Theory and Becomebecome Practice are intertwined as two layers of a process that influence each other at every moment, and at different temporal scales. Picking unique indicators to measure the effectiveness of Becomebecome events is a coarse-graining process that necessarily excludes some of the information which connects the experiences to each other, as well as the consequences of the experiences that become visible at a temporal scale that exceeds the period of the Becomebecome event. Over the years, a few markers have emerged as meaningful because they helped the organizers and the facilitators to generate better events. The assessment of these markers has been made with the intention to produce a more significant experience for the participants, but also because they enabled a continuous appraisal of the flexibility and versatility of the Becomebecome methodology as a whole.

4.8.1 Participants Feedback

Several moments for direct feedback from the participants are made available to the facilitators during the period of the Becomebecome event.

Phase 2 Integration, Phase 3 Sharing, and Phase 4 Analysis in the Becomebecome Kinetic Routines (see Appendix A.0) provide a clear example of the connection between Becomebecome Practice and Becomebecome Theory because they associate the *consequence of the physical action* to the *consequence of the mental action* as an experience which cannot be reduced to any single one of those steps.

During the Integration phase, participants express the consequence of the experience created by the physical movement in a spontaneous way through their bodies. The range of possible feedback goes from heightened or lowered breathflow and tonus, contraction patterns of muscles in specific areas of the body, phonation, and vocalisation. It is a moment for 'animal' feedback which is designed to give the attendants the opportunity to not-explain, judge, or interpret what is coming 'out of their body' as a consequence of the movement practice. As the participants discover a space for subconscious feedback *from the body* and eventually learn how to combine it with subconscious feedback *from the mind* (see Appendix A.2 to A.4), the facilitators take mental and physical notes on the particularities which characterise each one of these moments:

- Which participant did what?

- How did participants show signs of 'evolution' in their journey through consecutive sessions?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to future facilitators?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to the participants during the moment of analysis (see Appendix A.5)?

- Did something happen which could be meaningful to the point of influencing this aspect of the methodology as a whole?

During the Sharing phase participants *tell* each other the 'how it felt' of the process which they experienced during the activity. This phase is typical of BKR exercises but it can also be applied to BIJ and BCL labs. It is a moment of expression that *activates* a part of the brain which is different from the *action* performed during the moment of 'Integration'. It is for this reason that the process reveals to the participants themselves a different element of their experience. Furthermore, the sharing happens in a group setting thus generating a group dynamic which allows each participant to look at their personal experience in the light of the perspective revealed by other participants. The facilitators take mental and physical notes on the particularities which characterise each one of these sharing moments:

- Which participant did what?

- How did participants show signs of 'evolution' in their journey through consecutive sessions?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to future facilitators?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to the participants during the moment of analysis (see Appendix A.5)?

- Did something happen which could be meaningful to the point of influencing this aspect of the methodology as a whole?

During the Analysis phase, facilitators provide bibliographic references and 'explanations' which allow the participant to understand the connection between the exercises selected for the current Becomebecome event and the basic tenets of the Becomebecome methodology as a whole. Analysis 'labs' resemble open format conference presentations which include interaction with the participants. Each facilitator chooses the format which seems most pertinent, and the degree of interaction that they wish to elicit from the participants. A simple Q&A at the end of the presentation is the minimum requirement for this activity. The facilitators take mental and physical notes on the particularities which characterise each one of the Analysis labs:

- Which participant did what?

- How did participants show signs of 'evolution' in their journey through consecutive sessions?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to future facilitators?

- Which words or actions can be catalogued as meaningful for the explanation of this exercise to the participants during the moment of analysis (see Appendix A.5)?

- Did something happen which could be meaningful to the point of influencing this aspect of the methodology as a whole?

Participants feedback is also collected on other occasions during the Becomebecome Residency programme. Becomebecome events that extend over several hours, days, or more, allow an opportunity to observe reactions from participants in their spontaneous behaviour. Since *information about the observer* is transformed during the activities themselves, but also during the moments which exist *in-between* the official activities, the facilitators are required to keep track of any offhand remark which is indicative of the transformative process of the participants:

- Did any participant say something of interest that can be used to the benefit of the same person or even the group-process during an activity in the following hours or days?

- Did any participant show peculiar behaviour which can be of interest (for the same purpose)?

- Did something happen which could be meaningful to the point of influencing some aspect of the methodology as a whole?

The use of questionnaires to collect opinions and feedback from the participants has also been introduced at various moments in Becomebecome events.

- As it pertains to each activity during the event (more specifically but not exclusively during Becomebecome Critique Labs)

- As a general feedback format at the end of longer Becomebecome events which extend over three days or more.

- As a form of continued communication after the official period of the activities has passed (in some cases via email or digital chat exchange, months after the date of the Becomebecome event).

4.8.2 De-briefing with the Facilitators and the Organizers

An important element which allows evaluation of how Becomebecome events are true to the common theoretical background but also fuelled by *information that is process-based* during each event is the process of debriefing with the facilitators. It is an operation which is distributed at different temporal scales.

After each activity, the facilitators involved must take the time to 'decompress together and give feedback to each other in an informal way. A free-form exchange of opinions related to the most noticeable aspects of the activity just completed is naturally brought to light. Facilitators must take care of the attitude they have towards each other with the same level of care they commit to the participants of 'their' events. It is important that facilitators share a sentiment of kinship, trust, and a feeling of being supported by each other throughout the Becomebecome experience. A number of observations are catalogued:

- Did something happen which can be used to build a better experience at a later moment in the Becomebecome event?
- Did something happen which can be used to make the Becomebecome methodology better?
- Did something happen which I noticed, but I cannot really explain what?

Some exercises can trigger intense reactions and unexpected emotional behaviour in the participants. Becomebecome facilitators only volunteer for

activities they are capable of handling by themselves because of previous experience and solid qualifications, or they must be accompanied by a partner facilitator who can take the lead. During the moments of debriefing which take place immediately after the activity the lead facilitator has the responsibility to make sure that the 'apprentice' facilitator feels free to ask any question without feeling judged. The lead facilitator explains the reasons why they behaved the way they did in the moments which generated doubt, conflict, or insecurity for the participants and/or the apprentice facilitator. Since there is no urgency to integrate 'immediately' all the aspects of the surprising experience, interesting elements of the conversation between the facilitators can be discussed further in the following days or on other occasions.

Immediately after each Becomebecome has been concluded (in the following days) a collective debriefing between all facilitators is coordinated through a number of sessions in person and by email, Skype, or other form of telecommunication if necessary. This temporal scale of the debriefing process is established to support a stage of integration of the Becomebecome experience for each facilitator and organizers on several levels:

- Which aspects of each activity worked out as planned?

- Which aspects did not?

- Which aspects emerged and are noteworthy because they can be used to re-shape a certain activity in the next Becomebecome event?

- Facilitators and organizers can pose questions to each other in order to clarify any doubt that was not addressed during the event.

In the period before the next Becomebecome event a series of calls, emails, and other communications is established to make sure that both facilitators and organizers of previous Becomebecome events have a clear understanding of their tasks and no lingering doubt remains from the previous Becomebecome. This round of feedback exchange is naturally inserted into the planning for the upcoming Becomebecome while new facilitators and organizers are seamlessly involved in the process of preparation for the next event.

4.8.3 Professional Collaborations and Media Traces

Part of the feedback process is made visible through photographs, videos, and commentaries which document what happens during Becomebecome events. At the beginning media traces were mostly generated using pictures and videos taken by the participants at each event. During later editions of Becomebecome events a dedicated documentarian was hired to produce an additional quantity and quality of content. Recordings of each Becomebecome have been posted on the official Becomebecome website[164] and in selected art magazines.[165] Posting on social media has been progressively expanded, in particular through Facebook, Instagram, Twitter, and including the social media accounts of partners in each event. This process of distribution of content multiplies the opportunities for visibility and evaluation which new and current partners in Becomebecome events need to see in order to evaluate their own enthusiasm and eagerness to be involved in the project. In the case of collaboration with institutional partners or other professional entities, the more media traces and reports that are created, the more it becomes easy for each participant to explain to their respective institutions the reasons for engaging in an event, report the results achieved during an event, or commit to a series of events which can extend the collaboration over a period of several years.

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[164] www.becomebecome.com

[165] https://www.artweek.com/art-news/future-art-practice-notes-nomadic-residency#

The effectiveness of the Becomebecome approach should also be measured by the success of the Becomebecome CFP,[166] which every year generated an influx of demand that has been two to five times higher than the number of available slots in the programme. This fact reveals that there is a real interest from the public for a Transdisciplinary methodology that works with *information about the observer*.

As the number of Becomebecome events continues to grow so will the quantity and quality of the feedback reports; this will allow the production of more significant and articulated elements for evaluation.

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[166] Becomebecome Call For Participation was also spontaneously featured in Wired Magazine in a section curated by famed cyberpunk author Bruce Sterling. https://bit.ly/BB-Wired

CONCLUSION

> "Je pense, donc nous sommes", "Cogito ergo sumus" or, "I think, therefore we are." In its appearance, the language I speak is my language. It makes me aware of myself. This is the root of consciousness. In its function, my language reaches out for the other. This is the root of conscience. And this is where Ethics invisibly manifests itself through dialogue... When I refer here to language, I refer to a 'dance'. Similar to when we say "It takes two to Tango," I am saying, "It takes two to language."
>
> HEINZ VON FOERSTER, UNDERSTANDING UNDERSTANDING

> "Blessed race of Hellenes! How great Dionysus must be among you, when the Delian god deems such charms necessary to cure you of your dithyrambic madness!"
>
> ...The noblest clay, the costliest marble, namely man, is here kneaded and cut, and the chisel strokes of the Dionysian world-artist are accompanied with the cry of the Eleusinian mysteries: ...In song and in dance man exhibits himself as a member of a higher community, he has forgotten how to walk and speak, and is on the point of taking a dancing flight into the air.... But now follow me to a tragic play, and sacrifice with me in the temple of both the deities!
>
> FRIEDRICH NIETZSCHE

The methodology developed in the last ten years which has been summarised in this thesis constitutes the backbone of the Becomebecome approach to research into 'intellectual operations and practical strategies that can be referenced as meaningful tools to produce Transdisciplinary knowledge for disciplines as distant from each other as those classified as the hard sciences and humanities'. The answer to this main research question has been distributed into 'Becomebecome Theory', which deals mainly with the

'intellectual operations', and 'Becomebecome Practice', which deals mainly with the 'practical strategies' which are necessary to generate *new instruments of awareness*, and access new knowledge.

Five primary axes of inquest have been defined by the following Research Interrogations:

1. Why is the notion of 'information about the observer' central to the means and methods which provide access to Transdisciplinary knowledge?

2. Is it possible to investigate process-based information when the observer is part of the process-observed?

3. How is information from the *physical body of the observer* connected to information about the observer which is *intuitive and transpersonal*?

4. What syncretic language combines such eclectic insights (Research Interrogation 3) with information that comes from the rational mind, and with scientific logic?

5. Why are practice and theory fundamentally intertwined in the Becomebecome approach which creates access to new knowledge about all of the above questions?

ACHIEVEMENTS

Throughout the concatenation of chapters which illustrates the Becomebecome approach, a suite of research instruments has emphasised the importance of investigating *hidden* 'information about the observer' which is

produced by 'synkinesis', and the possibility of 'not-doing as an action' in a cognitive space defined by process-based 'information that exists in a temporal dimension' distributed across 'temporal scales'.

These notions reveal a new paradigm for understanding both the intellectual operations and the practical strategies which are necessary to access Transdisciplinary knowledge that has to do with *hidden information* about the body, the intuition, and the rational mind of the observer. The Becomebecome approach thus reveals a connection between each of the five Research Interrogations and the main research question, while assigning to each Research Interrogation a section of the thesis where it is analysed in detail.

Participants in Becomebecome events find themselves carried by a process that includes the feeling of leaving behind their habitual markers for repetition of physical and mental behaviour. This means creating artwork in a different setting, without the usual tools and technical support, and without the habitual comfort from their immediate family or social circle of acquaintances. This also means collaborating with others when one is accustomed to working alone, working with structures in the body when one is accustomed to working mostly with the mind, and so on. A fundamental notion which drives each Becomebecome event is the idea that with every statement, description, theory, movement, or artwork, one is always *sculpting a hidden frame* that depends on two layers of process: the process which is visible to the rational mind, and a process which is transpersonal, and can

only be revealed with 'hidden' information about the observer. The coarse-graining consequence of dividing events into intervals of process is a *synkinetic* action that can be transformed by *not-doing* with *hidden information about the observer*. This is because the temporal scale at which each process-observed has been divided into a sequence of intervals has an effect on which structures are coupled together in the body of the observer.

The amount and quality of feedback received from the participants during each of the Becomebecome events has proven that access to such *hidden information about the observer* has been achieved. In most occasions participants themselves articulate their own explanations and theories for the newly discovered insight. This process goes hand in hand with the sessions of 'Integration', 'Sharing', and 'Analysis' which are made available for this purpose.

Spontaneous remarks in between Becomebecome activities and offers of collaboration from participants after an event has finished constitute a clear indication that this process is considered of value and interest for the participants, both personally and professionally.

The increasing attention that the Becomebecome programme has received over the years demonstrates the interest in such a methodology from actors operating in a wide range of Disciplinary fields, thus confirming the Transdisciplinary nature of the method.

The purpose of the Becomebecome methodology presented in this thesis is to expand research on process-based knowledge with a Transdisciplinary

approach that produces *new instruments* to generate awareness of 'hidden' *process-based information about the observer*, which is then organised using new intellectual operations to create a syncretic alliance with already existing Disciplinary knowledge.

The *coordination and alternation* of moments where information 'from the outside' expands the experience created with information 'from the inside' and vice-versa are signature elements which define the rhythm, duration, and sequence of Becomebecome labs and workshops, as well the design of the rhythm, duration, and sequence of each element within the workshops themselves. A *new instrument of awareness* for *hidden information about the observer* is revealed to the participants because of this process-based modality. The individual, intuitive, conscious, and subconscious *information about the observer* of each participant is expanded because of transpersonal *information about the observer*, which is based on group dynamics, collaboration, *synchronicity*, and plain conversations with others.

GAPS, PROBLEMS, PRODUCTIVE TENSIONS

Several aspects of the Becomebecome methodology developed as a consequence of the practice during Becomebecome events, because such is the nature of the process which defines the methodology *from the outside* (in its use), and *from the inside* (in its essence). This feature is obvious when considering the range and distribution of activities that have been tested and expanded over the years. Such differences contributed to generate gaps,

problems, and productive tensions that became opportunities for learning and betterment for the organizers, facilitators, and for the coherence of this thesis as well. Among the most relevant aspects of creative tensions a few stand out:

Participants in Becomebecome events are faced with the unusual and the unexpected in ways which are surprising and feel very 'personal' at times. When old thinking patterns fall apart and experiences bring out a form of awareness that is not immediately associated to any form of coherence this generates a space which is charged with emotional tension and mental dissonance. It is important that facilitators can separate the process of the participants from their own personal process of discovery and transformation. They are the guardians and protectors of a 'hidden' container inside of which the participants experience metamorphosis. When aspects of the emotional dynamics of the participants attach to aspects of the emotional dynamics of the facilitator the transformative process becomes more complex and needs more articulation. There have been a few instances in which an 'apprentice' facilitator has felt the urge to intervene in the dynamics generated during an activity because they are finding it difficult to understand the reasons for certain actions performed by an 'expert' facilitator at specific moments during an exercise. Such occurrences are one of the main reasons why a time for debriefing which takes place immediately after an activity should be always be present. Information which is revealed during such debriefings is important for the development of the methodology. All facilitators in charge of a Becomebecome activity must take care to report and explain particular

aspects of the exercise they propose as a matter of documentation which is useful as a record of activities past and future.

The cultural and personal background of participants creates expectations which are varied and not always clearly expressed before the Becomebecome event begins. Accommodation conditions and services provided to participants must always be clearly indicated at some point during the booking and selection process (see Chapter 4.1). Nevertheless, on some occasions the incongruence between what is available at the location of the Becomebecome event and what should 'obviously' be provided (according to the usual expectations of participants) do not match. Because of the 'open' nature of the experience proposed at Becomebecome events, usually this does not constitute a problem. Still, there have been occasions where such aspects of the Residency programme were used to anchor important transformative processes that took place for the participants. Facilitators must always be open and grateful for the creative opportunity revealed by such episodes. Because of the 'bubble' nature of Becomebecome events (they last only for a limited amount of time) participants are more open to allowing themselves to be carried in spite of this 'unsettling' discovery. The attitude and the language which the Becomebecome team offers to the participant in these moments can generate an exciting, intense and unexpected creative burst of energy. This can be channelled to the benefit of their individual participants' experience and that of the group as a whole.

The inexistence of a clear manual which indicates concrete steps for how to proceed during the activities developed for each Becomebecome event created the necessity for the original creators of the methodology to be present at each Residency programme. Such participation should be made optional rather than necessary. As more and more learning material and pedagogic references are made available through different channels (online, print, and so on), communication with the creators of the methodology should become less necessary and less frequent. This will allow the Becomebecome methodology to expand beyond its original reach which was limited by the requirement that certain individuals be present in person. This will also allow the expansion of some aspects of the Becomebecome format beyond the biases of the people who defined the original Transdisciplinary approach.

To date, the financial contribution which is necessary to produce a Becomebecome event have been carried in equal parts by participants, facilitators, and organizers. Each participant provided a monetary contribution to take part in a Becomebecome Residency programme. Facilitators mostly worked as volunteers to develop their own professional or personal research. Organizing partners and collaborators provided technical support and discounts on services offered during the residency. It has become obvious over the years that to project and disseminate the Becomebecome methodology at a scale which impacts a larger number of individuals and social actors some additional form of financial support, whether from institutions or from private entities, has to be secured. The expansion of the Becomebecome website with a marketplace and an e-learning platform in the

next months and years generates the opportunity to reach out to new partners to achieve such goal.

CELEBRATIONS FROM THE EVALUATIVE PROCESS

The most obvious moments of celebration of new insight generated during Becomebecome activities is revealed in the immediate reaction of the participants during the exercises. The physical and mental 'liberation' and 'expansion' produces immediate change, new ideas, and unexpected advances in the projects that the Becomebecomers bring to the residency (or to the individual labs).

Spontaneous celebration happens at a scale which is personal when the attendants take notes for themselves and just enjoy the effects of a Becomebecome Kinetic Routine, a Becomebecome Intuitive Journey, or a Becomebecome Critique Lab. Spontaneous celebration happens also at a scale which is shared with others in the commentaries that each participant makes about these individual moments of 'revelation' and new insight. Furthermore, Becomebecome Analysis labs, some Becomebecome Critique Labs, the Becomebecome Symposium on Transdisciplinary Narratives, and the Becomebecome Process-Exhibit, constitute events where the sharing of exciting discoveries between participants is present but also perceived as more structured.

The feedback questionnaires at the end of a residency programme and the communications which take place after the official period of the

Becomebecome event are also a valuable opportunity for participants to combine feedback with an expression of gratitude which is celebrated by the facilitators and the organizers who receive such correspondence. Since the first few Becomebecome Residency programmes that have been organised, it has been customary for some facilitators and organizers to remain at the location of the event for a few extra days. This natural occurrence made time for a much-needed process of sharing 'without responsibilities' between members of the Becomebecome Team. New friendships have been born and new spin-off projects between people that did not know each other beforehand have seen the light of day. Being responsible for the safety and guidance of individuals who go through transformative experiences creates emotional moments. Sharing emotional moments creates meaningful bonds. This is certainly one of the most valuable aspects that has to be celebrated about Becomebecome events.

GENERAL OBSERVATIONS

The quest to understand process-based knowledge that includes *information about the observer* has found many definitions in various Disciplines, and each definition generates new insight with exciting new trajectories for investigation. This is important at the scale of research in science and the humanities, but perhaps even more important is the impact that the Transdisciplinary approach has in our way of understanding and explaining

situations that are relevant to ordinary life for not only the scientists, artists, or educators, but everyone.

Because of the increase in connectivity[167] between people, and information about people, access to knowledge is faster, more abundant, and the notion of 'process-based knowledge' has become central to the comprehension and awareness paradigms of our generation more than ever before. As the internet of things and the new paradigms for the Web 3.0 (and beyond) become ubiquitous, more and more 'offline' activities evolve into a 'hybrid' or 'online' format. Observer-participants that produce knowledge are changed by transpersonal processes which define their identity as they speak, move, and think. Their psychic, physical and behavioural processes are becoming more obviously transpersonal and distributed. This is why the cybernetic quest to understand process-based knowledge that includes *information about the observer* constitutes a field of research that has even more relevance today than when it was first introduced fifty years ago. As human society moves from technologies that modify *space* to technologies that modify *time*, the human understanding of process-based knowledge is subjected to a major paradigm shift.

This thesis should be considered a foundational contribution towards the creation of a reference manual for the Becomebecome methodology. Seven

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[167] Connectivity here refers to the frequency, speed and amount of interactions between people, and the information produced as a consequence of such interactions. The digital revolution, the evolution of the communications apparati which supports it, the pervasive use of computers, and the advent of low-cost airplane transportation are examples of technologies which have produced more connectivity between people.

years have gone by since the first Becomebecome Residency took place, and though the essential features of the methodology are now clearly organised in a structural and functional relationship to each other, the Becomebecome approach remains fundamentally based on a process-based *complex plurality* and *open unity*. It is evident after this initial period of its existence that as the number of Becomebecome events continue to increase, the Becomebecome approach will be expanded and improved by the contributions of many other researchers, whether in their role as facilitators, or their role as participants.

LIST OF SOURCES

Adler, J. (1987). Who is the witness? *Contact Quarterly*, 12 (1), pp.20–9.

Angier, N. (1995). Modern Life Suppresses Ancient Body Rhythm. *New York Times*, March 14, 1995.

Axelrod, R. (1994). *The Evolution of Cooperation*. New York, NY: Basic Books.

Ariés, P. and Duby, G. (1987). *A History of Private Life VOL I.* Translated from the French by Arthur Goldhammer. Cambridge, MA: Harvard University Press.

Ascott, R. (1964). The Construction of Change. *Cambridge Opinion (Modern Art in Britain)* 37, pp.37-42.

Ascott, R. (1983). *La Plissure du Texte.* http://telematic.walkerart.org/timeline/timeline_ascott.html

Ascott, R. (2003). *Telematic Embrace: Visionary Theories of Art, Technology and Consciousness*. Los Angeles, CA: University of California Press.

Ascott, R. (2005). Syncretic reality: Art, processes and potentiality. *Drain Magazine* (2).

Ashby, W. R. (1956). *An Introduction to Cybernetics*. London, UK: Chapman & Hall.

Bartenieff, I. (1999). *Arquitetura do Corpo*. Cadernos do GIPE-CIT (7), pp.8-14.

Bateson, G. (1979). *Mind and Nature.* New York, NY: E. P. Dutton.

Bateson, G. (1987). *Steps to an Ecology of Mind*. Northvale, NJ: Jason Aronson Inc. Publishers.

Beekes, R. S. P. (2009) *Etymological Dictionary of Greek*. Leiden, The Netherlands: Brill.

Bell, E.T. (1965). *Men of Mathematics*. New York, NY: Simon and Schuster.

Bohannan, P. (1953). Concepts of Time among the Tiv of Nigeria. *Southwestern Journal of Anthropology*, 9(3), pp.251-262. http://www.jstor.org/stable/3628696

Boyer, C. B. (1985). *A History of Mathematics*. Princeton, NJ: Princeton University Press.

Buber, M. (2000). *Das Problem des Menschen*. Gütersloh, Germany*:* Gütersloher Verlagshaus.

Burns, C. (2011). Wolfgang Pauli, Carl Jung, and the Acausal Connecting Principle: A Case Study in Transdisciplinarity. *Disciplines in Dialogue*.

Buzsáki, G. (2006). *Rhythms of the Brain*. Oxford, UK: Oxford University Press.

Calais-Germain, B. (1993). *Anatomy of Movement*. Seattle, WA: Eastland Press.

Calais-Germain, B. (2001) Introduction. In Germain, P. *Économie du geste: fascias et movement*. Gap, France: Desiris.

Calais-Germain, B. (2003). *The Female Pelvis: Anatomy & Exercises*. Seattle, WA: Eastland Press.

Calais-Germain, B. (2006). *Anatomy of Breathing*. Seattle, WA: Eastland Press.

Calais-Germain, B. and Germain, F. (2015) *Anatomy of Voice: How to Enhance and Project Your Best Voice*. Rochester, VT: Healing Arts Press.

Dante, A.

Cantor, G. (1895). Beitrage zur Begrundung der transfiniten Mengen-lehre. Part I. In *Mathematische Annalen*, 46, pp.481-412.

Cantor, G. (1932) *Gesammelte Abhandlungen mathematischen und philosophischen Inhalts*. Berlin, Germany: Springer.

Carroll, S., Chen, J. (2004) Spontaneous Inflation and the Origin of the Arrow of Time, *hep-th*, 0410270. EFI-2004-3. https://arxiv.org/pdf/hep-th/0410270

Carroll, S. (2010). *From Eternity to Here*. New York, NY: Dutton.

Chodorow, J. (1991). *Dance Therapy and Depth Psychology*. London: Routledge.

Chodorow, J. (1997). Introduction. In *Jung on Active Imagination*. London: Routledge.

Cohen, B. (2001). Science and humanities: Across two cultures and into science studies. *Endeavour* 21(1), pp.8-12.

Cox Miller, P. (1997). *Dreams in Late Antiquity*, Princeton, NJ: Princeton University Press.

Craig Miller, M. (2010). Unconscious or Subconscious? https://www.health.harvard.edu/blog/unconscious-or-subconscious-20100801255

Dauben, J. (1990). *Georg Cantor: His Mathematics and Philosophy of the Infinite*. Princeton, NJ: Princeton University Press.

Dauben, J. (2004). Georg Cantor and the Battle for Transfinite Set Theory. *Proceedings of the 9th ACMS Conference*, pp.1–22.

De Lima Caetano, P. (2015) For an Aesthetics of Sensations: the intense body of Bartenieff Fundamentals and Body-Mind Centering. Revista Brasileira de Estudos da Presença, 5(1).

Dennett, D.C. (1991). *Consciousness Explained.* New York, NY: Little, Brown.

Deplano, V. (2018). Societé de Bioméchanique, https://www.biomecanique.org/images/Pionniers_en_Biomecanique_-_V4-nov.2018bis.pdf

De Vries, K. (2003). *Joan of Arc: A Military Leader*. Stround, UK: Sutton Publishing.

Domhoff, G. W. (2005). Refocusing the Neurocognitive Approach to Dreams: A Critique of the Hobson versus Solms debate. *Dreaming* 15, pp.3–20. https://doi.org/10.1037/1053-0797.15.1.3

Dörr, E.(2008). *Rudolf Laban: The Dancer of the Crystal.* Lanham, Maryland: Scarecrow Press.

Eddington, A. (1935). *New Pathways in Science.* Cambridge, MA: Cambridge University Press.

Ehrenfried, L. (1956) *De l'éducation du corps à l'équilibre de l'esprit*. Paris, France: Editions Montaigne.

Ekirch, A. R. (2001) Sleep We Have Lost: Pre-Industrial Slumber in the British Isles. *American Historical Review,* 106(2), pp.343–386.

Farhi, E., and Guth, A. H. (1987) An Obstacle to Creating a Universe in the Laboratory. *Physics Letters B*, 183(2), pp.149-155.

Farhi, E., and Guth, A. H. (1990) Is it possible to create a universe in the laboratory by quantum tunneling? *Nuclear Physics B*, 339(2), pp.417-490.

Feitis, R. (1990). Introduction. In Rolf, I. P. *Rolfing and Physical Reality*. Rochester, VT: Healing Arts Press, 1990.

Fernandes, C. (2006) *O Corpo em Movimento: o sistema Laban/Bartenieff na formação e pesquisa em artes cênicas.* São Paulo: Annablume.

Fernandes, C. (2010) Criatividade, Conexão e Integração: uma introdução à obra de Irmgard Bartenieff. In Bolsanello, D., ed. *Em Pleno Corpo: educação somática, movimento e saúde.* Curitiba: Juruá.

Geertz, C. (1983). *Local Knowledge.* New York, NY: Basic Books.

Germain, P. (2001). *Économie du geste: fascias et movement.* Gap, France: Desiris.

Gieser, S. (2005). *The Innermost Kernel: Depth Psychology and Quantum Mechanics: Wolfgang Pauli's Dialogue with C.G. Jung.* London, UK: Springer Nature.

Gilliat, S-L. (2012). There is Always a Form – Charlotte Selver's Form was Awareness: A Conversation with Bonnie Bainbridge-Cohen. https://joyfuldharma.org/2012/06/30/bonnie-bainbridge-cohen/

Glanville, R. (2002). Second order cybernetics. Systems science and cybernetics. In *Encyclopaedia of life support systems* (EOLSS). Oxford, UK: EoLSS.

Godel, K. (1931). Über formal unentscheidbare Sätze der Principia Mathematica und verwandter Systeme I. *Monatshefte für Mathematik,* London, UK: Springer Nature.

Gorter, T. (2003). On Constructing a reality. *Human Becoming-Becoming Human*, Heinz von Foerster Festschrift. https://www.univie.ac.at/constructivism/HvF/festschrift/gorter.html

Guth, A. (1997). *The Inflationary Universe*. New York, NY: Basic Books.

Harris, W. (1994). *Heraclitus, The Complete Fragments.* Honolulu, HI: Project Gutenberg Self-Publishing Press.

HARTLEY, L. (1994). *Wisdom of the Body Moving: an introduction to Body-Mind Centering.* Berkeley: North Atlantic Books.

H.H. the 14th Dalai Lama, Hayward, J.W., and Varela, F. J. (2001). *Gentle Bridges, Conversations with the Dalai Lama on the Sciences of Mind.* Berkeley, CA: Shambhala Publications.

Hofstadter, D. (1979). *Gödel, Escher, Bach: An Eternal Golden Braid*. New York, NY: Basic Books.

Hofstadter, D., and Dennett, D. (1982). *The Mind′s I.* New York, NY: Bantam Books.

Hofstadter, D. (1985). *Metamagical Themas, Questing for the Essence for Mind and Pattern.* New York, NY: Basic Books.

Hofstadter, D. (1995). *Fluid Concepts and Creative Analogies*. New York, NY: Basic Books.

Hofstadter, D. (1997). *Le Ton beau de Marot, in Praise of the Music of Language*. New York, NY: Basic Books.

Hofstadter, D. (2007). *I am a Strange Loop.* New York, NY: Basic Books.

James W. (1899). Talks to teachers on psychology and to students on life's ideals. In *The Works of William James*. Cambridge, MA: Harvard University Press.

Jouvet, M. (1999). *The Paradox of Sleep: the story of dreaming.* Translated by L. Garey. Cambridge, MA: MIT Press.

Jung, C. G. (1970). Structure and Dynamics of the Psyche. *Collected Works 8*. Abingdon-on-Thames, UK: Routledge.

Jung, C. G. (1980). Psychology and Alchemy. *Collected Works 12*. Abingdon-on-Thames, UK: Routledge.

Jung, C. G. (1967). *The Spirit of Man in Art and Literature. Collected Works 15*. Abingdon-on-Thames, UK: Routledge.

Jung, C. G. (1973). *Letters* (1). Translated by R.F.C. Hull. Princeton, NJ: Princeton University Press.

Kallina, H-M. (2008) Rolfing Movement – der funktionelle Part von Rolfing. *CoMed*, 2.

Kauffmann, L. H. (2012). Eigenforms, Discrete Processes and Quantum Processes. *Journal of Physics: Conference Series* 361(1)

Knab, T. J. (1995). *A War of Witches: A Journey into the Underworld of the Contemporary Aztecs*. New York, NY: HarperCollins.

Knudson, R. M., and Finocan, G. M. (2007) What I Learned Teaching Dreams 101, a Cautionary Tale. *DreamTime,* 13.

Kompridis, N. (2000). So We Need Something Else for Reason to Mean. *International Journal of Philosophical Studies*. 8(3), pp.271–295.

Koren, L. (1994). *Wabi-Sabi for Artists, Designers, Poets & Philosophers*. Berkeley, CA: Stone Bridge.

Krauss (2014a) https://en.m.wikipedia.org/wiki/File:Blackbox3D-obs.png

Krauss (2014b)
https://en.wikipedia.org/wiki/File:OpenSystemRepresentation.svg

Krippendorff, K. (2008). Cybernetics' Reflexive Turns. *Cybernetics and Human Knowing,* 15(3-4), pp.173-184.

Lafrentz, D. (2011). Truth is the Invention of a Liar - Centenary of the birth of Heinz von Foerster. https://www.feldenkraisnow.org/truthistheinvent.html

Le Goff, J. (1988). *The Medieval Imagination*. Translated by A. Goldhammer. Chicago, IL: University of Chicago Press.

Levitin, D. (2006). *This is Your Brain on Music*. New York, NY: E. P. Dutton.

Lindorff, D. (2004). *Pauli and Jung: the meeting of two great minds*. Wheaton, IL: Quest Books.

Ljubec, Z. (2015) *Polyphibianism: Evolving Transdisciplinarity into an Imaginary Organism of Living Knowledge*. Doctoral Research Dissertation. Plymouth, UK: Plymouth University.

Mehta R. P., Wernick Robinson, M., and Hadlock, T.A. (2007). Validation of the Synkinesis Assessment Questionnaire. *Laryngoscope*, 117(5), pp.923-926.

Meier, C. A. (2014). *Atom and Archetype: The Pauli/Jung Letters 1932-1958*. Translated by D. Roscoe. Princeton, NJ: Princeton University Press.

Miller, M. C., (2010). Unconscious or subconscious? https://www.health.harvard.edu/blog/unconscious-or-subconscious-20100801255

Mindell, A. (1982). *Dreambody*. Santa Monica: Sigo Press.

Minsky, M. (1985). *The Society of Mind*. New York, NY: Touchstone.

Mitchell, M. (2003). *Analogy-Making as Perception*. Cambridge, MA: MIT Press.

Monod, J. (1971). *Chance and Necessity*. New York, NY: Random House.

Moss, R. (2005). *Dreamways of the Iroquois: Honoring the Secret Wishes of the Soul.* Rochester, VT: Destiny Books.

Moss, R. (2010). *A Secret History of Dreaming*, Novato, CA: New World Library.

Moyers, B. (1993). *Healing and the Mind*. New York, NY: Doubleday.

Myers, T. W. (2013). *Anatomy Trains, Myofascial Meridians for Manual and Movement Therapists.* Amsterdam, The Netherlands: Elsevier.

Myers, T. (2018). Notes from Berlin: The 2018 Fascia Research Congress. https://www.bodyworkmovementtherapies.com/article/S1360-8592(18)30462-5/fulltext

Nicolescu, B. (1994). Charte de la Transdisciplinarité. In *La Transdisciplinarité: Manifeste*. Paris, France: Éditions du Rocher.

Nicolescu, B. (1996). *La Transdisciplinarité: Manifeste*. Paris, France: Éditions du Rocher.

Nielsen, T. A., and Stenstrom, P. (2005). What Are the Memory Sources of Dreaming? *Nature,* 437(7063), pp.1286-9

Niemeyer, U. (2018). From Traditional to Digital Sculpture. https://hermay.org/niemeyer/2018UB/index.html

Nietzsche, F. W. (1986). *Human, All Too Human, A Book for Free Spirits.* Translated by R.J. Hollingdale. Cambridge, MA: Cambridge University Press.

Nietzsche, F. W. (1997). *Daybreak. Thoughts on the Prejudices of Morality.* Translated by R.J. Hollingdale. Cambridge, MA: Cambridge University Press.

Nietzsche, F. W. (1910). *The Birth of Tragedy or Hellenism and Pessimism.* Translated by W.A. Haussmann. London, UK: T.N. Foulis.

Nietzsche, F. W. (1999). *Thus Spoke Zarathrustra*. Translated by T. Common. Garden City, NY: Dover Books.

Nietzsche, F. W. (2003). *Writings from the Late Notebooks.* Translated by K. Sturge. Cambridge, MA: Cambridge University Press.

Oberhelman, S. M. (1983). Galen, On Diagnosis from Dreams. *Journal of the History of Medicine and Allied Sciences*, 38, pp.36–47.

Olivetti Belardinelli, M. (1973) *La Costruzione della Realtá.* Torino, Italy: Boringhieri.

Pauli, W. (1994). *Writings on Physics and Philosophy*. Translated by R. Schlapp. Berlin, Germany: Springer.

Perrot, P. (1998). *A to Z of Thermodynamics*. Oxford, UK: Oxford University Press.

Pert, C. (1997). *Molecules of Emotion: Why You Feel the Way You Feel*. New York, NY: Scribner.

Pert, C. B., Dreher, H. E., and Ruff, M. R. (1998). The psychosomatic network: foundations of mind-body medicine. *Alternative therapies in health and medicine,* 4(4), pp.30–41.

Popescu, P. (1991). *Amazon Beaming*. New York, NY: Viking.

Poulakos, J. (1983). Toward a Sophistic Definition of Rhetoric. *Philosophy and Rhetoric 16* (1), pp.35–48.

Prigogine, I. (1980) *From Being to Becoming*. New York, NY: W. H. Freeman and Co.

Ricoeur, P. (2012). *Time and Narrative. Volume 1.* Chicago, IL: University of Chicago Press.

Ricoeur, P. (2012). *Time and Narrative. Volume 2.* Chicago, IL: University of Chicago Press.

Ricoeur, P. (2012). *Time and Narrative. Volume 3.* Chicago, IL: University of Chicago Press.

Riester, J. (1972). Curanderos y brujos de los indios chiquitanos. *Revista de la Universidad Boliviana,* 16(31–32), pp. 5–17.

Riggs, A., and Grant, K. E. (2014). Myofascial Release. In *Modalities for Massage and Bodywork,* 9. Amsterdam, The Netherlands: Elsevier.

Robertson, R. (1999). G. Spencer-Brown's Laws of Form. *Cybernetics & Human Knowing,* 6, pp.43-55.

Rolf, I. P. (1990). *Rolfing and Physical Reality.* Rochester, VT: Healing Arts Press.

Rouse, J. (1987). *Knowledge and Power.* Ithaca, NY: Cornell University Press.

Rouse, J. (1993). What are cultural studies of scientific knowledge? *Configurations,* 1, pp.1–22.

Rovelli, C. (2008). Quantum gravity. *Scholarpedia.* 3(5), p.7117.

Samuel, J. (1993). Foreword. In Calais-Germain, B. *Anatomy of Movement.* Seattle, WA: Eastland Press.

Schopenhauer, A. (1909). *The World as Will and Idea.* Translated by R.B. Haldane and J. Kemp. London, UK: Kegan Paul, Trench, Trübner & Co.

Schwab, D., et al. (2007). A Study of Efficacy and Cost-Effectiveness of Guided Imagery as a Portable, Self- Administered, Presurgical Intervention Delivered by a Health Plan. *Advances in Mind-Body Medicine,* 22(1).

Sciences et avenir. (2017). Mort de Michel Jouvet, le "sorcier du sommeil" et scientifique du rêve. https://www.sciencesetavenir.fr/sante/cerveau-et-psy/mort-de-michel-jouvet-le-sorcier-du-sommeil-et-scientifique-du-reve_117034

Snow, C.P. (1956). The two cultures. *New Statesman,* 413.

Spencer Brown, G. (1972). *Laws of Form.* New York, NY: Julian Press, Inc.

Sperry, R. W. (1967). Mind, brain, and humanist values. *Insight: Quarterly Review of Religion & Mental Health,* 5(4), pp. 7–12.

Stephenson, H. W. (2005). Forecasting Opportunity: Kairos, Production, and Writing. Oxford, UK: University Press of America.

Steiner, G. (1975). *After Babel, Aspects of Language and Translation.* New York: Oxford University Press.

Szpakowska, K. M. (2003). *Behind Closed Eyes. Dreams & Nightmares in Ancient Egypt.* Swansea, UK: The Classic Press of Wales.

Tick, E. (2001). *The Practice of Dream Healing: Bringing Ancient Greek Mysteries into Modern Medicine.* Wheaton, IL, Quest Books.

Unnamed author, (2009). Editorial: Across the great divide. *Nature Phys,* 5(309).

Varela, F. J. (1999). The Specious Present : A Neurophenomenology of Time Consciousness. In *Naturalizing Phenomenology: Issues in Contemporary Phenomenology and Cognitive Science*, pp.266-314.

Varela, F. J., and Shear, J. (2001). First-person Methodologies: What, Why, How? *Journal Consciousness Studies,* 6, pp.1-14.

Varela, F. J. (2005). *Sleeping, Dreaming and Dying: Dialogues between the Sciences and the Buddhist Tradition*. Boston, MA: Wisdom Publications.

Von Bertalanffy, L. (1968). *General System Theory*. New York, NY: G. Braziller.

Von Foerster, H. (1991). Ethics and Second-Order Cybernetics. In *Understanding Understanding*. New York, NY: Springer. Originally published in French as Ethique et Cybernetique de second ordre. In *Systèmes, Ethique, Perspectives en thérapie familiale*, pp. 41–55.

Von Foerster, H. (1995). Anthology Of Principles Propositions Theorems Roadsigns Definitions Postulates Aphorisms etc. In Cybernetics And Circularity. In *The Cybernetics Society*. http://www.cybsoc.org/heinz.htm.

Von Foerster, H. (2001). In conversation with Timothy Gorter. In Broecker M. & Riegler A. *Human Becoming. Becoming Human*. Festschrift for Heinz von Foerster.http://papers.cumincad.org/data/works/att/a4d9.content.pdf

Von Foerster, H. (2003a). *Cybernetics & Human Knowing,* 10 (3-4).

Von Foerster, H. (2003b). *Understanding Understanding*. New York, NY: Springer.

Von Glaserfeld, E. (2003) Speech at the Memorial Meeting for Heinz von Foerster, Vienna, p.291. https://www.evg-archive.net/wp-content/uploads/The-Constructivist-View-of-Communication.pdf

Weaver, J.O. (2010) Elsa Gindler and her influence on Wilhelm Reich and Body Psychotherapy. *Body, Movement & Dance in Psychotherapy – An International Journal for Theory, Research and Practice*, preprint, http://judythweaver.com/writings/elsa-gindler-and-her-influence-on-wilhelm-reich-and-body-psychotherapy/

Weisstein, Eric W. Dynamical System. In *MathWorld: A Wolfram Web Resource.* http://mathworld.wolfram.com/DynamicalSystem.html

White, E. C. (1987). *Kaironomia: On the Will-To-Invent.* New York, NY: Cornell University Press.

Whitehouse, M.S. (1958). The Tao of the body. In P. Pallaro, Ed. *Authentic Movement: Essays by Mary Starks Whitehouse, Janet Adler, and Joan Chodorow.* London, UK: Jessica Kingsley, 1999.

Whitehouse, M. S. (1979). C. G. Jung and dance therapy: Two major principles. In *Eight Theoretical Approaches in Dance-Movement Therapy*, P. Bernstein, Ed. Dubuque, Iowa: Kendall/Hunt.

Whitten N. E. (1976). *Sacha Runa: Ethnicity and Adaptation of Ecuadorian Jungle Quichua*. Urbana, IL: University of Illinois Press.

Wiener, N. (1948) *Cybernetics: Or Control and Communication in the Animal and the Machine Cybernetics: Or Control and Communication in the Animal and the Machine.* 2nd revised ed. Paris: Hermann & Cie, & Camb. Mass: MIT Press.

Wilson, E. O. (1971). *The Insect Societies*. Cambridge, MA: Harvard University Press.

Winnicott, D. W. (1951). Transitional objects and transitional phenomena. In *Playing and Reality*. New York: Basic Books.

Wolfram, S. (2002) *A New Kind of Science*. Champaign, IL: Wolfram Media.

Woodward, A. Jean-Francois Lyotard. In *Internet Encyclopaedia of Philosophy*. http://www.iep.utm.edu/lyotard/

Wyman-McGinty W. (1998). The body in analysis: authentic movement and witnessing in analytic practice. *The Journal of analytical psychology*, 43(2), pp. 239–260.

Zabriskie, B. (2005). Synchronicity and the I Ching: Jung, Pauli, and the Chinese Woman. *Journal of Analytical Psychology,* 50, pp.223–235.

Zohar, D. (1990) *The Quantum Self. Human nature and consciousness defined by the new physics.* New York, NY: William Morrow & Co.

A   APPENDICES

A.0   Why the Appendices?

The information that is made available in Appendices A.1 to A.5 has been compiled in a style which matches the narrative of the main corpus of text in the dissertation. This is made to create a sense of continuity for readers who consult the Appendices as a part of the larger process of reading PART II. For this reason, Appendices A.1 to A.5 can be considered a direct excerpt removed from the body of the thesis where indicated in the corresponding Chapter 4.2.1, and it is therefore suggested to read the appendices as a continuation of the text which precedes them in Ch. 4.2.1. After the appendices, the reader is advised to return to Chapter 4.3.

Appendices A.1 to A.4 provide some concrete examples of Becomebecome Kinetic Routines (BKR) as they are implemented in practice during a typical Becomebecome residency. Each exercise is built around strategies to access *hidden information about the observer* based on working with *movements which raise awareness of transformation in the physical body system and its processes*. For each BKR, Becomebecome facilitators set up a schedule of activities where the feeling of transformation generated *from the inside* by physical exercises is always followed by an opportunity for integration, sharing, and analysis which includes a feeling of transformation *from the outside*. This series of four phases (Exercise, Integration, Sharing, Analysis) generates awareness of singular elements of the transformation one

experiences within one's own body. It is only possible to appreciate these components because each takes place separately in time, yet they are connected to each other in a sequence. This system of *alternation and coordination* between activities creates an opportunity to see and feel more of what happens *inside* of oneself because an exchange of *information about feelings and opinions from others* is established as part of the sequence. In order to better appreciate the moment when each of the phases appears in the sequence, they have not been abstracted from the unfolding process in the text below and they have been signalled with ***bold italics**.

A.1 BKR Exercise 1: The Action of Not-Doing. The Breathing Gesture and the Movement of Awareness

The movement protocols described in the Appendices present four examples of BKR exercises designed for the acquisition of *hidden information about the observer*. The process of acquisition in BKR1 is distributed in four main steps:

Step 1, instructions are given to the participants who are invited to position themselves in a comfortable setting.

Step 2, the instructions for comfort are divided into instructions for relaxation, instruction for breathing, and instructions for awareness.

Step 3, instructions for breathing are moved into a separate category which is independent from instructions for relaxation and awareness.

Step 4, instructions given for awareness are also recognised as *hidden* commands given to the muscles in the body.

In the following description words aligned left as a column of text in italics refer to instructions given to participants during the exercises (different facilitators adapt the words to their own style).

The text in italics is the script spoken to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*.

STEP 1 - COMFORT

STEP 2 - RELAXATION, BREATHING, AND AWARENESS, EXIST IN THE SAME SPACE

Lie down with your back on the floor

Give your body time to relax

Let go

There is no need for postural muscles to be active

You do not need effort

You do not need to contract your jaw

Do not interrupt the breathing

Relax your neck

Lying on one's back on the floor is one of the activities that adult human beings rarely do. From the time a child learns to walk on their two legs, there are not many opportunities for the body to again experience lying on a floor. In modern societies it is not commonplace to do so. The position of the body lying on the floor allows the nervous system to relax muscles that are active all day, every day, from the moment one wakes up to the moment one goes to rest at night. And even at night, some activity in the muscles persists, and the effects of lying on a hard surface are very different to the effects of lying in a soft bed which adapts to one's body in shape, distribution of weight, and

involuntary contraction of muscles. While a hard surface can contrast such involuntary contractions and provide support, that is not possible on a soft bed, no matter whether one is awake or asleep.

STEP 3 – RELAXATION AND AWARENESS EXIST INSIDE THE SPACE OF THE BREATHING

Do not interrupt the breathing while you listen to my voice

The listening can exist inside the space of the breathing

Move your awareness to the back of your neck

Relax

...

Do not interrupt the breathing

Move your awareness to the back of your eyes

Relax

...

Do not interrupt the breathing

Move your awareness to your tongue

Relax

...

Do not interrupt the breathing

Not-doing is an action

You can keep your neck relaxed,

your tongue relaxed,

inside the space of the breathing

...

Do not interrupt the breathing

You can move your awareness to different parts of the body

inside the space of the breathing

During this part of the exercise, participants learn to separate different processes in the body which are associated to each other by repetition. The idea of separating the breathing gesture from the movement of limbs, the contraction of muscles for movement, and even from the movement of awareness, is a process which we have observed (in various Becomebecome events over the course of the last ten years) produces an experience of surprise, relief, and discovery. Because of the repetition of one's daily patterns of movement in ordinary life, the breathing gesture ends up being associated to a rather limited number of recurring movements, compared to the great amount of possibilities which are otherwise available to the human

body[168]. This is a problem in itself because it limits the possibility of movement associated to the natural trophism of all the structures impacted by the respiratory gesture[169]. It is also a process that creates weakness (to paraphrase Von Foerster, 'less amount of choice') because it reduces the number of involuntary combinations of (*hidden*) movements associated to each breathing cycle and generates a mechanism of lockstep produced by *information about (the body of) the observer* which is *hidden* and subconscious. Here below is provided an analysis of the main steps involved in the acquisition of the *hidden process-based information about the observer which passes through the body* during this part of the exercise, with a summary explanation of the connection between each specific moment of the Becomebecome Practice and the corresponding moment in Becomebecome Theory.

Practice: The participants receive instructions about breathing

Practice: The participants receive instructions about movement

Theory: The action required in the two steps belongs to the same set of infinites.

Practice: The participants receive the instruction 'do not interrupt the breathing'.

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[168] See also Calais-Germain, B. Anatomy of Breathing. Seattle, WA: Eastland Press. 2006.

[169] Germain, P. Économie du geste: fascias et movement. Gap, France: Desiris. 2001.

Practice: The participants receive instructions about movement which exists '*inside* the space of the breathing'

Theory: With this instruction, the breathing gesture is generated from a bigger set of infinites, at a scale of process which is untouchable (uninterrupted) no matter which instructions are given at the scale of process that produces all other voluntary movements in the body.

Practice: This is possible because the participants are lying on the floor and the postural muscles are not active[170].

- Process-based *information about the observer* is revealed as a *consequence* of receiving instructions about *not-doing* ('do not interrupt the breathing'), which transforms *two movements of the same process* into movements that exist in two separate sets of infinites (scales) which are nonetheless connected to each other.

In Fig. 14, based on Fig. 12, a process made of two sets of interactions in time (i.e. movements) has been expanded into two processes at two different

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[170] Advanced exercises can be proposed to integrate this experience while changing the orientation of the body in space; this introduces access to a set of infinite experiences which take into account the effects of gravity. Extended Becomebecome programmes which maintain a regular practice over a two to three month period allow transformation of patterns of *information that exists in a temporal dimension* which *passes through the body of the observer* in many other ways. These specialised programmes offer the possibility to modify *hidden* patterns of *synkinesis* which transform movements that happen in ordinary life when gravity and balance while standing are present (lifting bags at the supermarket, playing with children, doing sports, showering, washing teeth, etc).

scales. The relationship between one another can be described with the notions introduced in Chs. 3.2 and 3.4.
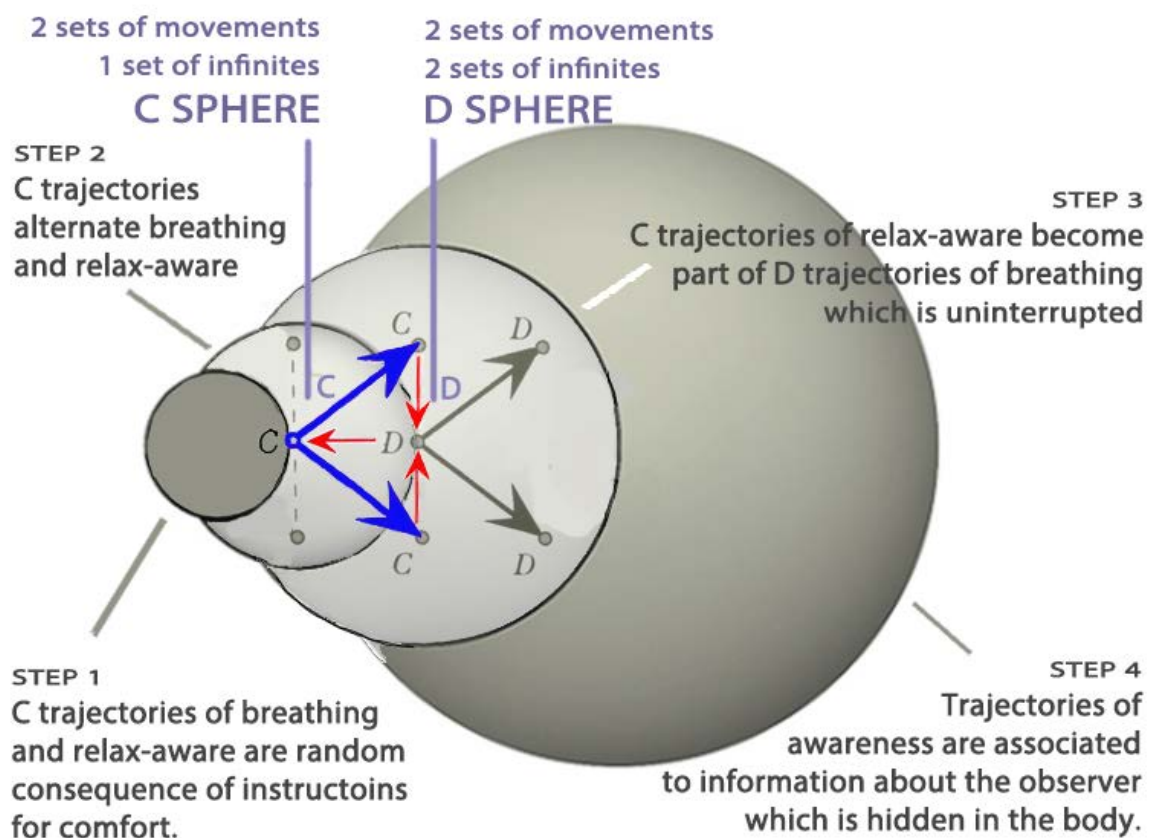
Fig.14 EXERCISE 1 The process which establishes access to *hidden process-based information about the (body of) the observer*

Step 1, Sphere C Moment of the exercise which alternates instructions for breathing with instructions for other movements (relaxation, awareness).
Step 2 Moment of the exercise where instructions are given for relaxation and awareness '*inside* the space of the breathing'. The breathing gesture is thus uninterrupted, no matter which trajectory of relax-aware movement is performed.
In Step 1, Sphere C includes relaxation-awareness & breathing movement trajectories.
In Step 2, Sphere D of breathing movements is bigger and includes Sphere C of all possible relaxation-awareness movements. All movements of relaxation and awareness belong to a bigger set of infinite movements necessary to the uninterrupted breathing gesture.

In Fig. 14, based on Fig. 12, a process made of two sets of interactions in time (i.e. movements) has been expanded into two processes at two different scales. The relationship between one another can be described with the notions introduced in Chs. 3.2 and 3.4.

- *Hidden information about the observer* of *synkinesis*[171] is made *visible* as a *consequence* of an exercise which restores the independence of the respiratory gesture through gentle movements which happen '*inside* the space of the breathing'.

Do not interrupt the breathing

Move your awareness to your jaw

Relax

...

Do not interrupt the breathing

Move your awareness to the back of your heart

Relax

...

Do not interrupt the breathing

You can move your awareness inside the space of the breathing

---

[171] See Ch. 3.4.6.

...

Do not interrupt the breathing

Move your awareness to the back of your heart

Relax

...

Move your awareness 20cm behind the back of your heart,

outside of the visible physical body

Do not interrupt the breathing

Your awareness is now 10cm into the ground (or the floor)

Relax

...

You can sigh

Do not interrupt the breathing

You can keep your lips slightly open

Your lips do not touch each other, and the air is free to go out

...

Do not interrupt the breathing

Move your awareness to your tongue

Relax

...

Move your awareness to your neck

Relax

...

Do not interrupt the breathing

Move your awareness to your jaw

Relax

... (and so on)

The exercise continues for at least six to ten minutes. The facilitator guides the group of participants following cues from the bodies of the participants to decide whether to give the instruction 'do not interrupt the breathing', or to propose that particpants 'move awareness' to a specific area in the body where involuntary muscular contraction is visible or anticipated.

STEP 4 – THE MOVEMENT OF AWARENESS IS A MOVEMENT OF REAL MUSCLES IN THE BODY

Theory: Instructions which are 'repeated' on purpose allow participants to discover that repetition *from the mind* is different to repetition *from the body*. The words spoken might be the same each time, but the feeling in the body is different. The body always does things for the first time. It is analogue. It always adds *information from the future* to whatever *information about the*

past was there before, even when the information is carried with the same words.[172]

The instruction 'move your awareness' indicates a category of movement in the body, and not only movement of the mind.

The participants quickly realise that a lot of involuntary movements in the body are triggered when they 'move awareness' to different areas of their body.

Practice: The process which reveals these movements in the body is followed by instructions for relaxation of the same part of the body where the participants just 'moved' their awareness.

Theory: As the exercise unfolds through 'repetition-which-is-not-the-same', instructions for relaxation are thus revealed as instructions for *not-doing*.

Practice: *Information about the (body of) the observer* which was *hidden* and subconscious because of *synkinesis* is transformed by *not-doing*[173].

The repetition of the sequence described in Step 4 happens '*inside* the space of the breathing' and creates a new category of awareness. It is the awareness of *not-doing* with a *hidden* part of the body. This feeling-in-the-body generated because of *not-doing* is always coupled to a *hidden* pattern of

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[172] See Ch. 3.1.4 Cybernetics and The Hidden, and Ch. 4.1 Time and Process-based Knowledge - Entropy.

[173] Instructions for relaxation at this point in the movement sequence are equivalent to instructions for *not-doing* an involuntary movement (synkinesis).

muscle contraction in the body of the observer which is triggered just before the action of *not-doing*. That is the pattern of *synkinesis*. This category of involuntary movements (caused by *synkinesis*) is present in one's life every day, many times a day, yet the information associated to them remains usually *hidden* to the untrained observer. Through direct experience of the BKR, participants in Becomebecome events are trained to recognise such cues for *hidden information about the observer* (within their physical body). The intellectual operations described in Becomebecome Theory combined with the steps which convert 'feelings-in-the-body' revealed through BKR exercises produce *new instruments of (Transdisciplinary) awareness* of *hidden information about the observe*r which corresponds to *hidden transpersonal information about the object-observed*.

At a more general scale of observation, it is possible to say that BKR1 is designed to produce recognition of three moments through direct experience *from the inside,* and because of clearly separate language cues *from the outside* which associate each experience to a unique moment. The three moments are:

1 - *action* (a voluntary action),

2 - *synkinesis* (involuntary action of the *hidden* body),

3 - *not-doing* (a previously *hidden* action), which happens after *synkinesis*

Part of the action that the participants observe takes place in a hidden space within their own body which is defined here as 'the body of *synkinesis*'.

The key to accessing *hidden information about (the body of) the observer* lies in the word 'after' which encapsulates the process-based nature of such insight. Understanding how voluntary action before *and after synkinesis* reveals *hidden information about the (body of the) observer* at different scales, illuminates the fundamental role that '*hidden* information which exists in a temporal dimension' plays in the description of Ross Ashby's *black box*[174]. Such information which exists at a scale which is not accessible and is therefore *hidden* inside the *black box* is very much part of the 'system' which defines the observer, but it only becomes *visible* because of a process which is *hidden* at another scale behind the *black box*, or, as it is postulated in BKRs, it is *hidden* behind (i.e. becomes visible as a result of) *synkinesis*.

Gregory Bateson also contributed a precise and factual description for *hidden information* that exists in a temporal dimension at different scales in the chapter 'Criteria of Mental Process' of his book Mind and Nature (1979). In an anecdote about James Clerk Maxwell, he reports that a governor was to be added to an early design for the steam engine, but the engineers who were working at the project went to Clerk Maxwell with the complaint that they could not draw a blueprint for an engine with a governor. Maxwell examined the problem, wrote out formal equations for the relations between the variables, and found that combining this set of equations would not solve the problem. Finally, he found that the engineers were at fault in not considering time. He explained that every given system analysed *from the outside*

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[174] See Ch. 3.1.4.

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embodies relations to different processes in time which are emergent properties of the system (i.e. they arise *from the inside*).

The *black box* of Ross Ashby represents a bridge between two such layers of *information that exists in a temporal dimension at a different scale*. What Ashby called the **black box**, Maxwell called 'the switch'. Considered as a part of an electric circuit, a switch does not exist when it is in the 'on' position. From the point of view of the circuit, the switch (like the *black box*) is not different from the conducting wire which leads to it and the wire which leads away from it; it is merely 'more conductor'[175]. Conversely (and similarly) when the switch is off, it does not exist from the point of view of the circuit. It is nothing, a gap between two conductors which themselves exist only as conductors when the switch is on. The same principle applies to *synkinetic* movements in the body. The actor of movement cannot see the *black box* of *synkinesis* unless a specific exercise is put into place to create the conditions to access the information that is channelled through it. If the conditions are not there, the information from the black-box of synkinesis is not accessible. This corresponds to the circuit with the switch turned 'off´. When the conditions are available for the observer to become an observer-participant, then the information *inside* the *black box* of *synkinesis* becomes *visible* (this is why it has to be considered an emergent property of the system here called 'information about the body of the observer'). Once the

---

[175] This corresponds to Von Foerster's principle of the Double Blind: "The blind spot: one does not see what one does not see." (Von Foerster 1995)

information of *synkinesis* become accessible, the action of *not-doing* with information from *the hidden* becomes possible. At this moment in the process, the information in the system includes the information from the *black box* of *synkinesis*; this is why it compares to the information of the circuit when the switch is on. In these examples, the concepts 'switch' and 'black box' have a special relation to time. They are related to process-based inf*ormation that exists in a temporal dimension at a different scale*. Likewise, all Becomebecome strategies are designed to create access to information about the in-between moments through which the evolution of process is transformed by the evolution of time which exists behind the *hidden* scale of *synkinesis* and *synchronicity*. Which is why it was of the utmost relevance to devote an important part of the thesis to explain which theory of time acts as reference for the study of process in the Becomebecome approach to *information about the observer*[176]. In particular, the possibility to perform a voluntary action (*not-doing*) on *hidden information about the observer* (revealing *synkinesis*) allows the participants in BKRs to use diverse areas in their body to develop awareness about three different temporal scales of *information about the observer* which correspond to the three occurrences examined heretofore:

1 - action,

2 - *synkinesis*,

---

[176] See Chs. 3.2.5, 3.2.6 and 3.2.7.

3 - *not-doing*.

Participants are carefully led into a sequence of movements for *not-doing* with *synkinesis*, which can be interpreted as an action made to change *hidden information about (the body of) the observer* which exists at a different scale. Such information is *hidden* behind *synkinesis* and it is only possible to modify *after* direct experience of *synkinesis*. Figure 15 illustrates an example of Maxwell's 'switch' characterization (as documented by Bateson) using the diagram of Ross Ashby's *black box* (Fig.1). This rendering makes clear how *information about the observer* at the scale of the switch, i.e. *hidden* behind (Step 2) *synkinesis*, is only possible to modify because of information which Von Foerster defines as *from the future* that exists only at the scale of (Step 3) *not-doing*.
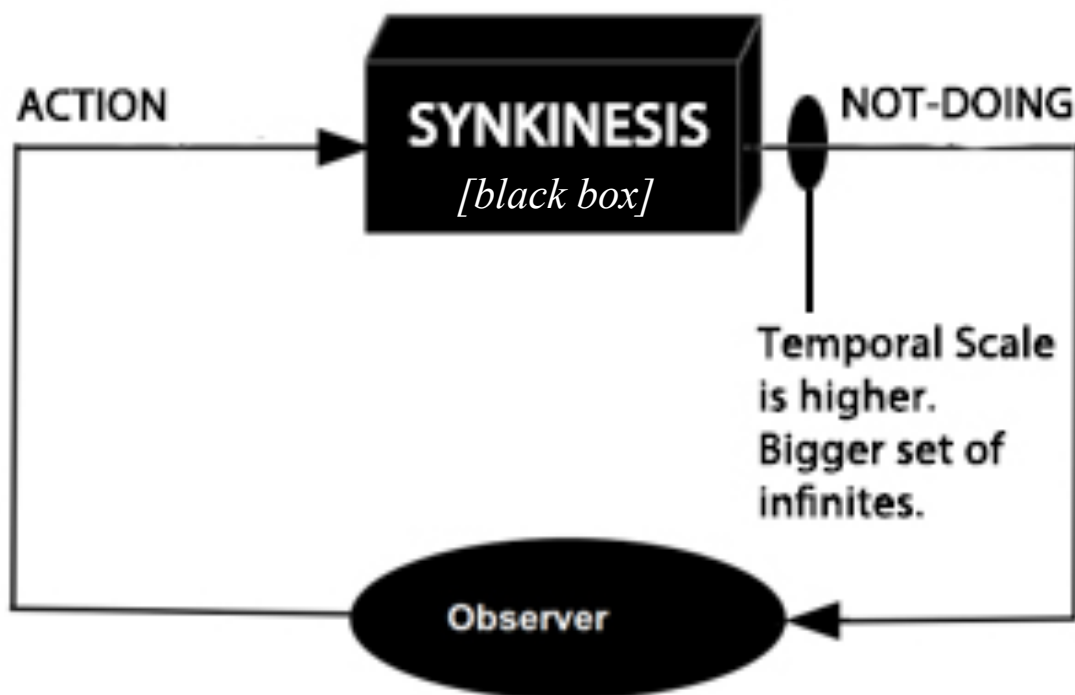
Fig.15 Re-interpretation of Ross Ashby's black box flow diagram (Fig. 1).

Hidden information about synkinesis triggers access to a class of movements that exceeds the set of infinite movements which are possible before *synkinesis* is revealed.

In the scheduling of Becomebecome activities, BKR1 is a good first exercise because it provides an easy first contact with the practice of BKR. Other BKR can be more complex, advanced, and multilayered. In comparison, it is usually a relatively simple proposition for participants to lay on the floor (or a mat) and just relax. It is also a good presentation of BKR because it introduces the experience of 'not interrupting the breathing' and doing something '*inside* the space of the breathing', which are recurring themes in other BKR. Lastly, it provides a progression of movements which can be combined with subsequent BKR exercises.

Each facilitator will decide how to lead Exercise 1 choosing instructions which create more or less time for deep associations between *synkinesis* and moments of awareness.

A.2 BKR Exercise 2: The Split Body. Information from the Slow, the Body of Not-Doing

While the experience of not-doing in BKR Exercise 1 focuses on discovering *information about (the body of) the observer* which is produced by *hidden synkinesis* in small areas of the body, the experience of *not-doing* produced as a *consequence* of Exercise 2 has a more direct and obvious association between the instructions that participants give to their body, and the information that is immediately *visible* about one's own body *from the outside*. Exercise 2 is designed to elicit awareness from experiences that involve large areas of the body, and to start interacting with gravity and orientation in space.

The text in italics is the script spoken to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*.

The exercise starts when participants are already lying on the floor and relaxed; after the exercise, a first example of the phase called **Integration* is provided.

Your back is resting on the floor comfortably

Your arms lie alongside your body and rest on the floor

Your knees are flexed and your feet are on the floor

Relax (Three breathing cycles)

…

Raise your arms towards the sky

Do not interrupt the breathing

Gently lift one leg towards the sky

Flex your knee; you do not need to keep the leg straight in the sky; the lower part of your leg in the sky can hang loose from the knee

When you feel comfortable again, lift your other leg towards the sky

Again, knee flexed, lower leg hanging loose

Find a position which is comfortable while keeping arms and legs raised towards the sky

The facilitator walks around the mats checking for signs of unnecessary stress, contraction, rigidity, then they speak the following words to the whole group, taking care not to single out any specific person.

…

Maybe you need to open your knees to feel more comfortable

So that your flexed legs can rest with no effort, or less effort, on your chest

Relax your neck

Relax your tongue

Do not interrupt the breathing

You can stay with your arms and legs in the air, and you do not need to interrupt the breathing

...

Now your left leg and your left arm stay raised towards the sky

Do not interrupt the breathing and very slowly…

Very slowly, start opening your right arm and your right leg towards the right

The facilitator illustrates the movement at the same time that they give instructions.

Your left side stays raised in the direction of the sky, and very slowly your left side starts opening up

Moving very slowly allows you to perform the movement while you do not interrupt the breathing

The slow body is a completely different body

We want to create the experience for the slow body

...

Your left side pointing up

Your right side opening slowly to the right

Do not interrupt the breathing

The facilitator continues to illustrate the movement; the distance between right and left arm is amplified.

We want to keep the freedom of breathing, while we open up our right side

Leg and arm at the same time

We open up the right side with the idea that one day we will reach the floor

It is very slow

The process is very slow

The slower you do it, the deeper the intensity of the experience

Keep breathing, do not interrupt the breathing…

Travel at your own rhythm

Each pattern of slow that you create is a pattern of movement that you free up in the body

…

If you have already crossed the midline of the distance towards the floor, keep your left side up, both left leg and right leg straight

And let your right side get closer to the floor

Do the slow

Every time your body wants to go fast

It is an interesting time to go back three centimetres

Do not interrupt the breathing

And do the slow

You will see that your right arm and leg go further into their journey towards the floor without the need for you of doing the fast movement

When some of the participants are approaching the floor (approx. 20cm) the facilitator adds the following:

Once you reach a point in the movement where you are feeling the floor with the right side of your right arm and your right leg

Very gently start resting part of the weight of your right arm and your right leg on the floor

Not all of it

Just part of it

Left arm and left leg still raised upwards and pointing at the sky

Your right arm and your leg are resting their weight on the floor

More

More

They are now completely resting on the floor

And in fact, you can let go of the effort in your inner arm, your inner thigh, your shoulder, all the structures which were engaged in the slow descent towards the floor

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Release

And you can release even more

...

Keep your left arm and your left leg raised towards the sky

You right arm and your right leg are completely relaxed now

Asleep

All the structures connected to the right side of your body can relax

They can rest

Fall asleep

Your right shoulder

Relax

Your neck

Relax

Your gaze

Relax

Your jaw

Relax

Your tongue inside your mouth

Relax

You can feel your tongue falling to the right inside your mouth

Release it

And the more you relax the right part of your body, the more you can feel the connecting structures between the right and left parts of your body are elongated, loosened

Do not interrupt the breathing

Put your awareness there

Relax

...

Give your body the time to make this experience

Half your body is completely active

Half your body is completely relaxed

Relaxation is an action

To relax completely you have to tell your body to let-go

To not-do something

Give your body the time to make this experience

…

The instructions which follow guide the participants to move their left arm and left leg slowly towards the right, without interruption of their breathing gesture, until they reach the ground to the right and rest on top of right arm

and right leg. Next, instructions are given to relax completely. Similarly to Exercise 1, participants' awareness is guided to areas of the body where residual activity, hence muscular contraction, might be present (the facilitator leads with process-based *information from the group*). The moment of complete release is followed by a gradual reactivation of the left side. Left arm and left leg prepare to detach from right arm and right leg. Breathing is kept uninterrupted. Left arm and left leg begin the journey to go again towards the ceiling. Once they reach the position of alignment towards the ceiling, the participants are invited to let them continue their journey towards the left side of the body. At some point, the pull from the left leg and the left arm will bring with them the right arm and right leg, which will follow, detaching themselves from the floor.

At this point the participants are again with their four limbs suspended in the air, they keep the breathing uninterrupted, while they slowly approach the floor on their left side with the left side of their left arm and their left leg.

The exercise continues in the same fashion as before with detailed instructions until both arms and legs are resting to the left side; then the right arm and right leg open towards the sky and stay aligned vertically (instead of crossing over to the right side), while the left arm and left leg are lifted from the floor and rejoin them in the initial vertical position, and the facilitator brings the exercise to closure.

Keep your arms and legs in the air

Knees flex

The bottom part of the leg can hang loose

Relax

Find a comfortable position as you did at the beginning of the exercise

Do not interrupt the breathing

...

While you do not interrupt the breathing

The right foot slowly goes down and touches the floor

Your right leg is flexed and on the floor

Relax the right leg

...

Do not interrupt the breathing

Give your body three breathing cycles to feel the difference between the right part of the body where the leg is relaxed, and the left part of the body, where the leg is still active?

...

Do not interrupt the breathing

The sole of the left foot slowly reaches the floor

The left leg is flexed and resting on the floor

Both legs are now flexed and resting on the floor

The whole lower part of your body can relax

Give your body time to appreciate the difference between the lower part which is relaxed, and the upper part of which is still active

...

Do not interrupt the breathing

Your arms slowly go down to the sides of your body

Relax

Integration

It is important to do the slow

Do not rush to stand up or move

Give the body time to feel

When you are ready, you can grab pen and paper which you have close by and write any thoughts, feelings, ideas that came up during the exercise

Maybe when you were resting to the right, completely relaxed; maybe when half your body was active and the other half asleep that brought you an idea, a feeling, a thought; maybe it was when you were trying to balance how to keep breathing while all four limbs where claiming and pulling your attention away from keeping the breathing gesture uninterrupted.

Follow any idea, any thought, as if it were a subconscious brainstorming that comes from discovering new arrangements of structures in the body, which

bring new arrangements of process to the psyche. Take time to follow the
dream, the intuition, the feeling.

The phase called Integration associated to each BKR exercise consists of a
short period of time (a few minutes), when participants jot down images,
feelings, and thoughts, that have been generated because of the
transformation of patterns of info*rmation that exists in a temporal dimension*
which pass through the physical body. BKR are designed to be simple, and
accessible to the widest range of participants, but they also create movement
of structures in the body of the participants which might not have moved for
years. One of the basic assumptions of the Becomebecome approach is that
this transformation of *information about the observer* at the subconscious and
visible physical scale is associated to a transformation of *information about*
the object-observed at the scale of the subconscious and conscious mind of
the participants.

Participants are invited to join the BKR sessions bringing a couple sheets of
papers, pen or crayons, their iPad or any other annotation tool they might
favour. At the beginning, moments of integration are set up immediately after
a BKR exercise. This is done to establish the habit which connects the feeling
of transformation in the body to the awareness that something interesting
might also be surfacing in the psyche. After a few days of practice together it
is possible that the participants decide to interrupt the movement sequences
to write, then rejoin the common practice after the few seconds necessary to
take a brief annotation. In such fashion, a movement which extends from the

physical scale of process to the *psychic* scale of process has been established as an important strategy to access subconscious information about the (the *body* of) observer which transforms information about the object-observed (and the *psyche* of the observer).

As the Becomebecome Residency continues, and participants get comfortable about the BKR labs, they are prompted to focus on specific themes of a project they might be developing while they proceed to transform the physical structures in their body that will generate new psychic patterns and ideas about those themes.

A.3 BKR Exercise 3: Two Scales of Movement, Action and Consequence. Core to extremities, extremities to core

Exercise 3 is designed to transform *movement in the body* into process-based *information about the observer* using a strategy which separates areas in the body where one directs *action*, from areas in the body where one observes *consequence*. A movement is produced with instructions that causes *action* to begin in one area of the body which impacts another area of the body as *consequence*. Two sets of interactions in time are thus established.

The text in italics is the script spoken to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer*.

The exercise when after participants are already lying on the floor and relaxed (for instance, as a continuation of a shortened version of BKR1 as in the example below). At the end of the exercise a time for integration is provided, as well as a time for **Sharing*. It is good to introduce the sharing phase of the BKR at the third BKR session (which is usually on Day Three) of the Residency programme. This allows the participants to focus on other aspects of the methodology in the beginning days of the residency. *Sharing* could nonetheless be introduced earlier if the facilitator feels the group is composed by participants who are open and ready for it.

STEP 1 RELAXATION

Participants are invited to relax on the floor, then to reach a position of their body where they are lying on their back with their knees flexed, and their arms stretched up comfortably towards the sky.

STEP 2 EXTREMITIES TO CORE

Do not interrupt the breathing and put your attention to your arms

Your hands

Put your awareness to your right hand

Do not interrupt the breathing

Feel as if your right hand were pulled upwards to the sky[177]

Imagine a long ribbon which extends from below the shoulder, along the arm, and continues towards the sky

Imagine someone is pulling the ribbon and your right arm is being pulled with it

Left arm still pointed towards the sky, but relaxed

Now the pulling recedes; right arm goes down to initial position like left arm

---

[177] At this point it is possible to start with more specific instructions. In case of repetition of the exercise, the facilitator can decide to shorten or lengthen the warm up sequence or impart direct instructions to reconnect with a specific moment of the experience the participants had while doing the exercise.

Again

Somebody is pulling the ribbon and your right wrist along with it

Release

Gently

The arm raised towards the sky goes to the initial position as the left arm

Both arms are raised towards the sky[178]

…

Give your body time to feel

Breath

What is the feeling in the right hand part of your body?

What is the feeling in the left hand part of the body?

How do they compare?

Say a word to describe the feeling you have in your right part of the body behind the shoulder, along the arm, but maybe in other points of the body as well.

What do you feel?

---

[178] BKR facilitators are encouraged to move in the space where the participants perform the exercise. They move among the participants and mimic with their own body the instructions they give to the participants. This helps in those moments where participants need to see to precisely understand the oral instructions.

At this point participants speak words connected to feeling. The action of phonation, which is the process of producing sounds associated to the feeling experienced, begets the consequence of pronouncing such words to others, and naming the feeling in public. These are very important aspects of the *Integration* phase. It is also important to keep the feedback short; integration is not a moment to work with rational mind, it is not a moment for explanations. The stage of rational mind, analysis and feedback is kept separate on purpose. *Integration consists of creating and maintaining a time inside of which the participants can produce awareness, name awareness to make it transpersonal, and transform it into awareness* from the outside. The Integration phase is continued and reinforced in moments during and after the exercises.

Now let's continue the exercise and relax

Keep your arms towards the sky

Relax

You do not need to contract muscles in the neck

The facilitator makes a big sigh.

The tongue

Relax

The back of your eyes

Relax

...

Do not interrupt the breathing

Feel the ribbon from behind your left shoulder

It goes along your left arm, towards the sky

Relax

Do not interrupt the breathing

Someone is pulling the ribbon towards the sky

Release

...

Continue with same exercise as before but for left hand.

Followed by time for Integration.

Now your arms can slowly go down towards the floor

Knees flex

Feet on the floor

...

Big sigh and move freely

Facilitator sighs while moving around within the group.

Give your body the opportunity to stretch and move

You can do that at the same time that you breathe

If you do it slow

You do not need to interrupt the breathing to do that[179]

...

Let's go again to a comfortable position

Lay with your back resting on the floor

Knees flex

Feet on the floor

...

Relax

...

Now open your arms on both sides

Slide them on the floor until they are perpendicular to the body

Facilitator goes around showing open arms in the shape of a cross.

Relax

...

Move your awareness to your jaw

Relax

---

[179] This cue is inserted in order to elicit questions later in the Analysis and feedback sessions.

Behind your eyes

Relax

...

Do not interrupt the breathing while you listen to my voice

Do not move your arms

Let us just imagine the movement first

Do not give the order to your arms

Imagine your right arm will move towards the sky as we did before

Imagine that this time the movement will start from the tip of your fingers

It is the tip of your fingers which will pull the weight of the hand, the forearm and the arm

Even if we asked the body to not-do, maybe you can already feel a bit of the tension which connects the thought of the movement to the muscular action in the body

...

Relax

Give your body the time to relax

Three breathing cycles

The speed of the mind is not the speed of the body

The body needs time

While you keep relaxing

And breathing

You can start planning when you are going to start this movement we have imagined

Each at your own rhythm

Do not interrupt the breathing

The movement exists inside *the space of the breathing*

...

Put your awareness towards the tip of your fingers

The tips of your finger are active

They are beginning the movement towards the sky

The tip of your fingers pull the rest of the hand with them

It is the action of not-doing *with the muscles of the hand that creates the experience*

Let the tip of your fingers continue to pull towards the ceiling

Now it lifts the wrists

Go slow

If you move fast, slow down

Go back three centimetres

And do the slow

...

Involuntary patterns of speed in the body usually betrays the incapacity to do the slow

A completely different set of structures are active in the slow body,

which we forget because of repetition in everyday movements,

because we never take the time to lay on the floor and do the slow

...

Keep the tip of your fingers active

Pull your forearm behind them

Keep breathing

You do not need to interrupt the breathing

One can experience the many layers of complexity revealed by the slow body

Take the time to discover this experience hidden *in the body*

...

At your own rhythm

Respect these three parameters:

Do not interrupt the breathing

Do the not-doing *with other parts of the body that want to help the tip of the fingers in producing this movement*

Slow down and go back if you go fast

...

At your own rhythm the tip of the fingers in your right arm will lift the whole right arm and the structures connected to the shoulder behind it

Do not interrupt the breathing

Do the not-doing *with other muscles*

Slow down and go back if you go fast

Breath

...

The facilitator walks around in between the mats showing with their arms the spoken instructions. Once the group has reached the position of raised arm a sequence of instructions to release the arm while keeping it lifted from the fingers is given.

.When participants reach the initial position and their right arm is resting on the floor it is time for *Integration*: breathing, giving time to the body to release feelings, giving time to the mouth to produce sounds. One word for

each participant. Each participant contributes one word to the feeling of somebody else's transpersonal-self.[180]

The same exercise is proposed for the left side of the body; the left arm.

Participants who display irritation are those who will benefit the most. Mental and physical patterns of release are usually associated with irritation and various manifestations of resistance / release are monitored throughout the unfolding of the BKR (relaxation of the diaphragm, yawning, production of tears, falling asleep, need to go fast instead of slow, etc).

Once the experience has been carried out with the left side of the body, and appropriate time given for Integration, the participants find themselves with both arms resting on the floor in a cross configuration as it was at the beginning of the exercise.

STEP 3 CORE TO EXTREMITIES

In the previous sequence the focus was on the movement which raises the arm from the tip of your fingers towards the sky. In the next sequence, the focus will be on the movement which from the medial axis of the spine raises the arm towards the sky. The movement is the 'same' while the experience created in the body is completely different.

Do not interrupt the breathing

---

[180] More details on 'feedback from the *transpersonal self*' later in the text.

While you listen to my voice

Give your body the time to relax

Three breathing cycles

…

Imagine

Do not make the movement

Just imagine that at some point in the future

From the spine at the centre of the medial axis which runs along your back

From the pelvis to the head

Imagine the area of the spine behind the lungs

In the middle of your shoulders

There are many deep and very short muscles which connect the vertebrae to each other

The vertebrae to the rib cage

The vertebrae to the shoulder blades

Do not interrupt the breathing

Move your awareness to the spine

Imagine that one day you will ask the smallest among those muscles to initiate the movement which lifts your left arm

...

Take time to relax

Let go

...

From the central axis of your back

In the area at the middle of your shoulder blades

Ask the muscles of the spine to initiate contraction

Ask them to move the weight of the left arm

Do not recruit larger and more powerful muscles in the back

...

The exercise goes on in the same fashion as in Step 2, with the difference that the process which produces the movement is completely different, and the experience in the body is completely different. Depending on the focus and the overall distribution of activities in the Becomebecome event, the exercise can continue after the time of Integration with the same sequence for the right arm, and/or an additional version of the sequence from extremities to and from core to extremities, with instructions to lift both arms simultaneously. Alternative versions of the exercise are designed to work in the same fashion with the legs or focus on the gradual *release* process instead of the gradual *contraction* process.

Becomebecomers who participate in this class of exercises develop awareness for *information from the observer* about the infinite set of processes *from the inside* which can be associated to produce the same movement *from the outside*. The *alternation* of information about the process *from the inside* which leads to the same information of movement *from the outside* creates a direct experience in the body of the relationship between two temporal scales. *Movement which looks the same when observed from the outside, can now described as a consequence of (at least) two sets of interactions in time from the inside*, the set of interactions in the area of the body where the movement *starts* (core / extremities), and the set of interactions in the area where the movement has *consequence* (extremities /core). This experience which brings to the surface *hidden information about (the body of) the observer* was also represented in the schematics of Fig. 15. Furthermore, such information is revealed only as a *consequence* of the fact that the observer performs a sequence of movements, which means it is information which is only possible to access because of a process, thus making it *information about the observer which is process-based*. It is also information about the observer which is *hidden* (and very often never acknowledged before), because the conditions required to create access to the experience which generates such information are uncommon (absence of activity from postural muscles, slow movements, uninterrupted, etc.).[181]

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[181] See Ch. 3.4 for a more thorough overview of such parameters.

A time for Integration is provided at the end of the exercise, as well as a time
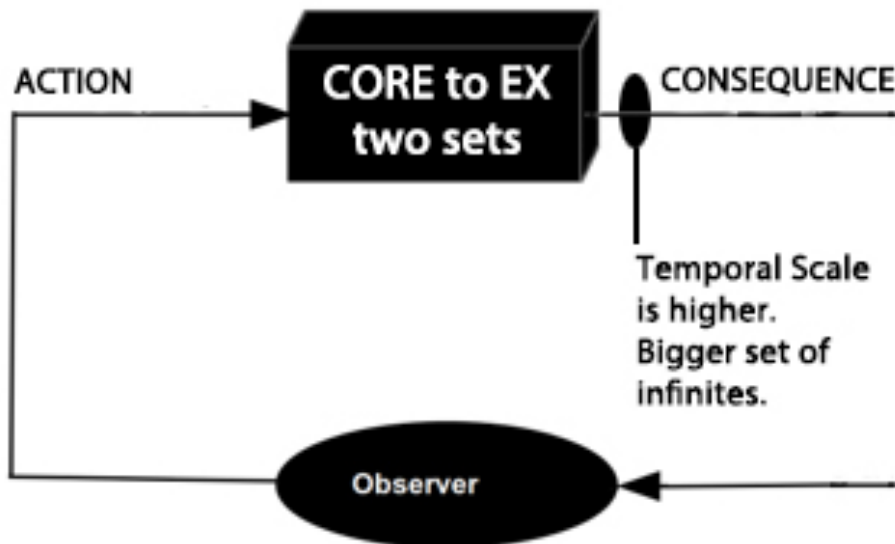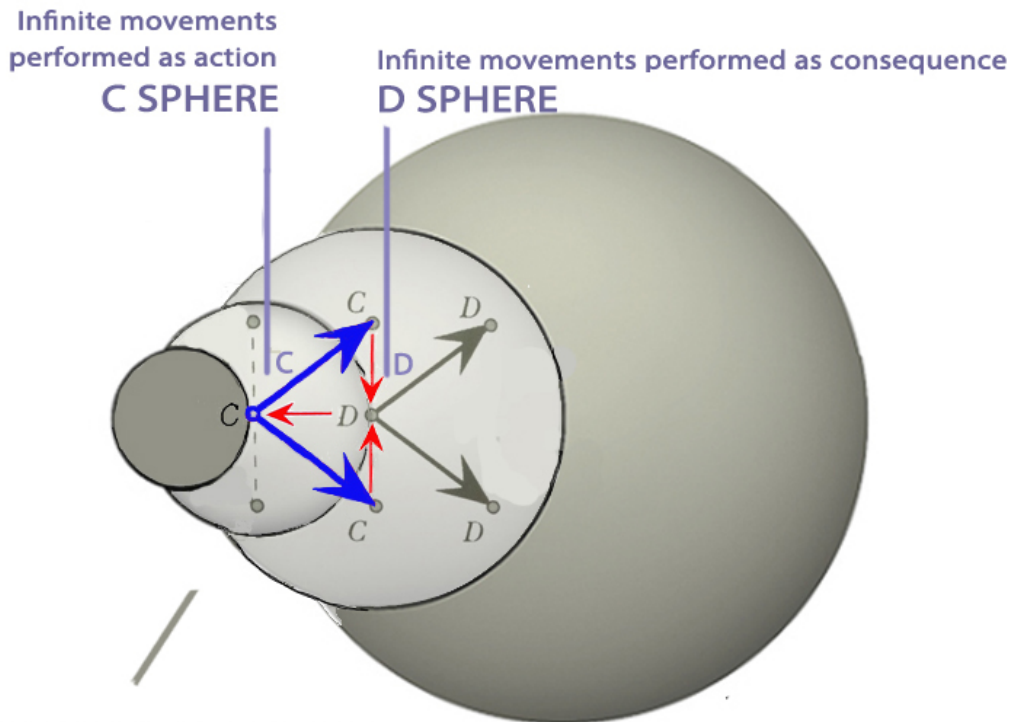
for Sharing.

Fig.16A
Information about two sets of interactions in time transforms the class of infinite
movements performed as *action*, into the bigger class of infinite movements
performed as *consequence.*

Infinite movements
performed as action
C SPHERE

Infinite movements performed as consequence
D SPHERE

The process in red illustrates
the steps which transform infinite trajectories of C movements as *action*
(in C SPHERE) into infinite trajectories of C movements as two sets of interactions
in time as *consequence* of D actions which start from a bigger set of infinites
(D SPHERE).

Fig.16B
Information about two sets of interactions in time (D in D sphere) transforms the
class of infinite movements C performed as action (C in C sphere), into the bigger
class of infinite movements performed as consequence (C in D sphere).
The process described in Fig. 16A is included in the process described in Fig.16B.

In Figure 16B, any combination of 'core to extremities' and 'extremities to
core movements' (D in D sphere) transforms the class of infinite *actions* C in
C sphere ('raise your arm slowly', 'release your arm slowly') into a bigger
class of movements performed as *consequence* (C in D sphere, i.e. arm is
'raised' or 'released' as a *consequence* of *action* which is taken at the scale
of the movements 'core to extremities' and/or 'extremities to core
movements'). Two sets of interactions in time connect movements at two

different scales. For the observer C in C sphere, they connect action at a scale which is *hidden* to *consequence* at a scale which is *visible*.

The two sequences portrayed in Fig. 16A and Fig. 16B represent the change in 'logical types'[182] described by Clerk Maxwell in the example which Bateson uses to explain how descriptions of *objects* (C movements in C sphere) are transformed into descriptions of a *process* (C movements in D sphere) which includes *information about the observer* (D movements in D sphere). In the illustrations, *objects* (C movements in C sphere) become *object-events* (C movements in D sphere) as a consequence of a *process* which includes how the observer combines two sets of interactions in time (D movements 'Core to Extremities' in D sphere). The explanation that Clerk Maxwell offers to his team of engineers, that 'the electric flow in the circuit does not "know" about the switch', places the *observer* ('the electric flow') de facto under the influence of an invisible subliminal process.

BKR3 leads participants through a series of steps after which they apperceive direct experience in the body of how to transform a *visible* process (information about the flow of electrical current is analogous to information about the movements 'raise your arm slowly', 'release your arm slowly'), as a *consequence* of changing information about an *invisible* and subliminal process (information about the hidden movement of 'core to extremities' and 'extremities to core' movements) is analogous to the *invisible* information

---

182 See Appendix A.1 BKR Exercise 1 The Action of *Not-Doing*.

which moves 'the switch' in Maxwell example). Since *information about the observer* cannot be artificially removed from the object-observed it is necessary to add a *black box* to the description of C movements in C sphere, thus revealing that they are a consequence of how the observer connects D movements in D sphere. Nevertheless, this explanation which illuminates the links between the theoretical background and the practical strategies proposed during Becomebecome events should not distract from the main theme in PART II of the thesis, which is the practice. BKR focus remains with creating experiences as a consequence of which participants develop *new instruments of awareness* based on feelings-in-the-body arising from *hidden information about the observer* that they will eventually recognise in other moments during the Becomebecome programme period and beyond it.[183]

Sharing

Sharing is here described as 'the act of pronouncing words associated to the experience *from the inside'*. The raw act of phonation (the emission of sound after air pressure passes from the lungs through the vocal chords in the larynx) extends the process at the scale of individual physical and psychic transformation to the scale of shared knowledge. There is a part of what has occurred during BKR which is transpersonal, because it is hidden in group dynamics; and the **Sharing** phase often amplifies this element of profound

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[183] More on this in Appendix A.5 BKR Analysis.

transformation which is not only visceral for one, but also visceral for everyone. The group has gone through a deep process of metamorphosis, one individual body at a time. Sharing one word (or sound) for each participant to channel how such transformation felt for 'you' bridges the connection between the transformation from the inside which is *personal* to the transformation from the inside which is *transpersonal*. It also reveals a shared dimension which exceeds the discovery one experiences at the scale of the individual body and the individual mind.

A.4 BKR Exercises 4: Open-chain & Closed-chain. The transpersonal self

This fourth and last section of examples from BKR refers to a class of exercises which introduces the relationship between *information about the (body of the) observer* and the idea of the *transpersonal self*. Chapter 3.4.6 Becomebecome Analysis of Movement acknowledged the following foundational criteria for BKR:

- Fix-Points are those parts of the body that do not move between the observations at the beginning and the end of a movement;

- Mobile-Points are those parts of the body which are displaced at the end of a movement;

- Open-Chain movements refer to the observation of movements where a mobile-point in the body is attached to a fix-point in the body on one side, and on the other side it can be free to move 'in the air';

- Closed-Chain movements refer to movements whereby the mobile-point is attached to some external surface, grasping or resting upon it, thus creating a second fix-point;

which entails the following considerations:

in closed-chain movements, a whole range of movement possibilities become available which are not available to movements in open-chain. The contractile fibres in the muscles can pull or release towards one fix-point *or* the other. What is more, a new set of *actions* appears as a *consequence* of how this contraction and relaxation is distributed along the muscle. In this

thesis the 'actor of the movement' is defined as 'the body of fix-points which is not affected by the transformation between the beginning of a movement and the end of a movement'. One can see that in closed-chain movements the 'actor of movement' is made of elements which exceed the individual body of the person who moves.[184] External elements must be taken into account in order to explain the movement in closed-chain performed by the mobile-point of the individual body. Without information about external fix-points in the transpersonal body of the actor it is not possible to explain, understand, and communicate the experience of movement in the individual body of the actor.

Examples below refer to movements in closed-chain which open the possibility for participants to make direct experience of the transpersonal self in three different ways. Each exercise is representative of one of three different categories in which the transpersonal self can be understood and classified. On that account, each exercise produces *information about (the body of) the observer* which is associated to *information about the transpersonal self* as follows:

Category 4a

- The transpersonal self within one's own individual body

- Movements in closed-chain with oneself

Category 4b

---

[184] Some parts of the body can be considered 'external' elements within the individual body, see below.

- The transpersonal self as part of the external world

- Movements in closed-chain with external object

Category 4c

- The part of the transpersonal self which is inside other individuals

- Movements in closed-chain with others

The text in italics is the script spoken to participants during the exercises (different facilitators adapt the words to their own style). These instructions may be interrupted to provide a step-by-step rationale of the mechanisms which reveal *hidden and process-based information to the observer.*

At the end of the exercise a time for integration is provided, as well as a time for sharing.[185]

CATEGORY 4A

- THE TRANSPERSONAL SELF WITHIN ONE'S OWN INDIVIDUAL BODY

- MOVEMENTS IN CLOSED-CHAIN WITH ONESELF

- Example: the head makes contact with the hand. The hand makes contact with the head.

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[185] Phase 4 Analysis, which is mentioned at the beginning of Ch. 4.2, takes place at a moment which is always separate from BKR by design. An account of Phase 4 Analysis is available in Ch. 4.2.2.

The exercise starts with participants lying on their back, relaxed. The facilitator walks among the mats illustrating the movements which correspond to the following instructions:

Put the tip of your index and middle finger on your cheekbones

Both hands, gently touching this area of your body

You can breathe while you do it

Feel how they extend towards the side of your face

...

Do not interrupt the breathing

With both your hands now the tip of your fingers make little steps and climb towards your front. Feel the bone structure respond to the touch of your fingers at the sides of your front

...

Do not interrupt the breathing

Move the hands behind your ears now

The lower part of your ears

Just to the back of your ear-lobes you can feel a soft sensitive part of your head

Continue towards the back and you will feel the bones again

The mastoid bone is this thick bone protuberance which marks the limit between the skull and the soft flesh in this area of your head. Feel the mastoid bones on both sides with the tip of your fingers.

...

While you massage this area of your skull

Do not interrupt the breathing

Relax your jaw

Relax your tongue into your mouth

...

Relax your eyes

...

The back of your neck

...

Now place both hands like you did at the beginning

The tip of your fingers to the sides of your cheekbones

Relax the muscles in your neck and let the tip of your fingers do the work necessary to maintain the head in balance

Your neck is completely relaxed

Your head is safe

The tip of your fingers keeps it safe and balanced.

It cannot fall

The muscles in your head are completely relaxed

The muscles in your neck can relax as well

...

Give the body time to adapt to this new feeling

The postural muscles in your neck spend almost all the time you are awake working to balance the head in a completely subliminal and mostly unconscious way.

They need time to accept that it is possible to relax

To let go

All the support come from the tip of your fingers now

Relax your jaw

Breathe

...

While you keep breathing, you prepare the tip of your right hand to support more weight from the head

Do not interrupt the breathing

Keep the neck and jaw relaxed

With the tip of your left fingers push the head towards your right

The tip of your right fingers feel more weight coming from the head

You make them stronger, as they receive more and more weight from the head turning in the direction of the floor

You do not need to turn *the head to the right, gravity is making all the work*

The only part of your body that needs to be active now is the tip of your right-hand fingers

You can keep your elbows on top of your chest or on the floor

Whichever way feels more comfortable to you

...

The tip of your fingers in the right hand support the whole weight of the head

While the tip of the fingers of your left hand still maintain contact with the left side of your face

Keep all the effort coming from the right hand

Do not interrupt the breathing

Relax your neck

Relax your jaw

Relax your tongue and the inside of your mouth

Move your awareness upwards inside the skull

Relax the inside of your head

Completely

Give your body time to appreciate the experience

...

Three breathing cycles

Now you can feel the difference

Keep supporting the whole weight of the head with your right fingers

Do not interrupt the breathing

Slowly ask your left fingers to detach from the left side of your face

Move them apart ten centimetres

Can you feel the inside of your head reacting to the change?

Can you feel the muscles in your neck react to the change?

Put the tip of your left fingers again in contact with the left part of your face

Can you feel the muscles inside your head, your neck, relax?

Just because of touch from your left hand, even though your left hand is not actively working to stabilise the head

...

Do not interrupt the breathing

Move your awareness to the back of your neck

Relax

Move your awareness to the inside of your head

Relax

Move your awareness to the back of your tongue

Relax

Move your awareness 20 centimetres behind your neck

Beyond the limits of your visible body

Do not interrupt the breathing

And move your awareness 20 centimetres into the ground

Relax

Can you feel the difference?

...

Play at your own rhythm with the different feelings

What happens when the tip of the fingers in my left hand detach from the skin of my face?

Can I still be relaxed as before?

What happens when the tip of the fingers in my left hand make contact and touch my face?

Is it creating more relaxation from the inside of your head, your neck...?

Maybe you can even feel it in other parts of your body

Muscular chains and fascia in the body create patterns of contraction and relaxation which are unique to each one of us.

...

Do not interrupt the breathing

When you feel any part of your body contract

You can move your awareness there

Give it time

Two or three breathing cycles

Relax

...

In ordinary life, movements of the neck are always a consequence of the interplay between many muscles, which supports the weight of the head (approx. 5kg) from the moment one wakes up in the morning to the moment one goes to rest at night. Because of the setting created for this exercise, instructions given up to this moment radically transform the usual experience connected to movements of the head. The weight of the head is mostly supported by the floor, which allows the possibility for the postural muscles in the neck to relax. The hands of the observers are then guided as 'external' elements which allow to reveal *hidden patterns of information about (the body of) the observer* because of *synkinesis*, followed by *not-doing*. The

practice will be consolidated through many variations of the same experience in the following segments of the exercise. Notice also how the last instructions propose to focus awareness on a point in space which is *external* to the body, and to create action from there. Such language which seems preposterous to the rational mind creates real *consequence* that can be experienced through the body, which in turn exemplifies yet again a mechanism as a *consequence* of which an experience in the body allows participants to reach beyond the boundaries imposed by the exclusive language of the rational mind. To this purpose, it is important that facilitators rehearse to prepare the sentences necessary to lead each of the BKR, knowing that the words selected for the instructions during the exercises must feel like a natural extension of the language developed for theoretical background of the Becomebecome approach.[186]

The exercise continues with the proposition to fully release the weight of the head on top of the fingers of the right hand, which is followed by a very different experience, based on instructions given to the right fingers to lift the head towards the initial position of equilibrium. After this, a time for *Integration* is given. The exercise continues with the whole sequence performed with the head falling towards the left and supported by the tip of the fingers of the left hand. When the head goes back to 'centre' and 'equilibrium', the participants are asked to change the area of support for the head. The tip of their fingers should now reach towards the side of the

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[186] See Appendix A.5 Analysis in Ch. 4.2.2, and Chapter 3.4 The Chronosoma for more information.

forehead. The 'same' sequence of instructions as before is proposed, but a different distribution of forces is applied to the same areas of the body. Other myofascial chains are now involved, and the same myofascial chains used before are activated in a different way, thus creating a very different experience in the body.

After this variation completed, the 'same' sequence of instructions is applied also to movements where the fingers of the participants rest on top of the mastoid bone.

The exercise continues with a sequence where participants are asked to rest the palm of one hand on top of their head (they are still lying on the floor as before).

Relax the jaw

The tongue

The neck

Do not interrupt the breathing

...

Now feel the top of the head reach towards the palm of your hand

Relax

Keep your neck relaxed,

your jaw relaxed

Maybe your mouth is a bit open if you relax the jaw, that's ok

Relax the back of your neck and between your shoulders

Do not interrupt the breathing

Feel the top of the head reach towards the palm of your hand

…

The participants are then asked to separate the hand from the head and perform the same movement to feel the top of the head reaching 'upwards' as before.

When the hand does not make contact with the head, what is the difference from the inside *of the body?*

How does the experience changes with more or less distance between the hand and the head?

This sequence creates another opportunity to explore movements in closed-chain with oneself. As a continuation, the participants are asked to:

Press the back of their head against the floor

Keep it there (two seconds)

Release

Relax your neck

Your jaw

Do not interrupt the breathing

Press the back of their head against the floor

Keep it there (three seconds)

Release

This sequence introduces the next category of movements in closed-chain, when the experience will change yet again. Elements of the transpersonal body which completes the movements in closed-chain will be discovered using external objects (i.e. the floor which resists the movements of the head).

CATEGORY 4B

- THE TRANSPERSONAL SELF AS PART OF THE EXTERNAL WORLD

- MOVEMENTS IN CLOSED-CHAIN WITH EXTERNAL OBJECT

- Example: spine and upper limbs on the floor, with wall, standing, standing with wall or stool

This category of movements represents an example of the research developed as a consequence of exercises in closed-chain with external objects. In the example proposed, participants are lying on the floor with a wall, a column, or similar resistant vertical surface behind them. They should position themselves at a distance which does not allow them to reach and touch said surface even if they stretch their arms.

Once they are laying on the floor, participants are asked to extend their arm above their head. Arms are resting on the floor as much as possible; if

necessary, instructions are given so that they flex their elbows until at least the back of their hands can touch the floor.

Can you feel the difference in the body when your hands touch the floor?

Can you feel the difference in the body when your arms are in the air?

Can you keep breathing with ease when your arms are in the air?

Can you move your awareness towards the back of your shoulders and see what happens when your hands touch the floor?

...

And see what happens when your arms are suspended in the air?

The floor is used again as an external object which completes a movement in closed-chain.[187] The participants are given time to explore the transition between movements in open-chain (arms are not touching the floor), compared to movements in closed-chain (arms are touching the floor) which create very different consequences in the body depending on how much the weight of the arms is resting on the floor.

After this preparation sequence, the participants are asked to explore comfortably how it feels to stretch their arms in the direction of the wall.

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[187] With the difference here that the main force applied to the movement is the force of gravity. The voluntary action of the participants is recruited to resist gravity, not to apply force in the direction of the floor as it was in the example at the end of Category 4a where the head was actively pressing against the floor.

Now look towards the wall behind you and notice what is the distance from the tip of your fingers to the wall

Look towards the ceiling again

Release your arms

Relax

...

Now slide your body towards the wall behind you

You want to get close enough that when you stretch your arms your fingers can touch the wall

Participants are now led through a very similar sequence as before, but when they stretch their arms behind their head and touch the wall, a completely different configuration of the structures which support the upper limbs is revealed. In this version of the exercise, the movement can be clearly anchored to an external surface. Muscles which could only contract in open-chain can now be stretched. Muscles which could not be active before are now revealed because of the closed-chain and the solid support from the external wall, *a whole body which was inexistent before has now become available*. In the example from Clerk Maxwell[188], the current flow does not know about the switch. This is exactly what happens to the observer when a sequence of movements from open-chain followed by movement in closed-

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[188] The description of 'the switch' in Bateson's recount of Maxwell's anecdote found in Appendix A.1.

chain is experienced. The body of the observer is transformed in a way that cannot be understood unless a sequence of movements in open-chain and closed-chain is prepared. It is the *process* which *alternates* information *from the body which moves in open-chain* to information *from the body which moves in closed-chain* that *reveals* hidden information about (the body of) the observer. As a *consequence* of the exercises in Category 4b, participants pinpoint a direct experience of the transpersonal self as part of the external world, and how *information about the external world* becomes part *of hidden information about (the body of) the observer.*

An almost infinite array of exercises in this category can be set up for participants depending on the features of the space where the activities are taking place, the props available, and so on. For instance, in the series of exercises called 'Face the wall', participants who are standing in front of a wall are asked to:

Relax

Do not interrupt the breathing

Gently raise the palm of your hands at the height of your chest,

and bring them closer to the wall

As your hands approach the wall,

some among you might feel that it is not obvious to keep your breathing uninterrupted

...

Bring your hands as close as possible to the wall without touching it

Stay there,

at the limit between touch and separation

at the distance where the wall is changing the way you feel about your body,

but you can still feel the separation between the wall and your hands

...

You might feel a change in temperature, you might observe a change in the way you breathe

You might feel somewhere else in your body that some patterns of contraction are triggered

Even though you never asked your thighs, your abs, or the muscles in your neck to contract

...

Do not interrupt the breathing and make contact with the wall

Can you feel how the distribution of weight has shifted?

This might be especially obvious in the arms and the way the structures of the shoulder girdle reorganise themselves. Nevertheless, if you move your awareness through your body, you can explore the difference between patterns of activation and movement when the hands are resting on the wall, compared to patterns of activation and movement which are available when the arms are 'in the air'.

Participants are asked to repeat the exercise changing the position of the hands on the wall, after which they are invited to explore how giving instructions for movement to their own body (for instance, 'rotate your shoulder towards the wall', 'lift your right knee') creates access to a completely different category of *information about (the body of) the observer* when open-chain movements are compared to movements in closed-chain. The same kind of exercise can also be set up using a chair, a table, or any other external element available at the location.

CATEGORY 4C

- THE PART OF THE TRANSPERSONAL SELF WHICH IS INSIDE OF OTHER INDIVIDUALS

- MOVEMENTS IN CLOSED-CHAIN WITH OTHERS

- Example: hand to hand in couple play

The final category of BKR4 which focuses on *information about the transpersonal self* involves transforming open-chain movements into closed-chain movements as a result of parts of the body of the observer making contact with the body of another individual. All the aspects analysed in Category 4b apply here, with two major additions. The first is the fact that the partner in the exercise can initiate movements based on their own volition. This adds an element of surprise to the examples in 4b. The second is that because of the fact that the partner in the exercise is another human

being, the activation of the signal to contract or release muscles is always coming from a place that is influenced by the movement of intention, awareness, and other *hidden* patterns that reach into the subconscious of each individual.

The exercise begins with participants in standing position. The facilitator is in a position visible to everyone

Take enough space from each other so that when you move you do not have to worry about hitting the persons close to you

Cross the left arm in front of you and start with soft percussion on the opposite shoulder

Along the right arm (external side) towards the hand

Then towards the right armpit (internal side)

The right ribcage (upper part in front) to cross over the sternum to the other side

Then cross the right arm in front of you and proceed to do the same on your external (left) arm towards the hand

Internal left arm towards the armpit

The warming up session continues with soft percussion along the whole skeleton parts of the body down towards the feet, then up again to the neck. The sequence is completed with delicate percussion of the tip of the fingers against the skull bones, the features of the face, the jaw, the area around the

mouth and chin. The facilitator then starts walking around the room and continues illustrating the movements.

Move naturally in space, let your body move any way it wants to

Feel the space in your joints, feel the freedom of your limbs

You can stretch, you can continue tapping on your ribcage while in movement if you liked it

Relax your jaw

Yawn

...

When you sense a spot in the room which you like today

Slow down there, make movements without going too far from it

Small movements in place

The movement continues even as you stay in the same place

...

Relax

Release all patterns of unnecessary contraction

In the neck

The jaw

The eyes

And look around to find a partner who chose their favourite location close to you

You can smile at each other and explore the next exercise together

The facilitator works with one participant to illustrate movements which follow.

When you are in front of each other,

take the time to smile to each other

Your smile is a gesture of respect which creates confidence

...

You want to keep at a distance which is enough

so that with your right arm extended you can reach with the palm of your right hand and make contact with the palm of the right hand of the partner

Try to find the distance which feels easy for you

There is maybe some adjusting to do to find a comfortable position

...

We start with the arms in a resting position

Decide with your partner who is observer A, and who is observer B

Remember if you are observer A or B for later

Your arms are loose along the sides of the body

Breeeeeathe

(Sigh)

…

Take the time to sigh

…

Close your eyes

Do not interrupt the breathing

Move your attention between your shoulder blades

Relax

Your neck

Relax

Smile

Open your eyes

Extend your right arm towards the right arm of the partner

Keep smiling

The palm of your hands can touch each other

Now take time after you hear my words, you do not have to do this immediately

Observer A, when you feel like it, you will disconnect the palm of your hand from the palm of observer B

...

Observer A, when you feel like it, you will approach and make contact again with the palm of observer B

Repeat this experience for a few times

...

Observer B

what is the feeling when the hands disconnect?

How is this affecting your breathing?

How does this trigger the patterns in the distribution of forces in the body?

Are there muscles and whole areas in the body which are suddenly very strong and active?

Where in the body are you contracting the muscles?

Put your awareness to your feet; is the feeling different, are they transformed?

Put your awareness in the space around the heart; is it feeling different, is it transformed?

What about your thighs?

...

Take the time to move your awareness to different parts of your body,

as we did in previous exercises in the last days

You know that your transpersonal body extends beyond the limits of your

physical body envelope

You know from the exercise we did on Day One that you can move your

awareness to points which are external to the body, and feel what

transformation happens in the body from there.

How does it feel if you put your awareness 20 cm behind your head?

How does it feel if you put your awareness two meters to your right and on

the ground?

What are the transformations in the body when you look at the consequences

of the movement of observer A from there?

...

Take advantage of the work observer A is doing for you to look at all the
hidden *patterns in the body from all these different directions*

...

Observer A take this unique opportunity to look at hidden *patterns in the*

body of observer B from the outside. *Look at which parts of the body of the*

partner are stiffening or relaxing (jaw, neck, eyes, general stance, breathing,

obvious changes in position.., and so on). Take mental notice of those you

noticed because they are interesting or surprising.

...

Observer B, take a few minutes to explore from the inside *the transformations in the body because of the change in the direction of awareness.*

Observer A take a few minutes to explore from the outside *the transformations in the body because of the change in the direction of awareness.*

(Give a couple minutes.)

When you are ready

Look at each other

Smile

Release your arms towards the side of the body

Notice where you feel the need to relax, stretch, in your own body

Which are the parts of your body that are asking for attention?

Integration (one minute approx.)

Take notes on the feelings that went through your body

The images that flashed in front of you

The thoughts you had

The ideas or memories that came, from the past, or from the future

Sharing (two to three minutes approx.)

The facilitator goes around the group pronouncing the following sentences loudly, while the participants share freely:

Take time to share with your partner what was unexpected during the experience.

Sharing with your partner will allow the opportunity to add information to each other's experience.

...

In which moment did you see them doing something?

What is the feeling in the body immediately before and after?

Which areas in the body were you contracting?

Which areas in the body were you relaxing?

When you move your awareness to different parts of your body, or outside of your body,

was your sense of balance stronger when you connected hand to hand?

Or was it stronger when you separate hand to hand?

Exercise (continued)

Invert roles and repeat exercise; add the following section which focuses on temporal scales of process.[189]

Now continue the exercise, but when you disconnect the hand, stay at least ten seconds apart.

Observer A, you can decide when you make contact, but stay at least ten seconds apart before you do so.

Observer B, take those ten seconds to explore the feeling from the same areas that you explored before.

Whether your attention moves to a point inside of the body, or outside of the body…

Give it ten seconds to feel what happens

Is there more information which is released from that part of the body when you give it more time?

(Give a couple minutes.)

When you are ready

Look at each other

Smile

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[189] See Ch. 4.2.2 Analysis.

Release your arms towards the side of the body

Integration & Sharing

(Break for bathroom.)

Exercise (continued)

Let's get together in pairs as before

You can work with the same person

Let's change the arm which you use for the exercise

Stand in front of each other

Relax

Give your body the time to relax

Three breathing cycles

A sigh

...

Look at your partner

Smile

Extend your left arm

Make contact with the palm of the hand of your partner with your extended

left arm

Breathe

Relax

...

Keep the same Observer A and Observer B as before

Just like in the exercise we did before the break

Observer A will decide when they disconnect the palm of the hand from Observer B

Observer B notice which patterns of activation are triggered in the body

More your awareness in space, look at what happens to patterns in the body from there

For this new version of the exercise, we are to move our awareness in time

Think about a moment which you can associate to this experience of abandonment, disconnection, unwanted separation; which patterns in the body are triggered?

Move your awareness where the body is connected to awareness from those times

Relax

Take time to breath

Do not interrupt the breathing and let the feelings come out

Release

Relax

...

Observer A wait before you reconnect your hand

Observer B move your awareness in time to another place,

another memory, another process which is more pleasant

Which patterns are triggered in the body?

Move your awareness to one part of the body that is activated

Release

Do not interrupt the breathing

Relax

...

Observer A you have looked at Observer B

If you have noticed one area in the body of observer B that has been triggered,

before you make contact next time,

move your awareness inside your own body to the same area that you noticed in observer B.

Do not interrupt the breathing

Relax

Feel the transformation in your own body

Make contact

Do not interrupt the breathing

Stay there a few seconds

Do not interrupt the breathing

Relax

...

When you are ready

Look at each other

Smile

Release your arms towards the side of the body

Integration & Sharing

The facilitator goes around among the group of couples that are actively speaking and giving feedback to each other, and speaks these words loudly into the air:

Share your feelings

Share your impressions

Did you receive images during the exercise because of patterns being transformed in the body?

Did you receive thoughts?

What are your thoughts?

What is your intuition telling you about the words your partner is sharing with you?

Give intuitive feedback to each other. Not only things that make sense because of logic and the rational mind. Information that passes through the body *is bigger than logic and the rational mind. Information from Dreams is bigger than logic and the rational mind. Do not judge. Follow those feelings from the body into images and words, sounds and colours, follow the sacred flow of intuitive knowledge from the body as it continues in the conversation with your partner.*[190]

If possible, the facilitator writes the words indicated in bold below on a big board, while they take time to briefly remind the participants of the main aspects of the process which they have developed in the first few days of the residency (summarised below in italics).

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[190] These instructions are useful because Exercise 4c is taking place two or three days after the beginning of the Becomebecome Residency programme. Participants have already practice how to associate Dreams and intuition with the idea of not-judging, etc. See Becomebecome Intuitive Journeys in Ch. 4.3.

*In the last few days we have taken the time to explore **patterns** in the body which are **hidden** and can be transformed as a **consequence** of the movement of **awareness**, and **not-doing**.*

*We have also worked with exercises that transform patterns in the body because of movements in **closed-cha**in. Some movements in closed-chain are possible only because of 'external' elements. The **transpersonal body** of the observer comprise the personal body of the observer plus the external elements of the movements in closed-chain.*

***Hidden patterns in the personal body** of the observer can be transformed as a **consequence** of the movement of **awareness**, and **not-doing**, in the **transpersonal body** of the observer.*

After the phase of Integration & Sharing the BKR session is over.

Exercises in closed-chain, and especially exercises in Category 4c, introduce practical strategies to reveal *hidden information about the body of the observer* (one's own body) which is Transdisciplinary and directly connected to intuitive and transpersonal knowledge.

Many other exercises similar to those detailed in Appendices A.1 to A.4 have been proposed during Becomebecome Residency programmes, and it is likely that more will be created in the years to come, as Becomebecome Transdisciplinary research projects continue to expand. All BKR revolve around the central notions introduced in Ch. 3.4 The Chronosoma, which are

an extension of the theoretical approach established in PART I of this thesis.[191]

More advanced versions of the exercises in Category 4c[192] are performed with participants at a distance from each other. In this case, the transformation in the *transpersonal body of the observer* can take place within the physical body of the partner in the exercise also at a distance (in space), which introduces the idea of working with distance (in time), as it is further developed in Ch. 4.3 Becomebecome Intuitive Journeys.

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[191] The idea of a direct relationship between transpersonal knowledge and closed-chain exercises like those in Category 4c has been reinforced by recent developments in the clinical and scientific research on fascia applied to movement techniques. A noteworthy compendium of the most up to date studies on the topic can be found by consulting the *acta* of the Fascia Congress from the last 6 years at https://fasciacongress.org/

[192] See Appendix A.4.

A.5 BKR Analysis

The last phase in the four step process which incorporates information from BKR to the larger corpus of knowledge revealed as a consequence of the Becomebecome approach is called: **Analysis.*

It represents the moment when information about BKR is given to the rational mind. It is a part of the methodology which is distributed across two to three sessions during the 10/12 days period of the Residency. Each session takes approximately one hour and is composed of:

• A presentation from the Becomebecome facilitators' team in charge of the BKR,

• A Q&A session during and after the presentation.

The presentation introduces elements of the foundational theory behind the Becomebecome approach, and how it connects to the notion of The Chronosoma. Participants learn that working with *information that exists in a temporal dimension* which *passes through the body* means working with *process-based information* which *passes through the body of the observer*. Participants learn about *synkinesis* and why the movement of awareness reveals *hidden information* from *synkinesis*. Participants are introduced to the idea of *not-doing* and the reasoning behind the idea that *not-doing* allows one to transform patterns of *hidden information about the observer*. Lastly, they learn how it is possible to explain a personal process as part of a *transpersonal* process which influences not only *visible*, but also *hidden information about (the body of) the observer*. Conversely, *actions* which

transform *hidden patterns of information about (the body of) the observer* create *consequence* in the *transpersonal body* of the observer. The notion of *open-chain and closed-chain* and the notion of *action and consequence* are analysed using examples of process that takes place along four main dimensions:

Mind >< Body

Inside >< Outside

Personal >< Transpersonal

Conscious >< Subconscious

Participants are offered a vast amount of references to investigate the Transdisciplinary knowledge trajectories that inform the scientific, clinical, anthropological, and art research which extend and supports the BKR and the overall Becomebecome approach.

Through Becomebecome Kinetic Routines, Becomebecome participants learn to recognise new feelings-in-the-body which become *new instruments of awareness* that create access to a new category of knowledge. Such knowledge is Transdisciplinary because observers bring their body with them no matter which project or situation they are working on in their personal and professional life.

When one of those feelings-in-the-body is 'tickled', the observer has the ability to recognise a process *from the hidden* which is limiting the amount of possible choice because of *synkinesis*. Such feeling-in-the-body is connected

to the knowledge that they can trigger a corresponding *hidden not-doing action* in their body which will change information that is *visible* as a *consequence*. Learning how to transform *hidden information about the (body of the) observer* to create metamorphosis at the scale of the *visible object-observed* is one key Transdisciplinary assumption which directly addresses the main research question of this thesis as well Research Interrogations 3, 4, and 5. Such notion is further explored in Chapter 4.3, and it is advanced through a number of practical syncretic strategies across all the Becomebecome events.

The reader is advised to continue to Chapter 4.3 Becomebecome Intuitive Journeys.

Dedication - The 22ⁿᵈ of February 2022, Barcelona

The investigative process which made it possible to generate new knowledge in this thesis has been enticed and inspired by all the scientists and artists that I cited in the text. Nevertheless, there are four authors for which I care to make an exceptional distinction and a personalised dedication:

To Roy Ascott

Dear Roy,

My feeling is that many of the people who joined the Planetary Collegium, and the projects for education which you developed before, beyond, and in-between, would be pariah to the establishment if it weren't for your unique ability to create bridges across cultures. I can see you walking across this radiant bridges of light which connect humanities and ordinary life to the scientific world and academia, laughing all the way towards each end of it. Knowing from the inside that the only knowledge is the knowledge of the artist who will always roam freely across the borders of science and the rational mind. For so many of us you are a modern-day Zarathustra and an authentic alchemist of the 21st Century.

To Blandine Calais-Germain

Dear Blandine,

Thank you for the support you brought to my research process for more than 10 years already. Your words never fail to impress and enthrall me and countless others for sure. You are a storyteller, an artist who works with anatomy, and a dancer who can tell a beautiful story about the body. A hidden story which is inside all of us, but no one ever dared to tell it before. The way you teach people about their bodies should be included as basic education curriculum in all schools across all cultures. You use anatomy, but you teach beauty, respect and love.

To Sean Carroll

Dear Professor,

Your explanations about the different theories of time and your own unique approach to the topic have produced a fundamentally eye-opening moment which allowed me to combine all other elements in the study of process-based information which I describe in this thesis. I have taken much pleasure in making connections which extend your original thoughts beyond the Disciplinary canon of 'orthodox' Cosmology. I hope this will not generate too many moments of cringe or discombobulation! To my defence I will say that I enjoyed reading your words too much and I just got carried away. Thank you for writing books which are gratifying and fascinating, but also easy to understand for those who are not experts in the field.

To Douglas Hofstadter

Dear Professor,

We do not know each other and although the research developed in this thesis pales in comparison to the thorough and much more abundant corpus of knowledge available through your books and teachings, I hope that with this text I can honour the profound beauty and inspiration that I find in your compositions since I began reading your words more than thirty years ago.

To Robert Moss

Dear Robert,

The message I receive from dreamtime is that the influence of your teachings will have a lasting effect at a scale which extends beyond what is possible to appreciate at the present time. Your mission to transform western society (but not only western society) into a society of dreamers is the most sacred and respectful vision I have ever seen anybody channel into the world. It is so full of care, and at the same time it is simple. It can demolish cultural barriers and help people easily expand beyond the invisible obstacles of their rational mind preconceptions. I believe you are a powerful force for Good, and I hope this methodology can help in expanding the reach of your explorations. Working at your side as a Dream shaman is always a pleasure and a lot of fun!