Chapter 2
The Associative Unconscious

Susan Long and Maurita Harney

> *Charles S. Peirce defines his famous concept of "abduction" as follows: "Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea" (Peirce, 1903:CP 5.171.. in Hoffman (1997))*

In this chapter, we describe the idea of an "associative unconscious", differentiated from the repressed dynamic unconscious so well articulated through Sigmund Freud and his followers. In looking at an associative unconscious, we will explore some of the ideas of the philosopher Charles S Peirce whose concept of "abductive logic" not only provides a logic to underpin psychoanalytic and socioanalytic thinking, but also provides a conceptual framework for the associative processes that we believe are central to the unconscious, especially as it is evidenced in social groupings.

A clear philosophy of science has never fully been articulated for psychoanalysis. Much discussion has centred on debates about whether or not psychoanalysis can be considered a science, given traditional views of science (Grunbaum 1984; Webster 2002; Ventura 2002). Following Ricoeur and Habermas and in defence of psychoanalysis, hermeneutic definitions appeared in the mid-twentieth century, regarding psychoanalysis more as an art and a linguistic interpreter of human experience (e.g., Steele 1979). Lacan's (1977) interpretation of Freud is closely although not exactly aligned here. In addition, psychoanalysis is sometimes claimed to be a philosophy in itself: *sui generis,* not fitting into other categories such as psychology or social science or medicine "because in the end, if psychoanalysis develops as a mature science, it will find that the successful models are those proper to it and not those developed by analogy to other disciplines" (Etchegoyen 1999 p. 501). Indeed, its resistance to categorisation and difficulty in finding an established place as a discipline in universities worldwide may be due to its not having a clear or established philosophical partner. While challenged from within a positivist scientific perspective for its lack of laboratory experimental confirmation, the concepts of repression and the unconscious are still

compelling as explanatory tools: clinically with patients; socioanalytically with groups and organisations; in art and literature; in social and political analysis and in the popular imagination. Moreover recent neurological work questions the challenge to the scientific status of psychoanalysis (Cahart-Harris and Friston 2010) suggesting a neurological basis for the effects of unconscious processes.

Socioanalysis is psychoanalysis linked to systems thinking in order to explore individuals (as social animals), groups, organisations and society. We argue that the associative unconscious is as vital to understanding socioanalytic phenomena as the repressed unconscious. The idea of an associative unconscious brings forward the notion that all human thought and meaning is implicate within human symbolic form and capacity (Bohm 1981; 1996). This basically means that all past, present and future thought exists in potentiality within the capacity to use and interpret signs and symbols. We will return to this idea later in the chapter when discussing the philosophy of Peirce. For now, because much of human thought is implicate rather than explicate, it is argued that it is unconsciously present to humans: that is, implicit in their symbolising capacities but not realised because of multiple factors. These are factors such as: repression of unwanted thoughts; psychotic exclusion or destruction of thinking capacity; social and cultural constraints on thinking, historical progression of thoughts, developmental factors in individuals, and inherent restrictions on thinking capacities. As with the traditional idea of the unconscious (both repressed and inherent) the associative unconscious influences conscious thinking, feelings, desires and behaviours in ways that we are unaware. Just as free association is a method of accessing the individual unconscious, there are methods of accessing the unconscious as an associative field. The methods described in this book attempt to do this.

The Unconscious in Psychoanalysis
Freud was the first to systematically describe and explain unconscious processes and functioning. He focused primarily on the process of repression – a process whereby unwanted or highly distressing thoughts and associated emotions are deliberately forgotten or forbidden entry to consciousness (Freud 1915). And yet they are not totally forgotten because their influence continues even while the thinker or actor is unaware of their so doing. For psychoanalytic thinkers consciousness is just the tip of that vast iceberg that is the human mind.

In early psychoanalytic thinking, following Freud's topological theories of id, ego and superego, the unconscious became regarded as a kind of storehouse of thoughts and feelings that are either unwanted (repressed) or unable to be consciously articulated. This is echoed in some aspects of Jungian theory where, as well as a personal unconscious, there is a collective unconscious replete with archetypes that are unconscious thought representations of fundamental collective social experiences that transcend specific cultures.

However, the unconscious has always been considered as much more than a repository for the unwanted. Freud was well aware of this. For him it also included inherited tendencies and many ego processes. He called it "the system Uncs" even before he developed the topological theory, implying systemic processes in thought rather than a limited store of ideas. And his dynamic theories have explored how unconscious processes permeate everyday life as well as being in the aetiology of mental illnesses. The later concept of the "id" (the "it") indicates an otherness of the unconscious apart from the human ego. Freud saw this as a system of inherited tendencies and desires – where biological drives were represented in psychic terms.

We thus see that the unconscious is less a "place" in a topology of the mind and more a set of processes within cognitive and emotional functioning. This view becomes clearer in Lacanian psychoanalysis where stress is placed on the operation of the unconscious in terms of linguistic phenomena. Metaphor and metonym, for instance are regarded as the basic linguistic processes found in the psychological processes of displacement and condensation: the main unconscious processes described in dream work, jokes, slips of the tongue and in the forming of neurotic symptoms. Briefly, to clarify this: (i) metaphor = whereby one signifier takes the place of another to create new meaning (underlies displacement); for example, in Shakespeare's sonnet the line "Shall I compare thee to a summer's day" displaces the meaning of a summer's day onto the woman concerned; and (ii) metonym = whereby one signifier stands alone for several others that are then implied (underlies condensation). The whole meaning is condensed into one word, as when "the crown" in "the Crown vs Smith" is used for all functions of the law pertaining to the head of state.

But the Lacanian formulation does not mean the unconscious is just another natural language. To regard unconscious functioning as a linguistic process is not to call it another natural language, but to emphasise the symbolic nature of thought.

Symbolic functions are the very basis of human thought whether in mathematics, the syllogisms of formal logic, natural languages and musical forms or common sense and colloquial logic. (It should be noted here that even so called illogical thought as found in neurosis or even in everyday life, in fact has a symbolic logic of its own – this is one of the great discoveries of psychoanalysis and modern therapeutic "talking" treatments where a "hidden logic" is uncovered.) It is only when the symbolic function remains uncreated or destroyed, as in psychotic functioning, that the boundary between conscious and unconscious dissolves. Without the symbolic function neither distinctly conscious nor unconscious functioning occurs, only a kind of mishmash, where dreams invade waking experience and words and sentences fail to hang well together but invade each others' meanings. Psychic processes such as splitting and projective identification dominate. The central point here is that symbolic capacity allows the unconscious (as well as consciousness beyond simple awareness) to exist. The unconscious (a distinctly human phenomenon): seemingly totally illogical with its disregard of the passing of time, its naming one thing as another and its interference with conscious will and logic, is the product of the human capacity to symbolise and to create meaning.

Beyond the Individual
More correctly this section might be called "before the individual" because our premise here is that "thought" is a social rather than an individual process. In essence this means that the functions and bases of thought are social, even though individual thinkers are the vehicles by which ideas, thoughts, words - all of symbolic activity – are articulated and extended. Wilfred Bion talks of "thoughts in search of thinkers" (Bion, 1984). Although formulated as an aid to understanding the ways in which patients attack their own mental links and acquire the thoughts of others as their own, this hypothesis captures the notion that thoughts exist unconsciously within the infinite of a thinking community without being the sole creation or property of any of its specific individuals. Symbolic processes and their products such as language, music and song, money, mathematics, calendars and formalised time belong, as it were, to the group or community. Their specific meanings are co-created and co-evolve rather than simply reflecting changes instigated by individuals.

Individuals have the capacity for conscious thinking, so they are able to draw upon thoughts (ideas/symbolic formations) available in the social field in habitual or creative ways; to utilise them in conjunction with their experience. They may gain access to this social field or

network of thoughts though interactions with others or through utilising the thought tools provided in the network, such as, for example, syntactic, formal logical, mathematical or cultural rules and logic. In terms of their own personal histories or capacities, some part of these available thoughts may not "gain entry" to consciousness because they have been previously repressed or because local cultural mores or beliefs, or even habits of thinking prevent this.

Bion's theory of thinking (1984) outlines how the precursors of thought – beta elements derived from direct experience – become transformed through alpha function (or not) into more sophisticated thoughts (Grotstein 2007). The process of forming and transforming alpha elements is modulated by the cultural container in which the individual lives and experiences. It is modulated by the behaviour of the parents towards their infant; the ethical and cultural beliefs of teachers; the actions and decisions of politicians; the creativity of artists and the creative functioning or perversity of corporations. Moreover, Bion's (1961) theories of group dynamics explain how basic assumptions in the group culture shape the experiences, thoughts and feelings of group members. This influence occurs in the symbolic functioning of the group and the individual out of conscious awareness. The simile here is that of a fractal where the same pattern is repeated at every level of magnification of a form: in this case, society; group; individual; alpha function.

Following these ideas, we here argue that the unconscious or, more correctly the totality of unconsciousness is a social phenomenon. A metaphor may work here; one that is understandable in the twenty-first century. We can say the unconscious is like the "world wide web" (www). It is a network of thoughts, symbols or signifiers, able to give rise to many feelings, impulses and images, and importantly able to give rise to meaning. This network is not static but constantly changing with new connections being made by the thinkers who are a part of it. Here we should make a correction. By talking of "access" to the unconscious social field of thought, it may sound as if the individuals are outside the network. This is not so. The social field is "IN the individuals", which gives an impression altogether different from the individuals being "in the social field". The social field of the unconscious is in each individual in the sense that it is in the connections and the mental associations between them (Long 1992). The boundary marked by the word "individual" is not adequate. Mind is social (Harre 1984). The boundary between individuals is more extensive when we speak of the associative unconscious. By talking of an individual

"accessing" the associative unconscious, we refer to those processes whereby the unconscious social field of thoughts can be articulated or utilised in thinking.

The Associative Unconscious

Here then is a formulation of the unconscious as a mental network of thoughts, signs, and symbols or signifiers, able to give rise to many feelings, impulses and images. The network is between people, but yet within each of them. The boundary of the unconscious does not co-incide with the boundary of the individual despite the necessity of the boundary of "individual" for other functions, including the functions described by Bion in his theory of thinking: the functions of the thinker, or as we shall discuss later, the functions of the interpretant in Peirce's philosophy.

The associative unconscious might be conceptualised as a "pool of thoughts" – much as Darwin's pool of genes, but that is too static. We have used the term "network" but that too readily gives an idea of a combination of "things" in physical space, whereas we conceptualise it as in psychic space. The associative unconscious might be seen as similar to Jung's idea of the collective unconscious, but there are differences. Jung says:

> My thesis then, is as follows: in addition to our immediate consciousness, which is of a thoroughly personal nature and which we believe to be the only empirical psyche (even if we tack on the personal unconscious as an appendix), there exists a second psychic system of a collective, universal, and impersonal nature which is identical in all individuals. This collective unconscious does not develop individually but is inherited. It consists of pre-existent forms, the archetypes, which can only become conscious secondarily and which give definite form to certain psychic contents (Jung 1969 p. 43).

Despite similarities, in contrast to the idea of the collective unconscious, the associative unconscious is not "identical in all individuals" because each individual holds *only a part of the vaster whole*. A metaphor here is that of a jigsaw puzzle where each individual part is shaped very differently, yet the picture as a whole has its own unique integrity. In this case the whole network is supra-individual with the system-as-a-whole capable of producing, for example, archetypes as system-wide symbols (the whole puzzle put together) that are then able to be introjected by individuals. Hence such symbols may appear in different parts of the

system (for instance in individuals, groups or cultures) contemporaneously. The idea of an associative unconscious does refer to shared representations but not necessarily representations that are inherited and held identically in each individual, as with Jung's collective unconscious. What is in common between individuals is the capacity to symbolise and to co-create meanings not the specific representations that *as a result of* co-creation are thus held within the culture.

The dynamics we hypothesise as involved here are akin to those described by Freud in his paper on narcissism (Freud 1914). He describes the infant at first in a state of primary narcissism or autoeroticism. Self-love (secondary narcissism) only occurs with the development of the ego after the infant comes to love another (e.g., the mother). Then, having once loved another, the infant can love herself (her own ego) *as if* she were another. This one could say, is a social relation to the self. This social relation implies an essentially split or "double" self – an "I" that loves and a "me" or ego that is loved.

Similarly, then, individuals have shared representations, that is, co-created meanings as part of a social relation. Each contributes and relates to others and in so doing is able to relate to the co-created associative system through its introjection. Here we are not hypothesising an inherent associative unconscious, only an inherent, almost automatic capacity to become part of a broader systemic process.

The associative unconscious as a system holds a set of processes of symbolisation constrained only by current expressions. Bion talked of the "infinite" rather than the unconscious (Bion, 1984). This allows for this social, mental network to be infinitely expanded beyond what it now explicitly is. This implies that all possibilities of thought are "implicate" when articulating the idea that all potentialities in a given system exist contemporaneously as the system exists, and it would seem, as it expands. Such possibilities simply need the conditions to unfold.

So the associative unconscious is the infinite of human thought in all its possibilities. For individuals, their capacities and histories may cause repression of that portion of the associative unconscious which they may have initially gained access to but are now unable to tolerate. At times, a psychotic function or process may deny access or alternatively swamp the individual or group in the network such that normal thinking is precluded. For many, the

constraints of particular cultures such as national, corporate, gender or familial cultures pose barriers to access. However, because of the associative unconscious (that which is implicate but not yet conscious) new thoughts and new combinations of thought are possible. Hence, the associative unconscious is the crucible of creativity.

A Philosophy of Science for Socioanalysis and Psychoanalysis

In his 1915 paper *The Unconscious* Sigmund Freud argues a justification for the concept.

> It is **necessary** because the data of consciousness have a very large number of gaps in them; both in healthy and in sick people psychical acts often occur which can be explained only by presupposing other acts, of which, nevertheless consciousness affords no evidence. These not only include parapraxes and dreams in healthy people, and everything described as a psychical symptom or an obsession in the sick; our most personal daily experience acquaints us with ideas that come into our head we do not know from where, and intellectual conclusions arrived at we do not know how. All these conscious acts remain disconnected and unintelligible if we insist upon claiming that every mental act that occurs in us must also necessarily be experienced by us through consciousness; on the other hand, they fall into a demonstrable connection if we interpolate between them the unconscious acts that we have inferred. (p. 168 penguin edition of Freud).

Here the father of psychoanalysis has argued that the concept of the unconscious is necessary because it explains certain effects that otherwise seem inexplicable.

The idea of making sense of puzzling and disconnected "symptoms" by inferring a hypothesis that connect those items into a coherent explanatory narrative is not unlike the work of the fictional detective using clues to infer a hypothesis connecting those clues to events which have occurred in the past. This similarity has not gone unnoticed by followers of Charles Sanders Peirce, an early twentieth century American philosopher of science. Peirce introduced the term "abduction" to describe the initial, creative phase in scientific inquiry, the phase of discovery sometimes described as "a flash of insight" whereby a hypothesis is formed to explain some surprising fact. Peirce saw abduction as a form of logic, alongside but different from, and irreducible to, induction and deduction. Elsewhere he calls it a method of inquiry. It has the following form:

A surprising fact, *C*, is observed.

But if *H* were true, then *C* would be a matter of course

So, … (hypothetically) … *H* is true.

(Peirce, 1903: *CP* 5.189)

An example of this is Kepler's observation of anomalies in the path traced out by the planet Mars, leading him to the hypothesis that Mars travels an elliptical orbit (rather than the circular orbit habitually believed by the astronomers of his day).

To satisfy the norms of scientific method and give us confidence in the truth of our hypothesis, that hypothesis must be tested. But this is a later, and separate, stage in the process of scientific inquiry. It is here that the methods of deduction and induction come in to play. Prior to testing, the hypothesis can only be held tentatively "as an interrogative," (Peirce, 1901: *HP* 2.898-899; also *CP* 2.544*n*) without any confidence in the probability of its truth. Abduction presents us with ***possibilities*** – its conclusions give us something novel or different but not yet ***probabilities***. Our hypothesis is subjected to testing by induction which consists in accumulating data or instances which confirm the hypothesis, or by deduction which tests the hypothesis by applying it to further cases. Deduction gives us certainty. For example, a valid deduction has the following form: "All dogs are mammals; Fido is a dog; so, Fido is a mammal." Here, the conclusion can be held with confidence. However it produces no new knowledge as the conclusion is already contained in the premises. As Peirce puts it, across the three forms of abduction, induction and deduction, *uberty* decreases as *security* increases: "uberty" means "fruitfulness, productiveness", also rich growth, fertility, copiousness, abundance; security means the degree of confidence we can have that our hypothesis is true.

Whilst "uberty" usefully characterises the products of abduction, "ubiquity" best describes its application. Abduction can be seen to operate in a vast array of contexts ranging from the mundane, everyday interactions with the world to the truly spectacular creations of science and art. Cultural historian, Carlo Ginzburg, describes a method of inquiry that serves to connect the insights of Sherlock Holmes, Freud and nineteenth century art connoisseur Giovanni Morelli – all of whom are sharp observers of detail (either anomalous or seemingly trivial), and all of whom are responsible for discoveries regarded as highly creative.

"Morelli's method", as it was known, consisted in authenticating paintings by focussing not on the large stylistic features but on the minor, seemingly irrelevant details like fingernails, earlobes, etc., that served as clues to establish authorship of the work. These revealing "clues" have been left by the artist, in Morelli's words, "almost unconsciously." As Ginzburg remarks, "What is striking here is the way that the innermost core of the artist's individuality is linked with elements beyond conscious control" (Ginzburg 1983 p.87).

There are actual historical connections between Freud and Morelli: In *The Moses of Michelangelo* (1914), Freud reports his great interest in meeting an art connoisseur who turned out to be none other than Morelli. Whilst this is interesting in light of Morelli's reference to the concept of the "unconscious", what really impressed Freud was Morelli's method:

> "It seems to me that his method of inquiry is closely related to the technique of psychoanalysis. It too, is accustomed to divine secret and concealed things from despised or unnoticed features, from the rubbish-heap, as it were, of our observations…" (quoted in Ginzburg 1983 pp.84-5).

Indeed, the quotation at the beginning of this section shows Freud is no stranger to the practice of abduction - not only in his actual use of the psychoanalytic method, but also by the fact of the very reasoning he uses in this quotation to infer that there is such a thing as the unconscious.

Whilst Ginzburg himself does not use the term "abduction," it is clear that the method shared by Morelli, Sherlock Holmes, and Freud is an elaboration of Peirce's abductive method of inquiry. This method is evident in the practices of hunters, trackers, and even diviners of ancient times, as well as palaeontologists, historians, medical practitioners. It is traceable to early forms of "knowledge acquisition" such as divination and astrology – any form of inquiry that proceeds as an inference from puzzling disconnected scraps of information - clues, hints, traces, symptoms – to the formation of a hypothesis which would explain those items by connecting them to a reality that is otherwise opaque and inaccessible. For Peirce, abduction characterises our day-to-day perceptions, for example, my perceptual recognition of the object in my garden as an azalea (Peirce 1901: *HP* 2.899-2.900). These commonplace abductions are continuously inductively confirmed so that they become habitual and

unnoticed. At the other end of the spectrum are those scientific discoveries like Kepler's that yield bold, highly creative new hypotheses.

Ginzburg links this method to "a cognitive model that is at once very ancient and very new" (Ginzberg 1983 p. 102). He calls this the conjectural model of knowledge. "Conjecture" is often used to mean guess. However, the conjectural model serves to show that what we often categorise as "mere guesswork" can, on closer reflection, turn out to be an abductive process although not necessarily recognised as such.

The autonomy of abduction as a logical form irreducible to deduction and induction means we can focus on the structural aspects of the creative phase of inquiry (which is still important although only one stage in scientific inquiry). This is important in considerations of how abduction might be fruitfully used as a "respectable" method of psycho- and socioanalytic inquiry. For it means that questions about "scientific status" can be put on hold whilst we examine features of inquiry in "the conjectural paradigm" as a domain of interest in its own right.

Psychoanalysis seeks an understanding of a reality that is individual, particular, unique. Just as socioanalysis seeks a n understanding of the unique social system. The "clues" it works from are often produced unconsciously. Moreover, the events which are causally responsible for these clues are non-repeatable. In this respect, psychoanalysis shares a methodological orientation with other fields of inquiry such as crime detection, history, palaeontology, medical diagnosis. In all of these cases, the object of the inquiry is knowledge about events - causes - which are unique, singular, deeply individual, often produced unconsciously or involuntarily, and are accessible only through their effects: "When causes cannot be repeated, there is no alternative but to infer them from their effects" (Ginzburg 1983 p. 103).

But what of the status of abduction as a research methodology? Is it a form of logic or a method of inquiry? A flash of insight or an inference? Reasoning or instinct? Inference or creative leap? Peirce at various times described it in all of these ways.

Making sense of these seemingly contradictory characterisations involves some abductive work in its own right. Whilst this is not the place to expound Peirce's broader philosophy of science, there are aspects of it which help to dismantle what appear to be mutually exclusive

disjunctions and dichotomies. These include: his process-based metaphysics (characterised as creative evolution) which makes his methodological ideas particularly suitable for the analysis of complex systems; his (non-Cartesian) view of cognition as mediated and as encompassing perceptual experiences more generally; his view of scientific inquiry as a communal process; his "pragmaticist" philosophy which, like other forms of philosophical pragmatism, casts central philosophical concepts like "truth", "meaning" and "knowledge" as forms of doing, that is, action-related.

Insisting on the *logical* status of abduction is partly motivated by Peirce's anti-psychologism, that is, his resistance to the idea that the laws of logic, a normative discipline, can be reduced to the descriptive, empirical generalisations of psychology. However it also indicates that his notion of logic is somewhat broader than those usually espoused (Hoffman 1997). But, it might be objected, to qualify as "logic", a process of reasoning or thinking must have norms, and this is something that abduction appears to lack, yielding as it does some untested hypothesis. To this we might respond by asking whether the norms in the case of abduction need to be the same as for other aspects of scientific inquiry? As the creative phase in the process of discovery, it seems reasonable to suppose that the norms governing abductive logic might be of a kind more appropriate to narrative – that is, norms of an aesthetic nature, employing notions like "elegance", "coherence", and subject to constraints relating to imagination rather than "reason" (in its conventional sense). Indeed the plausibility of this suggestion is strengthened when we notice that, for Peirce, logic and mathematics as well as scientific inquiry are ultimately subordinate to the aesthetic.

When we think about the purposes of human inquiry more generally, we can draw on Peirce's philosophy to question whether there is such a gulf between the scientific and the creative. Are aesthetic norms totally different from scientific ones? For Peirce the requirement of science is that it be "truth-conducive" in a non-positivistic sense. Peirce as a pragmatist, espoused a notion of truth tied to efficacy of action. That is to say, truth is to be understood in terms of what we *do* rather than "correctness or accuracy of representations": truth-conduciveness must be understood in terms of process or action.

Whilst rejecting psycholog*ism*, Peirce clearly had no problem in allowing that abduction involved both psychological and logical elements. For Peirce, abduction is *both* insight (or instinct) *and* inference, and *both* inference *and* creative aesthetics (Anderson 1987). He was

able to claim this because of his non-Cartesian approach to cognition. Unlike Descartes, Peirce never subscribed to the view that the mind or consciousness is transparent to itself. Even self knowledge in the form of self awareness is not an indubitable *im*mediate "given" - what Descartes called "intuition" - but is based on an inference. Cognition is always mediated. On this basis, the notion of the unconscious presents no conceptual problems for Peirce's philosophy of mind.

Related to this is the consideration that the "surprising fact" that initiates the abduction can be a perception in any sense-modality – a smell, a taste, a sound, etc. For Peirce, it can be argued, there is no inconsistency in claiming that abduction is "insight", "instinct", *and* "inference." Paavola suggests "there is some sort of continuum from animal instinct that is determinate and well adapted for certain purposes, to human instinct that is more flexible but at the same time more fallible." (Paavola 2005 p. 22). In fact, for Peirce, reason *is* a sort of instinct (Peirce, 1913:*EP* 2.472). He even suggests that newly-hatched chickens display something like this "rational instinct" in their ability to successfully find food amongst random barnyard scraps (Peirce 1901: *HP* 2.900). It has not gone unnoticed that, had Peirce been able to access the ideas of later writers like Michael Polanyi, David Bohm, Francesco Varela and Hubert Dreyfus, he might well have gone on to consider the possibility of "implicit or embodied" abduction.

A "logic of association" is present at the very beginning of the abductive process. The first premise of the abduction is the feeling of surprise which involves the breaking of "some habit of expectation"(Peirce 1908: *CP* 6.469):

> I ask you whether at that instant of surprise there is not a double consciousness, on the one hand of an Ego, which is simply the expected idea suddenly broken off, on the other hand of the Non-Ego, which is the Strange Intruder, in his abrupt entrance (Peirce EP2 p,154).

This has echoes of the suggestion that ideas may emerge strangely from the unconscious as from "another place" (Lacan 1977).

The second premise is the synthesising of this surprising fact with a "like" state of affairs – a situation recognised as similar, either known or invented, which would make sense of that fact:

> This synthesis (which) suggest(s) a new connection or hypothesis, is the Abduction…It is recognised that the phenomena are like , i.e., constitute and Icon of, a replica or a general conception, or Symbol. This is not accepted as shown to be true, nor even probable in the technical sense… but it is shown to be likely, in the sense of being some sort of approach to the truth, in an indefinite sense. The conclusion is drawn in the interrogative mood (Peirce EP2 p.287).

For Peirce, an icon is a technical term defined as a sign which is related to its object by virtue of a similarity, likeness, analogy, or resemblance. It serves to position abduction in relation to Peirce's own system of logic known as "semiotics." This is a logic of meanings rather than truth conditionality (although meanings are a vehicle to truth in Peirce's sense).

Piercian Semiotics: Inference, Interpretation and Natural Systems
Fundamental to Peirce's semiotics is the notion of the sign, understood as a triadic unity of something (a *sign-vehicle* or *representamen* such as a footprint), which stands to somebody (the *interpretant*) for something (the *object* – the person, animal that had passed by). So, if I see smoke on the horizon, I take this to be a sign of fire. The relationship here is a triadic one of sign-vehicle (smoke), object (fire) and interpretant (myself) For Peirce, *semiosis* is the process of generating signs; *semiotics* is the study of signs. Peirce stated that "the universe is perfused by signs, if not entirely composed of them" (Peirce *CP* 5.488n) - a point we will return to later.

Peirce gives us a rich taxonomy of signs and the different kinds of associations they make, beginning with a three-fold classification of signs, based on their *ground*: An **iconic** sign stands for its object by virtue of some similarity or likeness: for example, a map, a picture, a drawing; an **indexical** sign stands for its object by means of an existential or causal relationship, for example, smoke; weather vane; medical symptoms; footprints; animal droppings. A **symbolic** sign stands for its object by virtue of convention, habit, or rule**,** for example, a life-saver flag; "cat". All language is symbolic. These classifications are not mutually exclusive. For example, a footprint can be an icon (resembles the shape of a foot),

or an index (is causally related to the actual foot), or a symbol (when used on the sand to form a letter, e.g., "Help").

Peirce's semiotic theory and his classification of signs offer a rich resource for developing a logic of association. Umberto Eco's semiotic approach to linguistics (Eco 1984) combines literary tropes such as metaphor, metonymy, and synecdoche, with Peircean signs and with abductive reasoning. His novel, *The Name of the Rose*, is a flamboyant game of abductive reasoning which complements his more technical academic work. So, for Eco, an indexical sign, such as hoof-prints being a sign that a horse has passed by, exhibits a metonymic association, in this case, a relation of contiguity between the clue and its inferred cause (Harney 1994).

There are significant differences between Peirce's *semiotics* and the Saussurean-based *sémiologie* which is theoretical basis of Lacan's ideas: Saussurean signs are dyadic – a direct pairing of *signifier* and *signified* (of word and object or concept), whereas for Peirce, signs are irreducibly triadic (*sign-vehicle/object/interpretant*). A Peircean sign, like a clue or symptom, embodies an inference from the observed clue or symptom to its cause. For example, "red spots" as a sign of measles involves an inference from the observed symptom (*sign-vehicle*) to the causally-related medical condition (*object*). It is a process mediated in this case, by the diagnostician's interpretation (*interpretant*). In this respect, for Peirce, language is no different. It is not just the juxtaposition of sign, "cat", with the object, cat, as Saussurean approaches suggest. For Peirce, the word "cat", if it is to mean anything, implies an inference from the mere sound or visual percept, "cat", to the object, cat. In this case, unlike the case of red spots or hoofprints the inference is so habitual and familiar as to be "quasi-automatic", but nonetheless inferential or mediated for all that. In a very broad sense, we might say that Saussurean signs are referential; Peirce's are inferential. This does not mean Peirce denies the *symbolic* function of human language. In the example just discussed, the ground of the association of the word "cat" with the actual cat is a matter of linguistic rules or conventions rather than a causal relation (as for indexes) or a likeness relation (as for icons). Recognition of the conventional nature of linguistic meaning is something shared by both Peirce and Saussure.

Saussure's theory of signs as a dyadic unity or direct pairing of signifier and signified belongs to a theory of culture which in turn is built on a theory of language – culture is like

language. For Peirce, however, signs belong to a philosophy of nature, with human culture and human symbolic thought being but a sub-class of this (Hawkes 2003).

For Peirce, signs pervade the universe. Peirce offers the example of the sunflower bending towards the sun as an instance of semiosis in nature (Peirce CP 2.274). In this case, the interpretant is the genetic makeup of the plant which represents a kind of "frozen past," to become part of a new semiosis for future generations (Hoffmeyer 1998). The interpretant of a process of semiosis can become the sign-vehicle for a further act of semiosis, extending *ad infinitum*. So, although "the interpretant" in Peirce's triadic unity can be a human agent, it is not necessarily so. Cognition is an instance of semiosis or meaning-generation, but it is not the source. Ransdell suggests that an interpreter's interpretation can be seen "primarily (as) a perception or an observation of the meaning exhibited by the sign itself" (Ransdell 1997 [2]).

The context for these somewhat puzzling ideas is Peirce's philosophy of nature and its underlying ontology of processes and relations rather than a static, atomistic one. It has much in common with the *Gaia* hypothesis (Lovelock 1995) which conceptualises nature as a vast interconnected organism. For Peirce, signs as vehicles of communication connect all of nature into a dynamic system of relationships which, for him are semiotic relations. So, for example, the dance of the bees communicates the location of food; the sun communicates the source of light to the plant, etc., and these are all instances of semiosis or meaning generation (Sebeok 1991). Whilst Peirce himself did not elaborate on semiosis in nature, subsequent writers have extended his insights by showing that semiosis is exhibited in biotic systems generally. Through this, a new field of inquiry known as *biosemiotics* has been spawned.

Bion's idea of "thoughts without a thinker" finds surprising parallels in Peirce's philosophy of nature where we find the suggestion that meaning-generation is not necessarily the product of a human mind – perhaps not even of collective human minds, but located in natural living systems. In Peirce's semiotics, meaning is decoupled from the conscious individual mind ("the cogniser"). Even when semiosis is operative in the cognitive domain, there is no reason to suppose that it is the operation of a *conscious* mind (Ransdell 1997).

The Associative Unconscious as a Crucible for Abductive Logic and Creativity.
The unconscious as a field of associations is fertile ground for the social researcher and the organisational consultant whose task is to tap these interconnections, using only chaotic,

seemingly disconnected "bits and pieces" of human phenomena as clues. Understood semiotically, the "associative unconscious" is part of a dynamic system of meaning-generating processes (semiosis) both conscious and unconscious, which, being evolutionary processes, extend back in time and project forward infinitely into the future. These processes include, but are not restricted to, the cognitive processes both conscious and unconscious, of individuals, groups, and societies.

If there is a logic of inquiry associated with this way of understanding unconscious processes, then Peirce's abduction seems to provide the appropriate model. Abduction, as a logic of creativity, discovery, or insight, is well suited to inquiries governed by the aesthetic norms associated with narrative and imagination. Dreams, drawings, metaphors and idiosyncratic musings can all serve as vehicles of the unsettling feeling – the "surprising fact" which motivates the abductive process which "break(s) into" and disrupts our habits of expectation. The abductive "reasoning" then proceeds by way of a logic of association which sustains the process of "making sense" of what had been puzzling, unsettling, disturbing.

The abductive model of inquiry can fruitfully encompass or frame those applied methodologies in organisational research that aspire to be "scientific," and which require the further step of testing by induction and deduction. In such cases, Peirce's philosophy invites us to reflect carefully on what we mean by "scientific," and our understanding of the norms of "truth", "proof", and "evidence."

Peirce's abduction gives us a result that is risky – it can only be held tentatively, awaiting further confirmation. It leaves us with an *interrogative* – a further question. Abduction results in a "working hypothesis" and this suggests a "work in progress." There is even a sense in which we might want to claim that it is the interrogative, the "existential" working hypothesis, rather than a final answer, that is the ultimate goal of psychoanalytic and socioanalytic inquiry.

References

Anderson, D. R. (1987). *Creativity and the philosophy of C.S. Peirce.* Dordrecht: Martinus Nijhoff.

Bion, W.R. (1961). *Experiences in Groups.* London: Tavistock Publications.

Bion, W.R. (1984). *Second Thoughts.* London: Karnac.

Bohm, D. (1981). *Wholeness and the Implicate Order.* London: Routledge and Kegan Paul.

Bohm, D. (1996). *On Creativity.* London: Routledge.

Carhart-Harris, R.L and Friston, K. J. (2010). The default-mode, ego-functions and free-energy: a neurobiological account of Freudian ideas *Brain* 2010 133 1265-1283.

Eco, U. (1984). *Semiotics and The Philosophy Of Language*. Bloomington: Indiana University Press.

Etchegoyen, R.H. (1999). *Fundamentals of Psychoanalytic Technique.* English Translation, London: Karnac.

Freud, S. (1914). *On Narcissism: An Introduction.* S.E. 14, 67-102. London: Hogarth Press and the Institute of Psychoanalysis.

Freud, S. (1915) *Repression.* S.E., 14, 141-58. London: Hogarth Press and the Institute of Psychoanalysis.

Ginzburg, C. (1983). Clues: Morelli, Freud, and Sherlock Holmes. In: U. Eco and T.A. Sebeok (eds.). *The Sign Of Three: Dupin, Holmes, Peirce.* Bloomington: Indiana University Press. pp. 81-118.

Grotstein, J.S. (2007). *A Beam of Intense Darkness: Wilfred Bion's Legacy to Psychoanalysis.* London: Karnac.

Grunbaum, A. (1984). *The Foundations of Psychoanalysis: A philosophical critique.* Pittsburg Series in the History and Philosophy of Science, C.A.:University of California Press.

Harney, M. (1994). Clues to Creativity. In: T. Dartnall (ed.) *Artificial Intelligence and Creativity*. Kluwer, 195-208.

Harre, R. (1984). Social Elements as Mind. *British Journal of Medical Psychology 57,* 127-135.

Hawkes, T. (2003). *Structuralism and Semiotics.* Revised edn. London: Methuen.

Hoffman, M. (1997). Is there a "logic" of Abduction in *Proceedings of the 6th Congress of the IASS-AIS, International Association for Semiotic Studies* in Guadalajara, Mexico, July, 13-18.

Hoffmeyer, J. (1998). The Unfolding Semiosphere' In G. Van de Vijver, S. Salthe and M. Delpos (eds.) *Evolutionary Systems: Biological and Epistemological Perspectives on Selection and Self-Organization.* Dordrecht: Kluwer 1998, pp. 281-293.Jung, C.G. (1969). The Archetypes and the Collective Unconscious In: *Collected Works of C.G. Jung.* London: Routledge and Kegan Paul.

Lacan, J. (1977) *Ecrits* London: Tavistock Publications.

Long, S.D. (1992). *A Structural Analysis of Small Groups.* London: Routledge.

Lovelock, J. (1995). *Gaia: A New Look at Life on Earth.* Oxford: Oxford University Press (first published 1979).

Paavola, S. (2005). Peircean abduction: instinct, or inference? *Semiotica 153*-1/4, 131-154. References are to online draft

Peirce. C.S. (*CP*): *Collected Papers of Charles Sanders Peirce* Volumes I-VI (ed. by C. Hartshorne and P. Weiss), 1931-1935, and Volumes VII-VIII(ed. by A. W. Burks), 1958. Cambridge, Mass.: Harvard University Press. References are to volume and paragraph numbers followed by date where available.

Peirce, C.S. (*HP*): *Historical Perspectives on Peirce's Logic of Science: A History of Science*, 2 vols., ed. C. Eisele, Berlin: Mouton-DeGruyter, 1985. References are to volume and page numbers.

Peirce, C.S. (*EP*2): *The Essential Peirce. Selected Philosophical Writings, vol. 2, 1893-1913*, (ed. the Peirce Edition Project), 1992-1998. Bloomington: Indiana University Press. References are to page numbers.

Ransdell, J. (1997). *Teleology and the Autonomy of the Semiotic Process.* http://www.cspeirce.com/menu/library/aboutcsp/ransdell/autonomy.htm [03.03.2012] References are to paragraph numbers.

Sebeok, T.A. (1991). *A Sign is Just a Sign.* Bloomington: Indiana University Press

Webster, Richard (2005). *Why Freud Was Wrong: Sin, Science and Psychoanalysis*. Oxford: The Orwell Press.