PEIRCE'S CONTRIBUTIONS TO CONSTRUCTIVISM AND PERSONAL CONSTRUCT PSYCHOLOGY: I. PHILOSOPHICAL ASPECTS

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Kelly's work was formed and developed in the context of the American philosophical movement known as pragmatism. The major figures to which this tradition is attributed are Charles S. Peirce, William James and John Dewey. In Personal Construct Psychology, Dewey was acknowledged by Kelly and by subsequent writers as perhaps his most important influence. It has recently become increasingly apparent, however that Peirce was a much more pervasive and crucial influence on James and Dewey than has previously been recognized. Kelly did not mention Peirce but a close reading of the two writers reveals a remarkable correspondence and relationship between their two bodies of work. To set these two thinkers side by side proves to be an interesting and productive exercise. In this paper, after introducing Peirce and examining the relationship between him and Dewey, Kelly's basic philosophical assumptions, as outlined at the beginning of Volume 1 of the Psychology of Personal Constructs, are used as a framework for exploring their similarities and differences. The result is an enrichment of our understanding of Kelly's philosophy which allows us to make links with many different subsequent thinkers' ideas and provides a basis for exploring the psychological aspects of the two men's work. The latter forms the subject of Part II of this series which is in preparation.

Keywords: Peirce, Kelly, Pragmatism, Personal Construct Psychology, Constructivism

"Of course, it all goes back to Peirce." (David Lodge, *Small World*)

"He was so great, no university found a place for him" (Roman Jakobson)

"When I say the stove is black, I am making a little theory to account for the look of it" (Charles S. Peirce)

CHARLES SANDERS PEIRCE

Charles Sanders Peirce [1] (1839–1914) is now recognised as a philosophical giant and a key figure in the development of many later trends in subsequent philosophy and psychology. For a long time he was known as a rather shadowy figure standing behind the much more well-known writers William James and John Dewey, but Peirce had first defined and elaborated the area and given the name to the important philosophical school of Pragmatism.

Karl-Otto Apel clearly suggests a larger role for Peirce:

> *James and Dewey are indebted to Peirce, often in a nearly word-for-word fashion, for nearly all the new patterns of thought in their philosophy* (Apel, 1995, p. 9).

Whilst this is probably overstated, it does convey a picture of Peirce as almost singlehandedly responsible for an enormous paradigm shift: a great original who has significantly reshaped our philosophical understanding.

The tragic story that emerges (Brent, 1993) is of a man too clever for his own good who was largely misunderstood by his contemporaries and for various reasons, to do with his personality and the moral strictures of the time, was excluded and unrecognised as the towering figure that

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[1] In a previous paper (Procter, 2011, available on the web), I give a short overview of Peirce's philosophy including a description of the three categories, signs, abduction, the dialogical nature of thinking and then a discussion of triadicity in Kelly. I will assume familiarity with this in the current paper.

he was. His own voluminous writings, contained in un-sorted boxes of manuscripts, only slowly started to appear twenty years after his death, in the Collected Papers (CP, 1931 – 1958) [2] in eight volumes. These are being assembled anew chronologically in the Peirce Edition Project (1981 – present), which will comprise a projected thirty volumes. The scope of his work is immense, covering logic, the philosophy of science and mathematics, epistemology, phenomenology, psychology, semiotics, specialist scientific papers and metaphysics. His work was an acknowledged influence on, or presaged, a wide range of thinkers both in the Anglo-American and Continental traditions including Frege, Wittgenstein, Whitehead, Quine, Putman, Chomsky, Bateson, Bennett, Husserl, Saussure, Vygotsky, Bakhtin, Jacobson, Scheler, Habermas, Lacan, Deleuze and Derrida in addition to James, Dewey and Royce and, as we shall see, many themes in the constructivist and constructionist family of approaches (see Procter, in press) are to be found in Peirce.

Nurtured in the developing new culture following the American Revolution, which included contact with the transcendentalists such as Emerson, Henry James Senior and of course with his father, the great mathematician Benjamin Peirce, Charles was early exposed to the philosophy of Kant and the German idealists (Brent, 1993, Menand, 2001). He writes:

The first strictly philosophical books that I read were of the classical German schools; and I became so deeply imbued with many of their ways of thinking that I have never been able to disabuse myself of them. Yet my attitude was always that of a dweller in a laboratory, eager only to learn what I did not yet know, and not that of philosophers bred in theological

seminaries, whose ruling impulse is to teach what they hold to be infallibly true. I devoted two hours a day to the study of Kant's Critic of the Pure Reason *for more than three years, until I almost knew the whole book by heart, and had critically examined every section of it* (CP 1.4).

Kant had confronted the polarisation in Western Philosophy between the continental rationalism of Descartes and Spinoza and the British empiricism of Locke and Hume, developing a philosophy that acknowledged the importance of sensuous experience but also saw the mind as active in shaping and structuring this experience (see Procter, 1978, 2011) and in so doing, ushered in an understanding that forms the basis of much subsequent philosophy, psychology, sociology and other disciplines.

But Peirce criticised the Aristotelian logic upon which Kant was basing his system, replacing it with a broader logic of inquiry and semiotic (Apel, 1981). This enabled Peirce to continue Kant's project of mediating empiricism and rationalism but in a new way which addressed the static and dualist picture portrayed by Kant's philosophy (Procter, 2011). Both Hegel and Peirce found ways forward from Kant but with Peirce avoiding Hegel's idealist solution. The ways Peirce found for bridging dualisms can be seen to play a role of increasing weight in the development of John Dewey.

PEIRCE AND DEWEY

Before summarising Peirce's position further, let us consider his relationship to Dewey, whom Kelly perhaps acknowledged more than any other figure when he wrote that, "Dewey's philosophy and psychology can be read between many of the lines of the psychology of personal constructs" (Kelly, 1955, p. 154). Much earlier, Kelly (1932) had said that "Dewey is probably the greatest of living philosophers...at least educational philosophers" (cited in Fransella, 1995, p. 58-9). Novak (1983), Butt (2005, 2006), and Warren (2003, 2010) discuss the relationship between PCP and Dewey in some detail.

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[2] CP refers to the Collected Papers of Charles S. Peirce in six volumes. Unfortunately many of the papers in this series are not dated. This will be remedied in the new Peirce Edition Project. The author has a pdf of the Collected Papers which can be obtained by email request: harryprocter20@gmail.com.

The relationship between the three classical pragmatist philosophers, Peirce, James and Dewey is complex and multi-layered. Peirce influenced both profoundly but only gradually becomes recognised for the original genius that he was within Dewey's own writings and in secondary literature about the history of pragmatism. Through the twenties and thirties, Dewey writes:

Charles Peirce was probably the most original philosophic mind this country has produced; certainly one of the seminal minds of this generation (Dewey 1924).

(Peirce was) one of the most imaginative thinkers ever in philosophy (Dewey, 1932).

Readers who are acquainted with the logical writings of Peirce will note my great indebtedness to him in the general position taken. (Dewey, 1938)

Prawat (2001), trying to answer the question of why Peirce's influence has gone for so long unnoticed looks to the sheer volume of the two men's work and the decades involved in bringing them to publication. But Peirce was clearly also actively side-lined and excluded for many years as a serious thinker. Dewey (1924) says that "from the 'sixties to the 'nineties these United States were a less congenial nursery, both in universities and out of them, than they are even today for men who do not readily 'fit in' ". Peirce was blocked from teaching posts for his perceived unreliability, irascible personality and for having divorced and lived with his second wife for a period before their marriage (Brent, 1993, Rochberg-Halton, cited in Wiley, 2006a). But William James said, "I owe him everything" and actively supported his friend but also said that he found much of his work too complex for him to understand (Brent, op cit).

Peirce's rehabilitation, growing steadily through the mid-twentieth century, suffered another setback at the hands of Richard Rorty, who although writing sensitively about Peirce and Wittgenstein in 1961, in the 1980s, on the crest of the postmodern wave, discriminated between Dewey and Peirce, describing Dewey as one of the two greatest twentieth century philosophers (with Heidegger) and Peirce as merely having "given Pragmatism its name and to have stimulated James" (Rorty, 1982). As we shall see, this is a travesty and is belied by what Dewey himself wrote about Peirce's crucial importance to his own development.

The young Dewey (1859 – 1952) had already fallen under the spell of the English poet Coleridge, who had done more than anyone to bring Kant, Schelling and the German idealist philosophers to the attention of the English speaking world. Dewey's teacher in Vermont, James Marsh, had brought out an edition of Coleridge's book, *Aids to Reflection* (1829) which Dewey later described as "his first bible" (Menand, 2001). Dewey at the age of 23 enrolled in Johns Hopkins University in 1882 and chose to work with George S. Morris, a specialist in Hegel, the great unifier of opposites and critic of Kantian dualism. Dewey's aim already at that time, was to reconcile and bring together science, religion, and the aesthetic as integral to all human experience (Warren, 2003). His early book *Psychology* (1887) reflects a strong Hegelian influence:

Hegel and Morris were idealists who believed that dualisms like subject/object or mind/world dissolve *as individuals move closer and closer to the truth. Seeing the world as an interdependent whole, Dewey argued, is what is meant by fully "objectified intelligence" (1887)....Those who reach this level of understanding are "completely universalized or related" individuals; they have achieved what Dewey called "absolute self-consciousness."* (Prawat, 2000)

Under the influence of William James, who was critical of Hegel (and Kant), Dewey gradually moved away from his Hegelian views but never lost his desire to overcome splits and dualisms. James emphasised the role of human activity, denying that the world possessed its own independent rationality (McWilliams, 2009). In 1879, James talked of conceptions as *teleological instruments* and that "classification and con-

ception are purely teleological weapons of the mind" (James, 1880, p.335). Here we find the seeds of Dewey's *instrumentalism* but as we shall see that this emphasis on teleology, final causes or *purpose* is to be found earlier to be central in the writings of C. S. Peirce. Dewey found much to admire in James' biological psychology, but under the influence of Peirce, soon began to be critical of James, seeing him as too individualistic and subjectivist, focusing too much on sensations and particulars (Prawat, 2000).

Dewey first encountered Peirce when he was a student in Baltimore. Peirce was on the staff at Johns Hopkins in the only brief university tenure of his career. Dewey decided not to take Peirce's logic course but attended his "Metaphysical Club" and saw a lot of him anyway (Menand, op cit). In 1903, Dewey wrote to James that he was revisiting Peirce's writings:

> *I must say, however, that I can see how far I have moved along when I find how much I get out of Peirce this year and how easily I understand him, when a few years ago he was mostly a sealed book to me aside from occasional inspirations. It is an awful pity that he cannot be got to go ahead consecutively* (Dewey, letter to William James, 1903).

In a useful and informative debate centred on education, Jim Garrison (1995, 1996) and Richard Prawat (1995, 1996a, 1996b) discuss Dewey's work as a type of Social Constructivism. Prawat, in a broad definition of this term, outlines six types, describing the work of Peirce and Dewey as *Idea based Social Constructivism,* including the centrality of anticipation, abduction (see later) and the self-propelling nature of ideas. Garrison says that Prawat is right to emphasise the importance of ideas or *habits* in Dewey's work but they differ about the nature of activity. Prawat underlines again how crucial it is for Dewey not to separate the subject from the object, or ideas from reality. Without objects, ideas become mere verbalisms with education based on this in danger of intellectualism.

Prawat goes on to elaborate his position in three further papers (1999, 2000, 2001). In the third paper he summarises Garrison's view of Dewey's work, appreciating its holistic treatment in looking at the major concepts in the context of the whole corpus of Dewey's work but disagrees with Garrison's implication of a *continuity* of development in Dewey's ideas. He argues instead for a fundamental discontinuity or "Peircean turn" in the course of Dewey's thinking:

> *Dewey eventually joined the group of Peirce's admirers. In fact, he becomes so enamoured with Peirce's application of logic to the process of inquiry that it formed the basis for his own views after 1915 (Prawat, 2000). Dewey admitted this towards the end of his life [3] "Any attempt to develop a comprehensive view of what Dewey was about...must take into account Peirce and the influence he exerted on Dewey's thinking after the First World War" (Prawat, 2001).*

In 1916, Dewey published a brief but rich paper on Peirce which becomes his first major statement and appreciation of the latter's work and which contains several central themes of relevance to Kelly's philosophy. Possibly with Peirce's death two years earlier, Dewey wanted to record his appreciation of his mentor.

Dewey contrasts James and Peirce in this paper on four major dimensions. Peirce emphasises the *social factor* more than James. The centrality of *inquiry* is contrasted with James' individual *will to believe*. Both are seen as *realists* but Peirce makes it clearer that it is a *conception* of the real that we deal with. And he argues that what is most new and original in Peirce is the recognition of an inseparable connection between cognition and human purpose. Whereas James had interpreted Peirce as saying that the meaning of a proposition lies with its *particular* practical purpose, Peirce emphasised the *general*

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[3] Dewey wrote to A. Balz in 1949: "I did not originate the main figures that play their parts in my theory of knowing" (LW 16: 280 – 294)

meaning of a proposition, making it applicable to human conduct. It becomes for Peirce what he calls a *habit,* a pivotal concept in Peirce's approach to mental phenomena (Colapietro, 1989, p 108) – a way of thinking or acting used to address the widest range of particulars or situations, including those not before encountered. Supporting Prawat's thesis of a Peircean turn, Edel and Flower (1985) describe how the central concept of habit underwent a profound change in Dewey's understanding. From having been a conservative force, something akin to activities carried out on "automatic pilot" in William James (1890, chapter iv), the habit for Dewey became a central feature in his psychology. Now habits are seen to constitute the self: character is seen as the 'interpenetration of habits' (Edel and Flower, 1985). They quote Dewey: "Concrete habits do all the perceiving, recognizing, imagining, recalling, judging, conceiving and reasoning that is done" (Dewey, 1922, p 124). Here we seem to have, very fully elaborated, something similar in conception to Kelly's *personal constructs* (see Procter (2009) for a description of the construct as broad and holistic). From "habit" as a rather behavioural conception in James, we find it now as a habit of thinking, structuring anticipation and imagination, of making sense of things and of guiding action. Compare this with Kelly's construct as a habitual way of construing, perhaps reflected in his use in the fundamental postulate of the word "channelized". The construct system can change but tends to settle into relatively enduring dimensions and configurations.

More themes in Dewey to be found in Peirce which appear in Kelly include a stress on intrinsic activity or motion, common-sensism and fallibilism. Dewey writes in Human Nature and Conduct:

> It is absurd to ask what induces a man to activity...He is an active being, and that is all there is to be said on that score (Dewey, 1922, p 84)

This connects directly with Kelly's idea of "man as a form of motion", his rejection of the energy concept in psychology and his critique of theo-

ries which require people to be "pushed" or "pulled" into action by stimuli, needs, reinforcement, motivation or drives (Kelly, 1955, pp 36, 48). It is likely that Hegel, for whom life is imbued with the ever changing and developing dialectic is an inspiration for Dewey here, but Peirce has his equivalent in his law of mind and concept of *semiosis,* where thoughts, signs and symbols are continuously evolving and growing almost like living organisms (Fernandez, 2010, Nöth, 2010). This is taken up again later in the discussion on semiosis (pp. 19-22).

Dewey highlighted Peirce's *fallibilism* and c*ommon-sensism* in his reviews of Peirce's papers (Colapietro, 2004, Dewey, 1932). In his doctrine of Critical Commonsensism, Peirce attaches great importance to everyday beliefs that grow out of everyday practice. There is a massive central core of funded human experiences which have grown up over the course of our evolution as a species, a process intertwined with the evolution of other species and with the very nature of the world in which we live (Peirce CP 5.511, Dewey, LW 11:480, cited in Colapietro 2008 and 2004 respectively). We tend to take this bedrock of shared certainties for granted: "Five minutes of our waking life will hardly pass without our making some kind of prediction. Yet in the majority of cases these predictions are completely fulfilled" (Peirce, 1903). Dewey notes how Peirce applied common sense to philosophy itself:

> There is one aspect of Peirce's thought which comes out most clearly, I think, in his conception of philosophy itself...He holds that philosophy is that kind of common sense which has become critically aware of itself. It is based upon observations which are within the range of every man's normal experience; it does not include matters which are more conveniently studied by students of the special sciences. To my mind this statement is the more weighty because it comes from a man who was so devoted to the sciences and so learned in them (Dewey, 1932, first emphasis mine).

Common sense as a concept has a radical feel to it, perhaps going right back to Thomas Paine's challenge to the British Government in the pamphlet of that name written in 1776. Wiley (2006b, p. 35) writes that Peirce's epistemology had objectively liberal implications even though his personal views were politically conservative. Peirce wrote very little explicitly about politics (Talisse, 2004), but his position which Apel (1981, p 193) calls his *logical socialism* implies that we surrender ourselves in scientific inquiry to the interests of an *indefinite community* (Apel, 1981, p 193, Abrams, 2004). In his 1898 lectures in Cambridge he argued that the "welfare of the commonwealth" of inquirers should be promoted through common education in the art of thinking (Peirce, 1992). This was certainly a core concern of John Dewey whose radical position and progressive education is discussed by Warren (2010).

Personal construct theory shares the same vision of respecting the ordinary person's views and values and treating the client as the main expert on themselves. Don Bannister had been a member of the radical Common Wealth Party (McPherson, 1975), founded by J. B. Priestley and others during the second world war, and these values imbued the British PCP movement in the 1960's and 70's and run through Bannister's fine novels (Farrar, 2006).

Peirce emphasised however that common sense "certainties" are also, like all other beliefs, *fallible* and must not be allowed to block the road of inquiry (Peirce, 1892), the greatest sin for Peirce. As we shall see shortly, Peirce was very critical of Descartes' attempt to isolate *indubitable* propositions. All of our thoughts and views are subject to fallibilism – the principle that we could always be wrong in our beliefs. This is crucial in the philosophy of science (cf Popper's emphasising the importance of *falsifiability*) and is also central in George Kelly's assumption that "all of our interpretations of the universe are subject to revision or replacement" including those of PCP itself (Kelly, 1955, p 11) and that "a good psychological theory should be ultimately expendable" (op cit. p 44).

We will now begin to build up a picture of what the main philosophical contributions that Peirce gave to us over a long career of struggling to develop his vision, by comparing what he said with Kelly's basic philosophical assumptions. We will cover Peirce's psychological contributions to constructivism and PCP in Part II of this series (Procter, in preparation).

What kind of universe?

Kelly began the first chapter of *The Psychology of Personal Constructs* by outlining his philosophical assumptions in a brief and brilliant summary of his position entitled "What kind of Universe" (1955, pp. 6–7). I have abstracted seven statements from his discussion and listed them in Table 1. We will look at each of these in turn.

1. All thinking is based, in part on prior convictions

This utterance serves to introduce Kelly's basic assumptions but is also a profound statement in itself reminiscent of Peirce's radical argument that, "We have no power of intuition, but every cognition is determined logically by previous cognitions" (Peirce, 1868, p. 88). This appears early in Peirce's work, when he challenges Descartes and his *Cogito ergo sum* or "I think therefore I am". Descartes assumes that we can readily strip away all doubt until we reach a certainty, or a direct intuition of the self upon which we can set out building a system of truths. Many years later, Peirce summarises this and also takes on Locke in his equivalent foundational claim that we can reduce all experience to pure sensations:

> *Another [Locke] proposes that we should begin by observing "the first impressions of sense", forgetting that our very percepts are the results of cognitive elaboration. But in truth, there is but one state of mind from which you can "set out," namely, the very state of mind in which you actually find yourself at the time you do "set out" – a state in which you are laden with an immense mass of cognition already*

*formed, of which you cannot divest your-
self if you would; and who knows whether,
if you could, you would not have made all*

knowledge impossible to yourself? (Peirce,
1905)

Table 1: *What kind of universe?*

		Kelly	Peirce
1.		All thinking is based, in part on prior convictions.	We have no power of intuition, but every cognition is determined logically by previous cognitions (1868: 5.265)
2.		The Universe is really existing...it is a real world that we shall be talking about, not a world composed solely of the flitting shadows of people's thoughts.	Where is the real, the thing independent of how we think it, to be found? There must be such a thing, for we find our opinions constrained; there is something, therefore, which influences our thoughts, and is not created by them (1871: 8.12)
3.		Man is gradually coming to understand it.	There is a definite opinion to which the mind of man is, on the whole and in the long run tending (1871: 8.12).
4.		Thoughts also really exist.	The category of thought, representation, triadic relation, mediation, genuine thirdness...is an essential ingredient of reality (1905: 5.436)
5.		Correspondence between thoughts and world is a continually changing one.	The sign creates its own form of object each time it is used.
6.		Universe is integral...in the long run all events are interlocked.	*Synechism*: The doctrine that all that exists is continuous (1.172)
7.		The Universe is continually changing with respect to itself...something is always going on.	Everywhere the main fact is growth and increasing complexity... it appears to be universal (1892: 6.58, 6.64)

Descartes, commonly dubbed as the 'founder of modern philosophy' (Russell, 1946) started a tradition in which we develop a system of knowledge by paring down to a firm foundation of indubitable assumptions or 'axioms' and building up from those. Spinoza, for example, consciously modelled his *Ethics* on Euclid's geometry by assembling a series of definitions, axioms and propositions, gradually building up his complete system. Leibniz in his *Monadology* starts with his axiomatic definition of the Monad and completes his system in a series of 90 carefully argued numbered paragraphs. Peirce is critiquing this very *foundationalist* approach in

what Gallie described as perhaps the most "devastating and complete battery of criticisms to be found in the whole history of philosophy" (Gallie, 1952, p. 78). In so doing he clears the path for the first statement of our contemporary recognition that our awareness and experience are thoroughly and inseparably immersed in and structured by the "immense mass of cognition" or the social and personal constructions that have developed and been elaborated in the course of each of our lives in the particular cultural and historical context in which we grow up. They cannot so easily be thrown off to reveal a purer truth. This allows us to see Peirce as an ancestor

to a wide range of current traditions from cognitive psychology through constructivist, constructionist to symbolic interactionism, the sociology of knowledge and hermeneutic approaches.

But is not Peirce (and Kelly) falling into exactly the same trap of 'foundationalism' only to replace old assumptions with a new set, only with a different content? It is true that Peirce and Kelly share a profound optimism that in the long run our knowledge and understanding of the universe is increasing (see below, statement 3). But both are replacing axiomatic and foundational statements with a view that collectively and individually, we build up our beliefs and constructions through a process of inquiry involving making guesses and hypotheses, generated within the framework of previous constructions, but validated and invalidated in the practice of daily life and experiment. Both thinkers adhere to the belief in *fallibilism* as we noted earlier. Wiley (1994: 30) writes that Peirce replaced Descartes' *I think therefore I am* with "I err therefore I am*"*: we discover our individual position on something when we are wrong and an anticipation is invalidated. We never know whether what we believe has some kind of 'objective' validity. The phlogiston episode in the history of chemistry is an excellent example of how an apparently unquestionable belief can suddenly have rug pulled out from under it.

2. The universe is really existing

This is in itself a clear statement of realism with which Kelly proposes to distinguish his position from idealism ("not a world composed solely of the flitting shadows of people's thoughts"). But he also says, "I am not a realist...and do not believe a client or therapist has to lie down and let facts crawl all over him" (1969, p. 225) and, "Since we insist that man can erect his own alternative approaches to reality, we are out of line with traditional realism" (1955, p. 17). We are not passively at the mercy of causes and situations. The real can always be construed and reconstrued in a variety of ways – his basic philosophy that he calls "constructive alternativism". Fransella says that Kelly takes "the un-

usual and middle position stating both that there is a reality but that we only have access to the reality we have created" (Fransella, 1995, p. 49). Mackay (2011) regards this statement as contradictory and incoherent.

Chiari and Nuzzo (2003) classify PCP as *radical* as opposed to the *trivial* constructivism of the cognitive approach because it does not argue that our knowledge reflects an "objective" ontological reality but is rather organised by the structure of our experience. They cite Von Glasersfeld who uses the helpful distinction between a *match* of reality rather than a *fit,* in the way that various different keys may fit a lock, but are in themselves unlike a lock. They see PCP also as *epistemological* as opposed to the *hermeneutic* constructivism of Maturana and Varela and the social constructionists where no reality at all is seen as existing independently of an observer. I think it is helpful in these debates to remember that all these words that we use – experience, knowledge, real, exist, represent, refer, match, copy, mirror, fit and so on, are all *philosophical constructs.* The idea and experience of an *external, independent, objective* world is still our construct and all these further words are...constructs. When we bang our knee painfully on the table, it is a real experience, but it is still construed [4]. Peirce, as we shall see, calls this brute encounter with the world *Secondness,* another construct, one of his three *categories.* Peirce may well have criticised the hermeneutic approach, as he did Hegel, as ignoring the "outward clash": "This direct consciousness of hitting and of getting hit enters into all cognition and serves to make it mean something real" (CP 8.41). For social constructionism, this is just another way of talking. We like to use furniture and death as examples of rhetorically convincing

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[4] "The inkstand is a real thing. Of course in being real and external, it does not in the least cease to be a purely psychical product, a generalised percept" (CP 8.261) "Everything which is present to us is a phenomenal manifestation of ourselves (but) this does not prevent its being a phenomenon of something without us, just as a rainbow is at once a manifestation both of the sun and of the rain (CP 5.283) Both these quotations cited in Rosenthal (2004).

ourselves and others that the world exists (Edwards et al., 1995). Dr Johnson (Boswell, 1791), in relation to Berkeley's idealism, is claimed to have kicked a large stone and cried, "I refute it thus!"

Peirce's position on the realism debate is extremely subtle and complex. Peirce is labelled by writers from one end of the dimension to the other, from 'realist' (e.g. Margolis, 1993, p. 295) to 'idealist' (e.g. Collins, 1998, p. 676). Peirce himself described his position as *scholastic realism* but also as *conditional* or *objective idealism.* His position also changed significantly over time (Hookway, 2004, Short, 2007, Bergman, 2007). The breadth and profundity of his work belies these words being adequate to do justice to it in any simple sense. Susan Haack (1993) deconstructs *foundationalism* and *realism* by looking at various contrast poles to them, isolating six separate dimensions, concluding that one cannot clearly classify Peirce's work as being foundationalist or anti-foundationalist, realist or anti-realist. Nöth (1995: 43) claims that Peirce's semiotic philosophy has overcome the realism-idealism dichotomy.

Scholastic realism, derived from an intense study of the medieval philosophers, particularly Duns Scotus, had Peirce arguing that *real generals* such as classes, genera or scientific laws exist and that the development of scientific knowledge, including pragmatism itself would be impossible without making this assumption (Moore, 1998: 8, Philström, 2004: 30). Peirce vigourously opposed *nominalism* which states that only *particulars* exist and any general categories or laws are just *names,* exclusively the product of the human mind, which would place most forms of constructivism, I think, in the nominalist camp.

> *Inductions also take place in the process of perception. Hence every cognition we are in possession of is a judgment both whose subject and predicate are general terms. And, therefore, it is not merely the case, as we saw before, that universals have reality upon this theory, but also that there are nothing but universals which*

have an immediate reality (Peirce (*1868*) W 2:180, cited in Bergman, 2007, p. 61).

But the word real, Peirce states, was only brought into common use by Duns Scotus (8.319):

> *For* realis *and* realitas *are not ancient words. They were invented to be terms of philosophy in the thirteenth century, and the meaning they were intended to express is perfectly clear. That is* real *which has such and such characters, whether anybody thinks it to have those characters or not. At any rate, that is the sense in which the pragmaticist uses the word* (Peirce, 1905, p. 277).

For Peirce then, "that which any proposition asserts is *real*, in the sense of being as it is regardless of what you or I may think about it" (CP 5.312). But it is still not somehow independent of the mind: "General conceptions enter into all judgments, and therefore into true opinions... It is a real which only exists by virtue of an act of thought knowing it" (8.14, cited in Boler, 2004, p. 83). This view sees the real as something arrived at in the process of reflective inquiry rather than being defined prior to inquiry, the attempt to do so which Dewey (1916) argued was the source of a large part of our epistemological difficulties. Philström (2004, p. 50) argues that the problem of realism has been continuously transformed in the pragmatists' writings but never fully settled. But, Peirce led us forward to a further position of clarity in all this by making the question of *practice* central, with his definition of meaning as involving the practical bearings or events that would follow in taking up a conception. This is contained in the *pragmatic maxim*, (see later, Overview and Discussion). Peirce also developed the central doctrine of semiotics*,* a new approach with epistemological and ontological implications. For Peirce, the Universe is "perfused with *signs,* if it is not composed entirely with signs" (5.448n). There is nothing beyond signs:

Reals are signs. To try to peel off signs and get down to the real thing is like trying to peel an onion and get down to [the] onion itself (cited in Collins 1998, p. 677).

We might summarise then, that the real is a subset of the larger category of "the construed", where things are unvarying in relation to what people think about them. Peirce (1903) begun a lecture at Harvard bringing with him a stone which he amusingly asked people to bet on whether it would fall to the ground when he released it (perhaps alluding to Dr Johnson?). With this he argued about the reality of rule governed behaviour as independent of how anyone thought. It is an example of a vast amount of shared experience that we take for granted (and of which we are largely unaware) but because philosophers tend to focus on contentious and problematic questions, often with a long history of highly elaborated and polarised debate, this paradoxically collective store of construction, the subject of common sense, tends to get bypassed in philosophical discussion. Like all other words, its meaning most importantly resides in its *use:*

> *"When I say I mean my discourse to apply to the real world, the word "real" does not describe what kind of world it is: it only* serves to bring the *mind* of the hearer back to that world which he knows so well *by sight, hearing and touch, and of which those sensations are themselves indices of the same kind. Such a demonstrative sign is a necessary appendage to a proposition, to show what world of objects...what "universe of discourse" it has in view"* (Peirce, 1895, cited in Hookway, 2004, my emphasis).

3. Man is gradually coming to understand the Universe

Kelly expresses this optimistic thought in a number of places, saying:

The truths (that) theories attempt to fix [5] *are successive approximations to the larger scheme of things which slowly they help to unfold* (1955, p. 19)

I might then be tempted to throw in the sponge and concede that the lines of human construction and outer reality can never, never touch. But I prefer the more cosmic view which supposes these two progressions may ultimately join hands, though that auspicious moment may prove to be an infinity of years away (1977, p. 25).

It is through the historian's vista that we see mankind so unmistakably on the forward march (1955, p. 944).

Peirce controversially proposes very similar points

There is a definite opinion to which the mind of man is, on the whole and in the long run tending. On many questions the final agreement is already reached, on all it will be reached if time enough is given...there is a general drift *in the history of human thought that will lead to agreement, one catholic consent* (1871: 58-9)

The opinion which is fated to be ultimately agreed upon to by all who investigate is what we mean by the truth, and the object represented in this opinion is the real (5.407)

Both Peirce and Kelly lived in the era of tremendous expansion, Peirce at the height of the industrial revolution and expanding empires, Kelly in mid-twentieth century with the ever continuing development of science including his own psychology: "Our public construction systems for understanding other people's personal constructs are becoming more precise and more comprehensive" (1955, p. 9). For me too, it is easy still to be dazzled by the incredible feats of science

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[5] NB the word 'fix' here – see Peirce's *The Fixation of Belief* (1878b)

which continue to reveal what would in Kant's day be deigned as beyond the limits of possible knowledge, and as in the realm of the noumenal "thing-in-itself": fundamental particles, black holes, the double helix or the marvels of electronic and nanotechnology. But of course the grand theorising and idea of 'progress' have taken a heavy knock in the era of post-modernism. Both Peirce and Kelly were important contributors to the paradigm shift from modernism to post-modernism. Peirce inspired such thinkers as Lacan, Derrida and Eco whilst Botella (1995) describes Kelly's work as at the vanguard of post-modernism, but both figures retained this optimistic stance of increasing knowledge in the long run.

The constructivist philosopher, Joseph Margolis (1993) gives tribute to Peirce for his many rich and insightful contributions but argues that his scholastic realism, fallibilism and faith in knowledge in "the long run" need to be dropped in a slimmed down version of his philosophy in order to avoid contradiction and incoherence. This would leave Peirce as a recognisable and worthy ancestor to a modern constructivist view. Real generals and laws would be entirely *internal* to the world which is always a symbiosis between subject and object – a *resemblance* but not a *correspondence* between what Kelly above calls the lines of human construction and outer reality. Do we have to abandon also then, Kelly's incurable optimism which is so important in the practice of psychotherapy, the faith that we can revise our constructions and transcend brute circumstances? How do we reconcile *constructive alternativism* with the idea of *convergence* even if the latter is said to be infinitely far away in the future?

In a reply to Margolis' critique, Kelley Wells (1994) argues that we have good pragmatic justification for the existence of real generals – it works – we do not need to claim certainty, the belief remains in the realm of fallible hypothesis. There is no pragmatic way of finally confirming it, but neither is there a way of disconfirming it. He believes Margolis himself is entering the realm of transcendent metaphysics by categorically denying it. Wells quotes Putnam (1991) who believes that we can give up the objective

mood without forsaking all warrant for realism, there is no necessary inconsistency between conceptual relativism (cf constructive alternativism) and realism: "One can be both a realist and a conceptual relativist" (Putnam, 1991:13). It is not impossible to postulate the independent reality of real generals, even though we know them only through a "symbiosis" between subject and object (Wells, 1994, p. 849). For example, we only know other human minds through our construction of them but this does not mean the existence of other people *depends* upon this subjective acknowledgement for their own existence (op cit: 849). To deny this risks the absurdity of solipsism.

Wells, however agrees with Margolis about giving up the idea of ultimate knowledge of reality being achieved in the "long run". This cannot in any way be pragmatically tested, but we don't even need to. Science, Wells says, is already adequately supported by increasing stability and comprehensiveness of its beliefs – we can say Einstein's mechanics are a progressive step forward from Newton's – more phenomena are explained and predicted – without saying that Einstein's theory is closer to some hypothetical "ultimate opinion" (Wells, 1994, p. 858).

Hookway (2004) casts doubt on the arguments of critics who say that Peirce's convergence in the long run commits him to an absolute conception of reality. He argues that Peirce meant convergence to apply to *specific questions* under investigation, such as the speed of light, where different observers and different methodologies successively approximate a particular value, rather than convergence to knowledge of the "nature of reality" in general. In Kelly's terms the construct of convergence has a broad but not unlimited *range of convenience*. It will be more valid and useful in some disciplines, such as physics or forensic science rather than others such as aesthetics and its applicability may be good for some areas of a discipline but not others. Thus in a clinical situation we may *hope* that further inquiry will reveal the truth about whether a person was actually abused as a child. Further inquiry may cast light on this though we may never finally know the validity of our conclusion. The actual events may though

prove to be less important than the client's attitude and new construing of them.

Hookway underlines the importance of this important word *hope* that Peirce uses. Hope is different to belief. We may hope that our knowledge will converge on an answer to a question and indeed it is essential that we do so or "we should not trouble ourselves to make much inquiry" (Peirce, 1896: 3.432). Ironically Peirce's critic Rorty takes up hope as a central concept – that we can "substitute hope for the knowledge philosophers have usually tried to attain" (1999, p. 24). He says, "Loss of hope is an inability to construe a plausible narrative of progress – a gesture of despair" and "utopian social hope…is still the noblest imaginative creation we have on record" (op cit: pp. 232, 277).

4. Thoughts also really exist

Kelly was writing at a time when behaviourism had been dominant for over 30 years since Watson's inauguration of it in the early 1920's in psychology and Russell taking it up in philosophy after that. Consciousness was excluded by Watson in his formulations and Russell strove to explain word meaning in terms of causal stimulus-response associations, and to avoid introducing thoughts into the process:

> If a theory of meaning is to be fitted into natural science...it is necessary to define the meaning of words without introducing anything "mental" in the sense in which what is "mental" is not subject to the laws of physics. Therefore, for the same reasons for which I now hold that the meaning of words should be explained without introducing images...I also hold that meaning in general should be treated without introducing "thoughts," and should be regarded as a property of words considered as physical phenomena (Russell, 1926).

I assume Kelly emphasises this fourth assumption to distinguish his position against this behavioural doctrine. Kelly doesn't say much more

about thought, but of course the whole of his discourse about constructs and construing include thought as well as many other psychological experiences normally treated in a segmented manner in psychology including action, emotion, attitude and so on (Procter, 2009). He asks, "Are constructs real?" and answers, "A qualified yes" – "superordinate constructs are versions of constructs subordinate to them…which are a form of reality construed through the use of the superordinate…a construct has its own reality" (Kelly, 1955, vol. 1, p. 136).

For Peirce, thoughts are *signs*. In everyday understanding, the word sign usually applies to a material object such as a road sign but in Peirce's semiotics, the sign includes a much broader, pervasive range of entities including just about anything in our physical and cultural worlds including phenomena, events, objects, gestures and of course words. As signs, thoughts are seen to operate in exactly the same way – to *stand for* something else and could therefore be said to "exist". Peirce (3.613, 5.503) distinguishes the meaning of the word *exist* from the word *real* as something that we encounter in the here and now and "clash with", an *actuality,* just as we discussed with tables and stones above. We struggle with our own and other's thoughts for example in fighting off feelings of jealousy. Or we may struggle with what we know to be another's thought, even though we cannot experience it directly. We can encounter this "otherness" in the world of private experience. We can deny the signs of an illness even though we can acknowledge that such an illness is a real phenomenon. For Kelly, such an assumption lies at the basis of his whole attitude of taking human experience and construing seriously. Wiley (2006b, p. 33) writes: "Once (Peirce) realised that signs constitute the bulk of our environment, it was easy to see that human concepts are signs and usually vague ones at that". Even vague, or what Kelly would call loose, construing exists for a client and can be a powerful influence on his or her conduct and course of action.

In his metaphysical speculations Peirce (1906: 4.551) proposes an even more radical idea:

Thought is not necessarily connected with a brain. It appears in the work of bees, of crystals, and throughout the purely physical world; and one can no more deny that it is really there, than that the colors, the shapes, etc., of objects are really there. Not only is thought in the organic world, but it develops there (Peirce, 1906).

These speculations have led to the discipline of *biosemiotics* (Uexküll, 1982), that cells and even molecules can be seen as possessing mental characteristics. The rigid distinction between mental and physical begins to break down under these considerations. In PCP terms are cells, antibodies capable of *construing*? The cone in the eye responds specifically to red light – is it construing the light as red as opposed to not-red? Peirce argues that neurones and amoebae are almost identical in structure and concludes fairly definitely that a mass of protoplasm *feels* (1892: 6.133).

Irrespective of all this, the fact remains that thought is purely private and will never be directly accessible to another person however sophisticated brain scans may become. Its existence can therefore never be ratified by someone else. This gives us some kind of ultimate freedom but also isolation and aloneness.

5. Correspondence between thoughts and world is a continually changing one.

We have already heard Kelly use the verbs "touch" and "join hands" of the relationship between our thoughts or constructions and the world (statement 3). Kelly's use here of the word *correspondence* raises questions about what constitutes the relationship between them. Does our knowledge *represent* the world? What does this word mean? Both Kelly and Peirce use it frequently (see Mackay (1996: 342) for a list of instances in Kelly). Rorty (1990) and Gergen (1994, cited in Leiman, 2001) both severely critique the idea of "representationalism", that our knowledge is a "mirror of reality". Stam (1998) takes cognitive and constructivist theory, includ-

ing PCP, to task for falling into the "correspondence problem" (see also, Ransdell, 2005). If representations are the source of knowledge, how does the system have access to that which corresponds to its representation?

As Peirce developed his semiotics, it becomes clearer that we are not talking about concepts *representing* in the sense of mirroring or matching reality but *referring to* or *standing for* things [6]. Peirce defines the word *represent*: "To stand for, that is, to be in such a relation to another that for certain purposes it is treated by some mind as if it were that other" (Peirce 1902a: 2.273 cited in Bergman, 2009). Olshevsky (1993, p. 403) argues that this standing for is in no way a copying and quotes Peirce, "I will now go so far as to say that we have no images [7], even in actual perception" (CP 5.303). A sign stands for its object – note it stands for *its* object (Haack, 1993: 426) – so we never really know whether the object or element that someone is referring to is in some way exactly the same as what we take it to be when *we* refer to it. The sign creates its own form of object each time it is used. When it is interpreted it becomes a new sign, the interpretant, which signifies anew, restructured within the new web of meaning (or construct system), the *collateral knowl-*

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[6] Having said that, of course there is a class of signs, which he calls *icons*, such as pictures and maps in which there is a *similarity* between the sign vehicle and its object.

[7] But it is outside the scope of this paper to do justice to the complexities of Peirce's position here. He went on struggling with the issue to the end of his life. For example he shifts between taking a "representationist" to a "presentationist" stance in relation to whether the single event of the percept in the present instant of the here-and-now is a sign (Ransdell, 2005, Bergman, 2007) and indeed makes the rather Kellian remark that "These are, however, merely different points of view in which neither ought to find anything absolutely contrary to his own doctrine" (Peirce, 1902b). Peirce argues that a percept is not a sign or a representation, although it becomes the object of a semiotic *perceptual judgement* resulting in a "percipuum", which we experience. See also Hookway, 1985, p. 155 – 166. More on this in Part II.

edge or *experience* (Peirce, 1909: 8.314, Bergman, 2002) of the interpreting mind.

Michael Leiman (2001, 2011) draws from Winnicott and the tradition of the Russian semiotics of Vygotsky and Bakhtin. Like Peirce, he sees the sign as fundamentally triadic. For Leiman (1992) a sign involves a three-term relation between at least two persons or realities and an object (which may include gestures, parts of the body, acts, words). He allows also for a sign to be private as in dreams, fantasies and wishes just as Peirce saw thinking as a sign addressed to the self in the future. He uses Vygotsky's example of tying a knot in a handkerchief in order to indicate to oneself something to be remembered:

> *(This) represents a deliberate action of creating a referential link between the knot and whatever it is meant to remind one of. The visual appearance of the knot has nothing in common with the thing to be remembered. It is not a representation. The act of tying unites the content of the thought with the knot. The relationship is referential. One of the problems within current cognitive psychology is the inability to recognize the fundamental difference between representation and reference* (Leiman, 2011, p. 447).

Floyd Merrell (2000) goes further, in his "translation of Peirce into our own culture-world". Drawing on the French semiology of Saussure and Derrida, he emphasises the interdependence of all signs, incessantly engaged in interrelated interaction with one another. In this context, it is "not a matter of signs and things but of *thought-signs* in the mind and *sign-events* "out there"". He therefore wishes to eschew entirely the use of the terms *stand for, correspond, refer* and *represent.* All experience is of signs gaining their meaning from within the web of all signs. Leiman (2001), wanting to preserve the mediating and referential aspect of signs, argues that such theorising severs language from social practice, giving a view of language as a self-contained purely ideal phenomenon.

Whatever stance one may take on these issues, the move away from a direct knowledge of the world by moving from representation as a mirror or copy to one of *referring to* or *standing for* leaves plenty of room for Kelly's principle of *constructive alternativism* – that there are many alternative ways of construing the world and that therefore the "correspondence between thoughts and world is a continually changing one". Peirce, despite the implication of convergence in the long run, discussed under statement 3 above, says that even in cases where we have a settled opinion, or "perfect knowledge" about a question, it is conceivable that another person "would attain to a like perfect knowledge which should conflict with ours" (cited in Rosenthal, 2004, p.210).

Norbert Wiley (2006b) argues that Peirce should be recognised as a founding father of sociology and anthropology because his new, semiotic epistemology was a significant influence that enabled the formulation and adoption of the concept of *culture* and the consequent refutation of racism.

> *What Peirce's epistemology provided was an explanation of how societies can differ from each other without any of them necessarily being better or more valid than the others. The semiotic explanation of cognition leads to the idea that societies can be different but equal, the inegalitarian hierarchical ladder becoming an egalitarian horizontal field. This is because there are an indefinite number of ways of viewing the world, and, given the mediation and indirectness of the semiotic process, it usually makes little sense to say that some are more valuable than others* (Wiley, 2006b: 31).

6. Universe is integral ... in the long run all events are interlocked.

Kelly argues here in metaphysical vein, that the universe is integral, that it functions as a single unit with all its imaginable parts having an exact relationship to each other, that it "all works together like clockwork" (Kelly, 1955: 6–7). It seems unlikely, he says, that the motion of his

19

fingers as he types these words could be related to the price of yak milk in Tibet, but that ultimately, given broad enough frames of time and space, everything is interlocked.

In his arguments against necessitarianism, Peirce seemingly offers a very similar example in considering this idea: "Given the state of the universe in the original nebula, and given the laws of mechanics, a sufficiently powerful mind could deduce from these data the precise form of every curlicue of every letter I am now writing" (Peirce, 1892. p. 176). But this is actually part of an argument to refute the idea of a universe totally based on mechanical laws:

> "The belief...that every act of the will, as well as every idea of the mind, is under the rigid governance of a necessity coordinated with that of the physical world...that minds are part of the physical world in such a sense that the laws of mechanics determine anything...is doomed" (Peirce, 1892, p. 176).

For in his doctrine of tychism, he gives a central role to chance, uncertainty and spontaneity in accounting for the processes of development and evolution:

> It is evident...that we can have no reason to think that every phenomenon in all its minutest details is precisely determined by law. That there is an arbitrary element in the universe, we see – namely, its variety. This variety must be attributed to spontaneity in some form (Peirce, 1891, p.172)

> Peirce was remarkably prescient of modern quantum theory and chaos theory with his understanding of the role of probability in the processes of physics [8]. Anticipat-

ing Heisenberg's Uncertainty Principle, he said, "you will find that the more precise your observations, the more certain they will be to show irregular departures from the law" (op. cit. 182). He argued that even the laws of physics evolve (Brent, 1993, p. 174).

This seems a rather more appropriate cosmological context for PCP, given Kelly's treatment of free will and individual creativity, than the rather mechanistic picture implied in Kelly's use of the words "exact relationship" and "clockwork", which may derive from Herbert Spencer. But to give Kelly his due, he does give the subject statistical treatment. Discussing the correlation coefficient, he notes that it is directly proportional to the breadth of perspective that we are taking (cf. Peirce's "sufficiently powerful mind"). If we look at things sufficiently broadly, relationships between them will be observable. In an early paper (Kelly, 1938) he cautions psychologists against obtaining spurious correlations by neglecting the effect of selection criteria utilised in sampling. He says that anything can be made to correlate – the temperature at the North Pole with the length of rabbit's ears in Wyoming can be, given sufficient control of the variables. Kelly traces this back to a basic assumption: The Universe is originally an "indefinite, incoherent homogeneity" (Kelly, 1938: 207). This enables him to posit that all phenomena are shaped by our constructions. There is the opportunity to put the cleavage line of our constructs in any particular place because of the underlying homogeneity of the world.

> The substance that a person construes is itself a process – just as the living person is a process. It presents itself from the beginning as an unending and undifferentiated process. Only when man attunes his ear to recurrent themes in the monotonous flow does his universe begin to make sense to him (Kelly, 1955: 52).

> Without cleaving the world into distinctions we would experience a "chaotic homogeneity...with the person engulfed in a

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[8] Peirce introduced the idea of blind randomised controlled trials (Hacking 1990: 205) and had an international reputation in the measurement of error in physics, spending 30 years working for the US Coast Survey and developing the Peirce Pendulum with its reduced errors of measurement. Doyle claims the label "normal" for the Gaussian Bell curve is down to Peirce (Doyle, undated).

sea with no landmarks to relieve the monotony" (Kelly 1955, p. 51).

This idea of homogeneity has its parallel in Peirce in his concept of *continuity,* or his doctrine of *synechism,* which he said was the "keystone of the arch" of his system (Peirce, 1897). Drawing on his assertion of the reality of real generals and the mathematics of infinity, he argues for genuine continuity or perfect continua occurring in the dimensions of time, space and in the general law of mental action (see next section). A general property "surrenders to the interpreter the right of completing the determination for himself" (CP 5.505). There are real objects that have properties that extend over a range of interpretations any one of which may be selected by an observer (Moore, 1998). Time and space are continuous because they embody conditions of possibility, and the possible is general, and continuity and generality are two names for the same absence of distinction of individuals (CP 4.172).

Parker (1998) asks if Peirce's assertions can ever be tested, falsified or confirmed, or do they remain mere metaphysical speculations. Moore (1998) argues that confirmation comes from the theory of relativity with its predictions that length, time and mass vary according to the position and velocity of the observer. For him these imply general objects, not particular objects. There are physicists, however, who have argued for the quantisation of time. For example, Henry Margenau (1950) suggested that an indivisible unit of time, the "chronon" might be the time for light to travel the length of the classical radius of an electron. We are clearly at the limits of current technology and possibly logical possibility to be able to confirm such a hypothesis.

7. The Universe is continually changing with respect to itself...something is always going on.

For Kelly the universe is active, always changing: "every day it goes about its business of existing...it exists by happening" (Kelly, 1955: 7). Upon these Heraclitan propositions, Kelly

wished to develop a fresh psychological perspective which avoided the idea that life and ourselves are static. He wanted to dissociate himself from, for example dominant behavioural and psychoanalytic paradigms of his day, which seemed to assume the need for extrinsic factors, such as energy, stimuli, needs, motives or drives to propel us into action [9]:

> *Life itself could be defined as a form of process or movement. Thus in designating man (sic) as our object of psychological inquiry, we would be taking it for granted that movement was an essential property of his being, not something that had to be accounted for separately. We would be talking about a form of movement – man – not something that had to be motivated* (Kelly 1958, p. 80).

With this vision as a basis, Kelly goes on to develop the picture of construing as always on the move, developing and elaborating through cycles of experience and creativity, discovery, inquiry and decision making. The construct system is in a constant state of *elaboration* (except in cases of human difficulty where these processes may have become stuck). People make choices (according to the choice corollary), in which they have an eye to *extending* (or defining) their range of construction – understanding better, learning new ways to address issues in life.

For Peirce (1892), the universe is characterised by "pure spontaneity – everywhere the main fact is growth and increasing complexity":

> *By thus admitting pure spontaneity or life as a character of the universe, acting always and everywhere though restrained within narrow bounds by law, producing infinitesimal departures from law contin-*

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[9] The 1950s seem to evidence a paradigm shift in psychology here. Miller, Galanter and Pribram, in their seminal "Plans and the Structure of Behavior", inspired by cybernetics, argued for a similar view with their "renunciation of the dynamic properties of plans" (1960: 64). Maturana and Varela (1987) later went on to develop their central notion of *autopoiesis.*

ually, and great ones with infinite infrequency, I account for all the variety and diversity of the universe, in the only sense in which the really sui generis and new can be said to be accounted for. The ordinary view has to admit the inexhaustible multitudinous variety of the world, has to admit that its mechanical law cannot account for this in the least, that variety can spring only from spontaneity, and yet denies without any evidence or reason the existence of this spontaneity, or else shoves it back to the beginning of time and supposes it dead ever since (Peirce, 1892: 6.59).

Peirce argued that the concepts of life and idea should be extended to describe the activity of the fundamental stuff of the universe, which "in each infinitesimal interval..is present and living" (Peirce, 1892b, p. 213). The fundamental process involved is what he called *semiosis* or "sign activity". As we saw earlier, for him, the universe is "perfused with signs" (p **17**). Peirce's concept of sign is *triadic* as opposed to the *dyadic* nature of mere mechanical causation as described by Newton's laws of motion. It involves three elements in relation - *something* (the sign vehicle) that stands to an *interpretant* (a new sign) for *something else* (the object). The notion is applied so generally that it is not immediately easy to grasp. He says, "Anything and everything is a sign to some degree and in some respect" (cited in Colapietro, 1989: 2). For Kellians, this might fall into the error of being meaningless through no contrast being made: if everything is a sign, are we saying anything? But Peirce goes on to say "for anything to be a sign it must be something other than a sign" (loc cit). Any object, event or pattern can function as a sign, but only if it is understood as a sign (Peirce, 1909, cited in Bermann & Paavola, 2012).

Signs therefore clearly refer to items in the human and cultural world – words, gestures, everyday signs of all kinds. Saussure restricts the word to this use. Peirce however has a much broader concept in mind including both *conventional* and *natural signs* – the tracks of a deer are 'evidence' or a *sign* that such an animal has

passed, which even animals are able to interpret. A dog yelps to request a door be opened and learns to understand words issued in command (James, 1880: 356). Deception exists in nature, where for example a moth has evolved camouflage or two eyes on its wings to frighten predators. But Peirce goes even further. "All forms of life engage in Semiosis, which Sebeok (1991) refers to as *the criterial attribute of life*" (Bopry, 2002: 6), and further even to include the actions of molecules and atoms arranging themselves into a crystal (as quoted on p. 18 above). In this view, "most semiosis is chemical" (Sebeok, op cit). The field of biosemiotics now talks of "protein linguistics" and "molecular syntax" (Witzany, 2006).

Peirce reflexively considers an example of his own elaboration of ideas:

> *Growth by exercise takes place also in the mind. Indeed, that is what it is to learn. But the most perfect illustration is the development of a philosophical idea by being put into practice. The conception which appeared, at first, as unitary splits up into special cases; and into each of these new thought must enter to make a practicable idea. This new thought, however, follows pretty closely the model of the parent conception; and thus a homogeneous development takes place. The parallel between this and the course of molecular occurrences is apparent. Patient attention will be able to trace all these elements in the transaction called learning* (Peirce, 1893, p. 248).

This conception is very close to what Kelly had in mind when he talked of construct systems elaborating to form more and more constructs and subsystems of constructs governed by superordinate constructs ("the parent conception") in an ordinal hierarchy.

To compare processes at the highest levels of mental functioning with those at the level of atoms and molecules goes far to soften the traditional distinction between matter and mind. It allows us potentially to understand more pro-

foundly the origin and evolution of mind but without falling into the trap of the usual reductionism to physical and chemical processes:

> *Peirce proposed a thorough-going semiotic perspective in which the reality of mind is seen as essentially the development of a system of signs. The mind is a species of semiosis. Accordingly, signs are not to be explained by reference to some occult and intrinsically private power called 'mind', but the mind itself is to be explained in terms of those manifest and inherently intersubjective processes called semiosis* (Colapietro, 1989, p. xx).

We are aware of the process of semiosis in the constant stream of thinking that rarely ceases save perhaps in profound instants of meditation. As a young man, Peirce wrote "life is a train of thought" with thinking conceived of as infinite chains of developing and evolving signs (1868: 5.314), an idea later popularized by William James in the *Principles of Psychology* (1880) as the "Stream of Consciousness". For Peirce this train was dialogical in form: "All thinking is dialogical in form. Yourself of one instant appeals to your deeper self (elsewhere "a future self, one just coming into being") for its assent. Consequently all thinking is conducted in signs" (CP 6.338). At the age of 22 Peirce (1861, p. 45) outlined an early version of his *categories* comprising the *I*, the *Thou* and the *It,* the *I* being in dialogue with the *thou* (another person or the self) about the *It*. With this Peirce thus also anticipated the work not only of James and Buber but of the dialogical approaches of Bakhtin and Vygotsky with the latter's important idea of the verbal regulation of behaviour, a function associated with the frontal lobes of the brain (Luria, 1973).

Archer (2003: 63) critiques James' concept of the stream of consciousness as being an inner *monologue*, but never a dialogue (cited in Colapietro, 2006: 46). Valsiner (2008) subjects James' concept to contemporary critical inspection, concluding that the classic river metaphor is an inadequate depiction of the multi-level psychological processes involved. But in Peirce, this multi-level nature is already apparent. The stream is not just that of consciousness. All the time there are many levels of mental activity going on of which we are not aware or conscious:

> *The action of thought is all the time going on, not merely in that part of consciousness which thrusts itself on the attention, and which is the most under discipline, but also in its deeply shaded parts* (7.555, cited in Colapietro, 1989, p. 40).

> *Each former thought suggests something to the thought which follows it, i.e., is the sign of something to this latter. Our train of thought may, it is true, be interrupted. But we must remember that, in addition to the principal element of thought at any moment, there are a hundred things in our mind to which but a small fraction of attention or consciousness is conceded. It does not, therefore, follow, because a new constituent of thought gets the uppermost that the train of thought which it displaces is broken off altogether* (1868, p. 99; 5.284).

This profound observation explains many phenomena including the processes of creativity, where a new view of a situation or the solution to a problem pops into our minds after a few days or even after many years: clearly we have gone on thinking things through at an unconscious level. So often in therapy, spontaneous change will happen in the following days after a session in which the client's experiences have been carefully discussed and explored or when some aspect has been touched upon. The implications of new ways of construing the material have been worked through at a low level of cognitive awareness leading to fresh perspectives and ways forward. For Peirce, the quality of this kind of thinking may be of much higher quality than ordinary conscious problem solving:

> *(1) The obscure part of the mind is the principal part. (2) It acts with far more unerring accuracy than the rest. (3) It is*

almost infinitely more delicate in its sensibilities (CP 6.569).

Peirce seems to be outlining a concept of the unconscious remarkably similar to that of Milton H. Erickson, as opposed to the original dynamic conception found in Freud [10]. For Erickson "The Unconscious Mind" is always in touch with the world, "listening and understanding much better than is possible for the conscious mind" (Erickson, 1966, p. 277): it is an enormous resource, a "vast storehouse" of learning, experiences and wisdom (cited in Zeig, 1980, p. 173). In 1985, Joady Brennan and I suggested that Erickson's Unconscious can be equated with the personal construct system as envisaged by Kelly:

Erickson defined the unconscious as the reservoir or storehouse of all of the individual's life-experiences, ideas and abilities. Erickson's unconscious becomes essentially all the person's elements and constructs - the unconscious IS the construct system (Procter & Brennan, 1985).

In Kelly, unconscious processing is addressed with his concepts of submergence, suspension, level of cognitive awareness and in the cycles of experience and creativity. However, it is important to remember that construing in general does not necessarily involve the person being very aware of their constructs which function as "transparent templates" (Kelly, 1955, p. 8) or assumptions and values of which they are often totally unaware and may even meet with denial.

For Peirce, signs and particular symbols, those signs which are the product of arbitrary human conventions, function as if alive, growing, elaborating and procreating:

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[10] Freud covered something more like this with his conception of the *pre-conscious* mind as opposed to the id. See also, Colapietro (2003) who writes "De Lauretis and I too stress the personal unconscious as a nexus of constitutive dispositions, a set of habits by which the unconscious and, more inclusively, subjectivity are constituted as such". This will be explored in more detail in part II of this series.

"Symbols grow ..., come into being by development out of other signs," that "a symbol, once in being, spreads among the peoples," and that "in use and in experience, its meaning grows," but also with the insight that only symbols procreate symbols, since "it is only out of symbols that a new symbol can grow. (Peirce, 1895, 2.302. cited in Nöth, 2010, p. 86)

Peirce argues that signs and symbols have a potential or "would be" – in PCP terms the interpretant is not fully determined by the construing of the person. Construing is constrained by the structure of the sign and the natural or conventional rules associated with its context. The human sperm or egg have the potential to form a new individual child. A word in the language cannot be interpreted in an infinitely wide variety of ways, but narrows possible interpretation to a particular range. Aristotle covered this with his idea of "final causation". This has not been regarded well within modern science which replaced it with mechanistic explanation (Short, 2007: 91). However Peirce insists:

"It is most narrow not to consider final causes in the study of nature; but it is nonsense and utter confusion to treat them as forces in the material sense" (Peirce, 1.265, cited in Colapietro, 1989, p. 84))

Short has argued how Peirce found a way of removing the mystery from teleology allowing it to become a rationally acceptable part of modern science (Short, loc cit). We will return to this for a more adequate consideration in the second paper of this series.

Arguing that signs have such power seems to foreshadow post-structuralism, social constructionism and the selfish genes and memes of Richard Dawkins (1976). Peirce sometimes seems to go so far as to say that the symbol has purposes of its own and to dispense with the idea of the autonomy of the individual mind that functions as an interpreter. This is a partial reading as our discussion of Peirce's view of the self and person, which again we will look at in detail in Part II of this series. But the idea of semiosis

24

does underline an apparent autonomous power of signs and symbols in nature and culture. This could apparently be seen as falling into the trap of anthropomorphism or a new version Platonic idealism. Of course, to say that signs grow is a metaphor and it is well to remember that even when we say organisms grow, they only do so in a medium, environment or culture with which they actually *co-evolve,* as Gregory Bateson (1972, 1979) was at pains to emphasise. Of course Peirce makes it clear that signs do require embodiment or materiality to exist (Colapietro, 1989: 84). This point is emphasised also in the work of the Russian semioticians, Voloshinov and Bakhtin:

> *The sign is part of reality and in this sense it is as material as any other natural or man-made object* (Leiman, 1992, p. 217).

Signs are particular patterns or configurations of matter. Years ago the biologist D'Arcy Thompson [11] wrote in *Of growth and form* (1917) that "matter is primal and universal but exists only when it takes on form (cited in Taborksy, 2008:158). The charge of Platonism in Peirce's and Dewey's discussion of the power of ideas as if they were mind-independent entities is also met in their emphasis on the importance of the role of *learning communities* in the development of ideas (Prawat, 1999, p. 71).

OVERVIEW AND DISCUSSION

Although the influence is indirect, many common and related themes emerge in comparing the work of Peirce and Kelly. We have seen that Dewey, a major influence on Kelly, was enormously indebted to Peirce. This is indicated by generous references to Peirce given by Dewey from the beginning of the twentieth century through to the end of his life. Prawat argues that Dewey underwent a particular "Peircean Turn"

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[11] My father, the painter Anthony Procter told me that as a boy he had spent an afternoon boating with the scientist D'Arcy Thompson but unfortunately, I don't know if any profound teaching occurred on this occasion!

or revision of his views around the years of Dewey's first paper on Peirce (1916). However valid this thesis is, Dewey's philosophy shows a marked shift from his early Hegelianism to a replacement of the dialectic with a Peircean emphasis on the future, on practice, inquiry, common sense and fallibilism which all appear as central themes in Personal Construct Psychology. But Dewey retained from Hegel an emphasis on overcoming and rejecting dualisms. Peirce's philosophy provided for him a different way of transcending the dichotomies of body/mind, internal/external, individual/social and realism/idealism. Prawat classifies both thinkers' work as "idea-based constructivism". Because of the pervasive influence of these ideas on our current views of science and psychology, it is easy to underestimate what a profound paradigm shift that they entail.

We have seen that in the work of both Peirce and Kelly (Table 1: Statement 1) that any cognition or construction occurs within an already existing construct system or "previous cognition". Descartes could not achieve a direct intuition of himself and climb out of this structure simply by a process of armchair doubting. But this raises the question of how this chain of signs or constructions ever started in the first place. Clearly, the implication is that we are already structured as babies and earlier as embryos (ontogenetically) or primitive organisms (phylogenetically). Even the single cell, a highly complex entity, has the capacity to selectively exchange molecules with its environment in order to thrive, replicate itself and develop into multicellular organisms. Even before fertilization, the sperm, in its specialized environment, has the capacity to gravitate in the right direction utilizing fructose to power its travel. Kelly did not extend his range to these concerns, but other constructivists, notably Maturana and Varela (1987) did, with their concepts of autopoiesis and structural coupling. Peirce argues that a single teleological principle of *semiosis* can be used to describe and explain development and dissemination from right back in the reaches of chemistry and biochemistry through to the psychological and sociological processes involved

in thinking, interaction and the evolution of language and culture.

Wiley (2006b) claims for Peirce the status of a founding father of American Sociology and Anthropology with his concepts of semiosis and the dialogical self preparing the ground for the very concept of culture itself, the development of which allowed for the overcoming of racist views of ethnic superiority which pervaded scientific thinking after Darwin up until only too recently. Peirce's vision, covering the whole range of phenomena from natural through to conventional signs, including thought, language, communicational and cultural materials places him as an ancestor to a tremendously wide range of subsequent traditions including not just constructivism but social constructionism, poststructuralism and discourse analysis for example. This potentially allows us to use his work to overcome the apparently irresolvable internecine struggles between these contemporary but more partial approaches.

With the next four statements of Table 1 (2 – 5), we enter the realm of epistemology and ontology – the existence of the world and the relationship between it and our knowledge or constructions of it. We discussed the old thorny philosophical dilemma of *realism* versus *idealism* and the many varieties of these and of versions of the more modern term of *constructivism* which reflect this kind of dichotomy. Peirce has been characterised as occupying various different positions on this dimension. He attempts to transcend this duality and his position is complex, nuanced and rich. Whilst insisting that all experience involves cognition and that thoughts are *signs*, our opinions are also constrained by a *real* which is what "it is, regardless of what you or I may think about it". He criticised the great idealist Hegel, for "ignoring the outward clash" (CP 8.41) of brute secondness or as Marx (1845) put it, the idealists "do not know real sensuous activity as such".

For Kelly, our constructions are developed and elaborated through a process akin to science where we revise anticipations in the light of validating and invalidating experience. The emphasis on anticipating the future and meaning being based on consequences or "practical bear-

ings" has a clear source in Peirce. In his early paper, *How to make your ideas clear,* later endorsed by William James as constituting the origin of pragmatism, Peirce wrote:

> *Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object* (Peirce, 1878a)

In 1905 this was restated as the famous *Pragmatic Maxim:*

> *A conception…lies exclusively in its conceivable bearing upon the conduct of life…If one can define accurately all the conceivable experimental phenomena which the affirmation or denial of a concept [12] could imply, one will have therein a complete definition of the concept, and there is absolutely nothing more in it. For this doctrine he (the writer) invented the name pragmatism* (Peirce, 1905).

A year later, this was restated, somewhat more simply as follows:

> *The whole meaning of an intellectual predicate is that certain kinds of events would happen, once in so often, in the course of experience, under certain kinds of existential conditions* (Peirce, 1906).

What is emphasised here in these statements is the centrality of anticipating future 'practical bearings', effects or *events* in the meaning of a concept or predicate. This emphasis on the future is genuinely new and revolutionary in philosophy and cardinal for Peirce also in psychology:

> *I hold that purpose, or rather, final causation, of which purpose is the conscious modification, is the essential subject of the psychologists' own studies* (Peirce, 1902, CP 7.366).

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[12] Bipolarity is also here implied – see Part II.

This emphasis on the future and anticipation is of course to be found in Kelly's Fundamental Postulate and is maintained in a later alternative version which extends it to a characterisation of life in general:

> *A person's processes are psychologically channelized by the ways in which he anticipates events* (Kelly, 1955).

> *It is the nature of life to be channelized by the ways events are anticipated* (Kelly, 1980 cited in Fransella, 2003).

With this fundamental postulate with its key terms the *person, channelization, anticipation* and *events*, Kelly begins to build his system of the Psychology of Personal Constructs, a very original, influential and itself still relatively unacknowledged contribution to the discipline of psychology. In Part II of this series, we will look at an array of psychological themes where Peirce and Kelly can speak to each other, including inference, habit, teleology, perception, categories, signs, construing, person, the dialogical, and the sociological.

The basic unit of analysis (see Leiman, 2011) for Peirce appears to be the *sign*, whereas for Kelly it is the *construct.* These at first glance seem to be very different entities, but on closer inspection are related. Peirce's sign involves *triadicity* or three parts in dynamic relation – a sign vehicle stands for something else, its object. This dyad is similar to Saussure's *signifier* and *signified* but Peirce insists there must be a third element. The sign is only a sign if it is recognised or interpreted as a sign. The person or addressee receiving and interpreting the sign forms an *interpretant,* a new sign. The addressee may be oneself and so thoughts are signs, as are words, stories, gestures, and indeed almost anything that is construed as referring to something else.

Kelly's discussion of the "original construct" and the "communicated construct" is reminiscent of Peirce's sign and the new sign, or its interpretant: p.

> *We let a communicated construct represent the personal construct of which it is a construction. The* communicated *construct is the construing of the person who "receives" it; one of its elements is the construct of the person who had it beforehand...the communicated construct is a construction of the original construct and hence not identical with it* (Kelly, 1955, Vol. 1.p. 136).

For Kelly, as we saw in an earlier paper (Procter, 2011, p. 41), a *symbol* is attached to the pole of a construct in order that it may be communicated:

> *Communication is a matter of reproducing the symbolic element in hopes of eliciting a parallel construct in another person. The neatest way is to use a word as a symbol. Of course it may not work, for our listener may not have incorporated the word into the same kind of content, or have used it as a symbol for the same construct. Then we may have to trot out other elements of our personal construct's context, some of them words, some of them nonverbal acts* (Kelly, loc. cit. p. 140)

We can symbolize constructs with words, facial expressions, manners, gestures, acts, objects or persons. When we are in a country where we do not know the language it is surprising how much we can communicate simply through gesture and pantomime. But "a large portion of human behavior follows nameless channels (or 'unsignified acts' [13]) which have no language symbols, nor any kinds of signposts whatsoever" (loc. cit., p. 130).

Communication is the central task of what for Kelly is his core concern – the practice of psychotherapy (loc. cit,.p. 197). For Peirce *collateral knowledge* or *experience* (see above) is required for an interpretation to be made. Where communication is difficult, Kelly points to the possibilities of a "lack of contemporary elements which can be used to illustrate the context". Or the therapist might have difficulty because "he

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[13] Kelly (1962: 198)

does not appear to understand the subordinate constructs out of which the construct is formed". If the client has no symbols to communicate a construct, the therapist must help him or her create some kind of effective symbolization (loc. cit.: 198). This may be in words through careful questioning, mutual exploration and negotiation of meanings or to communicate using other "semeiotic devices" [14] such as art therapy, clay modeling, diagrams or enactment. If therapists find difficulty understanding, they "must not be too ready to impose their own preexisting personal constructs" but will first have to establish what we might now call a collateral knowledge base by "compiling a lexicon for dealing with the client" (loc. cit.p. 141).

Kelly's idea of an element functioning as a symbol attached to a construct, in order that it may be communicated, seems to have its almost exact parallel in Peirce's idea of a sign vehicle or representamen. For Peirce, a symbol is one amongst three types of sign vehicle, the others being the icon and an index [15]. But the breadth of examples given by Kelly would imply that he is using the term *symbol* in the same way that Peirce uses the term *sign* in general. For Kelly here, the equivalent of Peirce's *object* is the construct itself. Kelly's symbol is used to refer to a construct or construct pole. It is referring to or indicating therefore a *similarity* and a *difference*, simultaneously in one psychological act (Kelly, 1962, p. 197). Constructs are, of course, used to

construe or subsume *elements,* which also seem to have their equivalent in Peirce's *objects.* Kelly therefore introduces the crucial issue of *dichotomy* or *bipolarity* into his semiotics, something which can be found in Peirce but not very prominently (see Part II for further discussion on this).

Having enriched our understanding of the philosophical implications of the work of Charles Peirce and George Kelly, we are now ready to begin to look at the psychological aspects of their work, an enterprise that reveals the enormous depth and breadth of their conceptions.

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[14] Kelly (1955, Vol II, p. 803) - note the Peircean spelling here.

[15] Peirce has many subdivisions defining types of signs (see Short, 2007) but this set of three is "the most fundamental division of signs" (CP 2.275). *Icons* serve to represent their objects only in so far as they resemble them in themselves (for example a picture or map). *Indices* represent their objects independently of any resemblance to them, only by virtue of real connections with them (e.g. a finger or signpost pointing at the object). *Symbols* represent their objects, independently of any resemblance or any real connection, because dispositions or factitious habits of their interpreters (including conventions) insure their being so understood (from Commens, 2013). In practice, a sign tends to contain elements of all three of these types of signification.

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28

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