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DOUBLE LOOP LEARNING ELEVATES THE INNOVATION DESIGN OF A PAEDIATRIC CLINIC FROM MEDIA TO INTERSUBJECTIVE DIALOGUE

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Abstract

We investigate the innovations actually enacted in an organisational research intervention, to identify double loop learning instances, as a counsellor-facilitator engages in therapeutic co-construction with the client. The case is situated in a paediatric clinic for children with developmental differences. Ethnography lasted three month of full immersion of the researcher-facilitator-counsellor. Followed by a co-construction process between counsellor and client to let emerge innovation design ideas. A number of double loop learning instances came to modify the practice culture of the clinic. Outstanding was the focus emerged on the intersubjective dialogue as the key element to boost impact of relational emotional interaction experiences with the child and with the parent. Other crisp concepts include attention to: breakdown in the relation with parents; dead or live speech as intentional communication style used with parents; more articulated and structured treatment notes reporting therapy sessions; first and second order cybernetic assessments; plus a variety of advices. The onset of focus on intersubjective dialogue, to further develop the clinical practice, the most striking outcome, contributed by the client. The impulse applied to therapist training, its greatest consequence. Significant the thrust towards assessing impact and nature of the clinical practice.

Keywords: Double loop learning, Intervention, Social practice design, Second order cybernetics, Intersubjective dialogue.

1. Introduction

This paper reports the results of a case study research ongoing with an organisational research intervention on an American paediatric clinic in Italy, with the approach of *Social Practice Design* (SPD) (Jacucci 2007). The original scope of the intervention was to help adopt media supported clinical practices, to both allow technology supported distance treatments, and alleviate repetitive presentations to parents and starting therapists. In practice the project ended up revolutionising the essence of the clinical practice, leveraging on the radical adoption of the psychologic concept of intersubjective dialogue (Stern 1985, 1995, 2004). The use of media has been fostered, in pre recording web presentations during tele conference based pedagogic meetings with parents or less experienced therapists. While the objective of the use of media-for-distance-treatment faded away, mainly for telecom security and privacy standards in Italy in 2016, considered inadequate for US health care.

Informatics is the science of the artificial. It is pure design, general in character. Work practices, beyond workflow, are socially produced, not designed; their science is social science. They are pure culture, organisation specific in character. Socio-technical projects are hybrid entities, they participate to both worlds, their teams are composed by engineers, as well as social scientists. Their professional practices are mutually contaminated, the design/no_design border is violated. Work practices, if not designed, are here, by sympathy, at least fostered in desired directions. As a consequence, socio-technical projects, started with a technology oriented scope, often end up impacting heavily the social, organisational domain.

The case study research, rooted in the organisational intervention project, has the scope to investigate the innovations introduced in the clinic, with the aim to identify - in the language of the theory to be introduced later - *double loop learning* instances (Bateson 1973; Argyris 1992), to evaluate the role of a counsellor-facilitator in catalysing double loop learning, and whether in the therapeutic co-construction between counsellor and client (Martin *et al.* 2009), the role of the client in fostering double loop learning was ever prevailing over the counsellor's. Understanding the intellectual dynamics in the case entails Claudio Ciborra's concept of formative context (Ciborra & Lanzara 1999), whose mechanism of change for innovation is based on double loop learning.

The paper analyses how the exposure to new, phenomenology derived ideas, fostered by the counsellor, created the conditions for modifications of the formative context in the clinic.

The new, catalytic ideas include Vincent Kenny's dead and live speech (Kenny 2000), Martin Heidegger's concept of breakdown in human interactions (Heidegger 1962), and second order cybernetic level in assessment of human practices (Foester 1974). Three concepts not present in the former culture of the clinic. And, most important, the concept of intersubjective dialogue - to be developed with child and parents -, identified as mission critical, during the co-construction process of SPD, by the client, the Clinic Director.

The focus of the paper is on the merit, for organisational learning, of organisational interventions centred on changes in the formative context. In the case study illustrated here, the presence of a counsellor-facilitator, brings to bear key, phenomenology con-notated concepts, to catalyse change, and help innovate culture and practice of the paediatric clinic.

The knowledge we shall call upon to this end, consists primarily in the understanding emerged in recent decades on the psycho social development of children: the role of emotions as glue in stabilising experiential learning, the articulated features of sensory integration and motor planning, the ladder nature of successive emotional functional developmental levels. The outstanding developmental approach, considered today the great chance for the future of treatment of children with developmental differences, is the one devised and designed by Stanley Greenspan, George Washington University Medical School (Greenspan & Wieder 1997, 1998, 2006). Albeit unusual in the socio-technical community, it is the correct paediatric conceptual frame work for the central role of intersubjective dialogue in paediatrics. The theory section also contains two additional components: a) the concept of double loop learning, bringing about modifications of the organisational formative context; and b) a philosophical frame based on the phenomenology stand. The methodology we shall call upon is articulated in two parts: a) the research intervention methodology for studying the case; b) the Social Practice Design approach for conduction organisational interventions, entailing the participation of a counsellor-facilitator. A detailed illustration of the case study follows.

2. Theory

We start the theory section with *the learning child* theory: both for introducing the language used by the actors in the research, and for setting up a correct paediatric conceptual framework to address, and let us understand, the central role of intersubjective dialogue in paediatrics. Then we proceed with organisational learning theory, *the double loop learning* in particular, and its role in transgressing traditional conceptual boundaries in the *formative context* of organisations, to appreciate the central tenet of the research on this case study. Here, *learning child theory* is the realm of Stanly Greenspan's DIR, background of Dr. Amy Zier (AZ); while *formative context* is the realm of Claudio Ciborra, background of the author (GJ). Both theory

domains are concerned with *learning*, be it of a child, or of a manager in an organisation. Both are expression of the *phenomenology* stand, as a philosophic position, and are constructed with phenomenology's central ideas. We conclude the theory section with some phenomenology assumptions about learning.

2.1 Theory of the psycho social emotional development of children. The learning child, and the DIR method

A child's personality is the product of the continuous and unique interplay between "nature" and "nurture", in the interaction with parents. A dramatic difference can be made by parents, in the way the child can make use of her natural abilities, often wonderfully different (Greenspan & Salmon 1995). The child is thirsty of being present and participating. She learns everything from her early experiences. We have come to know in recent years that in her early months and few years, she learns new abilities mostly from relating to people, other than interacting with objects of the world, so that nurturing the baby on the part of her caregivers, is essential for social and intellectual growth. Emotions she feels in her experiences of relating, during nurturing, provide motivation, perform as catalyst, and act as glue on her neurons, for capturing, consolidating, and developing. Communication - that always consists in both content and relation - with her caregiver, is more relation than content. Nonverbal and words elements exchanged, enmesh feelings, rather than pieces of information. The opposite, with respect to words in a book. Communication acts flourish in their private, exclusive environment of shared understanding, of complicity: it is an *intersubjective dialogue*. When this is insufficiently present, therapy needs to resume and substitute for, as precisely that is the process needed: *intersubjective dialogue*. And, development never stops, this mechanism works all along, for school age children, teen agers, even adults. Here are some hints, the first four from Brazelton & Greenspan (2000).

Experiences - There is an interaction in general, between experience in the environment, and genetic proclivities. With experiences, the child biology adapts to the environment: it develops. Crucial nurturing emotional relationships provide the experiences for the foundation of both intellectual and social growth.

Relating - Relationships and emotional interactions foster warmth, intimacy, and pleasure, besides assuring satisfaction of basic needs, like furnishing physical safety, housing, and nutrition. Relationships perform also a regulatory function, helping the child stay calm, alert to new learning experiences. Relations allow the child to learn to think; to say "Mom" rather than grabbing her arm, thus forming a mental picture of the relationship; to develop a sense of self observation, and decide which own behaviours are appropriate, and which are not.

Nurturing the baby - Nurturing a child with supportive, warm, emotional interactions helps the appropriate growth of the central nervous system. Listening, for instance, to the human voice helps babies to distinguish sounds and learn language. Then it helps develop communication and thinking, learning to be intimate and empathetic, communicate her feelings, reflect on own wishes. An ongoing nurturing relationship also teaches us how to read the baby's signals and respond. In his work Daniel Stern (1985) refers to "*attunement*" of the caregiver: the responsiveness of parents to the communication of the child's needs. In her mindset that Stern calls "*Motherhood constellation*", '*Mother's self-sense becomes largely organised around the presence of her baby, its well-being, and their mutual connection*' (Stern 1995)

Emotion - Emotion precedes cognition, then remains part of it. The motor system helps explore, yes, however the baby can do many more complicated things with emotions. He probes the world with expressions of emotion. His first affective interchanges establish his sense of causality. Then, play pretend and interactions with affectively meaningful words (not as in a book), get him a sense of reality tasting, he becomes logical and reasons. Emotional interactions are foundational also for the more advanced intellectual abilities, like creativity and abstract thinking. Or for the moral sense of right and wrong. Emotions are the organisers of our mind.

Intersubjective dialogue - This expression refers to shared meanings, in people interactions with each other, constructed to interpret events in the same way in their social life. An exclusive environment of shared understanding and complicity. When a child enacts a pretend-play together with peers, siblings, parents and/or therapists, the pretended truth is accepted by all participants to the intersubjective dialogue taking place. Research suggests that babies, and humans in general, are biologically wired to coordinate their actions with others. This ability to coordinate and sync with others facilitates cognitive and emotional learning through social interaction. In the development of the sense of self, for Daniel Stern (Stern 1985), the child becomes aware that her experiences and thoughts are distinct from those of others, there is a gap between her subjective reality and that of other people. With proper *attunement* by the caregiver, the child realises that the gap can be bridged through intersubjective experiences, such as sharing affect and focus of attention. Hence the central role of intersubjective dialogue in clinical treatment, to develop the sense of self, and be confident to be able to bridge to others.

DIR - Connection between parent and child is key in the DIR (Developmental, Individual differences, Relational: Greenspan & Wieder 1997, 1998, 2006; see <http://www.icdl.com/>) approach to clinical treatment of children with psycho social emotional differences. In this approach, child development is marked by successive milestones indicated by Functional Emotional Development Levels (FEDL: see <http://www.icdl.com/>). Here more than ever human communication is both content and relation (Bion , Watzlawick et al. 1967) Floor time, a systematic way of working with a child to help him climb the developmental ladder, is the heart of what the DIR developmental approach to therapy. To climb the developmental ladder, child needs intensive, one to one work, during which the child is learning something. What? She is learning the pleasure of engaging with others and the satisfaction of taking initiative, making her wishes and need known, and getting responses. He is learning to have long dialogues, first without words and later with them, and eventually to imagine and think. Floor time creates opportunities for a child to learn these critical developmental lessons.

Consequences on the clinical practice during treatment in the paediatric clinic - The clinical treatment of challenging children, with developmental differences, requires the central role of parents in helping restore development. Climbing the development stair case has to be attacked, furthering and leveraging the role of intersubjective dialogue, between child and care taker, between therapist and child, and even between parent and therapist.

2.2 Double loop learning theory

Argyris and Schon (1974, 1978, 1996) distinguished between single loop and double loop learning, related to Gregory Bateson's concepts of of first and second order learning (Bateson 1973). In single-loop learning, individuals, groups , or organisations modify their actions according to the difference between expected and obtained outcomes. In double-loop learning, the entities (individuals, groups, or organisations) question the values, assumptions and policies that led to the actions in the first place; if they are able to view and modify those, then second-order or double-loop learning has taken place. "*Double loop learning*" is a key concept of second order Cybernetics, emerged from the application of phenomenology based approaches in interpreting and describing the intricacies of learning in the life of humans and of their organisations. We find this central role of the concepts of second order learning in the work of Gregory Bateson, who initiated the classification of learning; and of double loop learning, as we said, in the work of Chris Argyris, a mentor of Claudio Ciborra; and then in the very work of Ciborra (Ciborra 1996).

How did this all start? Cybernetic concepts are concepts of the XXth century, related to phenomenology, and frequented in anthropological sense in many social sciences. There is the Cybernetics of observed systems, or first order cybernetics, that addresses for instance the purpose of a model. And Cybernetics of observing systems or second order cybernetics, that addresses for instance the purpose of a modeller.

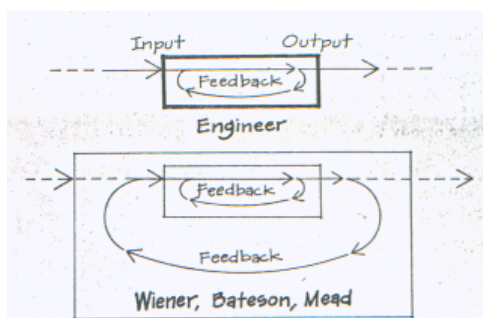


Fig.1 - Cybernetics and Bateson's deuterio learning: feed back on feed back

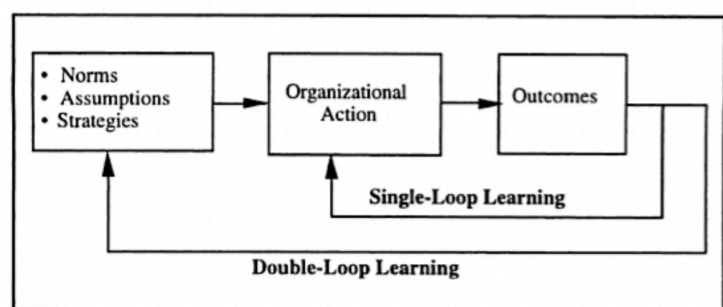


Fig. 2 - Argyris' Single loop and double loop learning in organisations

Second order Cybernetics is useful to understand the world. If we use the expression "taking a step back" from the situation, to see where we are in managing a project; then the expression "taking a second step back" from the situation, is intended to see whether the goals originally identified, are adequate: to our principles, values and desires. One step back, is first order Cybernetics; a second step back, is second order. Bateson distinguishes between two levels of learning, proto- and deuterio-learning; these levels of learning are simultaneous; the term deuterio-learning describes the context in which (proto-) learning processes occur, encompasses and transcends both single- and double-loop learning, it helps you learn how to learn. Argyris focuses on deuterio learning *by managers in organisations* (Argyris 1992, 2004), a way of learning

representing a key process in organisational learning, something that managers need intentionally cultivate for the success of their own organisation.

2.3 Phenomenology and learning

In constructivism, learning is seen as an active process, not a passive one. People construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences (see for example, the interesting case of the generation of the concept of *autopoiesis* by Maturana & Varela 1979, and the comments of Winograd & Flores 1986, and Jacucci 2015).

In phenomenology, the structure of consciousness is to be regarded as experienced from the first-person point of view. The central structure of an experience is intentionality, its being directed towards something, as it is an experience of, or about, something (Heidegger 1962). Active learning, and intentional experience, the best starting platform for ontologic (Winograd & Flores 1986) design projects, the design of what we want to become, individuals or organisations.

How does phenomenology really work? Phenomenology mistrusts the *appearances* of the world, and looks for upsurging *apparitions*, un-veiling to the subject's intuition the underlying being (Ciborra 2002: Methodological Appendix).

For Martin Heidegger (1962, Introduction), phenomenological understanding is to interpret by intuition the world, beyond appearances, following an apparition. As the tip of an iceberg, the apparition reveals a state of affairs identified by a key concept, often out of range of the current culture and make meaning.

Heidegger's phenomenology is best exhibited in his analysis of the situation of early Christian communities, through the Letters of St. Paul (Heidegger 2004), commented by Claudio Ciborra (Ciborra 2004): "The phenomenological understanding is nothing else than an intuitive going along the meaning. It must stay close and present to the total situation of the phenomenon... Capacity to accompany - being intimate -, "love". Love as motivating ground of the phenomenological understanding - given necessarily in its sense of enactment."

It is with thorough engagement in experience, that new concepts emerge in phenomenology understanding: *key concepts*, connected to apparitions. Claudio Ciborra's seminal book "*The labyrinths of information*" (Ciborra 2002) lists a half a dozen of key phenomenology derived concepts, connected to very real, although not currently talked about; features of the world, generative of genial ideas in the current practice of information systems development. In his shift of sense making in the field, Ciborra names the key concepts by culturally meaningful terms: *krisis, bricolage, gestell, derive, xenia, shih, kairos*; dedicating an illuminating chapter to each one of them, and to the underlying problem issues - "*key topics*" - they indicate. Why did he do that? Let Ciborra speak: "... *put forward a significant shift from the scientific paradigm that looms large over the multiple facets of the introduction and use of ICT in organisations. In particular, they point to an alternative center of gravity: human existence in everyday life...*" (Ciborra 2002: Invitation)

We understand this from the phenomenology rich perspective introduced above: the role of phenomenology con-notated concepts, in the practice of organisational learning. We shall see many of these instances in later sections, in the case study analysis.

3. Research methodology

The same group carries out both the organisational research intervention, and the case study research, inserted into the research intervention, almost as a "parasite" research.

3.1 The methodology for conducting the case study research: the relational aspect of naturalistic observation

This case study research is a special kind of IS research (Calzà *et al.* 2014), soft (interpretivist) case study (Walsham 1993), using the particular action-case method approach, supported in the framework of in-context IS research (Braa and Vidgen 2000). The action case method is, in general, a hybrid of interpretation and intervention. The intervention part of our action case consists in a participatory kind (Baskerville and Myers 2004) of action research (Lewin 1951), in which some of the people of the community being studied participate actively with the professional researchers. Our participatory action research is in fact doubly participatory, just to be clear, as the professional researchers involved in the research also perform in the process as consultant - the present authors having played the role of social and technical facilitators in the project -; while properly managing their action research approach, at variance w.r.t. pure consultants, with the declaration of their framework of ideas and methodology (Mumford *et al.* 1979; Checkland 1991).

Interpretation in this case-study, has been carried out through conceptual, qualitative analysis of a wealth of elementary data gathered in the history of the case. Data consisting in observations extracted from: a) documents, including texts of project proposals and accounts produced in various occasions; and, b) views of

agents on project activities and results, and their significance; views directly available from perception and memory, collected through recorded conversations, recount stories and interviews.

The data extraction process is at the heart of the interpretation of the case. It relies on personal knowledge-based sense-reading in situation – Polanyi describes it essentially as the human tacit ability of assigning meaning to details in a picture around a focus (Polanyi 1966, 1969; also referenced and commented in: Walsham 2004) -. It is pure hermeneutics, of course; for the bad – it is agent-dependent –, and for the good – it captures what matters to people, as data consisting of a wealth of elemental observations, in form of structured ideas.

A crisp example of second order thinking, is the “second step back” of Pierre Bourdieu (1977), related to the essence of the present action research study. (Degotardi 2011) It is the relational aspect of naturalistic observation that is the focus of this paper. If it is accepted that there is interplay between therapist’s actions and aspects of their social context, then the researcher, by virtue of his/her presence, is part of that context and will have a bearing on the actions of the people in that context and the experiences that are ultimately portrayed. This relational position underscores Bourdieu’s theoretical approach to social research (Bourdieu, 1977; Bourdieu & Wacquant, 1992).

3.2 The methodology for conducting the organisational research intervention: role of the therapeutic co constructive relation with a counsellor

This section on organisational intervention approach, the *social practice design* in particular, is useful to follow the development of the discourse of the research intervention, hosting the case study research.

Two independent organisational socio-technical intervention approaches were developed in the years 2000-2010, one in Italy, strongly influenced by the thought of Claudio Ciborra, at the Social Study of Information System Laboratory of the Sociology School of the University of Trento, teamed *Social Practice Design* (SPD) (Jacucci 2007; Jacucci et al. 2007; Cattani et al. 2007; Cattani et al. 2008; Jacucci et al. 2008; Calzà et al. 2014); the other in Great Britain, in the Centre for Social Informatics of the University of Newcastle, named *Intervention* (Martin et al 2009). The researchers of these two schools came in contact and recognised their similarity of their unique approaches. It is remarkable how parallel their paths had been over a few years. If one were to identify the differences in theoretical emphasis, one would point to the influence of Bateson (deuteron learning) and Bourdieu (second step back) on one thinking, in contrasts with the use of Ciborra on the other, but the methodological and practical conclusions are very similar. The emphasis of co-productive therapeutic relationships is the same.

The two schools eventually merged their approaches in joint research in the socio-technical domain (Martin & Jacucci 2008), whose basic tenets are illustrated here below. It all amounts to envisage what we are calling a therapeutic co constructive, client consultant relation, in research intervention, to promote deutero learning in an organisation to modify its formative context in desired, necessary ways.

Organisational intervention fostering socio technical innovation has often met with limited success. (see Ciborra’s many books of critical review, e. g. : Ciborra 1993, 1996, 1998, 2000; Avgerou *et al.* 2004). The paradigm which places the design process between “needs” and “solutions” fails to address the issues of innovation and transformation. But these are the very characteristics that are demanded in many initiatives, “ *...The challenge of addressing the resulting ambiguities becomes at least as significant as managing uncertainties within established frames and practice. This requires shifting from first order Cybernetic thinking to second order Cybernetic thinking, from single loop learning to double loop learning...This draws on Bateson’s concepts of second order cybernetics and deutero-learning and on Pierre Bourdieu’s reflexive practice (Bourdieu, 1992). At its core is Badiou’s concept of the event and of new things coming to count in the situation.* (Martin *et al.* 2009) ”

In conclusion, deutero learning is the key to organisational learning, and to modifications and innovations of the formative context, that, apart from occasional breakdowns, needs to be brought in by external consultants, as the organisations managers alone can’t. Promoting deutero learning - shifting from first order to second order and back - is the key therapeutic role of the consultant - counsellor - facilitator, in the relation to the client: he is to identify the key phenomenology concepts that promote double loops learning in situation. This happens in an SPD intervention, where a blend of deutero-learning-derived socio-technical insight (Claudio Ciborra 1966) with counselling to client (Carl Rogers 1951, 1969, 1980), generates the dialectic process between *How questions* (how can we solve this problem); and *Visions of solution* (Jacucci 2007), that produce organisational learning, by developing the *therapeutic* co-constructive relation between *Counsellor* and *Client* enabling innovation of the formative context .

4. The case study: *Social Practice Design* in a paediatric clinic

The case study research work presented in this paper is situated in an organisational research intervention in a paediatric clinic, practicing treatments based on the DIR (Greenspan & Wieder 1997, 1998, 2006;

www.icdl.com) and SI (Sensory Integration, Schaaf *et al.* 2018) developmental clinical methods, to help children with differences in psychological social, emotional development. Scope of the intervention is developing culture and organisation, with a Social Practice Design (SPD, Jacucci 2007) approach, upon a call of the client for the adoption of media based practices, developing *the Joy media clinic*. Focus of the research reported in this paper are the occasions for organisational learning, double loop learning in particular, occurring in an organisational intervention involving the co-constructive relation with a phenomenology inspired counsellor-facilitator. The *Client* hires in fact a socio technical researcher, as *Counsellor*, who initiated an SPD intervention.

The *Joy media clinic* intervention and case study take place at the Joy Center clinic, an American paediatric clinic, serving families of NATO military bases in Italy, with multidisciplinary treatments of developmental nature: of various para medical rehabilitation professions: Occupational Therapy, Speech and Language Therapy, Psychology. It is: the ontologic (Winograd & Flores 1986) innovation design case of the clinic itself: the *Joy media clinic* project: “*the joy of keeping minds in touch*”.

“*We need to develop the website for the clinic*”: this the very first, initial perception of the Client, about what was needed, to further develop the clinic using technology support. The next step came about, after reflection together: the Client at project take off had identified “*media supported therapy*” as the real goal.

The work practice in the organisational intervention consists, as usual, in bringing fourfold innovation: creating a new business, new organisation, new technology, training. The SPD intervention develops along three components of discourse: ethnography, architectural, change management.

The case study research concentrates on the first discourse: ethnography, followed by the organisational learning intense co.-constructive interaction, where most of the key concepts for double loop learning are generated, capable of giving birth to subsequent change developments.

The entire organisational research intervention has gone on for three years now. Now, the web site exists: www.dirsi.org: media are used to capture and replay at distance in teleconferencing video clips of demo treatment sessions of children with special needs, both for training of unexperienced therapists, and for parent coaching; an entire active learning course, composed of webinars, has been designed, based on supervised clinical experience, employing video clips self captured by student therapists.

Ethnography lasted essentially the first three month, followed by a few months of co-constructive conversations. Full immersion of the *Counsellor*, as researcher-facilitator, in the Joy Center clinic. An experience enmeshed with the therapeutic life of the *Client*, the Clinic Director. Note that we use the word “*Counsellor*”, rather than the more neutral “*Consultant*” to underline the link of the present intervention process, to the *therapeutic* co-construction relation, aiming at modifying the clinic *formative context*, as described in the theory chapter.

Highlights of the case have been the decision of furthering high impact *intersubjective dialogues* in therapy, and the focus emerged on the assessment process of the clinical practice at Joy Center, encompassing:

- the development of structured reports of treatment sessions, the Daily Treatment Notes, DTN
- the assessment proper, based on DTN data, of two processes related to actors in the treatment:
 - a) the child progress, measuring efficacy of DIR treatment (direct assessment, first order cybernetic)
 - b) the therapist correctness, measuring proximity to DIR (reverse assessment, second order cybernetic)

The third actor, the parent, is not assessed directly, but their efficacy enters through the progress assessment.

The chosen style for recounting the case consists in:

- i. Three first sections exhibiting conversation exchanges between *Counsellor* and *Client*, regarding their views and reactions, on the ongoing research intervention processes in the case, in which the crucial concept of intersubjective dialog finally emerged, in the *Client's* responses to the *Counsellor's* provocative observations
- ii. Four sections going deeply into an illustration of single double loop learning occasions, related to interpersonal interaction and communication, particularly between therapist and parents, and on the two assessment rounds, all occasions for developing innovations in the clinical practice of Joy Center.

4.1 Here is where they were, Counsellor and Client, after the first three months

We report a conversation towards a shared understanding: Counsellor, speaking, Client, responding.

> Counsellor: What it is - in my eyes: our developer-user relationship, shaped following my proposal and your choice, for the participatory design of the sustainable use of technology supported therapy; a full organisational intervention for design development and adoption of new socio-technical infrastructure supported work practices

Client: very nice summary above, of what it is

> Counsellor: our developer-user relationship

(a mutual, deep learning relationship: designer learns user work practice and work strategies and tactics; user learns marvels and constraints of new technology affordances, and delicate socio-technical issues in the sustainable use of them)

> Counsellor: shaped following my proposal and your choice
 (the agreed upon, declared object is to augment the business result, reducing the human effort involved; the object is a new way of working, empowered by technology automation: the correct use of automation is not to do faster and easier the old, today wrong things; but to open up the entire world of new, emerging possibilities, for qualitatively different, original, powerful work patterns of the future, capable of enabling further exploitation of the abilities of our human brain, relation, social life)
Client: exactly, powerful work patterns of the future

> Counsellor: for the participatory design
 (shared understanding, shared sense making, shared objective and commitment, shared governance of the design process)

> Counsellor: of the sustainable use
 (we don't design the technology, but its use, sustainable use)
Client: now we use it is the creative change powerful piece

> Counsellor: of technology supported therapy: (not just distance therapy)

> Counsellor: a full organisational intervention
 (cultural before than anything else: phenomenology, constructivism, cybernetics: Heidegger, Polanyi, Bateson, Maturana, Argyris, Ciborra, Martin: love and sense making, personal knowledge, dead speech, autopoiesis, double loop learning, improvisation, objectification, conversation theory)
Client: all of these resources you have brought to us, combined with your actual work in my office with real experiences helped bring these people more to life. I think just reading about them was not enough. Yes, I was able to gain but not without our dialogue and your added noticing of what was happening; you had more objectivity looking in from outside ☺ than me within the actual session

> Counsellor: for design development and adoption
 (three elements in the structure of the discourse: anthropology and ethnography, architectural design, politics and change management)

> Counsellor: of new socio-technical infrastructure supported
 (the double dance of humans and technology, in the agency competition game between the two, the mutual struggle for exploiting technology actability ...)
Client: yes how can technology support our human endeavour?

> Counsellor: work practice
 (bringing innovation is a fourfold activity for change: creating a new business, new organisation, new technology, a lot of training).
 On the background stands the criterion of “technology actability” as a resource for the case. Looked from the Language Action perspective (Goldkuhl and Lyytinen 1986; Sjoström & Agerfalk 2004; Jacucci et al. 2005); a must wherever intentionality is key: “... the central structure of an experience is intentionality, its being directed towards something...” (Heidegger, see the theory section). Our “something” here is the parent child connection, before all, the also the therapist parent connection, the therapist child connection.

4.2 Details of Counsellor’s ethnography, and Client’s perceptions

Chronicle of a co-constructive therapeutic relation. The data here is a single, bidirectional email exchange, just *Counsellor’s* originating message, with a list of ethnography derived suggestion/intervention points, intertwined with *Client’s* reactions in response. Each suggestion contains a change of point of view, it addresses a particular issue, with make meaning altered from the current one, it is an occasion for double loop learning, and it embodies a key concept as catalyst.

Here are two dozens observation/reaction, divided in sections indicated by titles in CAPITAL: Highlights and respective suggestions by the Counsellor in regular font, are followed by *the Client’s comments in italic.*

I - FAMILIES

> a. Counsellor: observing language barrier when talking to parents in commenting Floor-time play: simplify to match audience culture

Client: this is a continuous struggle, describing the process, the levels, development in a variety of ways that meet the parent profile, we need to simplify so much more than we are to make it meaningful

> b. Counsellor: observing mothers ambivalent behaviour with respect to therapy: proposing side activity of reassuring them they are on the right track with this therapist

Client: this means there needs to be a 3rd actor that is not therapist? but wise person? we need to think of this for the system, how to have this element?

> c. Counsellor: observing responses of parents to intelligent Client’s survey interviews with them, assigned to me to carry out, to identify needs for evaluation/therapy guidance to military families in the difficult conditions of military base work: propose the design and implementation of a family information and Client’s guidance scheme, to put forth as element of the base policy and best practice

Client: interviewing families made me realise what they are valuing and how best to continue this process in an even better way, connecting with bases, referral sources, information in wait areas of the offices, themes that emerged need to go back and inform our practice and marketing to community. Yes, we need develop this from the clear need you saw

> d. Counsellor: observing opportunity of reuse for different families of scheme of written recommendation sent text

Client: gathering these now and will need to see the common elements

> e. Counsellor: suggestion to concentrate on disconnect of sense with families, breakdown

Client: we need create a system for communicating that it is more useful and effective, we need further dialogue to maintain them, this system is not in place and will need to be

> f. Counsellor: observing centrality of video clip observation and comment sharing with families, as well as centrality of time coherence of conversations content and meaning: suggesting media supported therapy as step forward toward a more effective, greater impact therapy, not only as an opportunistic use of telecommunications to allow less travel

II - STUDENT THERAPISTS

> g. Counsellor: observing student therapists: suggestion of exposing them to Vincent Kenny's paper on dead speech, asking them to reflect and share comments; spontaneous drafting of appreciation response by a student suggests the right student for hiring

Client: this process helped teach students and determine best fit to practice for hiring

III - TRAINING

> h. Counsellor: (observing *Client's* lectures in Milan, video clips comment) suggestion of insistent replay of video clips for facilitating understanding and pick up by audience of key, unforgettable points,

Client: this was helpful to me as an instructor of these courses, as well as a reminder to use this for the connection and building reflections with families within the adobe teleconference meetings, basically using video to teach parents, why only use for professional teaching?

> i. Counsellor: use of conceptual analysis of lecture PowerPoint slides prepared by *Client* for training courses, showing how the material needs to be reshuffled and curbed, so that a clear, streamlined intellectual path emerges, unavailable to farther simplification; putting first concepts of ends, and then concepts of means, so that motivation is created up front, rather than an overflow of unconnected information

Client: that lecture was crowned by the attending students as the most clear ever

> j. Counsellor: introduction for *Client* of written comment to participant on stage drafted in Italian by *Counsellor*; based on indications from *Client*

IV - SCHOOL

> k. Counsellor: observing loose agreements with school about confrontation tactics with abusive parents: suggesting a close alliance including inoxydable pact of reciprocal protection, in managing relation with family

Client: we need to develop a clear system that we can offer these private schools for managing families and children with disability, they are not equipped at any level and this is an alliance that can support all

> l. Counsellor: observing interaction with school: proposing a *Client's* deal for free first generic observation of the behaviour of all children of the class, without identification of candidate child with differences, upon suspicion by teacher and school, to put school in better position to decide whether formally propose effective child evaluation to parents

V - ENVIRONMENT

> m. Counsellor: observing relations of *Client* to insurance companies: suggested to change talk from "distance therapy" to "technology supported therapy" for seeking eligibility of media based therapy

> n. Counsellor: observing non optimal logistic set up: actively searching, and proposing of candidate for better replacement

VI - THE CASE

> o. Counsellor: suggestion of reading from Heidegger, Ciborra, Martin, Kenny, towards an even more live, loving, meaningful, improvising, emergent therapy life, than the beautiful and outstanding one that *Client* already has

Client: I became more aware and enlightened on the process and how to improve it

> p. Counsellor: observing the complex nature of *Client's* work: suggestion to forget about the web site idea: it is not a website, what's needed here; it is a new socio-technical infrastructure supporting human communication, encompassing emotions and intersubjective dialogue, in its full fledged glory of both content AND relation, addressing unavoidable social aspects like make meaning, interpretation schemes, norm and routines, trust and power structures

> q. Counsellor: so yes, things are ok, in my opinion, as they are going, along track with ethnography;

> r. Counsellor: to me, another appalling demonstration of the incredibly effective power of coupling ethnography and qualitative analysis, as a strategy for suggesting and preparing change

> s. Counsellor: we are advancing with decision, certainly enough, difficult to imagine more.

Client: this process is illuminating all aspects of the practice that will be, within the media clinic and outside, within the clinical life

Counsellor's conclusion, observing Client's reflections on Client's work:

contribution to the consolidation of *Client's* naturally and spontaneously formed concept, that her therapy is mainly directed towards families, and that that relation is the all important element, deserving special care and dedication, with tools, texts, habits, continuity, congruence, coherence.

4.3 Finally, Client takes the lead: the clue is not a website, it is *intersubjective dialogue*

A concluding email message from Client to Counsellor; subject: Technological vs. inter subjective dialogue.

> *Client: Hi, As you read the book "motherhood constellation" You will gain A LOT of insight into the depths of level 2 FEDL and inter subjective connection. Which we want the user to experience with Joy media clinic.*

For "inter subjectivity" to occur we need:

-moment to moment attunement , so a "process"

-emotional range, so going to difficult places with parents profiles (denial, rigidity, etc), you can help with this:)

-webinars that use language that is more communicative and less subjected to information

-to cultivate the relation between therapist and parent patient how can we respect differences in understanding? Between cultures? Gender?

We need to create little by little a language of exchange that is not a DISCOURSE already developed but we must discover a new speech, to match the situation of our family-child-patient.

This new speech will need to approach the family in a more intimate manner.

Our goal of discovering, beyond using "rationality" a different speech and reasoning is not only necessary but imperative to our goals with this project.

Our speech will no longer speak as through an object that it names or the mediation of a subject but rather it confronts a more daunting but extremely enjoyable task of finding the language to describe undifferentiated silent or seemingly invisible phenomena , the best kind.

Reaching other dimensions of being with , other spaces, uncovering, clearing where it needs to move the process, a process of unfolding healthy development of the parent and then the child

This silence will require us to redefine, restructure through advancing to a new speech (however, this will be extracted from current practice , content existing, not a new mould we plan for,

If it is indispensable in relation to oneself, to the other, it has to be re-perceived, rethought with a view to assuring this relational function.

Those are my thoughts

Client

> *Counsellor: Wow, wow, and wow!*

You are traveling a distance into philosophy, our reflections on the practice is really changing project focus

The progress is marked, Enough new territory. Let's consolidate.

So the concept referred to as "it is not a website" now has a name, and You named it. intersubjective dialogue. Congratulations

We must amesh on this, share and understand it, by translating it into our practice, developing in detail its consequences

Thank You Client for taking the Lead

Counsellor

4.4 Learning of the relevance of breakdown occurred in the parent therapist relation

"... through this breakdown we (at last) encounter the world, possibly with different eyes" (Ciborra 1997)

Revealing the nature of the world around us is a primary task, for phenomenology. Central in this is the role of failure, or *breakdown*, as a means of doing it. For Heidegger (1966), using the tools by which we do things does not normally require our conscious awareness, tools are "ready at hand". If the activity is blocked, however, the "transparency of equipment" stops, forcing awareness: tools become "present at hand". Like your iPhone when the battery dies.

Counsellor asked the Client: please tell me also about breakdowns that happened in your relation with parents. This simple question disclosed a realm of new, significative episodes, that did not emerge in the recounts of therapy cases. Examples:

case 1 normal observation: need improve parents understanding of autism

case 1 breakdown: parents expecting therapist to lead the process without their involvement

case 2 normal observation: parent education regarding typical child development and limit

case 2 breakdown: parents angry at therapist for putting discomfort on child (by setting limits)
case 3 normal observation: helping both parents to read child's cues
case 3 breakdown: mom did not want to do the work, she was not attached to the little boy
case 4 normal observation: working with school to understand learning disability, provide adaptation
case 4 breakdown: the mom and the dad put clinic director on a pedestal, god, did not trust anybody else
case 5 normal observation: working with parent to broaden range of emotions in family
case 5 breakdown: dad decided not to do therapy and not to pay (1000 \$); dad thinks that she only needs to figure it out and deal it by herself; he wants s the school to do a better job at teaching her
case 6 normal observation: helping mom understand how to interact with a range of emotions
case 6 breakdown: mom trauma with having a sick baby
case 7 normal observation: emotional shut down, depression, recommendation: parent child psychotherapy
case 7 breakdown: physical distance
case 8 normal observation: school consultation, support child's profile, parent coaching, + symbolic thinking
case 8 breakdown: school referral, it does not work: parents not involved, come only because school said it
case 9 normal observation: deficit with visual perceptual and body
case 9 breakdown: dad said had a problem with the meeting, was so negative, only talked about deficiencies

The material collected as Client answers to the breakdown question, constitutes a new chapter, of different items, requiring strategic attention for the successful clinical practice: a gold mine for therapists training. These are attention points that the Client addresses normally in her current practice, but do not make directly into the accredited list of things to consider.

4.5 Learning dead and live speech for therapist and parent interaction

Appearance: conversations with parents can be straight forward, although some parents are not aware of their child's developmental profile, while others are avoiding the issue

Apparition: breakdown are generated while trying to communicate with parents, along with a How question: How to interpret behaviour. How to manage conversations towards (reflective) promotion.

Vision of solution, and related key concept: Vincent Kenny's dead and live talk, from his article (Kenny 2000) on provocation by Gregory Bateson, in psychotherapy. In Vincent Kenny's words:

"What I want to develop in this chapter is the distinction between two major forms of languaging, one which I call Live Speech and the other Dead Speech in networks of conversations. To define Live Vs Dead Speech I use ideas from Bateson, Illich, Maturana, and others especially to describe the different effects of living in one or another form of conversation over a protracted period of time. Briefly speaking, Dead Speech networks are identified with the imposed deadening consumerist language of reciprocal manipulations among people, while Live Speech is identified with networks of meaning oriented to reciprocal understandings as its prime value.

Being Controlling / Pre-emptive Vs Being Actively Participant.

Being Predictable & Machine-Like Vs being Spontaneous & Improvisational.

Being Manipulative Vs Being Present and Socially Genuine."

Simple loop learning involves instructions on what to do in situation: let's take one step back, see what we are doing to reach our goal, what the outcome is, how we need to change what we are doing to promote understanding.

Take as example the issue of managing interaction and communication between therapist on the one side, and family and child on the other, in child therapy. Let's focus on the basic three elements of the communication, and lay down rather obvious things that come to mind: Then we take one step back, see what we are doing to reach the therapeutic goal, what the outcome is, how we need to change it to improve development outcome. Really? This analysis appears understandable, but somewhat dry: yes, conversations, but how, and why? There is space for meaningful twists: so let's take a second step back, and look again.

Double loop learning involves re-considering what to do in situation, particularly how to do it and why; i.e., policies, goals, values, assumptions: let's take a second step back, see what we are aiming at, check whether it is aligned with our principles, whether it makes sense to us, how we need to adjust our goals, change how we do things and why, to satisfy ourselves, by obeying our values and policies, respecting our assumptions.

So, let's introduce a "challenge" into the communication-in therapy-picture above: the analysis of communication in terms of *live and dead speech*, by Vincent Kenny (Kenny 2000). In *live speech*, conversant roles in conversing are open to negotiation. In *dead speech* not. In therapy, therapist's choice of kind of speech, dead or live, is all important. The challenge then is *Key concept 1*. Let's see what happens with this challenge. Here is how an Occupational Therapy student reacts to the make meaning promoted by exposure to Vincent Kenny's article:

"The article struck me on a few different levels. I found the concepts interesting, in that they made me look at communication in a completely different way. This article helped to reaffirm the importance of the relationship and therapeutic use of self in the therapy process. I saw direct application to 3 main themes of clinical practice: (1) the therapist-patient relationship (2) interaction with families, and (3) the importance of child-led interactions

(1) *the therapist-patient relationship*

- *The therapist must create opportunities for live speech, in order to build confidence in the family and child and provide opportunity for them to make a personal contribution*
- *The professional as the expert is not effective, as it leads to a power dynamic and sets up the interaction for dead speech*
- *The patient must be an active participant in the therapy process*
- *A genuine relationship must form, through live speech and to promote the use of live speech, through spontaneous interactions*
- *By being client-centred (such as through live speech), it promotes a genuine relationship based on “interaction among equals,” “jointness of creativity,” and the notion of mutuality”*

(2) *interaction with families*

- *Conversations with families must be engaging and spontaneous, so that family has the opportunity to contribute their creativity and the conversation can reach it’s full potential*
- *Making the families part of the process (utilising live speech), instead of telling them what to do will increase engagement in therapy*
- *Didactic teaching is dead speech, which doesn’t promote genuine interactions or a mutual relationship*
- *By using dead speech, such as didactic teaching, the family will feel as if they have no real say and, thus, won’t be as committed to therapy*
- *Families may be damaged by a dead speech cycle that they are living in, which needs to be changed in order to promote development in the child and self reflection of their role as a parent to the child with challenges*

(3) *the importance of child-led*

- *Need to follow the spontaneous interactions of the child to promote a relationship, participation, empowerment, invitation, and jointness*
- *The outcomes of live speech align with developmental goals along the DIR levels, so it is essential that the therapist is aware of how to utilise live speech and promote this type of interaction between the child and others*
- *Sense of self is developed through “legitimate participation in a network of conversations,” which is why the first 3 DIR levels are so important and we need to support a child’s “live speech” networks in ways in which they are developmentally able*

For these reasons, I think it is essential for me to be mindful of how I am interacting with patients and families and to really create opportunities for live speech. This goes back to being process orienting and involving the family in therapy in a genuine way. It also means taking away the patient/therapist dynamic of the therapist as the expert and realising that the patient/family is the expert on themselves and their contribution to conversations and problem-solving is essential. The most important thing is to develop a genuine relationship with the family that is based on mutual trust, to promote positive growth.” (Fricke 2016)

Please note how articulated goals, principles, values, policies, assumptions, are now at stake, involved in choosing how to communicate and why, not only the ability to latch positively in interaction, and communicate. Please also note how it took the insertion of a *Key concept* as catalyst - live and dead speech -, to promote *double loop learning* with the student.

4.6 Learning on Daily Treatment Notes (DTN), and DIR efficacy assessment

Notwithstanding innumerable, positive practical evidence, the effectiveness of developmental clinical practices based on DIR/Floortime, for children with psycho social emotional differences, is unfortunately not accepted as an Evidence Based Practice (EBP), for the medical community. (Cohon 2016). One of the main difficulty encountered in constructing EBP along positivistic lines, to assess DIR/Floortime, acknowledges the challenges met by researches in which parents involved, because parents cannot be “required” to stick with a research protocol. Furthermore, parents training and role in the experiment are conditions delicate to frame. This is a paradoxical situation: the very element empowering DIR/F to succeed - parent involvement - makes it difficult for it to prove successful by EBP. As a consequence, the medical community is brought to resort to methods easier to prove - albeit not so -successful! It is the old paradox of rationalistic research: “*why do you look for your lost car key in this alley, since you lost it in that other alley?*” “*because this alley has better lighting, so that my probability of seeing and finding it, if it is there, is higher!*”

Counsellor noted that in current clinical practice, in writing DTN therapists did not spend too many words on noting the progress in child development, in subsequent sessions. So that it was impossible to trace progress with qualitative analysis of the DTN text. He suggested to introduce a section in each DTN dedicated to the assessment, with some kind of mechanism that would use quantitative entities to express progress. Client suggested to use a Likert scale to express the progress measurement in a quantitative way, taking the basic DIR developmental ladder as reference, the FEDL (Functional Emotional Development Levels) Scale, one Likert scale coefficient for every level, with values from 1 to 7. Example from the clinical practice:

COMPARING CHILD BEHAVIOUR IN TWO TREATMENT SESSIONS 3 MONTHS APART
INITIAL SESSION - Measurements of first three FEDL levels: 3, 2, 2
AFTER 3 MONTHS - Measurements of first three FEDL levels: 4, 4, 3
INCREASE of the first three FEDL Likert scale values, in 3 months: +1, +2, +1

Besides, she prepared a model DTN featuring an accurate structure in terms of DIR observables related to the child under treatment. A high quality tool introduced as standard practice in Joy Center. In this way, a *qualitative search*, in the IS text of therapists' DTN, based on of DIR, for evidence of positive impact of the method on the development of the child, in subjective recordings, could provide a convincing assessment of the positive effectiveness of the method. Just as Freud or Piaget would have done. And, as we are doing, with a phenomenology inspired intervention, suggested in the co-construction process Client Counsellor (see also the Appendix A, Greenspan & Wieder 2006).

4.7 Learning on second order cybernetic assessment: DIR, reverse FEDL ladder

This is not all, in terms of assessment: we need establish how close is the clinical practice of the clinic, to a good quality realisation of the DIR method. Cybernetic thinkers had it all in their minds, already. *first order cybernetic*, they said in the 70's, *is about what we can say of the model* (they were interested in models of the world). *Second order cybernetic*, they said, *is about what we can say of the modeller*.

As a matter of fact, the above mentioned (first order cybernetic) assessment in section 4.6, applies to the individual, specific clinic under investigation, with those therapists that operate in it, with their present level of experience and skill in the DIR method, as applied in their own practice. How close to DIR that practice actually is, has also to be assessed (second order cybernetic), for closing the circle. We do so using an Inverse FEDL Scale: not the DIR level of development corresponding to the behaviour of the child, but the DIR dictated behaviour of the therapist, to impact child development at that level. What Greenspan & Wieder termed the goals scale of the treatment. An additional highlight of this way of doing things, is of course the availability, to managers of the clinic, of essential evaluation data on the actual progress in time of the clinic practice.

It should be noted that the growing number of research studies of Parent Training approaches such as DIR/Floortime that produce positive outcomes continues to build support for involving parents in the treatment of their challenging children, echoing what Muratori and Narzisi (2014) considered a "mandatory" intervention component. The combined assessment of first and second cybernetic assessment advocated here provides an elegant solution, as it bypasses the difficulty with the traditional EBP approaches. That difficulty comes from the fact that "Parent reflective functioning is an interpersonal and intra-personal capacity that underlies how parents attune to their child's affective state and how they interpret and respond to their child's subjective experience. A study of the efficacy of a parent-mediated intervention like DIR/FLOORTIME, along standard EBP approaches, requires two steps—first is a study of the effectiveness of parent training of DIR techniques on the primary caregiver (caregiver outcomes), and the second is a study of the trained primary caregiver's intervention with their child (child outcomes).

5. Discussion

The exchange reported in previous chapter between Counsellor and Client clearly indicates the deutero learning that has gone on in the therapeutic co-constructive relation between the two, and the resulting shift in the formative context of the organisation.

The attention points listed in the conversation between Client and Counsellor concentrate on connection and communication: with families, with therapists, with school; as well as interaction with external entities, and the environment, followed by reflections of the Client on the opportunity for updating the scope of the innovation project.

The all important connection with the child of both parents and therapists, primary concern of the clinical practice, but also the crucial interaction between therapists and parents, blows up with the explosion of the concept of *intersubjective dialogue*, on the part of the Client, a breakdown promoted by the provocative intervention process. Among the variety of itemised suggestions for improvement, the intersubjective dialogue emerges as the key intervention item promoting further development of the clinical practice, as the most striking and evident breakdown of the *formative context*. The most significant occasion of double loop learning. The ideas of Daniel Stern (*Motherhood constellation*, Stern 1995), ready in the mind of the Client, became present at hand, and produced this outcome; these ideas will help reflect on how to improve.

There were no precursors, in the conversations on the case, of the *apparition* of the intersubjective dialogue. This is possibly due to the fact that this concept is so internal to the clinical treatment, impacting mostly the way the nurturing relation is conducted. Which would explain why it had to emerge from the Client, as by force Counsellor was more easily involved in ways less internal to treatment (and, he had not read Stern).

Other new practices to be introduced include: attention to breakdown with parents, a dead and live speech as a tool with parents, extensive DTN reporting functions, first and second order cybernetic assessments. Besides practical advice on multiple exposure to videos, attention to language with parents, written notes to augment interaction impact, logical streamlining text of talks to therapists.

Out of this list, we single out three examples of double loop learning, for more detailed comment:

- I. Parent coaching to help accept developmental differences in their child profile is not readily successful, particularly so for parents in denial. In Chapter 2, conscious, intentional use of *Vincent Kenny's "live and dead speech"'s alternative* can help therapists find a healthy shared understanding with parents.
- II. Interpretation of video clips of child treatment sessions is not readily evident to new adepts. Repetitive exposure to the video clip, leveraging *proximal learning*, can activate Carl Polanyi's *personal knowledge* paradigm, and help new adepts to "get it". For Polanyi, personal knowledge is the tacit ability to read meaning of details around a focus (Polanyi 1966, 1969), depends on experience, and present interest
- III. The fraction of the therapist's message, that makes it into the mindset of the mother, is discouraging low. Writing down the notes of her conversation with the therapist, for the mother's sake - and the option of later explicit checking -, dramatically improves the fraction that "makes it", as employing with her a simpler language than with another therapist, as each *reflective practitioner* knows, after Donald Schon (Shon 1984).

On our research question

Investigating the innovations emerged in the intervention on the clinic, we have identified several double loop learning instances, with an explicit role of the counsellor-facilitator in catalysing double loop learning. In noting the interplay of counsellor and client as actant in the therapeutic co-construction, the role of the client in fostering double loop learning was sometimes prevailing over the counsellor's. In addition to proceeding to structure effectively the DTN report notes on treatment sessions - after the counsellor prompted the inclusion of the section on the Likert scale measurement of the child development position on the FEDL scale, to eventually plot the climb - the client has actually put forth the central suggestion to enhance intersubjective dialogs in the clinical practice.

Let us see, from the marvellous, pure phenomenology work of Daniel Stern, what the child intersubjectivity with her mother really entails (Stern 1985, 1995, 2004): the baby eventually realises that her mother can have "things in mind": attention to something, an intention, an effect; that she, too has something in mind, and that the things in her mind and in her mother's mind can be different or the same. And that they can be brought into alignment, if not the same. Here are examples of intersubjectivity that are regularly observed, at age 8-12 months: social referencing, affect attunement, joint attention getting, reading of the other's intentions. The issue here is the negotiation between baby and mother of what will constitute the mental universe of sharable phenomena: what is public, what is to remain private, what is sharable. A rich and fascinating observational perspective on their relation, privileged space for nurturing and treatment.

Back to general, our inspection lens for more punctually interpreting the case, focuses on the three type of interpersonal relations involved in the clinical practice, hence in the assessment, and we use this classification to highlight, in *Italic style*, relevant instances of double loop learning:

- I. *Parent Child* → a) enhance intersubjective dialogue as central to treatment, b) using Likert scale in the DTN to record position in time on the EFDL scale, c) direct assessment of overall treatment efficacy, by following the child development going up the ladder
- II. *Therapist Child* → again intersubjective dialogue central, a) second order cybernetics assessing therapist's proximity to DIR (principles, reverse FEDL scale, goals), b) showing videos multiple times for interpretation, c) redesign of lecture to make it streamlined, d) include the goals of treatment in DTN
- III. *Therapist Parent* → also intersubjective dialogue central, a) breakdowns, b) dead and live language, c) therapist's language adapted to parents and teachers, d) parent coaching in DTN, e) both assessments.

These three interpersonal relations provide the arenas where to concentrate interventions, in particular, for furthering the use of intersubjective dialogues for a better, higher impact therapy.

The onset of focus on intersubjective dialogue, to further develop and innovate the clinical practice, is in our opinion precisely the most important outcome of this process. The impulse to therapist training in this direction, is its greatest consequence, together with the resulting dedication to first order assessment of the clinical practice (its impact efficacy), and to its second order assessment (its response both to Greenspan's DIR method, and to AZ's method, with dedication to intersubjective dialogue).

Breaking boundaries of the formative context is unveiled in this case by the emblematic avowal by the user: "it is not a website!", as initially thought. And, it maybe "media supported therapy", yes, at least in part. But really, it is rather the design and creation of new social practices, bringing to the front the attention to the *inter subjective dialogue*. With a substantial change of perspective.

On overcoming the formative context

We are here addressing issues of organisational interventions crucial for their efficacy, by illustrating their essence in this case study. It is an application of Claudio Ciborra's paradigm of leveraging double loop learning to overcome the limitations of the extant formative context, and promoting its evolution. Showing how Ciborra's dedication to double loop learning and formative context change, brought him well beyond

the tenets of his PD community. Promoting deuterio learning in an organisation, helps overcome its limiting formative context (Ciborra 1996, p. 17). However, in absence of external solicitation, double loop learning only happens in occasion of *breakdown* (Ciborra & Lanzara 1999).

This point calls for reflection. At first, Ciborra only occasionally mentions double loops learning in his books, albeit always with firm meaning of its relevance. He talks INVARIABLY of the *formative context* instead. What is it? In the book *Labirinti dell'Innovazione* (Ciborra & Lanzara 1999) at page 31, under paragraph "2.2 L'influenza del contesto formativo" together with Lanzara he writes:

"...Dobbiamo introdurre un nuovo concetto, più operativo e più orientato all'azione: gli attori ... sono sotto l'influenza di una struttura di relazioni pervasiva e profondamente radicata, o contesto formativo, che spiega ad un tempo la loro abilità, l'inerzia dei loro processi di apprendimento e l'inconsapevolezza riguardo alle loro pratiche effettive. Il contesto formativo è l'insieme dei ... presupposti cognitivi... che gli attori portano con sé abitualmente in una situazione di azione."

For Ciborra, Argyris very discovery of the necessity of introduction, on Bateson's deuterio learning, of the concept of *double loop learning*, is the *apparition* that denounces the existence of an underlying reality in the world of organisational culture, that needs to be further investigated and unveiled: the *formative context*. So, he proceeded in the task. The formative context is precisely what needs change, and is altered, in double loop learning. It explains the *inertia* of the organisation and its managers in avoiding to confront with the change needed, so that only in occasion of striking, evident, breakdown of current sense making, action is taken.

The concept of *formative context* is central in the entire work of Ciborra, indicating the way he has continued and brought further, building on it, the work of Bateson and Argyris on the subject of organisational learning. Laying down the stage for identifying the conditions of successful organisational interventions for innovation: facilitation of changes in the right direction, of the formative context.

Rather than addressing intervention directly in his writing, Ciborra's public discussion of his organisational case studies has illustrated to his scientific community, emblematic cases of double loop learning, for specific problem issues. We like to express this concept with a hyperbolic metafore, by saying that he has made an "organisational intervention" directly on the *formative context* of his socio technical research community, performing in the role of *counsellor* for the entire community. Indicating areas of need for double loop learning to everyone, along with appropriate key phenomenology con-notated concepts, as catalytic enablers for change. In an offer of therapeutic co-constructive relation, that, as usual, it resides to the "client" to accept. (Jacucci *et al.* 2008)

On organisational intervention

In our organisational research intervention we have performed what we are calling a therapeutic co constructive client counsellor relation, to promote deuterio learning in the organisational context (Martin & Jacucci 2008). Argyris and Schön(1978,1996) warn: managers unable to perform double loop learning block the company's development. How can we help? In the SPD approach (Jacucci 2007), a counsellor/facilitator is called upon, to ask managers to identify *How questions* (how can we solve this problem); and facilitate them in producing *Visions of solution*, that is, they indicated to managers when it is appropriate to shift from first to second order and back (Martin & Jacucci 2008). Thus coupling deuterio learning and counselling to any underlying rational, problem solving approach, to let evolve the formative context.

In so doing, the SPD approach takes the aspect of Ciborra's work on deuterio learning (enacted by the counsellor/facilitator), hence on formative context, into the practice of organisational intervention in the socio technical area, along with his entirely phenomenological approach. In the opinion of one of the present authors (GJ), SPD is to be seen as legitimate offspring of Ciborra's work.

6. Conclusions

For the theory of the learning child, and child treatment:

Intersubjectivity is a basic, primary motivational system (Stern 2004). "I will suggest that it is also an innate, primary system of motivation, essential for species survival, and has a status like sex or attachment" says Daniel Stern (2004), so it "... is one of the major motivations that drives a psychotherapy forward". Being a condition of humanness, intersubjectivity is not a detail, in considering psychotherapy in general, and the treatment of children with special needs in particular. Pointing to intersubjective dialogue, the highlight here: when pressured for innovations definitively furthering the efficacy of her clinical practice, the expert clinician resorts to the theory concept of intersubjective dialogue, as mission critical: "Our goal of discovering, beyond using "rationality" a different speech and reasoning is not only necessary but imperative to our goals with this project. Our speech will no longer speak as through an object that it names or the mediation of a subject but rather it confronts a more daunting but extremely enjoyable task of finding the language to describe undifferentiated silence or seemingly invisible phenomena , the best kind. Reaching other dimensions of being with, other spaces, uncovering, clearing where it needs to move the process, a

process of unfolding healthy development of the parent and then the child. This silence will require us to redefine, restructure through advancing to a new speech (however, this will be extracted from current practice, content existing, not a new mould we plan for). If it is indispensable in relation to oneself, to the other, it has to be re-perceived, rethought with a view to assuring this relational function.“

For the theory of organisational learning, double loop learning, and role of an external consultant learning:

In the case study research, we have observed Bateson's and Argyris' deutero learning processes ongoing between client and counsellor, during the organisational research intervention. We have seen their co-construction design conversations develop, and transform into design ideas, the hints gathered by the counsellor during the ethnographic phase. We have shown in detail how the presence of the counsellor-facilitator, can bring to bear in the organisation key, phenomenology con-notated concepts, to catalyse Argyris' *double loop learning*, and Ciborra's *formative context* evolution, enabling innovation of its culture and practice, promoted by either actors in the process.

We believe this clear conclusion, to be of practical relevance in our field of socio technical research.

For the practice:

The substantial advancement, w.r.t. other existing clinical practice of DIR, of AZ's specialisation of DIR, dedicated to furthering intersubjective dialogues. When considered together with the care in managing communication style with parents, relative to the choice dead and live speech, and special care in managing the outcome from breakdown events in the relation with them; when further considering the care dedicated to recording in the DTN reports essential data for assessing impact on child development, and also assessing accuracy in following AZ's DIR method specialisation; the Joy Center stems out as a DIR clinic having chosen most advanced theoretical approaches to back its clinical practice.

For the methodology:

We have provided some detailed evidence for a style of intervention encompassing a therapeutic co-productive relation to promote evolution of the formative context, which, we have claimed takes us a step further than what is usually conceived of as participative design.

The reality of the distinction between hierarchical (dead speech). and peer and partnership behaviours and attitudes (live speech), and of the distinction between Gregory Bateson's first order and second order processes, and deutero versus acquisitive learning, together with the need to support and nurture sense making and co-production, are very apparent in the experience of this ontologic, enterprise innovation design project.

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