RIFL (2012) 5: 38-53 (Azione, percezione e linguaggio)
DOI 10.4396/20120304

Communication, Action and Inductive Practice. The practical effects of inductive reasoning on the patterns of human relation.

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Abstract The remarks that I wish to propose in this paper concern the possibility that the pragmatic meaning of communication can be in certain circumstances in contradiction with its explicit content, *i.e.* the literal meaning of what is said. This topic, in my perspective, is related especially to the ideas of Bateson, Watzlawick and the Palo Alto Group, and Luhmann. It's sketched an epistemological perspective which is conceived in order to consider the question of inductive inference, also in its psychological dimension and particularly in its relation with the pragmatic dimension of inter-personal relation.

Keywords: induction; rationality; analogic communication; double bind

1. Relations, power and communication

The following discussion can be read as a reflection about a famous passage of Nietzsche about *Das Problem des Sokrates*:

> Vor Sokrates lehnte man in der guten Gesellschaft die dialektischen Manieren ab: sie galten als schlechte Manieren, sie stellten bloss… Honnette Dinge tragen, wie honnette Menschen, ihre Gründe nicht so in der Hand. Es ist unanständig, alle fünf Finger zeigen. Was sich erst beweisen lassen muss, ist wenig werth. Überall, wo noch die Autorität zur guten Sitte gehört, wo man nicht "begründet", sondern befiehlt, ist der Dialektiker eine Art Hanswurst
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> Before Socrates' time, dialectical manners were avoided in good society: they were regarded as bad manners, they were compromising… Honest things like honest men do not carry their reasons on their sleeves in such fashion. It is not good form to make a show of everything. That which needs to be proved cannot be worth much. Wherever authority still belongs to good usage, wherever men do not prove but command, the dialectician is regarded as a sort of clown (NIETZSCHE 1969: 63-64, English transl. from NIETZSCHE 2007: 13)

In order to show the possibility of a more systematic comparison between Nietzsche and Bateson, we can cite the "wisdom" of body which is theorized by Nietzsche in *Also Sprach Zarathustra* (1968), idea that – even if with a very different form – is fundamental in the whole Batesonian thinking.
The theme we've introduced by citing Nietzsche, is related to questions we can exemplify by means of the theories of J. Habermas and N. Elias. Habermas' *Theory*

of communicative action (HABERMAS 1981) presents perhaps one of the theories most explicitly devoted to criticize every conception which can take inspiration from ideas such as Nietzsche's. His purpose is to define a model of social relation based on dialogue and argumentation. Habermas' view is that in pre-modern societies the social cohesion can be obtained by means of models of action which are legitimated by tradition and by the reference to a shared *Lebenswelt*, while in modernity, the increasing of social complexity brings about the need of finding a consensual definition of the situations where social actors are involved, in force of a "rational" *Diskurs*.

Elias' reflections concern the historical beginning of a modern form of rationality (ELIAS 1994). The more archaic psychological model is built in a way for which emotions and their expression are still not disciplined as the modern social system requires. He brings the example of the Duc of Montmorency, which is formed in a medieval and aristocratic mentality: he could make strategic calculi in order to obtain victory against the soldiers of King Louis XIV, but his ethical model forbids this to him. A medieval warrior must be taken from the fury of war, which renders vain any military strategy: he goes against his enemy in a frontal attack, and he is defeated and imprisoned. In Elias' opinion, the courts are a place where is elaborated the new form of rationality, based on a more complex and complete control of emotions: the "rational" calculus of the consequences of the individual's action in the "net" of inter-personal relations becomes an important condition to acquire power in this kind of social context. According to Elias, in modernity this new habit of mind becomes essential in the people's life.

My attempt will be to show that this scheme of analysis, grounded on the role of "strength" and "rationality" in the human relation, can be usefully discussed by means of the reference to the question of inductive reasoning.

We can begin by analyzing the behavior of Montmorency with the help of the categories of *Pragmatics of human communication* (WATZLAWICK, HELMICK-BEAVIN, JACKSON 1967): from the side of "relationship", his model of action is useful (until it is used in the medieval context, where it is born), for it gives to his enemy good reasons to fear him. But in the new social context, this model begins to be dysfunctional, for the benefit which it offers on the side of relation, is exceeded by the damages it procures from the side of "content", namely, if you need to appear a very warrior, it becomes impossible for you to employ (in communication, in thinking and in your action plans) information which could be fundamental for victory. This example shows also how it can be complex the system of possible relations between what is the "relational" meaning and what is the "content" (the "objective" information that is expressed) in communication processes, and the way by which the individual's thinking can get involved.

My purpose in this paper is to try to analyze such question, but first I need to introduce some preliminary remarks.

2. Inductive inference and social relations

A presupposition of my reasoning is the adoption of an inductivistic approach (which I've tried to develop in my DI PROSPERO [forthcoming(a), forthcoming(b), 2009]). I hold as consequences of such an approach the following theses:
1) Induction is a nonmonotonic form of inference: this entails that if we add some other premises to the initial ones that at first we considered, our conclusions can became very different. Therefore it's allowed a subjectivist interpretation of induction: different epistemic subjects can start from different premises (different experiences), and they should be rationally legitimated (in a procedural sense) to infer different conclusions.
2) The basic intuitions of philosophical realism are kept if we rely upon some central ideas of Jean Piaget: in a constructivist framework, children go on to build their own representation of the world, starting from a condition of radical egocentrism (a sort of "solipsism without a subject" [PIAGET 1937]), in the direction of a more rational and objective vision of the world. In this process inductive generalizations are surely a fundamental tool, but it's important to point up also a second element: each child proceeds to make inferences and to construe images concerning other persons, *i.e.* every other person is an "object" of its own knowledge. Thus it's introduced a clear asymmetry between the epistemic "subject" and its own "object" of epistemic inquiry: this remark is relevant with regard to the analysis of the notions of "relation" and "content" in communication, namely the "analogic" and the "digital" sides of meaning. We'll see better below that when it's considered the analogic communication, we can say that the "subject" looks at the "object" of his knowledge and he *infers* (so to say, "autonomously") the proper content of information concerning it. In the digital dimension instead there is the reference to an "objective" (namely, less "egocentric") notion of "truth": a more rational and reliable capacity of referring to reality is acquired.
Given that (my own inductive inferences drive me to think that) the world is constituted in a certain way (corresponding to the intuitions of realism) it's possible to conclude (from my perspective and from those of the other persons) that the world is structured in a form substantially coherent with what philosophical realism asserts. Very briefly, we can maintain that "realism" is an image of the world which is empirically "confirmed" as much as the content of information that the subject receives from the *other* persons shows to be reliable in principle (even if it was not directly verified, when those persons were speaking), and that this empirical knowledge rapidly becomes a "metaphysics" given that it is rooted in the deeper strata of human mind, but it's impossible in this occasion to develop better this conception.
3) Notice that such a conception about induction is related to psychology rather than to philosophy of science, thus we must deal with constraints that are not so severe as it is in the approach of authors as Popper or Carnap. In philosophy of science, induction is studied as a tool useful only if it was suitable in order to conduct to intersubjective conclusions, *i.e.* conclusions that could be shared and accepted at least by the competent observers. *De jure* the concept of induction that I propose doesn't guarantee this, even if *de facto* the world in which we live empirically confirms just this kind of conclusions (at least for a largest part). It follows: the possibility of giving examples of failed inductive previsions (POPPER, 1963) is itself in effect an outcome of (subjective) inductive inferences (concerning just the limits of induction in some cases where it's applied by other persons: it's logically impossible that I *can* apply such a reasoning to some *my* actual inference). Strawson (1952: 248-263) offers such a kind of argumentation in defense of induction: we can

deny the validity of inductive inference, only by making "examples" where it is contradicted by evidence, *e.g.* when it was discovered for the first time a non-white swan, but those are just "examples", *i.e.* forms of inductive reasoning (I think that Strawson's argument is incomplete, but it's impossible to develop this theme in this paper).

In addition, the great limits of human thinking entail that our attention selects only some elements in the situations that we examine (see e.g. DRIVER 2001), and afterwards we remember only a part of the information we've gathered. In my perspective, this involves that the set of premises of our inductive inferences must include only the (entire) information that we possess at the moment of the inference (the process by which memory is activated is biological, and in an obvious sense it is not a part of the inference itself: only the part of information actually present at my attention is a legitimate constituent of the premises I employ). Incidentally we can notice that, for this, such a conception is coherent also with the acceptation of forms of innatism, given that we can accept – without any problem – that there are some biological processes pre-determining the disposition of organism to convoy its own attention on some specific kinds of stimuli. But in this context, we must underline as this particular approach consents to offer a sort of "epistemology" of "auto-deception", given that the results of inductive reasoning are seen just in their subjective variability: we'll se better this below.

4) This conception presupposes a specific definition of induction, renouncing to the usual concept of "habits" (repetition in the course of time of similar stimuli patterns): "induction" should be the name for the fact that the epistemic subject admitting actually a certain association between A and B, for which «when A is given, also B is given», is driven to "project" (using a Goodmanian expression [GOODMAN 1954]) the association between A and B retaining that it holds in all the situations where A or B are conjectured to be existing. It's to notice that such a definition a) weakens the classical objection of Chomsky (1959) against behavioristic inductivism (even if it is linked to an epistemology which is very different for some important aspects from behaviorism), given that induction is conceived clearly in a very different way, b) it is particularly coherent in the context of Piaget's theory, where the notion of space and time are the *result* of a progressive construction, and thus it is pertaining the attempt to conceive a definition of induction avoiding the notion of spatial and temporal positions as included in the preliminary definition of the problem, *i.e.* the kind of definition used *e.g.* by Popper (1963) (my attempt in DI PROSPERO [forthcoming(a)] is to furnish just a definition developed along these lines, making appeal also to the view that considers induction as a "relation between universals" [ARMSTRONG 1985]). The relevance of habits and the attention for the *number* of cases confirming the idea that A and B are associated, should be in this framework the *result* of a most original kind of (purely qualitative) law of association (or the effect of the fact that our brain needs some repetitions of the stimulus for the memory afterwards could be activated), that children spontaneously apply: it's by induction itself that we believe that the frequent repetition of similar stimuli patterns can better convince somebody about the existence of some association, but this type of induction acts only upon the set of premises which actually we assume as true – namely, we *can* use only data and believes that *now* are present (and such believes act in our mind only to the extent that they are "present": I can foresee that tomorrow it will be a rainy day, but my mental content should be very different than if I saw *now* that it's raining. The basic idea, which can be read in idealistic terms and is related also to the concept of auto-poiesis of Maturana and Varela [1973], is that

mental contents count only to the extent that they are actually “inside” of the mind. The problems that this form of idealism entails are treated in my [1]), and that the neuro-biological processes that are a condition for the activation of our memory and thinking, are themselves (formally speaking) only an “object” of our inductive practice: all the same *de facto* such generalizations are so well confirmed that we give a great relevance to them at least in intuitive terms.
This theoretical framework can be seen as close to Bateson’s theory (and generally to a cybernetic view): organism reacts to a stimulus in conformity with the “meaning” that it associates to it. Stimuli can be internal or external to organism; the reaction can be innate or learned from experience.
Particularly there are elementary stimuli (internal or external). The context of an elementary stimulus is a meta-message classifying the elementary stimulus. The context of the context of the stimulus is a meta-message, classifying the meta-message itself, and so on. Individual action is oriented by a very complex net linking stimuli and contexts to some corresponding “meaning” (BATESON 1972).
Contradictions that are possible using this form of rationality, can be easily shown by means of a quotation from Molière: in the second scene of his *Misanthrope*, he imagines that Alceste meets Oronte, which wishes to have from him an evaluation about a sonnet that he has composed:

> Alceste: Monsieur, je suis mal propre à decider la chose;
> Veuillez m'en dispenser.
> Oronte: Pourquoi?
> Alceste: J'ai le défaut
> D'être un peu plus sincère en cela qu'il ne faut.
> Oronte: C'est ce que je demande, et j'aurais lieu de plainte
> Si, m'exposant à vous pour me parler sans feinte,
> Vous alliez me trahir et me déguiser rien.
> Alceste: Puisqu'il vous plaît ainsi, Monsieur, je le veux bien
> (MOLIÈRE 1956, vol. II: 52)

Oronte perceives the context employing a “script”: he chooses his words in function of what he knows about the right “rules” in order to act in the proper way in the situation in which they stay. Even if his words are not “literally” true, he doesn't consider this as a very mistake nor as a lying: simply that's the way in which one has to act in such circumstances. Alceste respects the wish of his interlocutor, but decoding it from its literal form, and when Oronte perceives the new context (*i.e.* when Alceste presents his criticisms to the sonnet), of course he considers them exactly as an injury.
In this case, we can say that a global and coherent strategic plan is impossible because it has been adopted an (inductivist) “bounded rationality” strategy: Oronte is guided overwhelmingly by empirical signals that define from his point of view their situation. In most general terms, the problem is that I can learn new “meanings” by observing the effects (the feedback) that are subsequent to my actions. But this entails that I can know only some exterior consequences of the physical processes producing the observed feedback, while the objective structure of these processes remains obscure to me.
By using Piagetian terms, we could say that Oronte proceeds by accomodation and employing empirical knowledge, but he has not created “structures” of believes which are integrated one with another in a coherent way – namely structures

autonomously created by the subject, which consent to “assimilate” new data to some forms of action and thinking that are already known and that are complex enough to consent that the subject react in a substantially proper manner to an environment which is most complex.
My learning is in force of a “blind” research, for trials and errors, and I act according to the results of this research if I foresee that they will give to me a sufficient level of satisfaction, but I don’t know the real reasons of my satisfaction (SIMON 1983). Bateson (BATESON 1972) distinguishes between the dimensions of “relation” and “content” in a communication process: the first concerns the way in which the relation between the individuals is defined in virtue of the “material” characters of the communication process itself (aggression, courtship, etc.). The “content” is the meaning of the communication, as it can be defined on the grounds, for example, of linguistic conventions. The “relational” meaning is particularly sensible to the context, the “content” is most adapt to give importance to objective and rational meanings. If individuals apply a certain behavioral pattern because they’ve learned its efficacy in that kind of context, in force of a “blind” learning, those individuals can’t say if that behavior is efficacious for its own relational meaning, or because it has been driven by believes the “content” of which was true. For this, given that the content, if true, is true in general, while the relational meaning is proper only in correspondence of the proper contexts, individuals are continuously exposed to the risk of overgeneralizing the expectation that some behavioral pattern will be efficacious in the context where they are acting actually: the relational and pragmatic efficacy of their action (included linguistic behaviors) in the past contexts, can be seen by mistake as the (inductive) proof of the truth of the believes which drove them.

3. Actions, emotions and communication

Inductive reasoning is (by definition) “contextual”, just as the “relational” dimension of communication, but it is intrinsically in relation with a (“digital”) demand of “truth” and of epistemic reliability which must be referable to a *wider* context. Really the system of relations between these two dimensions of thought and communication is very complex.
For Bateson «feelings and emotions are the outward signs of precise and complex algorithms» and «these matters, the relationship between self and environment, are, in fact, the subject matter of what are called “feelings” – love, hate, fear, confidence, anxiety, hostility, etc. It is unfortunate that these abstractions referring to *patterns* of relationship have received names, which are usually handled in ways that assume that the “feelings” are mainly characterized by quantity rather than by precise pattern» (BATESON 1972: 140). It’s recalled the internal configuration of each individual taking part in a relation – configuration that should be assumed in order to acquire a favorable position in the relation itself. Bateson's example is a cat that asks you for milk, but «she cannot mention the object she wants (unless it be perceptibly present). She says, “Mama, mama” and you are supposed from this invocation of dependency to guess that it is milk that she requires» in virtue of your autonomous inferences (*ibidem*: 141). Feelings are not simple impulses without any form: they respond to patterns and can be modified in their visible effects, in function of the rules governing such patterns. There are «algorithms of the earth» (*ibidem*: 139) and when we feel our sentiments as an “irrational” force, it is because our algorithm brings us to assume an internal configuration obeying just to a rule (*implicit*,

otherwise it should become explicit and rational) prescribing to be "irrational" (of course this "algorithmic" character doesn't entail that they drive always towards right decisions).

Some examples of the possible contradiction between the relational meaning of communication and its rational content can be easily offered. In order to convince my counterpart that he/she can receive a vantage from the relation with me, it can be useful that I show myself as attached to the relation, without effecting any calculus about its possible consequences, so that our relation can become more friendly and pleasant. In a different kind of situation, if I show myself as indifferent to the consequences of my actions (as in Elias' example), it's clear that such a behavior can appear as threatening to my counterpart, and this could be very useful for me. Some external observer could be very uncertain in saying if I am conscious of this calculus (since its implicit rationality relies just upon some vantages that I obtain showing myself with a certain image in a convincing way). But it's by no means obvious that in general I *can* effect such a kind of calculus: sometimes the only way to convince my counterpart is to convince myself too about the truth of my own claims. But then, for hypothesis, it will happen that I shall no effect just any calculus.

Bateson distinguishes between "analogic" and "digital" communication (*ibidem*: 372 ff.): in each communication process, there is an analogic side, in which the subjects observes the context and the elements constituting the communication itself, effecting inferences about the very meaning of the signals that can be gathered in this way. This dimension is most related to the relational value of communication, but – in Bateson's thinking, and from an *inductivistic* point of view – it can be said properly "rational", even if it concerns especially the sphere of instincts, emotions and sentiments. It's governed by an "algorithm". In terms of an inductivistic philosophy, the emotion itself is an empirical datum, inserted in a quite complex structure of other data. The activation of emotions must respond to stimuli, falling so within the range of inductive associations. It is the vehicle of a form of knowledge (in a perfectly Batesonian spirit). Instead, the digital side of communication is related to linguistic conventions, and it's adapt to express abstract and complex contents.

Using such notions, we can say that it's often a fact that the best choice (and sometimes every acceptable choice) that we can do from the perspective of analogic communication, may be in contrast with the constraints of digital communication: in order to say a true proposition, we can be obliged to put ourselves in a bad position from the perspective of the relation.

The paradox is that the two dimensions are strictly connected, so that the rational information which is communicated in the digital dimension, can modify the subjective perception of the relation in some individuals, or it's a condition to consent a more rational and complex coordination in our social life (according to Habermas' conception).

It's very plausible to hold that there are many behavioral patterns, in order to regulate emotions, social relations and the practice of communication and that they are socially elaborated and transmitted (we can follow RIMÈ 2005; HARRÉ 1988). Even if they are a vehicle of a form of cognition, what is required all the same is the control of the "material" side of this knowledge. The particular consequences which render proper such patterns have a "material" aspect: they cause some relevant effects *qua* perceived behaviors, and not only for the information that they explicitly can bring – even if this occurs in a very complex tangle of relations between the modifications provoked by the new information offered by the digital code, and those provoked by the analogic side of communication. In this sense, when we say

"linguistic behavior" we don't refer to the digital contents of communication, but to the physical fact that something is said (with a certain voice, expressing for example a great anger). To say that analogic dimension of communication concerns its "material" side, can be explained in these terms: in analogic communication the subject watches at its counterparts explaining their behaviors as an "object" of knowledge. The subject can effect inferences about his counterparts and their words, but there are not instructions to interpret what is communicated in conformity with a conventional (digital) code. Counterparts are seen as "natural" phenomena (in this sense they are considered in their "material" aspect). There is no room for rational and objective discussion and for shared meanings. Analogic communication is efficacious only insofar as it is limited to quite simple contexts where each individual shares (on the ground of his autonomous experience) the relevant information, thus everyone – by effecting autonomously his own inferences – is driven to interpret the meaning in a quite similar way. It is a condition of a stronger egocentrism (in Piagetian terms), in the sense that meaning is defined in a contextual manner. By means of digital codes, there are conventions adapt to express a most complex information: this is a condition to develop a more rational and objective (de-centred) vision of the world (according to Habermas).

4. Auto-deception and induction

A fundamental aspect of that "knowledge" embodied in the material aspect of our behavioral patterns, is in the strategies that are functional to increase the *power* of the persons adopting them. Some of these strategies (we can say: the strategy depicted by Nietzsche too) are based on the *negation* of the relevance of knowledge (in its rational, objective, explicit and argumentative form). The hypothesis that I wish to suggest is that this behavior is a form of auto-deception, and particularly to hold that its possibility (and its strategic character) depends from the inductive character of human reasoning.

Elster (1979) is the author most interested in the concept of auto-deception. He poses the question if it is possible *to think and not to think* the same thought, given that the deception itself seems to be finalized to the achievement of a goal of the subject itself. I think that we can plausibly say that just an inductivist epistemology (and psychology) is adapt to deal with this question. There is a large empirical evidence showing that auto-deception is psychologically possible, but this seems to bring either to forms of irrationalism («human mind is not worried when it seems there be contradictions») or to the view that such phenomena are dysfunctional and pathological.

My opinion is that an inductivist epistemology can proceed along these lines. A single linguistic expression can have simultaneously different meanings: *qua* "material" object it is the matter for individual inferences conducted autonomously by the subject (*that* someone says something, can be a vehicle of information). We find in this dimension a most marked inductivist aspect. Its character is syncretism and field-dependence (WITKIN, GOODENOUGH 1981; WAPNER, DEMICK 1991; TAMIR, NADLER 2007; see also KLACZYNSKI 2005).

Qua part of a conventional code, the same linguistic expression is the grounding of most complex meanings, which rely upon a social knowledge concerning the contents of the message. Wilden (1972) explains in a very clear way the relation between digital and analogic: the analogic is the set of the natural processes that contains also just those processes used for the digital itself. This involves that we'll

remain always (obviously) in relation with the analogic dimension (since when we communicate – or we think – we are in "relation" with someone or with a context). But every time we need to give firstly a satisfactory response to the constraints connected with this dimension: we need to remain an "existing" (material) thing among other existing things, and so it is for the messages, that before that can transmit a digital meaning, must be material objects in the world (it's to be considered *e.g.* the economic cost for publishing a newspaper). Afterwards we can consider the digital and conventional meaning – and its utility and pertinence. Even if in our lives there are always conventional languages, Bateson observes that in such codes it's easy *to lie*: in this sense every time we need to be convinced that the conventional meaning of the message is reliable, and *this* – formally – is an analogic process (even if in general it is implicit and automatized). *Before* the communication is occurred, we *can't* know what is the real information, and before we're convinced that a digital code exists (in force of analogic considerations about the context where we are), we can't be interested in the conventional meaning (this priority of course is defined in logical terms).

The psychological meaning of induction entails that we must rely firstly on the empirical existence of communication (and thinking) processes – with all the inductive inferences (implicit as in Pavlovian reflex or explicit) that we can bring about them, starting from the signals that we detect. Then auto-deception should be due to the fact that before thinking (or speaking), we are involved in a very complex action of construction of our thinking (or messages) in their material aspect, and this process *can't* be guided by the knowledge of those information that we *don't* possess now – namely it needs to be guided by the empirical and inductive mastery concerning the signals used to "construe" our thinking. Auto-deception arises when the process stops *before* the digital dimension is achieved. For this way we can see inductive knowledge as an intermediate form of knowledge, between the implicit and the explicit, consenting to save some vantages of subjective auto-deception, but for example with the possibility of constituting more complex behavioral patterns in which a certain measure of "illusion" is preserved only to the extent that it is objectively useful for achieving some goal (we can think to the effects for the analogic communication produced by the falling in love – effects which typically are not very enduring), namely it suddenly retires just where some proper signals (internal or external) occur.

This pattern is developed in a Darwinistic logic, for trials and errors, thus it's clear that there must be several cases where it is not sufficient to select the best kind of response, and often it can drive just to catastrophic effects for the subject. But this doesn't entail that – in its general modality of functioning – it should be considered dysfunctional. Sometimes it seems proper to acknowledge the relevance of the knowledge that *remains* implicit (see also POLANYI 1966).

Bateson faces in suggestive terms this problem: given a "circular" notion of causality, for which «life depends upon interlocking *circuits* of contingency, while consciousness can see only such short arcs of such circuits as human purpose may direct», but «seeing only arcs of circuits, the individual is continually surprised and necessarily angered when his hardheaded policies return to plague the inventor» (BATESON 1972: 146).

In general we can sustain that the (psychological) inductive meaning of a linguistic behavior is different from the (psychological) digital one. The first concerns the material construction of thinking (and the related possible inferences starting from the material aspect of such thinking), requiring firstly to connect the material

constituents of thought, for this could exist; the second can be considered an abstraction obtained from the analogic matter, and it refers (always in imperfect ways) to a virtual model of knowledge of the world given in its objectivity. Each mind needs to produce firstly on a material plan its own representations of the world (obeying in this process to its own subjective inductive associations), using them as rough approximations for making reference to the objective world. Of course the reference to the objective world is necessarily mediated by the material corpus of thoughts, which is construed, step by step, in force of a succession of psychical actions settling at each moment exactly certain associations and not others. The criterion for this construction is inductively-oriented, in a sense in which inductive associations regard physical units (behaviors of the organism) and it is not a form of "reasoning". These processes are the substrate of those neuro-vegetative phenomena that are the ground of nonverbal communication. Cognitive and behavioral processes which are necessary to construe and manage digital codes are inductively-oriented too, but they are very different: they spring from the experience of social relations, which are vehicle of some kind of information that is fundamental but it's not predicable in its own content by the subject alone (just on the ground of this kind of experience, we can say, the psychological notion of "reality" – as independent from the subject – is developed). Therefore its content remains not very determinate, namely inductive inference covers only a part of its general characters (other characters are *not* object of any knowledge: in my conception, *if* something is known, it must be coherent with an inductivist view of the world).

Simply there are different orders of experiences – and of corresponding inductive associations – founding corresponding orders of communication, such as the analogic and the digital, with a very different role of implicit and of explicit in their respective internal logics of functioning.

Outcomes of such kind of inductive practice (applied on social communications) are typically less determinate in their cognitive (digital) content: hypotheses about life contents of other persons, or about their own intentions, are in general very difficult to verify. Really we can notice that the material constitution of the analogic side of communication and thinking is sufficing to *produce* them *qua* concrete actions (*i.e.* in a behavioral sense). Then the lacking of a determinate cognitive (digital) content in correspondence of them can be seen as a consequence of the fact that thinking and communication, in their very nature, are always a form of action, thus with an intrinsically "positive" ontology, and the concept itself of negation is a (psychologically) positive product of a construction (as it is in Piaget, *e.g.* PIAGET 1975): in such a theoretical framework inductive associations can be only between ontological unities which are positively existing, and it's not required the possibility of applying induction on the (purely virtual) contents of our thinking when – in its digital dimension – it effects some logical operation of negation. For this way we can say that our psychological theory of induction *doesn't* entail strictly that digital contents (*qua* such) are to be involved in inductive associations, but the fact that the digital is mediated by the analogic (which is its material support) brings that also our digital representations are (at least in a certain measure) structured accordingly with an inductive logic.

If the effective value of our linguistic (and cognitive) behavior relies so greatly on the analogic, it's a natural consequence to think that words and thinking are properly forms of action (PIAGET 1974b), in the sense that their very meaning and their effects depend on the configuration of the component parts of the individuality of the subject – in relation (adaptive or not) with the characteristics of environment. After

that this is given, the fact that certain configurations are more adapt to the context, can depend from the truth – in relation to a digital code – of the propositions that we say or think.

5. Double bind and individual experience

In this section we can turn our attention to some important cases where these patterns are dysfunctional. The theory of "double bind" is just a topic adapt to apply such an inductivist psychology in a case where empirical and inductive strategies show their limit. In double bind we have a contradictory communication from the mother to her child: in the explicit plan of communication, for example, she says something (*e.g.* «I care for you because I want you are happy»), but in her nonverbal communication she acts as if this was false and she was intrusive only (for example) for exercising a form of control. For Bateson, these situations can be a precursor of forms of schizophrenia. Especially Meins (1997) has associated this view with a cognitive approach (it's significant that she refers often to Piaget). Sluzki and Veròn (1971) have sustained that double bind is a «universal pathogenic situation».

Robert Hinde (1987), Maria Grazia Attili (1991) have developed an interesting conception, for which Bowlby's theory of attachment (that for Marvin and Stewart [1990] is strictly connected to Bateson's concept of double bind) should be, so to say, relativized to the social context which is object of observation. In ethology we can see that among primates a form of attachment that is insecure can be adaptive, since it consents that sons are habituated to contexts where there is a strong competition and many risks, so their instinctive wish of exploration is inhibited. In addition, from our perspective it's particularly interesting to consider the idea that in social organizations which are too simple and not structured, the wish of taking too seriously the digital "contents" of communication would be probably too hazarded: the speakers are almost never interested in them, because there are power relations too relevant in defining the situations where they act, and in general digital codes are useful where there are complex possibilities to be distinguished in communication contents.

Along these lines, we can suggest the following ideas: children refer to their mother in a manner for which she constitutes necessarily an "object" of knowledge. Children haven't got a direct access to their mother's mind and can't "see" her intentions. Just the fact that (as said by Genetic Epistemology) children are "egocentric" obliges their mothers to communicate to them only in an analogic way. In general the message «to be autonomous» can be expressed in analogic codes only by means of the physical *distance*, or by means of *contradictions*. With her son that is a child or an adolescent, the mother can't *say* «be autonomous», but she needs to *show* it – because there are social circumstances requiring a certain level of autonomy, and sons must be habituated to it.

In an empiricist and inductivist perspective, double bind is not due to the contradiction itself: communication processes can use the contradiction just as a functional tool. Luhmann gives a great importance to the role of contradiction in the functioning of systems (LUHMANN 1984: section 9): when our interlocutor contradicts himself, we understand that we can't use information derived from him, namely, that the language in that case is not able to transfer any reliable information. But *this* is too an information, orienting the subject to act without the trust that communication can be in that case a resource. From this premise, the subject can infer that in some cases only personal experience can drive his action – and this can

be an important stimulus to maturation. In Bateson (1972) and Watzlawick, Helmick Beavin, Jackson (1967) double bind takes its roots in communicative contradictions. Developing the idea that double bind is virtually universally present, we can suggest a different idea, for which the grounding of double bind is in the lacking of *empirical* information that the subject can autonomously use. There can be attachment styles based upon a large use of contradiction, and just for this children and adolescents are pushed towards autonomy. But this requires (to be functional) that children can rely on a different source of information, derivable empirically and personally from their own environment. If relational styles of their parents are balanced on different social demands and on different patterns of experience, adolescent can be in difficulties because their own social relations experience is different from that of their parents, but all the same they use relational styles which were proper in the original contexts where their parents lived their youth and that are been interiorized by them. Personal experience of adolescent can be sufficient to acquire those information necessary to integrate linguistic (digital) information, but it's required that parents' and children's sets of experience must be quite similar. Each action (linguistic or not) of their parents, is a potential source of information: analogically it can be seen, for example, as a tool that their parents use to avoid that their son does something (for whatever reason). Digitally it could be presented all the same as an objective information (namely to be read in a literal way). The analogic expedient of forbidding something on the ground of a certain believe (moral or not) relies just on the fact that it's believed the digital meaning of that message. Semiologically, at the moment in which they receive such message, sons can't know if the relevant meaning is that analogic or that digital, and for definition they must choose the interpretation to give by using only their previous personal knowledge: for this it's fundamental the kind of information that children acquire directly from their environment.

There is an *implicit* knowledge in parents' pedagogical patterns, concerning for example the measure in which it may be proper to exercise their own power in the relation with their sons, or also what are the possible resistances that sons can oppose to them when they can actually elude their control. A practice too strongly based on power and control, can reduce the son's life skills development. A different one based on giving to the sons a greater autonomy can put them in dangerous situations. But parents' knowledge of the right equilibrium point can't be "explicit": sons' real autonomy *is* the fact that they are not pushed to act only in "too protect" situations, thus parents *can't* know exactly if some situation is really dangerous for their son, and must base their evaluation on a previous experience derived from their own life (even if its context with its own characteristics is different from the son's).

It can be said that, at the degree that such knowledge remains implicit, it is syncretic, contextual and field-dependence, and conservative. It is based on the resources of relation, and not on those of "knowledge" (explicit and "rational" in a strict sense). When society is most complex, the necessity of dealing with several different social contexts can render quite dysfunctional to rely excessively upon such implicit knowledge, which is most efficacious when the subject limits his own action to not many kinds of context, and thus is not in conditions of interacting with a certain number of contexts which really could be useful to him. If we follow Luhmann we can hold that progressively this knowledge can be remodelled in a way for which it becomes more opened to explicit and digital contents. This depends on the fact that social evolution goes rapidly towards more complex configurations of social relations, according to a process that Luhmann names "sociological enlightenment" (see for example LUHMANN 1981): using the sociological notions of "latent" and

"manifest" functions (MERTON 1949), we can say that moving towards modernity, occidental society goes in the direction of a larger diffusion of legitimacy mechanisms based on explicit (manifest) expression of what were *latent* functions (so *e.g.* in conceptions about religion) – even if the "latent" dimension reproduce itself always in new forms (in a Batesonian and Polanyian spirit, it is a condition for the human life can proceed). In his *Soziale Systeme*, Luhmann (1984) explains that the fact itself that we reason in terms of explicit reasons that should be required for our actions, is all the same an auto-referential construction of the system itself, and «a system can observe only what it can observe. It can't observe what it can't observe. It can also not observe that it can't observe what it can't observe» (LUHMANN 1989: 89), remaining just for this a great room for implicit and latent knowledge.

6. Conclusions

In conclusion, I think we can point up an aspect of this discourse that is philosophically particularly interesting. The physiological functioning of our cognitive and psychic activity requires a systematic involvement of implicit and explicit forms of knowledge. Implicit knowledge is an outcome of an empirical and inductive learning, the explicit knowledge is the result of conceptual and deductive operations conducted by the subject upon the empirical data (see PIAGET 1974a, and my DI PROSPERO [forthcoming(a), (b) and 2009]). Implicit knowledge is a fundamental element in our psychic activity. But it's due to a blind learning. This entails that we *don't understand* the real meaning of our actions. Sociological functionalism shows as there can be systematic mechanisms for which latent functions remain latent, and the manifest ones (those which are believed) are objectively false. Luhmann (1982: 126) cites a romance of Samuel Richardson: *Pamela, or virtue rewarded* (1740-1741). Pamela is a virtuous young woman, *so* she obtains her felicity, but – if she used strategically such a relational style – the other persons would perceive this sham and thus she couldn't achieve her felicity. What are the "real" reasons of her behaviors? We can say that inductively (blindly) she learned the good effects of her good manners, but this means also that she learned to *don't* search the things that really consented her felicity, just in order to *be* happy. If our learning has been "blind", how can we say what are the things that we really try to obtain? Bateson warns us against the "purposive" thinking (BATESON 1972: 146), because in the attempt of fulfilling our goals, we see only short "arcs of circuit" in the circular causality of the systems where we are involved (for definition the "latent" meaning of action must remain obscure), and so we really act against the "natural" course of events. But in this way he can offer only a different formulation of the question, and also the effort of following just his warning may be itself a form of "purposive" thinking: it is applied in order to obtain some achievement, but, at the degree that I rely on empirical (inductive) reasons to defend this line of action, I can't say if I'm a victim just of the latent dimension of the meaning of my action also in this case. It is a "paradoxical prescription": «don't obey any prescription», «don't try to realize your wishes». It may occur that I choose to fulfill it, but this would be only because my experience and my knowledge about the world push me to do so (really, so to say, I'm not respecting the "prescription" itself).

It's significant that also *Also Sprache Zarathustra* is crossed largely just by this kind of paradoxical statements: «I love him who wants to create over and beyond himself and thus perishes» (NIETZSCHE 2006: 48), or, in a different manner, «In one's

friend one should have one's best enemy. You should be closest to him in heart when you resist him» (*ibidem*: 40). The point, according to my analysis, is that the individual looks at the world and judges what should be the "right" criteria to recognize what has to be considered as his real "strength" (or what should be considered as a goal to accomplish), and what are the *parts* of his wishes that are realistic to try to realize, but this judgment relies obviously only on a limited knowledge of the world, and the real tool for acquiring *more* strength can be (paradoxically, at least in relation to the individual's limited perspective) just to *deny* his present criteria to judge what is "strength", namely, in some sense, to "overcome" the main limits of his present humanity. The "power" of a man is itself constituted by a complex set of phenomena and dispositions, which need of being represented and interpreted. "Knowledge" and "strength" (mind – or rationality –, and the material configuration of the physical facts) are deeply entangled and they can't be analyzed as two independent dimensions of a situation. In this paper we've seen what can be their relations in auto-deception and in general in the relational strategies relying upon the offering or the refusal to give information, and what is the role of induction in these processes.

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