Proposal for the IFPE Eighteenth Annual Interdisciplinary Conference
"THE REACH OF THE MIND"

Title: The Subconscious and Art - Precursors of Language

INTRODUCTION:
This workshop discusses the potential for synergy and friction of neuroscience and psychoanalysis in the context of their respective scientific traditions. Neuroscience has developed out of the "hard" sciences whereas psychoanalysis has been considered a "soft" science. But even psychoanalysis traditionally has contained a conflict between a "scientific" (rational-measuring) tradition and an "artistic-hermeneutic-humanistic" ("touchy-feely") one. Therefore, the current tension between psychoanalysis and neuroscience can be seen as the latest repetition of the older dialectic.

As an example to highlight convergences and differences, the development of art out of perceptual processes will be discussed. In the process I hope to illustrate art as a proto-language with primary process characteristics. It strikes me as a good example of "blurry" boundaries between physiological and psychological events.

Psychoanalysts have a long tradition of carefully studying the organization of behavior (symptoms) in order to draw conclusions about hypothetical constructs. This practice has been decried as unscientific, but finds an avid supporter by the neurologist Cytowick (more on that further on).

DEFINITIONS:

PRIMARY PROCESS: (Moore& Fine, A Glossary of Psychoanalytic Terms and Concepts, p.76):
A primitive, irrational type of wishful thought, dominated by the emotions and close to the instinctual drives: it is characterized by such features as condensation, displacement and the extensive use of symbols) ... it is now believed that primary process thought occurs in certain ego processes. Therefore modern approaches emphasize a continuum between primary and secondary process.

SYMBOL(ISM) (Moore & Fine, p.91)
A form of indirect representation first noted among primitive people and in the symptoms and dreams of neurotic patients . It is like a secret language ...
Comment: Symbols are based on similar or identical operations or functions. The biologist's Konrad Lorenz's investigations suggest that aggression may have been the first drive to become symbolized, at least for intra-species aggression: it would have been too costly for hierarchical social animals to have frequent actual fights with injury or death. There seems to be a developmental line from involuntary expression (Stimmfuehlungslaut) to symbolization. Behaviors early in the chain of an instinctual sequence seem to be particularly likely to assume expressive functions (this lis compatible with Ekman's discovery of facial mimicry inducing emotions).

EMOTION: (not listed in Moore and Fine, described as impossible to define in English& English - D taken from Damasio, Descartes' Error, p.139) "...the collection of changes in body-state ...under the control of a dedicated brain system which is responding to the content of thoughts relative to a particular entity or event ...
Comment: Tomkins relates affects to changes in stimulation patterns around (or within) us, and refers to affective sequences as "scripts" . To use an analogy with music, an affect could be described as a tone and scripts as a melody. In my understanding emotion is a symbol for an anticipated course of events.

ART:(English &English, A Comprehensive Dictionary of Psychol. and Psychoanalytic Terms):
1. a product of human exertion that excites admiration and pleasure because of its beauty or the skill in its execution

2. the body of principles that govern practice in activities requiring considerable skill or knowledge
3. Skilled or knowledgeable practice
4. Practice guided by minimal cues and a sense of fitness rather than primarily by the direct application of scientific findings.

ART AS FORM OF KNOWING:
Definitions 2 to 4 refer to art as a form of knowledge (as in "state of the art") but based on procedural rather than declarative learning. Definition 1. refers to beauty/aesthetic pleasure. We know that our sense of beauty is related to regularity.. The pleasure has been explained as cognitive economy (regularities are more easily to code/remember), but this is secondary: Every motion requires energy so that efficient motion becomes a goal for survival. Many forms of combat are especially aesthetically pleasing, e.g. marital arts, classical ballet which is derived from fencing positions and dressage (horse's equivalent of fencing). They all are ways of moving which maximizes positions of balance and minimizes imbalance (=vulnerability). Being able to do anything economically is a basic biological advantage. As Gestalt psychologists discovered, we monitor and adjust our distribution of energy efficiently and unconsciously, and this ability is wide-spread in the animal kingdom (e.g. bees communicate the location of food sources based on energy expended to get there). It is necessary for our own movement to stay coordinated and keep our balance. By the same token, we need to perceive the kinetic and latent energy in our environment, especially other organisms around us, and our aesthetic sense helps us. The complexity of these subconscious assessments are amazing, as illustrated by the analysis of a ZEN GARDEN ("when scientist analyzed the pattern of rocks in the Ryoanji garden, they found a hidden "medial axis" image o fa tree with its trunk passing through the temple's prime viewing spot" quoted from Nature Magazine, Kyoto Univesity; the temple garden is famous for inducing serenity).

Different sensory modalities abstract in similar ways: although the waves that are the basis for our perception of color and sound progress in a linear fashion, we perceive them cyclically :e.g. rainbow colors can be arranged in a circle similar to the repetition of octaves (the next integration over saturation leads to a color space). This is the beginning of a procedural form of abstraction. Our aesthetic predispositions organize sensual experiences into symbolic spaces. A similar structural organization across sensory modalities would facilitate cross-modal associations which according to CYTOWIC are the bases of human language. This process can be seen as example of sublimation :we can use the schemata we developed for our orientation, balance and locomotion for symbolic pursuits. Not surprisingly, the language of emotions has a lot of spatial references (feeling close to someone, needing space, feeling up or down). Emotions often are associated with colors. When during my analytic training I focused on appreciating "mixed feelings" I found myself spontaneously forming analogies to color: the full range of emotions would form the equivalent of a color space (with the center, white, representing a neutral affect - consciousness). We know that a spacial organization is a mnemonic aide.

We can consider symbols as a way of condensing instructions for action (e.g. a circle, which is a "gestalt" is shorthand for turning in one point with outstretched arm (or object). Similarly, archetypes can be considered social "gestalten", short-hand for a complex set of compatible actions and/or feelings.

Symbols function as the psychological equivalent to our genes, which tell our tissues how to behave, and they can be considered the procedural equivalent of formal logic. Kevin Christopher quotes Lakoff and Nunez derive mathematics from "largely unconscious concepts like the container metaphor and other embodied "image schema". If we extrapolate form this view, we can compare traditional formal logic and dialectic. Dialectic logic models the integrative process that we also find in aesthetic processing. From a biological/psychological (and dynamic) point of view, dialectic follows actual process of learning more accurately than formal logic, because it allows for the natural linguistic flow of meaning, which formal logic abstracts from. The clinical intervention of "Paradoxical Intention" uses the dialectic tension in motivation for therapeutic purposes.

Space appears to be a basis for linguistic organization: Fouts in his work with chimpanzees discovered that language centers are related to centers for fine motor coordination and postulates that language developed out of gestures. (This was corroborated by his work with autistic children and the natural experiment of a spontaneous sign language developing in Nicaragua - imitation led to the development of meta-signs in the next linguistic generation). Cytowik illustrates the different levels of abstraction between painters (who depict what they see) and "normal" people (who depict what they "know"). "Normal" people have artistic productions which are closer to language and more abstract whereas painters stay closer to primary process perception and thus are able to re-create the "realistic" experience in the observer (letting him/her complete the last step of abstraction). A personal example can show the decisive difference of a jump in "levels" : during an excursion in the woods I enjoyed the peace and said to myself "you can really hear the quiet". The paradox in this (hearing something that is absent) alerted me and I listened more carefully - the woods were anything but quiet, but the sounds were by and large "Stimmfuehlungslaute" (i.e. automatic expressions of mood) of various animals peacefully going about their business, so that the abstraction of the various sounds led to "peace and quiet". The "semantic differential" (evaluation, potency, activity) still echoes gestures a and describes basic parameters of emotion.

Modern psychoanalysis provides a practical confirmation of this theory: it is distinguished technically from classical analysis by beginning with a formal imitation of the client's utterances as a way of client engagement, using "verbal gestures" , or a procedural language, within the medium of traditional language. This technique has been shown to facilitate engagement with clients who were narcissistically impaired and could not form an object-transference.

If we look at art as the beginning of language with resonance and synchronicity as special types of imitation, the reason why we are so drawn to it becomes self-evident: we are constantly practicing modeling the worlds of our experience and expectations, and the better we are at it, the better our chances of survival. Although this "old" language does not have the logical precision and complexity of our later "declarative" language, it excels at the assessment of statistical trends and synchronization or lack thereof between various organic subsystems (which explains why our intuition can be more accurate than our reason). If we recall Disraeli's notion - "there are lies, damn lies and statistics" we can see why the development of an intuitive statistical knowledge would be important for correct assessments.

A naturalistic experiment proved this to me: during my analytic training at PSP I became the (part-time) director of the institute's clinic. The clinic was chronically short on funds, so that we absolutely could not afford to make financial mistakes, nor could we afford the labor usually required for detailed financial tracking and analysis. To make it even more interesting, my tenure coincided with the transition of Medicaid to Healthchoices, a managed care model, creating a lot of disturbances in our usual income streams. I had to play intuitive hunches, and surprised myself with my accuracy. In retrospect I believe that my involvement in most aspects of the clinic (as therapist and administrator) coupled with my talent for drawing allowed me to make these assessments. I recall changing my body posture slightly while contemplating them - I literally "rebalanced" myself and my body became the symbol for the organization. Once I started thinking about this I further realized that for me the conviction that something is "true" has an aesthetic element to it. In my mind's eye, looking at the particular truth seemed to pull me in a position of balance, similarly to when I had succeeded in organizing a drawing to my satisfaction, or when I solved a division without any indivisible left-overs. My experience could be understood as a spacial representation of a matrix of potential cognitive dissonances (an interesting musical term) which happened to balance.

Additionally, art functions as a motor for the creation of syntactic rules. Fonagy's idea that parents create attachment in their children by viewing their not yet intentional children as organized fits in this context: the parent, by expecting organization, provides the basis for language development (and attachment). In summary, we have a "procedural language", which may be largely

overlapping with Freud's "primary process". It is spatially organized, which puts limits on its logic (e.g. no negation), but can code an amazing number of details. As we develop, the earlier language is largely superseded and inhibited by our conscious, rational language, but in our everyday thinking and talking both components play a role. An interesting experiment (Shevrin et al. Conscious and Unconscious Processes) illustrates the idea: people with phobias were interviewed for an assessment of the dynamic conflicts causing their phobias and then exposed to words related to either the conscious or latent object of the phobia, both long enough for conscious perception and subliminally. Psychogalvanic skin reactions and other measures of arousal were taken. In the conscious exposure there was no reaction to the "latent" trigger words, but to the "overt" ones. In the subliminal exposure the "latent" trigger words elicited a response whereas the "overt" ones didn't. This can be used to explain repetition compulsion: the patterns and associations in our daily lives are so complex that our conscious processing gets overwhelmed, providing the equivalent of a subliminal stimulation, and our subconscious responds. We usually see the old "primary process" way of thinking except for "Idiots savants" where for some reason the secondary process thinking is not powerful enough to inhibit primary process.

The phobia experiment illustrates the mutual benefit of psychoanalysis and neuroscience: neuroscience can provide "objective" proof for psychoanalytic theory, but without the psychoanalytic idea of a "latent" conflict, the experiment would have been unthinkable.

As developmental theory, psychoanalysis is a historical science, which describes the changes we go through. Because of the historical element and the "developmental lines" we pursue, psychoanalysis has struggled with its terms (and gotten much flak from "hard" sciences) because it is difficult to include a "stage/time marker" into a concept. Yet this lack of precision is a hallmark of organic systems, and also found in biology: Konrad Lorenz, who was extremely precise in his description of instincts, paints in a much wider brush when he describes phylogenesis, but accurately describes it as an over-determined system which can change abruptly (e.g. a functional organ in one species can develop a purely expressive/communicative function in a related one - language development would be an example- structures for fine motor movements take off in language). Psychoanalysis and biology share the emphasis on integration a matter of scientific observation.

Neuro-sciences can be helpful or not depending on their awareness/ability to integrate a historical perspective or not. Neuro-sciences cannot be expected to make a theory of the mind superfluous, just as they would not be expected to supplant linguistics. "The whole is more than the sum of its parts". Neuroscience can have tremendous value in illustrating the subsystems which cooperate to produce familiar mental functions and correct any "hysterical" (i.e. based on psychological body-schemes) tendencies in our mental concepts. Comparative studies in more primitive and complex organisms could also be used to illustrate phylogenetic developments and show the roots and elements of our everyday experiences, which could inform psychoanalysis. On the other hand, psychoanalysis has shown a good ability to identify traces of unconscious communication and keeps us aware of the human skill of transcendence which is necessary to perceive the larger picture of humanity and prioritize the questions we need to ask first.