

The Alchemy of Creativity:

Art, Consciousness and Embodiment

F. David Peat

1. Preface

Over the last few years it's become quite fashionable to write about consciousness. When I was a student, consciousness was more of a black box investigated by behavioral psychologists but today even physicists are getting in on the act! And, to be honest, I'm not too sure just how further ahead we are, in spite of the hundreds of papers written about consciousness that have appeared over the last decade. Maybe, at their very best, these articles are showing us just how subtle and difficult the underlying issues can be, and that we're not yet even certain as to what questions we should be asking in the first place.

So why is a physicist writing yet another paper on consciousness? I suppose because I've never been too convinced that consciousness is the exclusive property of Marvin Minsky's "meat machine"¹, or that its study should be the monopoly of scientists and philosophers. And so, over the last few years, I've been looking at art and music rather than science itself because I believe that these areas provide us with clues as to the way consciousness is embedded within the very physicality of the body.

I'm suggesting that consciousness arises out of processes deep within the body that are projected, by means of creative acts, onto the external world where they can then be internalized into awareness. In other words, while our awareness, our direct consciousness of rational thought, involves the purposeful manipulation of internalized mental states, concepts and so on, the source of all of this lies much deeper. Indeed, its origin is a hypothetical location in brain or body than it is a process, an indivisible cyclical movement of projection and internalization, one of making manifest within the realm of the physical and then of ingestion, in coded or symbolic form, back into the world of the mental. In this creativity, resembles an alchemical cycle in which the creative gold is generated within the alembic of body and mind.

Finally, towards the end of the paper I'm going to try to go further and to speculate that such processes are ubiquitous, and extend right throughout the cosmos.

2. Introduction: Images of Consciousness

It has become commonplace to point out that science constructs consciousness in its own image - from a system of hydraulics; through 19th century thermodynamics with its flows and balances of energy; and on to telephone exchanges, computers, parallel processors, neural nets, strange attractors, quantum devices; or even some hypothetical level beyond present quantum theory. At times it seems that we are not so much concerned with understanding the nature of consciousness as in eulogizing

the ingenuity of our products. Within this same general framework it is also assumed that the physical brain, which is generally believed to be the seat and origin of consciousness, works by some sort of logical means, using algorithms, programs and cognitive strategies in order to process data and information.

While this approach may have produced some useful results in the past I want to look at the whole question from a different angle by suggesting that the issue of human consciousness and awareness demands a different logic and a different way of thinking.

3. Logic and Language Games: Discussing Consciousness

So how are we to proceed without getting trapped? Suppose that we begin by assuming that consciousness involves the entire body and brain - when I say this I'm not necessarily implying that all the processes involved are exclusively material.

As I have already suggested, we should look to the medium of art, and the way in which many artists work, as the source of clues and intuitions. If we do this then will it still be possible to avoid the confusions and traps that are so often attached to the discussion of consciousness? Not unless we use our words carefully.

The philosopher Ludwig Wittgenstein argued that many of the traditional debates of philosophy circle around what he termed pseudo-problems.² According to Wittgenstein, these pseudo-problems are the results of confusions made by philosophers when they do not pay sufficient attention to the different ways in which language is being used. The mind-body problem is a notorious and persistent example of such confusion.

Just as the same pack of cards can be used to play bridge, snap and poker, so words (like psyche, consciousness, mind and brain) can be used in a variety of subtly different language games. When we don't give attention to the particular game in which we are engaged, or the ease with which we swap between games, then confusion results. People assume that because they are using the same words they are addressing the same issue, when in fact they may be discussing different matters, and what's more doing this in quite different ways. Therefore, whenever we find ourselves talking about consciousness we must be aware that we are involved in a complex web of subtle language games.

Moreover, discussions of consciousness, from the time of the ancient Greeks, generally proceed in a didactic way, using Aristotelian logic with its categories, opposition of binary dualities, and assumption that closure and unambiguous choice amongst logical alternatives is always possible. Yet this is certainly not the way that our dreams, fantasies and unconscious slips operate. Nor is it the underlying logic of art, music, dance, jokes, courtship and so on.

Since it makes sense to match form to content, the discussion of consciousness may be better served by a logic that allows for ambiguity, decidability, transformation and the tension of unresolved contradictions - a logic of shifts, slippages, shape changes, transience and flow.

To use an analogy from the world of art, the traditional approach to consciousness, by means of logic and didactic argument, could be compared with the way perspective is used to depict a street scene in a painting. Perspective provides an overarching point of view in which the various elements of the picture are forced to fit into a single geometrical scheme of projective geometry - single vanishing-point perspective. On the surface this may look like integration, but in another sense it is a false type of holism because although the streets and houses fit together within the same mathematical order they do so at the expense of circular openings being distorted into ellipses, parallel lines converging and right angles become acute or obtuse.

Throughout the history of art, East and West, perspective is something of an aberration. Contemporary art, and European art before the Renaissance, depicts each object individually and seeks other means of pictorial integration. In an analogous fashion I am suggesting that we need a logic of consciousness which examines each idea individually and seeks its inscape, meaning, and authentic voice, but never at the expense of losing its essential relationship to the whole.

This calls for a logic of orders that lie between alternatives, a logic that accommodates without dominating, a logic that seeks neither monolithic holism nor fragmentary individualism. To press the analogy with painting, it is the logic employed by Cezanne who, in his many still lifes, painted each apple individually, endowing it with personality, yet at the same time realized that to change a single area of color on one of his apples would mean totally repainting some distant part of the canvas, if not to begin again on the entire work. ³

Cezanne was heir to the Impressionists and knew that for painting to advance it required an underlying structure as orderly as that of Poussin and the other classical French painters. Throughout his life Cezanne struggled to discover this new order, one in which each element, each object, would be presented fully and individually, yet at the same time retaining an essential relationship to the whole. In turn the whole would reflect the particular forms within the individual. Checked here

Cezanne's descendants were the cubists, Picasso and Braque. In the United States cubism itself undertook a further transformation at the hands of Stuart Davis. His highly colorful "abstracts" of the 1940s and 50s derived from the more "realistic" street scenes he had painted in earlier decades. Davis used masking tape to divide the later paintings into a series of zones.⁴ But, unlike the logic of perspective, in which each object is subservient to the single viewpoint of the whole, these zones are treated individually. Yet what is being painted in one zone has an immediate relationship to what is going on in the others. Painting in this way involves integrated movements and sensations occurring at several levels at once and therefore suggests a logic that has moved away from the linear and didactic; a logic that lies closer to the operations of our consciousness than does an Aristotelian logic of rigid categories and binary oppositions.

While Davis wrote in a detailed way about his approach to painting, and analyzed how his pictures worked, this does not mean that the movement of his brush was the result of a dispassionate, mathematical visual choice, rather it involved feelings, emotions and muscular sensations as well as intellectual judgement (and the recognition of the subject's relationship to the whole history of art). One does not need

to be told that Davis painted these pictures while listening to jazz, they sing for themselves.

It is this type of thinking, this open flexibility, that is needed when we discuss of the whole question of consciousness and,.....

4. Psyche and consciousness

...in particular, questions of psyche, consciousness, awareness and the ego.

I've already been using these words without definition because I want to approach the potential pitfalls of language games by means of what Wittgenstein called family resemblances. In a family photograph album, Uncle Jack looks totally different from his brother, John but shares Aunt Sarah's eyes. Both Sarah and her sister Julie make the same characteristic gesture with their heads when they are about to speak, and Julie and John have the same nose. Half an hour with the family photograph album convinces us that no logical boundary can be drawn about a family resemblance to form the single category of "family face" that will embrace the entire family and exclude all others. On the other hand, as we leaf through the album we recognize that the various individual members are all related. Dropping categorical definitions in favor of family resemblances allows us to loosen the logical grip of categories, binary oppositions and a constant insistence on closure, and brings us closer to what I'm suggesting is a process-based notion of consciousness.

5. Consciousness and the Body

Now we've got didactic logic out of the way, or at least swept it under the carpet, the decks are cleared for a more radical discussion. Or to come out of the closet, what I am really trying to do is not so much present an academic discussion of consciousness as to explore the ways in which I experience consciousness in my own life and work. The particular fields in which we engage, the questions we address, and the energy and passion we give to these tasks always begins at a personal level. Yet, in one way or another, personal material must eventually be transformed into something that has a more universal appeal so that it can be communicated to others.

But where this essay moves beyond the personal and idiosyncratic is in my proposal that human consciousness is not simply synonymous with direct awareness but is a process that embraces not only mind and brain but also one's entire physical body. So, trying to avoid the trap of categorical definitions, just what is consciousness? The French psychiatrist Jaques Lacan's argued that consciousness is structured like a language.⁵ And by a language Lacan had in mind a system of differences and a chain of signifying elements. Lacan also claimed that not only is consciousness structured in the same way as a language but that actual words are trapped, literally imprisoned, within the body as psycho-physical symptoms.

Without getting overly attached to Lacan's particular notion of structuring, I'm going to take his findings further by arguing that his linguistic dimension to consciousness is part of a much larger continuing cycle. The nature of this cycle will become apparent when we discuss the particular way in which artists work. But for the moment let us say that it arises out of psychophysical processes occurring deep within the body, and

often outside general awareness. These are then projected outward onto the external world in the form of gestures, actions, words and so on. As a further part of this whole process, the projected material is then internalized into awareness where it is encoded or structured in ways that may well include Lacan's linguistic system of differences and trapped words. In turn, this internalized material works within the body to be projected outwards again.

By being released into the "open air", as it were, projected material is then free to become active at both the social and interpersonal levels. Yet, at the same time, it is part of the one indivisible process and must at some point be internalized and returned to the body to continue through the same cycles of projection and internalization.

The notion that consciousness has correlates within the body has been emphasized by psychotherapists such as Wilhelm Reich⁶ and Stanislav Grof⁷. However, the arguments presented here do not come from an academic study of psychology but from my discussion with artists about the ways they work and experience their own creativity.

Artists and musicians must undergo a long training to refine their skills. In addition, most of them engage in their work with great degree of passion. It is for these reasons that I find that their sensibilities about the consciousness of the entire body is more developed than the average. Indeed, this ability to touch the deepest levels of psychophysical consciousness may explain why art and music have always been of such significance to the human race. Art and music make manifest, by bringing into conscious awareness, that which has previously only been felt tentatively and internally. Indeed, art and music may have been the original cause of that light which first illuminated the preconscious mind of early hominids.

Art, in its widest sense, is a form of play that lies at the origin of all making, of language, and of the mind's awareness of its place within the world. Art, in all its forms, makes manifest the spiritual dimension of the cosmos and expresses our relationship to the natural world. In this sense the act of making manifest, of bringing into the world, is the precursor of all human civilization.

The origin of this play lies in the body's response to its "being in the world" - the world of natural forces, animals, spiritual energies, family relationships, social impulses and so on, all of which can be transformed through the body into symbolic acts of making. The primordial nature of the process may explain why artists have told me that they feel a direct sense of connection to the first cave painters. Confronted with the earliest human art they experienced an immediate recognition of common purpose stretching across millennia.

Now let's look at some more specific examples to see how such "making" takes place. Anish Kapoor⁸ is a sculptor of international standing whose work has been described as both mysterious and beautiful. In some of his pieces Kapoor explores what he terms "the void" - a deep crevice or hollow inside a stone which is covered in dark blue light-absorbing pigment. Looking into this void we face something about ourselves and what lies beyond. It is a manifestation of the mystic, Meister Eckhardt's *via negativa* and therefore an experience with a strong visceral component.

Kapoor describes the generation of such work as beginning with an intentionality that lies beyond planning and thinking. This intentionality must be held within, to the point where energy builds to such intensity that the artist must then "get out of the way", abdicate the self, and allow the art to emerge into the world. The extent that ego and personal biography remain is the extent to which the work fails to make its full impact. The most successful pieces, however, undergo what Kapoor describes as an alchemical transformation and have a universal presence.

The composer Sir Michael Tippett (perhaps best known for his oratorio *A Child of our Time*) described how his music contains tensions, movements, transformations, dramas, oppositions and resolutions, all of which have to be held within his physical body before the act of composition.⁹ In the case of his opera, *The Midsummer Marriage*, this pregnant holding continued for so many months that Tippett felt he had become seriously ill with cancer. Only when the physical time within the body was right, as with an alchemical working, could the music emerge and then be written down. Needless to say, with the opera completed Tippett's body recovered and Tippett lived to compose again, even into his ninetieth year.

The creative work of consciousness requires acts of suspension, containment and holding within the body which corresponds to the important Nigrido state of alchemy.¹⁰ Alchemy is sometimes used as a metaphor for the creative act because of the way its long series of processes lead to the production of precious gold from baser metals. The Great Work of Alchemy involves processes whereby the subtle is separated from the gross, refined and subsequently returned to induce an act of transformation. The Work can be variously expressed in chemical terms as heating in the retort, sublimation, recombination and so on. In Jungian psychological language of differentiation followed by the resolution of opposites on the road to psychological individuation and maturity. Alternatively, it can be spoken of in symbolic terms as a cycle of death and resurrection leading to Mystical Marriage of King and Queen. As with all creative work, a significant stage is the Nigrido in which nothing appears to happen. The Nigrido can be equated with creative depression, a tense state of holding that precedes the creative outpouring. It is that period, for Tippett, in which the work had to be held in the alchemical vessel of the composer's body. For Kapoor, it is the period of suspension between the sculptor's intention and his physical action.

In such a state, characteristic of all creative work, the physical body which must contain the work before it has matured, so that it can be "cooked" to the point where it can be expressed in words, music or art. Having said this, it is important to distinguish creative holding from blocked and arrested body symptoms. The former could be compared to open systems, like a vortex in a river, that protect their inner integrity while remaining open to external flow of the environment. The latter are closer to the rigid, limit cycles found in chaos theory and are impervious to their external environments.

Footnote

Wilhelm Reich was one of the first psychoanalysts to point out that early traumas take residence within the body as the muscular rigidities and the stereotypical postures he called Character Armor. Freud's "talking cure" appears to have only limited effectiveness in dealing with such mummified processes, hence the development of body manipulation, holotropic breathing, facilitating energy flows and so on. When the organism's flow of process is blocked within certain body regions, as with a logjam in a river, sometimes external, physical measures are necessary.

In Tippett's case when the Nigrido state ended his music was freed to be projected outward into the world and objectified as notes written manuscript paper. As potential sound it had entered the manifest world through intellectual work, judgement, discriminations and editing were required. Yet an important, possibly the most important, phase had already taken place in those processes of consciousness which lie outside immediate mental awareness, specifically within the muscular tensions, suspended disposition to movement, metabolic flows, senses of orientation, heart beats, and so on, of Tippett's body. And even as the work is being written down this body consciousness still has a role to play. Reading his new score, or playing it on the piano, Tippett would have experienced a variety of internal tensions, sensations and feelings. It is these feelings that give us our intuitions about what we have achieved. They help us to determine its values and to know when a work is complete, rounded and balanced

As with Anish Kapoor, this creative "work" of the body is a significant aspect of what I am calling "consciousness". At one level it goes beyond what is normally meant by mental awareness and ego-directed mental activity, at the other it moves beyond the "subconscious" into the whole of nature as psyche.

Perhaps this is a good point to clarify what I mean by "consciousness" and "awareness". By consciousness I mean the whole operation of mind and body which is the source of our behavior, actions, moods, intentions, intuitions, inspiration and creativity. Consciousness descends deep into the body until it enters the realm of pure matter. It is the province of what Carl Jung termed the Psychoid, as well as what James Hillman terms Soul. Consciousness also ascends into the world of Spirit. It has aspects of the Transpersonal and the Collective. Consciousness communes with the gods; the powers and energies of the cosmos.

Clearly much of what I am referring to by the term "consciousness" is not open to general awareness, neither is it controlled and directed by the Ego. In fact much of what is most valuable and creative in our lives lies outside the immediate domain of awareness, and is vastly larger than anything the Ego can encompass. Awareness is a fleeting thing. It is transitory. It hovers over our waking life and part of the time is a rather mechanical device we use to patch over those gaps in time when we are not aware, or not paying attention.

I'm using "consciousness" as a blanket term because I don't want to become involved in erecting barriers between the Freudian notions of "unconscious" and "conscious". It is certainly true that we are not normally aware of such hard-wired cognitive processes as, for example, the mechanisms and strategies of vision. To be constantly aware of such processing would confuse and get in the way of our day to day survival. Likewise, there may be memories and experiences so painful or distressing that they have been actively suppressed. There are also "state specific memories", whose encoding is associated with certain extreme emotional and body states such as panic, fear and extreme elation. But all this is only a small part of the entire process of consciousness - that space in which our minds and bodies live and have their being.

The sculptor, Anthony Gormley, speaks of this space of being¹¹. In order to execute his work Gormley must first enter such an inner space. Gormley is responsible for the largest public sculpture in Britain - The Angel of the North - which is based upon

casts of his own body. To make these casts Gormley first meditates, moving into that "space beyond dimension, beyond up and down", a space that is "beyond good and evil although it contains them both". Gormley's work emerges out of this space "which is rarely visited by people" who prefer to spend much of their lives in a commonly shared outer space. Gormley hopes that by experiencing his sculpture, by placing one's body in relationship to it, the viewer will be made aware of his or her own internal space and thus be able to enter into it.

Perhaps the most famous example of the way internal sensations of the body become the source of art was given by the painter Cezanne. Faced with a landscape, mountain or still life, the painter worked directly from his "little sensations", never abstracting himself from the scene, taking things for granted, or working at second hand as did the studio painters of the 19th century. In his work Cezanne was always questioning, always taking a second look, always correcting.

The philosopher Merleau-Ponti wrote of "Cezanne's doubt", "the artist's passionate need to look again and again. Cezanne himself expressed it in the following way, "I am becoming more lucid before nature, but always with me the realization of my sensations is always painful. I cannot attain the intensity that is unfolded before my senses.... Here on the bank of the river the motifs multiply, the same subject seen from a different angle offers subject for study of the most powerful interest and so varied that I think I could occupy myself for months without changing place by turning now more to the right, now more to the left."

And this is exactly what I experience in front of a painting by Cezanne. It is, in part, the inspiration for this article. Over the years I looked again and again at Cezanne and was never able to find a place of rest and certainty. As a result, I began to reread what art historians had written about Cezanne and tried to apply their findings to my own experiences as I stood before his canvases. All well and good, yet I felt that nothing of what I had read was really touching the essential fact of my engagement with the work. It was only a few years ago, at my own point of doubt and suspension, that I realized that I had all along been listening to the sensations within my own body, to minimal muscular movements, suspended dispositions to motion, and body orientation and disturbances to the proprioception. I noticed that those dislocations of a tabletop, the tilting of a figure, the movement of brush strokes, the conflicting orientations of planes were producing in me sensations of movement - or rather suspensions of the disposition to move. And, like a piece of music, these sensation, embryonic movements, dispositions and emotions were all working together. At that moment I felt that Cezanne was evoking in me something of the "little sensations" he had experienced a century before. In fact Cezanne was "playing" by mind and body like a musical instrument and I was responding to what had been first produced in Cezanne as he stood before his motif. The painter had discovered a way of encoding his sensations, just as a composer like Tippett could encode, via musical notes, the sensations of an opera.

Here it could be objected that I am putting too much stress of the kinesthetic elements of creativity. Maybe this is a reflection of my own experiences with music, art, literature, as well as my own acts of writing and thinking. Others receive their impression in the form of visual or auditory images, but I think that, all in all, the differences are not too great. After all, the visual system of the brain is wired into

centers of muscular movement and orientation so that there is always a slippage of these senses, as there is with hearing. To take one example, some years ago the painter David Hockney¹³ began to design opera sets using a model stage whose scenery could be illuminated by a system of colored lights. While Hockney worked he played a recording of the opera in question and discovered a curious synesthesia - when the right color was chosen for a particular musical passage it appeared to glow with a special intensity not present if another color were used.

This interior work which precedes mental awareness is not confined to art and music alone. It is echoed in a remark the physicist David Bohm made about working in quantum theory, "I had the feeling that internally I could participate in some movement that was the analogy of the thing you are talking about. I can't really articulate it. It had to do with a sense of tensions in the body, the fact that two tensions are in opposite directions and then suddenly feel that there was something else. The spin thing cannot be reduced to classical physics. Two feelings in the mind combine to produce something that is of a different quality....I got the feeling in my own mind of spin up, spin down, that I was spinning up and then down. Then suddenly bringing them together in the x direction (Horizontal).... It's really hard to get an analogy. It's a kind of transformation that takes place. Essentially I was trying to produce in myself an analogy of that, in my state of being. In a way I'm trying to become an analogy of that - whatever that means."¹⁴

The sculptor Anthony Gormley was struck by the similarity of Bohm's report to his own experience of entering the dark space within his body. Bohm also talked about his way of "thinking" to Einstein who indicated that his own mathematical "thought" took place at the level of internal muscular tensions. Indeed he would sometimes squeeze a rubber ball while thinking about the non-linear differential equations of space-time. Other scientists, such as Barbara McClintock developed an interior sympathetic and emotional identity with her subject of study - the genetic structure of corn. Likewise Brian Godwin, responding to the biological writings of Goethe, has attempted to develop an objective form of intuition by meditating on and visualizing particular biological systems¹⁵.

In private conversations Bohm said that, because his body was made of the same substance as the cosmos, in a certain sense the laws of physics were contained within him and could therefore be accessed through a certain form of introspective awareness.

This form of mathematical consciousness may be more common than is generally supposed. When theoretical physicists such as Dirac and Penrose say they are using aesthetics as a guide to doing mathematics they are speaking of a sense of beauty and elegance that lies beyond the usual forms of logical analysis or conscious awareness in favor of an arena of intuition, feeling, harmony and balance.

While writing the present paper I have also been trying to watch what occurs between the vague moment of conception and the action of execution. As with my other writing, lecturing, or when I was more active in scientific research, I begin with some overall and ill-defined sensation that motivates me to define a general area, or some half-formed question, which I then attempt to hold - both mentally and physically. This containment may go on for several days or weeks during which I experience strong feelings of frustration and even despair. Although no new ideas or approaches

may come to mind I am nevertheless constantly aware that "work" is being done at some internal level and I may experience specific muscular tensions in parts of my body - even to the point of half joking to my family that my right leg is "thinking about the next chapter".

Often the sense of frustrating desperation reaches the point where I am about to renounce the entire project; yet a matter of hours later significant ideas, or entire pages of text, flood into the mind so that it is simply a matter of remembering them long enough to write them down. At the moment of my becoming aware of them I experience a sense of exhilaration and release of tension within the physical body. Of course this may not last long and I may be plunged into a further stage of frustration, which indicates that the work is not yet in its final form.

This type of "thinking" need not necessarily involve a frustrating struggle, with all its attendant romantic overtones. I once had the exciting experience of editing a 16mm "art film". For several days I worked at a Steenbeck editing bed where it is possible to run the film on a small screen at anything from fast forward, through normal speed and down to a single frame by frame sequence. Initially the editing process involved "logical" decisions to do with unfolding the "story" of the film. But once the various scenes had been spliced in sequence the more serious side of editing took place. This was all about establishing the pace, the visual rhythms of the film, and selecting how various physical movements fit together according to the ways the eye scans the screen and moves from scene to scene and the frame by frame relationships of light, form and shape.

Taken at the intellectual, analytic level this task would seem to be enormously complicated, but after a few hours I found that my hands were making rapid decisions about where to cut and splice, even to the point of overruling the rational mind. It was as if the movements and relationships of the film had become internalized in muscular reflexes; the film had become sensations in the stomach, feelings of movement and a symphony of excitements. Related sensations were created in me some time later when I viewed the completed piece in a cinema.

Musical performers appear to be involved in something similar. Evidence from brain scans, together with other investigations, suggests that performance depends upon the orchestration of internal body states of movement, balance, heart beat and so on.¹⁷ Surprising as it may seem; while actively playing music the brain's auditory activity is somewhat suppressed. This suggests that performance involves a response to, and an expression of, inner feelings, emotions and sensations. Once, for example, during practice of a troublesome passage, the Canadian pianist Glenn Gould turned on a radio so loudly that it drowned out his "hearing" of the music he was playing. In this way his effort became focussed on externalizing, or projecting outwards, his internal sensations about the music rather than in paying attention to the resultant sound he was producing. ¹⁸

Paul Robertson, leader of the Medici String Quartet, ¹⁹has written about the way the four members sense each other's music production by means of subtle body gestures, even to such hypersensitivity where they know when a colleague is about to make a mistake - but that this mistake is not actually going to take place!

Evelyn Glennie, a profoundly deaf percussionist of international renowned, tunes her timpani by "feeling" each note in a specific part of her body.²⁰ Other profoundly deaf musicians have become successful orchestra players, responding to the body gestures of their colleagues. And the most famous of all deaf composers was surely Beethoven. While it is true that he composed directly from his musical imagination onto the page, at times he would place a stick in his mouth and press it to the body of the piano so that he could feel the musical vibrations through his mouth. [Stravinsky, on the other hand, was a purely auditory composer. I remember being told the following anecdote, but can't recall the source. A music editor who suspected a misprint in one of the composer's scores visited Stravinsky at his California home. On seeing the score the composer was unable to decide if an error had been made until he had gone to the piano and played the passage several times, listening carefully to the sounds he was making.)

Manfred Clynes, who is both a concert pianist and neuroscientist, proposes that each of our emotions has what could be called a corresponding "signature" or body gesture. These gestures can be as subtle as a flicker of a finger and, according to Clynes, are cross-cultural. The orchestrated internal world of body consciousness can then be variously expressed as music, or as the complex pattern of gestures that make up a painting or sculpture. ²¹

Recently, for example, while watching a young Dutch violinist, Janine Jansen, playing the first movement of the Brahms violin concerto I was struck by the vivid way the music appeared to be emerging out of her body. As she played she raised herself on the toe of one leg then swept low over the violin. It was clear that her body was not only responding to the music she was making but also anticipating what she was about to play. It was as if the music was already present inside her. The intention was first unfolding within the body so that its actual expression could then emerge through her fingers and bowing. Indeed, watching her body movements became an important compliment to hearing her play.

6. Projection and Externalization

Through a variety of examples I've tried to show that so much of what we do and make, from playing music, painting, editing a film and writing a text to giving a lecture or making a sculpture, involves processes that arise out of internalized body work and move towards an act of projection onto the outer manifest world.

Footnote

Here the word "projection" is being used in the literal sense of taking inner material and throwing it out onto the external, social world through an act of making, carving, painting, dance, music, writing, speech, emotive gesture or any one of the innumerable ways we engage and communicate with the world. But note that the same word "projection" is also used by psychotherapists to denote a defense mechanism whereby previously unconscious material and attitudes associated with unresolved complexes are projected onto the blank screen of the therapist, or more disastrously onto one's partner, colleague or boss. This latter type of projection implies a dislocation between the actuality of the other, whatever such actuality means, and one's fantasies, ideas, angers, frustrations and expectations for relationship

For example, an artist may be working on a piece in which internal sensations of movement and stillness, of tension and resolution, begin to emerge. As this external and projected manifestation starts to take on a particular form and visual language, so too the artist responds, internalizing yet again. The whole flow becomes an alchemical cycle, a constant movement between inner and outer worlds.

This is also what happens when, later, the viewer of the work seeks to place his or her own sense of ontological being, of body existence, and mental coherence, into relationship with the work. Great art has a transformative effect precisely because it involves one's whole being in integrative movements not dissimilar to those first experienced by the artists themselves.

It goes without saying that analogous experiences occur while listening to music. Ordered patterns of sound enter the ear and are processed within the auditory centers of the brain to generate complex patterns of firing neurons and, in turn, produce a heightened sense of awareness and sensation within the body. But, according to the musician and thanatologist, Therese Schroder-Shecker, music also enters the entire body surface directly. Patients close to death, or in profound coma, respond to music, even to the extent that their vital body signs resonate or respond to what is being played. For Schroder-Shecker the entire skin of the body is a responsive organ to sound. Ordered patterns of vibrations bathe the body and their effects enter into the body organs directly, changing heart beat, respiration, metabolic function, and so on. Beverly Rubik, who is also a dancer as well as being editor of this volume, tells me that while watching ballet she experiences tensions and resolutions in specific parts of her body which would be similar to those evoked while dancing.

Music plays a vital spiritual and social function in all cultures and its most immediate response is always evoked within the body itself - dance and communal chanting. Music produces a deep integration of mind and body, spirit and matter, inner and outer. It is an exemplar of their fundamentally unanalyzable nature that is the subject of this chapter.

The American artist Janine Antoni begins from what I would call an existential unease, even anxiety, at her separation from the material world. In the earliest months of life we learn to separate from the breast, the mother, and, indeed, the entire world, in order to assert our independence, and at the same time realize our own physical contingency and dependence. But some artists are in the privileged, but sometimes painful, position of staying closer to the acute primal sensations of life. In Antoni's case it is a perception that she is physically separate, ontologically different, from the chairs, tables, floor, room and people around her. She has made that anxiety the basis of her art.²²

Thus Antoni has a compelling, almost passionate, affair with the matter of her art. In "Gnaw", for example, she chewed 600lbs of lard, spitting out the material, which was later made into lipsticks. She has also cast her face in chocolate and in soap, licking away the features. In part, her art is a comment upon women's psychological position in a modern consumer society but is also an expression of her "affair" with the material world - her seduction by it and submission to it.

Once when talking to her I drew attention to the table which was physically separating us. Antoni hypothesized that she could chew the table, incorporate it within her being and then spit it out, particle by particle in order to rebuild it by combining the wood particles with her own spit, hair and flakes of skin. What had previously been absolutely separate had first to be absorbed, incorporated, then projected back into the world, externalized, but this time containing elements of her own body - a metaphor for the subject of this essay.

7. Internalization

When a creator's work has finally been projected eternally and expressed as a manifest form, symbol, act of speech or writing, it is objectified and freed to be internalized yet again but this time into the conscious realm of concept and thought. In this sense one only knows what one is doing when one projects it into the outer world and, as it were, sees it new born for the first time. This applies as much to scientific thinking as it does to a piano sonata, sonnet, painting or abstract sculpture. Indeed, I would argue that it is a fundamental aspect of all human engagement with the world. Often a creator does not really know the value of a piece of work until it has been objectified, made public and thereby separated from its creative host.

According to the French psychologist Lacan, one of the most significant stages of infant development occurs when a baby begins to recognize its own reflection in a mirror. ²³Lacan believes that the mastery of language is only possible after this "mirror phase" has been achieved. This breakthrough has much in common with the creative acts discussed in this essay, for the baby must realize the ways in which the external abstract image, in the mirror, can be incorporated into its being in such a way that its developing sense of self becomes separate from the rest of the world. Self and image, internal and external, sensation and projection all become a part of the same punning language that is characteristic of consciousness and art.

The function of art is to take our experiences of the world at the individual, social, cosmic and spiritual levels and allow them to attain internal coherence by containing them within the alchemical vessel of the body-mind to the point where they can be expressed externally as the engagement of inner form with the material contingencies of the outer world. In this way the invisible is made manifest, set free and given an independent ontological existence so that it can later be consciously recognized and internalized as thought, emotions, sensations and so on. In this manner the consciousness of the body is finally released into public symbolism, language, form, physical structures where it can be absorbed and discussed by others as ideas and concepts as well as though their feelings and emotions.

In this way art makes and objectifies the world. In the early Middle Ages people knew about heaven because artists had been able to depict such a domain using the media of mosaic, pigment and gold leaf. Byzantine and mediaeval artists presented space and time in an integrated way. Religious paintings were sometimes divided into an upper area of the eternal and a lower one of the secular. In the life of a saint, miracles occurring in different time periods, were presented in the same fresco. Art became an expression of the unified spiritual and social cosmos in which people lived.

The cosmic, spiritual, civic and psychological orders of the age were integrated within the system of concentric circles of Dante's "Divine Comedy". I would argue that this is exactly how the world "felt" to its inhabitants, both in their internal lives and as members of the community. Dante and others had generated a common symbolism that could be internalized into the way people acted and had their being.

The Renaissance took "Man" as the new center, the measure of all things. Whereas Sieneese frescos portrayed an idealized humanity, Florentine art depicted individualistic faces and, moreover, began to unify paintings through the mathematical device of perspective. The vision of the cosmos now became secular rather than divine, and the dominant viewpoint that of the individual human viewer.

It is probably no coincidence that the next significant movement in art - the Baroque with its powerful elliptical movements - should flourish in the same general period in which science rejected circular orbits for the planets in favor of Kepler's ellipses where the planets move at different speeds at various points of their orbits. Society and individuals had again come to a different way of "being" and "feeling about" the world. Consciousness had changed.

One could go on, showing the way in which artists have held the tensions of an era and found ways of expressing them in pigment, stone, language, music, dance or film so as to create a common symbolism or system of thought for that period.

The painter Patrick Heron argues that "the actual 'objective' appearances of things is something that does not exist... the human eye learns to inject a favored order of some sort or other. Historically it is painting that has supplied that order." 24 When artists project the inner onto the outer, the rest of us have access to a visual and cognitive code which can be "injected" onto our intentional acts of seeing so as to make sense out of the world. It is Heron's argument that the ways we see the world actually change over historical periods.

In fact all creative action - from painting and sculpture, to dance, music, poetry and science - involves acts of projection onto the material world. The power of this projection is that it gives us access to a series of codes, linguistic structures, archetypes, call them what you will, that we can internalize, only later to inject them into our perceptions and thinking about the world. These codes and structures are therefore the ways we make sense of the world, society and our relationships. They are the infrastructures that determine the way we act and have our being. Thus at times a single work of art enables us to see the world in a radically new light so that familiar things are not revisited in novel ways. Betty Friedan's "The Feminine Mystique",²⁵ for example, gave voice to "the problem that had no name" and in doing so enabled women to see themselves, and the society in which they lived, in a radically new way.

Footnote:

As noted earlier the term projection is used in psychiatry to denote defense mechanisms as in, for example, transference and counter-transference. However, it is possible to speculate on other situations whereby projection and transference become useful components in growth and maturation. In Projective Identification,²⁶ for example, it appears that the content of certain complexes, along with associated "memories" and "ideas" can enter the consciousness of the therapist without ever having been referred to explicitly and verbally. Such a phenomenon, which can be quite unnerving to the therapist, appears to involve some sort of direct non-verbal communication or act of direct non-physical projection of psychic material.

Complexes of this nature will have become blocked within the patient's body-psyche. They are limit cycle systems that suck in energy yet are unable to move. When projected onto the psyche of the therapist, however, they become objectified and distanced from the highly emotive charge normally associated with them. By way of an analogy the projection and absorption of a complex within the psyche of the therapist could be compared with the way certain chemical reactions, not normally possible at room temperature, are catalyzed into action by being absorbed into the surface of, for example, platinum metal.

The psyche of the therapist may act in an analogous way, as a catalyst that frees-up the energies associated with a complex. Once set free this projected externalized and objectified material can be re-internalized by the patient and brought into a new balance with the rest of the personality.

One of the compassionate acts of psychotherapy therefore lies in allowing a secure container to develop, one which makes such projection possible and allows the therapist to hold the projected material long enough for it to be freed-up and thus begin to move again.

Some years ago a Canadian artist, Murray Fabro, rebuilt - using the artist's original distorted perspective - Van Gogh's bedroom at Arles, the subject of a famous painting. Fabro then projected a slide of Van Gogh's painting onto the reconstructed room. The result was a curious double-layered reality. It is a perfect analogy for the way we project, internalize and construct the world. In Fabro's work there were two realities present, a physical room and the projected image of a room. The mind blended the two together to create a hyper-reality while perfectly accepting the illusion. In a similar way we internalize the world within the body, transform it and then project it back onto the external world, internalize this projection, and take the whole display as the illusion of continuous reality.

In this was awareness and consciousness form a continuous alchemical movement. This word "alchemical" has not been chosen lightly. The art historian Maurizio Calvesi has argued persuasively that visual artists from the Medievals, though Durer and Micaelengelo and on to Duchamp, Ernst and the Surrealists, as well as poets such as Rimbaud, have been fully aware of the alchemical component to their work.²⁷ The making of art, music and poetry involves the marriage of matter and spirit, both internally within the body and soul of the alchemist/artist, and externally within the material work. Thus, when Durer portrays himself as Christ it is not for any blasphemous or egotistical motive but to depict the artist as the "redeemer" of fallen matter. Likewise Michaelangelo's the face of "Night" in the Medici tomb is not fully worked and partially occluded by a shoulder - the Black Sun of alchemy. Likewise his sculpture of "Dawn" is a deliberately hermaphroditic figure. These figures make clear reference to stages in the alchemical working and equate the artists' transformative activities with matter to those of the alchemist. As I've been trying to show in this essay these workings reach right down into the body as the source of our consciousness and creativity.

Artists intuitively understand that their work begins inwardly, in Gormley's "dark inner space", Tippet's pregnant holding, and Kapoor's "intention". In alchemy this corresponds to the first stage of working, portrayed in Durer's famous etching "Melancholia I". It is the Nigrido state, the undifferentiated blackness with that sense of holding and suspension experienced by Tippet when composing "The Midsummer Marriage". It is only when "the time is right" and this stage has been completed that it can reach towards the light, towards differentiation and the creation of binary opposites and on to the final Mystical Marriage in which all dualities are resolved and contained.

8. The Illusion of Awareness

Earlier in this essay I argued that general consciousness is much wider than what is available to awareness. Most of us have a sense of ourselves as autonomous, independent beings in relationships with others and the world. But this does not necessarily mean that we actually possess continuity of awareness, even if we have the persistent illusion that such continuity exists.

Consciousness in the sense I'm using it here is associated with the entire body - muscles, viscera, metabolism and brain. This means that a great deal of our creative lives takes place outside immediate awareness. Only after creative material has been projected outwards and then internalized, in terms of symbols, ideas, concepts and a verbal field, is it potentially accessible to awareness. However, what people normally mean by "consciousness" is something structured by the ego and containing a "self" that appears to direct thought and makes decisions and so on. Such "self consciousness" implies a state of being that is more or less continuously aware. But awareness, at best, is only a fleeting thing. We sense a succession of mental events but they are only tiny icebergs floating upon a much greater ocean of general consciousness.

To make an analogy, parts of the frog's visual system are hard-wired to the sensorimotor system that controls its tongue. In this way the tongue flicks out to capture the fly the moment vision begins to register the fly's movement. One could perhaps anthropomorphize that the entire event takes place outside the frog's awareness - if frogs can be said to have awareness - and only begins to register as an act of "seeing" after the fly had already been consumed! I propose that something very similar is always going on in human consciousness. This is not to deny awareness but to suggest that it forms only a small part of our distributed system of consciousness that includes "higher" brain functions, the limbic system and the body itself.

Our sense of reality, and of our self as the begetter of action, is therefore made out of a series of fleeting moments of awareness. These are conjured together to produce the illusion of continuity. Awareness is like watching a movie - a series of static shots interspersed by darkness, which the brain patches over to produce the illusion of continuous reality.

If you look very attentively at a videotape of the same movie - winding it back again and again = you begin to notice, for example, that the sound of a champagne cork popping occurs a fraction of a second before the cork actually leaves the bottle. You also see discontinuous "jump shots" of fast action, and so on. The more you examine the video the more you detect a pattern of discontinuities and visual tricks that, in the hands of a skilful editor, have combined together to produce the illusion of continuous reality.

This is particularly true of children's cartoons, a perpetual irritant to physicists because they do not obey Newton's laws of motion! But the whole point is that the cartoons are not representations of the external world. To the degree to which we slip into identification with the characters, they produce somatic sensations of what it would "really feel like" to bounce like a ball, fall off a building, swing a cat, or run head first into a wall!

Cartoons provide an invaluable clue to our inner experience of reality. Conscious awareness and cartoon trickery share the illusion of smoothness and continuity and so avoid the distress of registering the discontinuity inherent in all our mental processes.

Those who report experiences of psychedelic drugs, periods of psychosis and depersonalization, or who have seriously meditated, all appear to have periods when they function outside the realm of these illusions (although maybe in the grip of others).

Our normal ego requires such illusions, it demands a sense of continuity, even to the extent of manufacturing the mental illusions that sustain this very sense. Give people a post hypnotic suggestion and they carry out absurd actions which they later justify in quite elaborate ways. When the hypnotist suggests a normal room is empty of furniture the subject will walk to the door avoiding furniture he "knows" is not present, but justify these changes of direction with a variety of fabrications, such as "I thought I saw some money in the corner, or "I had to stop and tie my shoelace".

We lead much of our lives asleep and manufacture all manner of excuses to allow our dreams to continue. We believe we are living in the light of awareness, making conscious plans and decisions, but the ego is a great fabricator. It is a little like the Wizard of Oz, a nondescript con man who produced a gigantic image of his head on the screen. When Dorothy tried to peek the giant head commanded, "Do not look at the man behind the screen!" Much of what is most creative in our lives may take place outside awareness. While that of which we are aware, neurotic symptoms, solving cross word puzzles, and doing routine calculations, is in fact the most superficial.

9. Psyche in Nature

Up to now this essay it has been based upon my own experiences of creativity as well as discussions with artists about how they work. My conclusion is that the word "consciousness" should be applied as much to processes taking place within the body as to the electrochemical activity of the brain.

So far so good. Now I want to go further and engage in a speculation which takes me away from my direct experience of the word. It is the suggestion that psyche is truly ubiquitous in nature.

And what does such a conjecture mean? Does it imply that nature has mind? That nature is conscious? That human minds can somehow enter into nature? That mind is decolorized and not confined to the human brain and body? Other thinkers have advanced one or more of these propositions. In the early part of this century it was quite fashionable to speculate that the universe was filled with disembodied "mind stuff". More recent resurgences of such ideas include Bohm's notion of "active information" that guides quantum processes, Shelldrake's morphogenetic fields that carry the habits associated with both material and mental processes and Laszlo's vacuum field - possibly even Carl Jung's notion of the psychoid could be included.

In my case I'm not so much interested in advancing a new philosophical position than in responding to a challenge. What on earth did Cezanne mean when he wrote, "The Landscape becomes reflective, human, and thinks itself though me? I make it an

object, let it project itself and endure within my painting....I become the subjective consciousness of the landscape, and my painting becomes its objective consciousness"?28

Cezanne was a gruff and unsociable man who made his words count. What did he mean by the quotation above? Was he being strictly literal? Did he intend his words to be taken in a metaphorical sense? Or was he merely anthropomorphizing his favorite trees and mountain? The more time I spend with Cezanne's paintings the more difficult it becomes to be cynical and dismissive about his remark. When I look at them I recall the medieval notion that the artifex, miner, smith and worker in precious metals, were all servants of nature engaged in the sacred task of assisting her towards completion. I note the philosophy of the original alchemists and Goethe's idea that nature completes herself in the act of human contemplation. Did then Cezanne mean that he, as a painter, was truly an aspect of the psyche of nature?

Conventional logic and didactic argument take me no further when I begin to ask if psyche pervades the natural world and that, standing before the landscape, Cezanne did in fact act as the vehicle of its consciousness. Or, for that matter, that Native Americans are truly able to talk to trees and know which rocks are alive. Or that, as the biologist Rene Dubois suggested, there truly is a "spirit to a place" so that those who have lived in a particular area for a long time have entered into relationship with that land and spirit. 29For the moment I can take the reader no further... beyond saying that it has become much easier for me to write these final paragraphs after living for the last year and a half in a tiny village within the Tuscan hills, amongst people who have worked the land for so many generations that their origins go back to the Etruscans. For them such questions do not arise, they and the land have become one.