The Hard Problems of Consciousness – What exactly is the problem? From Logical Paradoxes to Constructivism.

MIHALY LENART
Department of Biomedical Engineering
University of Miami
1251 Memorial Dr. MCA 219A
Miami, Fl. 33146

AND

ANA PASZTOR *
School of Computer Science
Florida International University
University Park, Miami, Fl. 33199
Fax: +1 (305) 348-3549
lenartm, pasztora@cs.fiu.edu

November 12, 1998

1. Introduction

What is it like for you to be you? This question has long fascinated philosophers and has sparked many heated discussions. At the first conference Towards a Science of Consciousness in 1994 in Tucson, Arizona, philosopher David Chalmers coined the *Easy and Hard Problems of Consciousness*. While the Easy Problem concerns the mechanics of nerves and the brain, the Hard Problem is concerned with issues of phenomenal or subjective experience, in particular the ability to *understand and study subjective experience as if it were a third-person "objective" phenomenon*. Some philosophers, like e.g. John Searle, are committed to the so-called first–person point of view that phenomenal experience is intrinsically private and inaccessible to third person studies. Others, like Daniel Dennett, believe that it is possible to objectively capture everything about a person's subjective experience by experimental analysis of anatomical and physiological correlates of subjective experience, as well as by including introspection into the data gathering process.

In this paper we will present our own view on the Hard Problem of Consciousness.

In order to do so, we will take the reader on a journey which begins with the *conceptual framework of modernism* (section 3.1), in which the Hard Problem of Consciousness is rooted, and which ends with the *conceptual framework of constructivism* (section 4.2.2),

* All correspondence should be addressed to this author

which is congruent with our own beliefs and values and in which we wish to formulate our ideas.

Modernism has been founded on the idea of an objective, generally valid interpretation of the world. We will show (section 3.1.1) that this idea rests on a confusion between reality and representations of reality, or, more generally, on a *confusion between logical levels*. To explain the concept of logical levels, we will discuss paradoxes arising in various types of communication (section 2), specifically Bertrand Russell's theory of logical types, his concept of logical levels of language, and Gödel's incompleteness theorems.

If the notion of an objective science in general, and of an objective, third-person study of subjective experience in particular, rest on a gross confusion, should we perhaps abandon the notion of objectivity altogether?

To answer this question, we will present and then adopt Watzlawick's [84a] notion of two orders of reality (section 3.2): first-order reality of objectively observable facts, and second-order reality of "meanings, significance, and value."

In section 4 we will revisit the Hard Problem of Consciousness and talk about first-order (section 4.1), as well as second-order aspects of subjective experience (section 4.2).

The first-order aspects of subjective experience which we will present in this paper (section 4.1.2) are the rules and patterns that govern the physiological and linguistic manifestations of our experiences. The second-order aspects of subjective experience that we will present in this paper (section 4.2.1) are the results of highly complex relational processes by which external and internal stimuli "become automatically marked" [Damasio, 94] in our nervous systems.

We conclude our paper (section 4.2.2) by discussing and promoting the *constructivist* research paradigm in which research subject and researcher are co-investigators, and together they co-create the subject's phenomenological experience. We will propose that the academia, specifically the hard sciences, can and should not continue to ban the notion of second-order reality, as that would mean denying its own presently happening reality. Finally, we will discuss qualitative research models [Denzin and Lincoln, 94] through the lens of so-called brief therapies. We use brief therapy as a tool to show how we envision future research on subjective experience.

2. Paradoxes

Human communication can be divided into three areas: syntax, semantics, and pragmatics. Syntax is concerned with problems of transmitting information and is the primary domain of information theory. The information theorist is involved with "coding, channels, capacity, noise, redundancy, and other statistical properties of language" [Watzlawick, 67]. Semantics is concerned with the meaning of message symbols. A sentence like "All gwens are porcy" is syntactically correct, as far as English grammar is concerned, but has no meaning unless the people using it agree on one.

The area concerned with the *behavioral aspects* of communication is called *pragmatics*. While traditionally the data that syntax and semantics operate on are the elements of spoken and written languages, the data of pragmatics extend far beyond that to nonverbal languages such as gestures, body posture, and breathing rate, as well as to the context in which communication occurs. From the viewpoint of pragmatics, all behavior, including mental activity, is communication.

There are three types of paradoxes [Watzlawick, 67], each corresponding to the three main areas of communication theory described above, namely syntax, semantics, and pragmatics. First, there are the so-called *antinomies*, which arise in mathematical systems, like e.g., "the set of all sets which are not elements of themselves." Then, there are semantic antinomies or *paradoxical definitions*, like e.g., the liar's paradox or "the least undefinable ordinal," and finally, paradoxes which arise in ongoing interactions between people and are called *pragmatic paradoxes*. In order to see what they all have in common, let us look at them a bit closer.

The three defining characteristics of a logical paradox are *self-reference*, *contradiction*, and *vicious circle* [Hughes and Brecht, 75].

2.1. Syntactic and semantic antinomies

Let us start with Russell's mathematical paradox of "the set of all sets which are not elements of themselves." Let us denote this set by *A*. Now there are two logical possibilities:

1. *A* is not an element of *A*. In this case *A* satisfies the condition of membership in *A*, so *A* is an element of *A*.
2. *A* is an element of *A*. Then *A* doesn't satisfy the condition of membership in *A*, so *A* is not an element of *A*.

So we can see that both logical possibilities lead to contradiction. What is wrong? We notice that *A* refers to both the *set* of all sets which are not elements of themselves, **and** to a (potential) *element* of that set. This causes confusion. Bertrand Russell introduced the *theory of logical types* (A.N. Whitehead and B. Russel, *Principia Mathematica*, Cambridge, Cambridge University Press, 1910), which postulates that "*whatever involves* all *of a collection must not be one of the collection*" [Watzlawick, 67]. The *confusion is one of logical types, or levels*. For this reason, a set of all sets which are not elements of themselves can simply not exist.
When we reason about the *collection of all sets* that are not elements of themselves, we are one logical level up from the level of reasoning about the *elements* of such a collection.

One of the most famous semantic antinomies is that of the man who says of himself "I am lying." Obviously, if the man is telling the truth, then his statement (let us call it *S*) is true, so he is lying. On the other hand, if he is lying, then his statement is false, so he is not lying, i.e. he is telling the truth. Either way we go, we arrive at a contradiction. What

is wrong this time? We notice that statement *S* expresses what the man says, but at the same time it also says something **about** *S*, namely that it is not true. Again, we have a *confusion of logical levels*. Bertrand Russell, in his introduction to Wittgenstein's Tractatus Logico-Philosophicus, suggests "that every language has, as Mr. Wittgenstein says, a structure concerning which, *in the language*, nothing can be said, but that there may be another language dealing with the structure of the first language and having itself a new structure, and that to this hierarchy of languages there may be no limit" [Watzlawick, 67]. Russell's suggestion was later developed by Carnap and Tarski into the *theory of levels of language*. The first level language is called *object language* and its statements are about objects. The second level language is called *metalanguage*, and its statements are about the object language. The third level language is called metametalanguage and its statements are about the metalanguage. And so forth. Returning to the liar's paradox, statement *S* then is both a statement of the object language **and** a statement of the metalanguage. So in keeping with the theory of levels of language, such a statement can not exist, or is meaningless.

In mathematics, the self-reference exhibited by the statement *S* of the liar's paradox, was used by Gödel to prove one of the deepest results of all mathematics, namely his *first incompleteness theorem*. This essentially states that any sound formal system, rich enough to contain arithmetic, will be incomplete, meaning that it will contain a true statement, which, nevertheless, can not be formally be proven to be true within the system to be true. The statement basically states "I am not formally provable within the system."

It is also self-reference that Gödel used to prove his *second incompleteness theorem*, which states that any consistent formal system, rich enough to contain arithmetic, can not formally prove its consistency from within.

Gödel's incompleteness theorems have far reaching impact, the depth of which has probably not been fully understood to this day.

2.2. Pragmatic paradoxes

While syntactic and semantic antinomies have always fascinated people and have actually contributed to the development of logic, pragmatic paradoxes, in particular so-called **double binds** [Bateson, 72], can have a destructive effect on people's behavior and their sanity by challenging their belief in the consistency of their universe.

Watzlawick [67] introduces pragmatic paradoxes in an ingeniously enlightening way. First he recalls the famous barber's paradox which goes like this: in a village the barber is a man who shaves all the men, and only those, who don't shave themselves. The question is "who shaves the barber?"

Now, Watzlawick says, let us imagine that the barber is a soldier who is ordered by his captain to shave all soldiers who don't shave themselves, and only those. What is the

soldier to do? If he shaves himself, then he disobeys the order not to shave himself. If he doesn't shave himself, then he must shave himself according to the order.

What we have is a double bind situation, i.e. a Catch 22 situation:

1. there is a strong dependency relationship between the soldier and his captain,
2. the soldier is given an order which he can obey if and only if he disobeys it, and
3. the soldier cannot step outside of the context of his relationship with his captain to dissolve the paradox by communicating **about** it, i.e. by metacommunicating about it, as that would mean insubordination.

The above double bind situation, however, is less subtle than the ones that Bateson [72] presents to discuss the epidemiology of a schizophrenia. He hypothesizes that the family situation of a schizophrenic (let us call him P) is very much like the following in nature: For some reason, P's mother experiences "anxiety and hostility when she is in danger of intimate contact with the child." But, these feelings of anxiety and hostility toward her child are not acceptable to her, and her way of denying them is to "express overt loving behavior to persuade the child to respond to her as a loving mother and to withdraw from him if he does not." At the same time, there is no one in the family who can "intervene in the relationship between the mother and child and support the child in the face of the contradiction involved."

A double bind situation, as described by Bateson [72], is a situation consisting of the following:

- Two or more people. For the sake of simplicity, let us assume we have only two. One of these is the inflicted and the other is the inflicting person. The inflicted person has a dependency relationship to the inflicting person.
- Repeated experience of the double bind structure.
- A primary negative injunction, mostly *verbal*. The inflicting person threatens to punish the inflicted person if he doesn't do or does so and so. Punishment may be withdrawal of love, expression of anger, or abandonment.
- A secondary injunction, mostly *nonverbal*, **conflicting** with the first one, and enforced by punishment, as well. This second injunction most often is a message commenting on the first. Its subtlety stems from the nonverbal character of the message. It may be a gesture, posture, eye movement, tone of voice, or an action.
- A third injunction conveying that the inflicted must not comment on the conflict.
- A negative injunction or a context prohibiting the inflicted person to step outside the frame of communication and dissolve the conflict.

Bateson's theory of schizophrenia is based on communication theory, specifically on Russell's *theory of logical types* mentioned earlier. Bateson [72] defines schizophrenia as "trouble in identifying and interpreting those signals which should tell the individual what sort of a message a message is, i.e. trouble with the signals of the same logical type as the signal 'This is play.'"

While in mathematical logic we have seen that *one must not breach the discontinuity between a class and its members*, Bateson argues "that in the psychology of real communication this discontinuity is continually and inevitably breached, and that a priori we must expect a pathology to occur in the human organism when certain formal patterns of the breaching occur in the communication between mother and child" [Bateson, 72].

In the family situation of P described above, when the mother begins to feel affectionate and close to P, "she begins to feel endangered and must withdraw from him; but she cannot accept this hostile act and to deny it must simulate affection and closeness with her child. The important point is that her loving behavior is then a comment on (since it is compensatory for) her hostile behavior and consequently is of a different *order* of message than the hostile behavior – it is a message about a sequence of messages. Yet, by its nature it denies the existence of those messages which it is about, i.e., hostile withdrawal."
As a consequence, "P is placed in a position where he must not accurately interpret" the mother's "communication if he is to maintain his relationship with her. In other words, he must not discriminate accurately between orders of message, in this case the difference between the expression of simulated feelings (one logical type) and real feelings (another logical type)."
The child will develop a disability to interpret metacommunicative messages, because he can not face the fact that his mother "both doesn't want him and is deceiving him by her loving behavior. He would be "punished" for learning to discriminate orders of messages accurately" [Bateson, 72]. Moreover, the child will learn to deceive himself about his own subjective experiences in order to maintain his mother's deceptions, and he will generalize this deception to the messages of others.

What if P accepted his mother's simulated loving behavior as genuine? If he did that, he would get close to her, which would trigger her fear and helplessness, and she would want to withdraw. "If he then withdrew from her, she would take this withdrawal as a statement that she was not a loving mother and would either punish him for withdrawing or approach him to bring him closer. If he then approached, she would respond by putting him at a distance. *The child is punished for discriminating accurately what she is expressing, and he is punished for discriminating inaccurately – he is caught in a double bind"* [Bateson, 72].

The only way P can escape from the situation is to communicate about the paradoxical situation his mother has created. But it is clear that the mother would punish him and forcefully claim that his perception of the situation is wrong. Bateson [72] concludes: "The ability to communicate about communication, to comment upon the meaningful actions of oneself and others, is essential for successful social intercourse."

There are various communicational modes of human communication: play, nonplay, fantasy, metaphor, etc. To be able to classify messages according to their modes, we use signals. These are obviously of higher logical type than the messages they classify. These signals or metamessages are communicated mainly nonverbally, by way of physiological and behavioral cues like "posture, gestures, facial expression, intonation, and the context

for the communication of these highly abstract, but vitally important, labels." [Bateson, 72].

Of course there is a range of severities of double bind situations. When both the primary and the secondary messages are verbal, like in the barber/soldier paradox above, then the conflict is explicit and the inflicted person's symptoms are not as severe. However, when the secondary messages are nonverbal, the inflicted person may loose his sense of reality, and he will, even in the cases of exposure to the mildest kinds of double binds, not trust his senses**.

3. The Hard Problems of Consciousness

So far we have talked about different aspects of human communication. But what is communication, what do people communicate?

When P's mother, in the double bind situation discussed above, withdraws from him upon his getting closer to her or upon experiencing affection, she is communicating her *anxiety* and *hostility*. When she denies these and simulates loving behavior, she communicates that for whatever reason, she doesn't accept her anxiety and hostility. On the other hand, P's inability to communicate about the contradiction between his mother's real and false feelings, is an expression of his *dependency* on her and his *fear* of being punished. These people are communicating – verbally and nonverbally - their states of minds, their emotions, their beliefs and desires – in short, their respective *phenomenal or subjective experiences*. In fact, communication *is* subjective experience, as we will see later.

Philosophers have long been fascinated by the privacy of subjective experience and by its inaccessibility to others. They have been fascinated with the "solitary confinement" implied, according to most of them, by the *qualia* – the intrinsic properties of subjective experience, "where it is never the case that anything of which I am sensorily aware is numerically identical with anything of which you are sensorily aware" [Honderich, 91]. Naturally then the question arises of whether and to what extent we can tear down "the wall" of qualia and make them cognitively penetrable to ourselves and others, and thus "dissipate the 'magic' in the phenomenological garden" [Dennett, 91].

At the first conference Towards a Science of Consciousness in 1994 in Tucson, Arizona, philosopher David Chalmers coined the by now notorious Easy and Hard Problems of consciousness. The Easy Problem concerns the mechanics of nerves and the brain, while the Hard Problem is concerned with issues of phenomenal or subjective experience. One of the issues in the latter category is the ability to *understand and study subjective experience as if it were a third-person "objective" phenomenon*. Some philosophers, like e.g., John Searle, are committed to the so-called first–person point of view that phenomenal experience is intrinsically private and inaccessible to third person studies. Others, like Daniel Dennett, believe that it is possible to objectively capture everything

** Ironically, double binds have been used successfully in the context of therapeutic intervention [Ascher, 89].

about a person's subjective experience by experimental analysis of anatomical and physiological correlates of subjective experience, as well as by including introspection into the data gathering process.

So on whose side are we? It is very tempting to side with Dennett, especially in view of the richness of the physiological and linguistic manifestations of subjective experience, which we will address in section 4.1. In fact, Pasztor [98] argued in favor of Dennett. In what follows we will explain our present viewpoint, which is neither that of Searle, nor that of Dennett.

As any "good evidence" for one's viewpoint "depends on the paradigm in which one is immersed" [Gergen, 91], we will first discuss some relevant paradigms, including the ones which we have chosen to immerse ourselves in.

3.1. The modernist approach

Throughout the history of philosophy, world views came into fashion, faded, and then flipped into their opposite. While romanticism was ruled by the heart and the soul, *modernism*, which emerged as the Western culture moved into the twentieth century, has been ruled by reason and observation. As the romantic worldview was fading, objective truth was to take its place. "The idea is seductive in its apparent simplicity and clarity: Whoever succeeds in comprehending nature's intrinsic order, in its existence independent of human opinions, convictions, prejudices, hopes, values, and so on, has eternal truth on his side" [Watzlawick, 84a].

This idea extends even to the study of human nature. "For the modernist," Gergen [91] comments, "the 'murky interiors' of romanticism no longer compel. The person is there, open to observation – 'What you see is what you get' – and if you apply systematic powers of reason and observation you can know what sort of character you are dealing with."

It is easy to recognize modernism as the paradigm in which the Hard Problem of Consciousness has arisen. Neuroscience and neuropsychology have reached new heights, brain-imaging techniques have become more and more accurate and sophisticated, and we are able to harness brainwaves to control our environment. On the other hand, modernism has created lie-detectors, multiple choice and personality tests, and has coined the attention deficit disorder. "Based on the assumption that people are basically consistent or stable through time, that their essences will manifest themselves like a fingerprint or a birthmark, personality tests have flowered across land." [Gergen, 91]

3.1.1. The double bind of objective science

We have seen in section 2.1 when discussing briefly Gödel's theorems, that any system complex enough to contain arithmetic, is incomplete, i.e., can not prove all truths, and is

unable to prove its own consistency.*** The explanation for this was given through the theory of logical types: whenever a class and its elements are not strictly distinguished, a paradox of the sort presented in section 2.1 arises.

For this reason "The map is not the territory; the name is not what it names; an interpretation of reality is only an interpretation and not reality itself. Only a schizophrenic eats the menu instead of the foods listed on the menu." [Watzlawick, 84a]

It is therefore a gross confusion of logical levels to talk about objective science, or, for that matter, objectivity of any thought system. It is a confusion of reality (whatever that means) with a representation of reality. This confusion has created its own "language that has become obligatory" [Watzlawick, 84a]. (In mathematics, e.g., writing papers in first person singular is a no-no.) "Many of our major problems in society result from taking seriously such terms as *reality, authenticity, true, worthwhile, superior, essential, valid, ideal, correct*, and the like. None of these otherwise awesome distinctions possesses transcendent foundations; they are all constructions of particular language communities, used for pragmatic purposes at a particular moment in history" [Gergen, 91].

In modernism quantitative research rules over qualitative research - see [Denzin and Lincoln, 94] and section 4.2.2 herein. In math and science emotions, intuition, and insight are banned from any publication - the reader is never given any hint about subjective experiences that helped the author arrive at the respective results.

"[T]he concept of an ultimate, generally valid interpretation of the world implies that no other interpretations can exist beside the one; or, to be more precise, no others are permitted to exist. For otherwise, we would find ourselves in a universe in which finally everything would be true, including its opposite. Where the ideology tries to refer back to itself in order to establish its validity and truth from within itself, a blind spot arises […]"[Watzlawick, 84a].
This is reminiscent of the joke about the rabbi who had to rule in a case of a theft. The defendant said: "The egg was laid by my chicken, so it is mine." "You are right," replied the rabbi. The plaintiff said: "But the chicken laid the egg on my side of the fence, therefore the egg is mine." To which the rabbi replied "You are right." Hearing this, someone in the audience interfered: "But rabbi, it is not possible that both are right." To which the rabbi replied "You are right, too."

Gergen [91] points to a direct "relationship between claims to truth and the distribution of power in society." Those in power, including those who control our educational curricula,

*** Gödel's theorems have often been generalized in this manner to make important philosophical arguments, without realizing or acknowledging that these theorems and their proofs have themselves validity only within a particular mathematical framework. This framework, like any framework, is built on certain axioms or presuppositions (like, e.g, the axiom of the excluded middle). Obviously, if we step outside of the conceptual framework of Gödel's theorems, we have no right to apply these theorems. The reader is also referred to Gabriel Stolzenberg's contribution in [Watzlawick, 84]: "Can an Inquiry into the Foundations of Mathematics Tell Us Anything Interesting About Mind?"

are “those who know,” and the systems they control, including the educational system, operate “to sustain the existing structure of power.”

How does a system react to threats to its claimed possession of absolute truth and consistency? Not surprisingly, it reacts similarly to P’s mother in the *double bind* situation described in section 2.2., who feels threatened by P’s intimacy and closeness. “It is inherent to the concept of paranoia that it rests on a fundamental assumption that is held to be absolutely true. Because this fundamental assumption is axiomatic, it cannot and need not demonstrate its own veracity. Strict logical deductions are then made from this fundamental premise and create a reality in which any failures and inconsistencies of the system are attributed to the deduction, but never to the original premise itself” Watzlawick [84a].

This is reminiscent of the following classic: A man asks the rabbi “Rebbe, if a buttered slice of bread falls on the ground, on which side will it land – on the buttered or on the other side?” “Well, says the rabbi, I have to consult the big book - come back tomorrow, and I’ll tell you.” Our man comes back the next day and the rabbi tells him that according to the big book the bread will always land on the unbuttered side. The man goes home, and lo and behold, one day his buttered slice of bread falls on the ground and lands on the buttered side. He gets very upset, immediately runs to the rabbi and tells him “Rebbe, my buttered slice of bread just fell and it landed on the buttered side – oy wey, the big book was wrong!” To which the rabbi replied: “My son, the big book is never wrong, it is *you* who buttered the wrong side of the bread!”

If the notion of objective science rests on a gross confusion, shouldn’t we then abandon the concept of objectivity?

Gergen [91], in studying the *postmodern* view of the self, comments: “modernist foundations of objective knowledge, so central to the institutions of science and education, are rapidly eroding.”

3.2. First-order and second-order realities

A stone will sink if thrown into the water, no matter who it is done by, when and where. So, the observation that a stone sinks if thrown into water *is* objective in the sense that the same will be observed by anybody, anytime and anywhere. Therefore, abandoning the concept of objectivity altogether would mean throwing out the baby with the bath water.

Watzlawick [84a] comes to our rescue. He distinguishes two different aspects of what we call *reality*. First, there is the *reality of the first order*. This is “the universe of ‘facts’ which can be established objectively in as much as the repetition of the same experiment yields the same result independently of by whom, and where the experiment is being carried out.”

However, the *meaning* that a stone sinking in water has for a person is not reproducible. A person A may have fond memories attached to the stone, and so he may become sad

when it sinks, while a person B may believe that the stone has always brought him back luck, and so he is happy when it sinks. “The aspect of reality in the framework of which meaning, significance, and value are attributed is called *reality of the second order*. While it is sensible in the area of first-order reality to examine, in the cases of differences of opinion, whose opinions do justice to the concrete facts and who is wrong, in the sphere of second-order reality it is *senseless to argue about scientifically established ‘truth’ or to claim to have found it* [italics ours]” [Watzlawick, 84a].

Earlier, in section 3.1., we said that the Hard Problem of Consciousness is obviously a creation of the modernist paradigm. But what happens if we take a new look at it in the light of the paradigm of two orders of reality? Obviously, the idea of an objective study of subjective experience, as proposed by Dennett, rests upon a confusion between first- and second-order realities. In introducing us to the *postmodernist paradigm*, Gergen [91] comments: “the crisis in the academy about beliefs in objective knowledge has profound implications for beliefs about self.” It seems that postmodernism has adopted Watzlawick’s [84a] view of the first- and second-order realities:
“We are not dealing here with full-scale abandonment of the concept of objective truth. The argument is not that our descriptions of the self are objectively shaky, but that the very attempt to render accurate understanding is itself bankrupt” [Gergen, 91].

4. The Hard Problem of Consciousness revisited

Regarding our own view on the question of a third-person, objective study of subjective experience, we adopt Watzlawick’s notions of first-order and second-order realities, with the tacit understanding that even what he calls “first-order reality” is merely about a *representation* of reality - however, a representation which is universal across all humans.

So then the following question arises: Which aspects of subjective experience are first-order, and which are second-order ones? It is the goal of the current section to answer this question.

4.1. First-order aspects of subjective experience

Going back for a moment to the double bind situation described in section 2.2, let us note that part of what makes it possible to create such a situation is the mother’s belief that she can deny her spontaneous physiological responses to fear and hostility and simulate a response that she would prefer to have. If a person says “I feel hostile towards you,” then that person would most likely not try to deny what she said, since she knows that her sentence has a very clear, unambiguous meaning - one can look up in a dictionary the words in her sentence and find out what they mean. In the case of a *nonverbal* communication or message of hostility, however, there is no dictionary to look that message up in. We all have an intuition about what a physiology of hostility is like, but it is not something that is taught in schools or that we can find in a textbook.

Watzlawick [72] differentiates between *digital* and *analogic* communication. “Analogic communication,” which he classifies as all nonverbal communication, “has its roots in far more archaic periods of evolution and is, therefore, of much more general validity than the relatively recent, and far more abstract, digital mode of verbal communication.” And yet, it seems that people are not aware of the *rules and patterns governing nonverbal communication.*

While verbal communication is a more recent development in human history, it has been studied and analyzed to a great extent as opposed to the “archaic” nonverbal communication that is still an unexplored territory left largely to intuition. While parts of this intuition seem to be culture and language dependent, other parts are universal or generic. (Intuition even seems to cross not only cultural and language boundaries, but also boundaries between species, otherwise it would be hard to explain how dogs or other animals can recognize the intent or mood of their human companions.)

Obviously, each form of communication has its advantages and disadvantages. People constantly *translate* from one form of communication to the other to be able to make use of the advantages of both and compensate for the deficiencies of each. In doing so, they may encounter difficulties, like in the case of the double bind situation.

While verbal communication has a well-studied, unambiguous syntax, nonverbal communication is generally thought of having no adequate syntax. In this section, however, we will present a model of subjective experience according to which nonverbal communication like e.g., body posture, accessing cues, gestures, and eye movement, has an unambiguous syntax as well. We are going to talk about an objectively observable *correlation* between people’s behavior patterns and their subjective experience, which, as such, has its place in *first-order reality*. We will also discuss a similar correlation between language patterns and subjective experience.

But first we need to introduce some building blocks of subjective experience.

4.1.1. Some building blocks of subjective experience

According to Damasio [94], at each moment in time our subjective experience is represented by what he calls an “*image*”: a visual image, i.e. an internal picture, an auditory image, i.e. sounds (digital or analog), a kinesthetic image, i.e. a feeling, an internal smell or taste, or, a combination of these, called synesthesia.

When we perceive, we form “images of varied sensory modalities,” which Damasio [94] calls “em perceptual images.” But when we remember or make plans, we also make “images, regardless of whether they are made up mostly of shapes, colors, movements, tones, or spoken or unspoken words.” Damasio calls them “recalled images.”

So our subjective experiences are manifested (consciously or unconsciously) in our *sensory systems*: visually, auditorily, kinesthetically (for the sake of simplicity, we include here external and internal feelings, as well as taste and smell).

Some people argue that they don't think in images, but rather in words or abstract symbols. But "most of the words we use in our inner speech, before speaking or writing a sentence, exist as auditory or visual images in our consciousness. If they did not become images, however fleetingly, they would not be anything we could know. This is true even for those topographically organized representations that are not attended to in the clear light of consciousness, but are activated covertly." [Damasio, 94]

Damasio [94] goes as far as to require as an essential condition for having a mind the ability to form internal (visual, auditory, olfactory etc.) images, and to *order* them in the process we call thought. His view is that "having a mind means that an organism forms neural representations which can become images, be manipulated in a process called thought, and eventually influence behavior by helping predict the future, plan accordingly, and choose the next action."

Each sensory modality is designed to 'perceive' certain basic qualities of the experience it represents. These include characteristics such as

1. *for the visual modality:* location, size, color or black and white, degree of illumination, degree of clarity or focus, presence or absence of movement etc.,
2. *for the auditory modality:* external or internal orientation, voice or other, location, rhythm, relative pitch, volume, tempo etc., and
3. *for the kinesthetic modality:* pervasiveness of body area involved, the number of sequential units or of body sensations in the sequenced experience, intensity, density, temperature, pressure differentiations.

These qualities are called ***submodalities*** [Bandler and MacDonald, 88], since they are sub-components of each of the sensory modalities.

Submodalities play an important role in determining the ***meaning*** of our experiences. For example, think of a pleasant experience you had. Now slowly change submodalities of your memory like (visual:) the location on your internal "visual screen", the size, the degree of brightness, the degree of focus, the movement etc.; (auditory:) the location, the relative pitch, the volume, the rhythm etc.; (kinesthetic:) the speed of movement from the body area it starts from to the one it ends at, the duration, of the sensation, the pressure differenciations etc. Notice whether and how each change in submodality changes the meaning of, i.e., the emotions derived from your memory.
Another example: when asked to describe the cognitive processes involved in e.g. *anticipating* versus *hoping* for an event, most people report that in anticipating they have steady images of the event, while in hoping they experience a mental flipping back and forth between images of the event they were hoping to happen and images of the events they did *not* want to happen. By holding still the image of the event hoped for, they experienced anticipation instead of hope. Similarly, it is impossible to maintain an emotion of impatience and at the same time experience a slow *tempo.*

How do we actually tell apart reality from imagination, in other words perceptual images from recalled images? According to Bandler and MacDonald [88], it is the submodalities

that help us do so – each person has a "*reality strategy*" which tells them (mostly on an unconscious level) what kind of submodalities go with perceptual images and what kind with recalled images.

Sequences of images go by so very fast, that people usually are not aware of them. If you ask someone who had pizza for lunch "How do you know that you didn't have quiche for lunch?" they will often say "Because I remember," but they will rarely say something like "The qualities (submodalities) of the images involving the pizza are different from those involving the quiche, and according to my reality strategy it is obvious I had pizza." But introspection with awareness of the images which make up our subjective experiences can be learned and taught, and reveals a very rich structure of these experiences, which we used to think of as being atomic.

Dennett [88] agrees:

> This putative grainlessness, I hypothesize, is nothing but a sort of functional invariability: it is close kin to what Pylyshyn (1980,1984) calls *cognitive impenetrability* [...] so what counts for an individual as the simple or atomic properties of experienced items is subject to variation with training [...] Consider the results of 'educating' the palate of a wine-taster, or 'ear training' for musicians. What had been 'atomic' or 'unanalysable' becomes noticeably compound and describable [...].

4.1.2. Towards a syntax of behavioral manifestations of subjective experience

The elements of subjective experience we presented in the previous section deal primarily with cognitive processes. These processes cause "changes in body state - those in skin color, body posture, and facial expression, for instance - [which] are actually perceptible to and external observer. (Indeed, the etymology of the word [emotion] nicely suggests an external direction, from the body: *emotion* signifies literally 'movement out')" [Damasio, 94]. "These physical reactions are important for the teaching or development of certain mental processes as well as for the external observation and confirmation of them" [Dilts, Dilts and Epstein, 91].
The primary behavioral elements involved are:

- Body Posture.
- Accessing Cues.
- Gestures.
- Eye Movements.
- Language Patterns.

Here are some examples from [Dilts, Dilts and Epstein, 91]:

Leaning back with head and shoulders up or rounded, shallow breathing indicate the use of visual, body leaning forward, head cocked, shoulders back, arms folded indicate the use of auditory, while head and shoulders down, deep breathing indicate the use of kinesthetic representations.

According to Dilts, Dilts and Epstein [91], "When people are thinking, they cue or trigger certain types of representations in a number of different ways including: breathing rate, non-verbal 'grunts and groans,' facial expressions, snapping their fingers, scratching their heads, and so on. Some of these are idiosyncratic to the individual and need to be 'calibrated' to the particular person. Many of these cues, however, are associated to particular sensory processes."

High shallow breathing, squinting eyes, voice higher pitch and faster tempo are some visual, diaphragmatic breathing, knitted brow, fluctuating voice tone and tempo are some auditory, while deep abdominal breathing, deep breathy voice in a slower tempo are some kinesthetic cues or triggers.

Eye movement is not at all random. There are patterns in our eye movement, which, like other physiological patterns mentioned above, reveal the structure of our subjective experience. For details see [Dilts, Dilts and Epstein, 91].

Regarding *gestures*, "People will often touch, point or use gestures indicating the sense organ they are using to think with" [Dilts, Dilts and Epstein, 91). Thus *touching or pointing to the eyes, gestures made above eye level* indicate the use of the visual, *pointing toward or gesturing near the ears, touching the mouth or jaw* indicate the use of the auditory, *and touching the chest and stomach area, gestures made below the neck* indicate the use of the kinesthetic modality.

Metaphors used by people to express their subjective experiences are understood as (linguistic) cues to the strategies and submodality distinctions they are using. "People tend to speak in predicate sets (verbs, adverbs and adjectives) that specify the representational systems they are attending to consciously and that provide information about the submodality distinctions they are making" [Bandler and MacDonald, 88].

Below is a sample of such verbal cues (c.f. [Bandler & MacDonald, 88]).

VISUAL	
Things were blown out of proportion.	It just appears flat and meaningless.
My job seems overwhelming.	I'm glad we see eye to eye.
Life is so drab.	Everything keeps spinning around and I can't seem to focus on one thing.
I need some distance from it.	It's too vague even to consider.
He's had a colorful past.	It's off in the left field somewhere.
That throws a little more light on it.	The image is etched in my memory.
It all seems so hazy.	I just can't see myself being able to do that.
I don't know, it just flashed on me.	He's got me up on a pedestal.
When you said that I just saw red.	She cut him down to size.
That brightens up my day.	I'm moving in the right direction.
Well, when you frame it that way, yes.	I can't face it.
She has a sunny disposition.	It's not a black and white world.
That hits too close to home for comfort.	This is top priority.
I need to bring things more into perspective.	Let's look at the big picture.

AUDITORY	***KINESTHETIC***
The right decision was screaming at me.	It's got a slimy feel to it.
She gives me too much static.	He's hot.
It's just a whisper.	She's a cold fish.
If I nag myself long enough, I'll do it.	Whenever I hear that, my stomach knots up.
There is too much discord in our relationship.	The pressure is off.
I hate that whining part of myself.	The whole thing weighed on my mind.
Got you, loud and clear.	I'm off center, like everything is out of kilter.
We need to orchestrate our vacation.	I'm trying to balance one against the other.
It came to a screeching halt.	Yeah, I feel up to it.
I keep telling myself, "You can't do anything right."	
It's too off-beat.	

The physiological and linguistic cues described above are all, in our view, first-order aspects of subjective experience. They are independent of the "who, when, and where." Referring back to the Hard Problem of consciousness, these cues can and should be studied objectively. We also want to emphasize that these cues are by no means the only first-order aspects of subjective experience. There are a great number of other linguistic and physiological *patterns* which correlate to people's motivation, convincing and other strategies, to their value and belief systems, and to many more elements of their subjective experience.

4.2. Second-order aspects of subjective experience

Let us recall that second-order reality is "The aspect of reality in the framework of which meaning, significance, and value are attributed []" [Watzlawick, 84a].

Suppose we knew every first-order fact there is to know about a person. Would we be able to know what it is like to be that person?

To answer this question, we recall Dennett's [91] thought experiment of swapping qualia. It is about an imaginary device featured in the science-fiction movie Brainstorms (see [Dennett, 91] pg. 390). This device fits on person A's head and feeds A's visual experiences, say, into person B's brain via a cable. Now B reports accurately everything he sees and A is looking at, except the sky now looks yellow, the grass red, and so on. Dennett [91] goes on to imagine that the plug is pulled on the connecting cable, inverted by 180 degrees, and reinserted in the socket. B now report the sky is blue again, the grass is green, and so on. The question is "which one is the right orientation of the plug?" To answer this, we would have to tune the "fidelity" of the device, Dennett argues, or calibrate it by "the normalization of the two subjects' reports, so we would be right back at our evidential starting point."

In other words, "*Every decoding is another encoding*" (Gergen [91] citing the literary analyst Morris Zapp – italics ours).

Part of what makes the encodings of each of us different is our *reactions to experiences.* The system of elements that determine a person's reactions, on the other hand, is so complex, that it is impossible to ever know it. In the next sub-section, we will take a closer look at these reactions.

4.2.1. Anchors

In this section we will argue (see also [Pasztor, 98]) that one's reactions to an experience constitute the *subjective meaning* of that experience, and as such, can not be separated from the experience. This meaning, in turn, determines our subsequent subjective experience. So the present mental representation serves as an *anchor* for the next mental representation. For example, you hear X's name, this triggers your remembering X's face close up, somewhat distorted, and pinkish red, which, in turn, triggers a negative feeling. Alternatively, you also could hear someone say X's name in a really small, squeaky "Mickey Mouse" voice, which would perhaps trigger a small visual image of X against some background, which, in turn might trigger a feeling of unease.

Anchoring refers to the phenomenon of any mental representation triggering another mental representation or a sequence of mental representations. According to [Dilts *et al*., 80], "A basic assumption behind anchoring is that all experiences are represented as gestalts of sensory information [...].Whenever any portion of a particular experience […] is reintroduced, other portions of that experience will be reproduced to

some degree. Any portion of a particular experience, then may be used as an anchor to access another portion of the experience."

The *link* from a mental representation of our experience at a time point *t* to a representation of our experience at a time point *t+1* is established through anchoring. Anchoring is basically a cognitive extension of the stimulus-response process of behaviorism. An anchor represents perceptual or recalled sensory information which was the original stimulus to the experience associated to the stimulus. The *creation* of an anchor, as well as its association to a response happens through learning and depends on various highly complex *subjective, social, cultural* and other factors also captured in Searle's [92] notion of the Background.

Looking at the neural basis of subjective experience, Damasio [94] offers a refined view of our view of anchoring, whereby feelings, although being "just as cognitive as any other perceptual image," are part of every response and play a distinctive role as such. We will present this view below.

As we have said previously in section 4.1.1., subjective experience of an event is expressed as mental images, be they verbal or nonverbal. These images are constructed "under the guidance of dispositional representations held in distributed manner over a large number of higher-order association cortices" [Damasio, 94], and serve as an anchor to our response to (i.e. the meaning of) the represented experience. According to Damasio's hypotheses, this response consists of three parts:

1. Acquired prefrontal dispositional representations, which "embody knowledge pertaining to how certain types of situations usually have been paired [i.e. anchored] with certain emotional responses, in your individual experience" respond to the processing of images in an automatic manner.

2. This response then is signaled to the amygdala and anterior cingulate, where dispositional representations in turn respond by causing an "emotional body state," which includes a state of the viscera "most commonly associated with the type of triggering" event, physiological cues like "facial expression and body posture" - an expression of the the state of the motor system, chemical actions of the endocrine and peptide systems, and activation of certain neurotransmitter nuclei in the brain.
3. The "emotional body state," or simply emotion, is being signaled back to the brain through nerve terminals, resulting in feeling your emotional states, which, according to Damasio [94], means becoming conscious of them. This, he says, "offers you *flexibility of response based on the particular history of your interactions with the environment*."

Feelings, according to Damasio [94], are of two kinds: background feelings and feelings of emotions. Emotions on the other hand, are primary - those which we experience early in life, and secondary - those which we experience later in life. Anchoring then is manifested in *secondary emotions* which occur once we begin experiencing feelings and

forming *systematic connections between categories of objects and situations, on the one hand, and primary emotions, on the other*." [Damasio, 94].

In conclusion, Damasio [94] offers a view according to which each sensory representation of an experience triggers an emotion, which, in turn, triggers a feeling of that emotion. "That process of continuos monitoring" he says, "that experience of what your body is doing *while* thoughts about specific contents roll by, is the essence of what I call a feeling. [...]*the essence of feeling an emotion is the experience of such changes in juxtaposition to the mental images that initiated the cycle*."

According to Damasio [94], the so-called *somatic markers* are our true decision making devices. They are created during our life through anchoring. Like all of our other responses to internal and external stimuli, they are "acquired by experience, under the control of an internal preference system and under the influence of and external set of circumstances which include not only entities and events with which the organism must interact, but also social conventions and ethical rules."

Our internal preference system consists of "mostly innate regulatory dispositions, posed to ensure survival of the organism."

The external set of circumstances on the other hand, consists of the context in which we live: "the entities, physical environment, and events relative to which individuals must act; possible options for action; possible future outcomes for those actions; and the punishment or reward that accompanies a certain option, both immediately and in deferred time, as outcomes of the opted action unfold."

Anchoring then can be defined as the "interaction between an internal preference system and sets of external circumstances" - a process by which stimuli "become automatically marked."

Are anchors indeed second-order aspects of subjective experience? To determine a person's anchors, we would have to recreate the person's entire history. However, this is impossible due to the complexity of the person's developmental process.

Recently, the study of complex adaptive systems, such as the central nervous system, has become a major interdisciplinary research area. The resulting models have, however, provided little help, if any, to understand complex processes in detail. In fact, it has become obvious that due to the uncertainties in such processes, recreating details is completely futile. Another characteristic of complex processes is that even minuscules changes in the initial parameters result in large discrepancies later in the process. Nevertheless, this research, spearheaded by the Santa Fe Institute, is exciting because it presents a major shift from the traditional reductionist approaches of science to provide, for the first time, a new understanding of complex adaptive systems such as the stock market, urban traffic, the weather, the immune system, or the evolution of individuals and of species.

4.2.2. Conclusion: co-created reality

Let us go back one more time to the double bind situation described in section 2.2., to the dance of alternating push-pull steps in which mother and child co-create their respective subjective, albeit terrible, realities.

Although it is common sense that our subjective experiences are interwoven in a tapestry of relationships, the academia has been slow to open up to a new era - the postmodern era, in which "the self is redefined as no longer an essence in itself, but relational" [Gergen, 91]. With the new era, a new research paradigm has been evolving, the so-called qualitative research paradigm [Denzin and Lincoln, 94]. While quantitative research methods are very well suited for the study of first-order realities, qualitative research models have been designed for the study of second-order realities.

Qualitative research methodologies, as complements to quantitative ones, allow different aspects of behavior to be illuminated through the use of different perceptual positions and through a different set of presuppositions about the nature of subjective experience, the relationship between the observer and the observed, and the nature of reality.
In qualitative research the researcher is a part of the system to be influenced, "[s]ubject and object are inextricably linked" [Gergen, 91], the research subject and the researcher are co-investigators, and together they co-create the subject's phenomenological experience. Reality, like subjective experience, is not an objective entity, there to be discovered. Reality is subjective, it is co-constructed by the individual jointly with whom he relates to. Questions like "is X true?" or "is X good?" don't make sense. Questions we ask are "what is your intent?" and "is X useful in order to reach that intent?"

Even though qualitative research methods are slow to be accepted in the academia in general, second-order reality is the *subject* of the so-called soft sciences, such as social sciences or psychology. The so-called hard sciences, such as physics, chemistry, economy, biology, or mathematics, are often thought to be concerned only with first-order reality. Ignoring or neglecting second-order reality is the topic of science fictions about the secluded scientist coming into conflict with society, moral, ethics, or even his own consciousness. It has also been beautifully dramatized Dürenmatt's The Physicists.

Even though quantum physics, in particular Heisenberg's Uncertainty Principle, has changed the notion of "objective reality," the prevailing view in hard sciences is still the Platonic concept of a world existing independently from us, the properties of which we can experience only indirectly through perception. This view not only excludes the notion of influencing or changing the world by studying it, but it also excludes the relationship between the scientist and his research subjects.

A fact often being overlooked is that scientific endeavors are interactions involving communication between scientists and their environment. Even though the self-declared purpose of science is to observe, analyze, and understand the world without changing it, this purpose proves to be an illusion. Not only do scientists change their environment as

they try to unlock nature's secrets, but the environment also changes scientists and ultimately science, as well. An example is economy where studying the market gives rise to certain economy models. These models predict a certain market behavior, but the predictions themselves cause changes in the market's behavior. This change prompts for new models, which again impact the market's behavior, etc. Market behavior and the scientific world studying it are intimately interrelated and co-evolve simultaneously.

Coming back to subjective experience, the difference between a modernist and a *constructivist* approach to subjective experience is nowhere as clear as in therapy. People go to a therapist to have their subjective experience "fixed." While traditional therapy represents the modernist approach, the so-called *brief therapies* represent the constructivist one (see also [Hale-Haniff and Pasztor, 98]).

Most brief therapy models have their origins in the work of Gregory Bateson [72, 79] and Milton Erickson [Bandler and Grinder, 75], [Grinder, DeLozier, and Bandler, 77]. They relate to traditional ones as qualitative relates to quantitative research.

One of the main differences between traditional and brief therapies lies in the therapist - client relationship. In traditional therapy this relationship is a hierarchical, authoritarian one. In brief therapies it is a collaborative one.
Temporarily traditional therapies tend to focus on the past, while brief therapies on the present to future. Traditional emphasize causes and problems, while brief therapies solutions and possibilities.
The traditional therapist uses normative standards to judge or assess whether a person is "normal" or not (using questionnaires, diagnoses, labeling). In brief therapies the clients serve as their own norm, as their normative reference point.
A further difference lies in who sets the goals. In the traditional model the therapist is an expert, serving as a guardian for society to help correct people and make them "normal." The therapist sets the goals, the values, the assumptions, and it is her job to decide when the client is done with the therapy, what he should be feeling, thinking. In brief therapy the therapist and the client set the goals together, with more emphasis on the client.

One of the main and most profound differences between traditional and brief therapies – a difference which we will come back to later - is that the first focuses on *content*, or, as Bateson [Bateson, 72] would call it, first order learning, while the latter focuses on *process*, or again, as Bateson would call it, second order learning of patterns. Traditional therapy, because of its orientation, tends to gather an immense amount of content data. The therapist has content laden conversations with the client. Brief therapy limits the amount of data, because there is not an assumption that there is a linear relationship between the perceived cause of the problem and its consequences in the person's life. So because of that, the elicitation process is very different.

While traditional therapy is individualistic, brief therapy is systemic.
That doesn't mean that there isn't a place for eliciting phenomenological experience, but it is always situated in a relationship of some sort. It could be how a person relates to himself or to other people.

In traditional therapy, the therapist's position is a dissociated, third person position, a position of modified judging and evaluating, and there is also a presupposition that there is one right answer, one correct way to be, instead of many possibilities, as in brief therapies.
More generally, the traditional therapy model assumes that there is one reality, and the client has the wrong one while the therapist has the right one. Brief therapy assumes a constructionist, collaborative approach. Traditional therapy assumes that reality is, and just needs to be accepted or found or discovered. Brief therapy assumes reality didn't happen yet. Therapist and client co-construct reality.

A major tool hereby, as we have mentioned above, is helping clients express their experiences in terms of process based, as opposed to content based, distinctions. For example, saying "I am angry" is a content based description, while saying "when I saw the look on that person's face, I felt a sudden pain in the pit of my stomach, and as the heat rose up into my throat, I could feel my breathing become more rapid and my head finally got so hot, I exploded," is a process based description. Similarly, saying "I feel joy" is a content based, while saying "when I saw that painting I felt a sudden warmth wrapping my hart, and as it spread to my stomach, my limbs and my throat, I could feel my breathing become deeper …" is a process based description.
In a way, what an elicitation in brief therapy does, is take what was a private experience and make it shared so it can be then put into language. (We don't say "verbalized" on purpose, since that would ignore the non-verbal elements of language which play an overwhelmingly important role in the elicitation process.) Once it is put into language, people feel that they can understand it and they can talk about it in a meaningful and demystified way.

The most important distinctions used in the process of elicitation are *submodality distinctions* (see section 4.1.1).

Besides using cues, the therapist also uses questions to elicit a person's subjective experience. To give the reader an idea of what we are talking about, here is a sample of such questions, as implemented by Bandler and MacDonald [88]. Each submodality distinction in each sensory modality is accompanied by possible questions that can be used to elicit the respective distinction.

(***Visual***:) Location (Where in your visual field is the image? More to the left, center or right?); Size (How big is the picture? - ask for specific, estimated size, like 11" x 14"); Focus (Is the image sharp in focus or is it fuzzy?); Detail (Are there foreground and background details? Do you see the details as part of a whole or do you have to shift focus to see them?); Color/black and white (Is it in color or black and white? Is it full color spectrum? Are the colors vivid or washed out?); Brightness (In that context, is it brighter or darker than normal?); Texture (Is the image smooth or rough textured?) Distance (How far away is the image? - again, ask for specific, estimated
distance, like 6'); *Movement within the image* (Is it a movie or a still picture? How rapid is the movement: faster or slower than normal?); *Movement of the image* (Is the image

stable? What direction does it move in? How fast is it moving?); Orientation (Is the picture tilted?); Associated/dissociated (Do you see yourself or do you see the events as if you were there?), etc.

(***Auditory***:) Location (Do you hear it from the inside or from the outside? Where does the sound (voice) originate?); Pitch (Is it high-pitched or low-pitched? Is the pitch higher or lower than normal?); Volume (How loud is it?); Tempo (Is it fast or slow?); Rhythm (Does it have a beat or a cadence?); Duration (Is it continuous or intermittent?), etc.

(***Kinesthetic***:) Location (Where do you feel it in your body?); Movement (Is there movement in the sensation? Is the movement continuous or does it come in waves?); Direction (Where does the sensation start? How does it get from the place of origin to the place where you are most aware of it?); Speed (Is it a slow steady progression or does it move in a rush?); Quality (How would you describe the body sensation: tingling, warm, cold, relaxed, tense, knotted, diffused?); Intensity (How strong is the sensation?), etc.

When one elicits data at the level of detail of brief therapy demonstrated above, the therapist literally slows down time for the client. The client starts to feel, to be able to realize, that what we call emotions are just *sequences of body sensations* and their meaning can be elicited to find a useful or unuseful meaning. As a result, people feel much more at cause rather than at effect. People start to feel that they can run their own mind - they don't feel like emotions are happening to them.

With the presuppositions of brief therapy about reality, questions like "do submodalities exist," or "is this the right submodality elicitation?" don't come up. If the therapist's gestures and language, while modeling the client, are reflected back to him and he has a feeling of matching, then it is the "right" elicitation. Rather than right or wrong, there is a *match*. Reality is co-created experience and it is co-created with the other person for some intention. For example, let us take a person who has been a batterer of children and who feels that he can't control his anger. When his anger is denominalized and he realizes that it has a beginning, a middle, and an end, and that he can track it and he can back it up and he can raise or lower the intensity - that gives him the experience of being able to control it, rather than it controlling him.

We don't know whether sumodalities exist or not, but if someone's intent, when he goes to see a brief therapist, was to be able to control his anger, and if, when the therapist asks him submodality questions, he can answer them, and if, at the end, he is able to turn his anger up or down, and he can choose to have it or not, then we can say that they were useful for his intent. So we don't know whether submodalities are real or not, but they are useful. In traditional therapy the criterion is "is it true or not?" In brief therapy it is "is it useful or not for our intent."

We have used brief therapy as an analogy to show how we envision future research on subjective experience: taking the subject and let the subject be a co-investigator with the researcher on in vivo experience; accepting and exploring the co-created nature of subjective experience; replacing questions like "is this real?" "does this exist?" or "is this

true?" by questions like "what is your intent?" and "is this serving the purpose of that intent?"

Acknowledgement

We want to thank Mary Hale-Haniff for showing us the way out of the haughtiness of the modernist approach to the study of subjective science and co-creating with us new understandings.

References

[Ascher, 89] Ascher, L.M. (ed.), *Therapeutic Paradox*, The Guilford Press, 1989.

[Bandler and Grinder, 75] Bandler, R. and Grinder, J., *Patterns of the Hypnotic Techniques of Milton H. Erickson, M.D. – Volume I.* Meta Publications, 1975

[Bandler and MacDonald, 88] Bandler, Richard and MacDonald, Will. *An Insider's Guide to Sub Modalities*. Meta Publications, 1988.

[Bateson, 72] Gregory Bateson: *Steps to an ecology of mind*, Balantine Books, 1972

[Bateson, 72] Bateson, G., *Mind and Nature*. Bantam Books,1979.

[Damasio, 94] Damasio, Antonio R.: *Descartes' Error*, Grosset/Putnam, 1994

[Dennett, 88] Dennett, Daniel C. "Quining qualia." In Marcel, A.J. and Bisiach, E. (Eds.), *Consciousness in Contemporary Science*, pp. 42-77. Oxford: Clarendon Press, 1988.

[Dennett, 91] Dennett, Daniel C., *Consciousness Explained*. Little, Brown and Co., 1991

[Denzin and Lincoln, 94] Denzin, N. and Lincoln, Y. (eds.), *Handbook of Qualitative Research*. Sage Publications, 1994.

[Dilts, Dilts and Epstein, 91] Dilts, R.B., Dilts, R.W. and Epstein, T. *Tools for Dreamers; Strategies for Creativity and the Structure of Innovation*. Meta Publications. 1991.

[Dilts *et al*., 80] Dilts, R., Grinder, J., Bandler, R., Bandler, L. and Delosier, J., *Neuro-Linguistic Programming: Volume I, The study of the Structure of Subjective Experience,* Cupertino, Calif.: Meta Publications.

[Gergen, 91] Gergen, K.J., *The Saturated Self*, Basic Books, 1991

[Grinder, DeLozier and Bandler, 77] Grinder, J., DeLozier, J., Bandler, R., *Patterns of the Hypnotic Techniques of Milton H. Erickson, M.D. – Volume II.* Meta Publications, 1977.

[Hale-Haniff and Pasztor, 98] Hale-Haniff, M. and Pasztor, A., "Operationalizing Emotions," submitted.

[Honderich, 91] Honderich, Ted, "Seeing Qualia and Positing the World," in: *A.J. Ayer. Memorial Essays*, ed. A. Phillips Griffiths, Cambridge University Press, 1991

[Hughes and Brecht, 1975] Hughes, P. and Brecht, G.: *Vicious Circles and Infinity. A Panoply of Paradoxes*, Jonathan Cape Publ., London, 1975

[Pasztor, 98] Pasztor, A.: "Subjective Experience Divided and Conquered", *Communication and Cognition*, Vol. 31, nr.1, Approaching Consciousness, Part II, E. Myin (ed.), pp. 73-102, 1998

[Searle, 92] Searle, John, R., *The Rediscovery of the Mind*. MIT Press, 1992.

[Watzlawick, 67] Watzlawick, P., Beavin, J. H., Jackson, D. D., *Pragmatics of Human Communication*, W.W. Norton & Company, 1967

[Watzlawick, 84] Watzlawick, P. (editor), *The Invented Reality*, W.W. Norton & Company, 1984.

[Watzlawick, 84a] Watzlawick, P., "Components of Ideological "Realities,"" in *The Invented Reality*, W.W. Norton & Company, 1984.