Pragmatism and Design Research
– An Overview

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1. INTRODUCTION

Pragmatism is a philosophical tradition that originated in the United States in the late 19th century that had deep and widespread impact on American and European thought. The classical definitions of pragmatism teach us to think of the practical consequences that follow from acceptance of a belief. At the core of pragmatist thought is the view that our theories must be linked to experience or practice. Inspired by an evolutionary perspective, pragmatism emphasizes interaction and integration, rejecting Cartesian radical doubt and dualist world-views separating mind-matter, reason-emotion, theory-practice, individual-community and so forth. Continuity, instead, becomes the guiding principle, resulting in an epistemology that departs from experience and emphasizes process and experimentation.

Pragmatism was sparked from the discussions of “The Metaphysical Club” a name adopted “half ironically, half defiantly” by a group of philosophers and philosophically inclined lawyers at Harvard around 1870 (PWP: 269). Among the most active members were Charles Sanders Peirce and William James. It was Peirce who introduced the principle of pragmatism in two papers called The Fixation of Belief in 1877 and How to Make our Ideas Clear in 1878. In the first of these papers Peirce defended the superiority of the scientific method over other methods of overcoming doubt and “fixing belief.” In the second of these papers Peirce defended a “pragmatic” notion of clear concepts. The pragmatist maxim, according to Peirce, is a rule or a method for becoming reflectively clear about the content of concepts and hypotheses: we clarify a hypotheses by identifying its practical consequences. If there are no practical consequences of a philosophical question, it is without interest.

Peirce’s ideas remained largely unnoticed until William James picked them up twenty years later. During a lecture at the University of California Berkeley, published immediately thereafter as Philosophical Conceptions and Practical Results (1898), James used the term “pragmatism” to denote a theory of truth wherein the “meaning” of a concept is marked by “some particular consequence, in our future practical experience, whether active or passive; the point lying rather in the fact that the experience must be particular, than in the fact that it must be active.” However, this consequentialist take on truth and meaning, James declared, was simply a restatement of Peirce’s own principle of practicalism concerning the meaning of our beliefs, as presented in the papers mentioned above. This important concept would later be fleshed out in James’ famous 1907 lectures, published as Pragmatism – A New Name for Some Old Ways of Thinking, but the relevant “principle” is instrumental throughout much of his writings before and after 1898.

Among Peirce and James’ renowned followers we find names such as Ferdinand Schiller and Josiah Royce. But it is John Dewey who stands out as the most influential philosopher to continue and further develop the tradition started by Peirce and James, and the three of them are commonly referred to as the “classical pragmatists”. Increasingly, George Herbert Mead, a close friend and colleague of Dewey that is often referred to as a sociologist and social psychologist rather than philosopher, is added to complete the triad.

The classical pragmatists covered a vast scope of topics spanning over a variety of disciplines. They had different backgrounds and aims with their work, which is reflected in the sometimes very different conclusions drawn. Indeed, this diversity among the classical pragmatists, which is even greater by their followers, is one of the most common criticisms against pragmatism brought forth by its dissidents. The differences among them are so great, it is argued, that it cannot be called a coherent school of thought. Nevertheless, there are some common points of departure in the pragmatist tradition that have profound implications for any philosophical endeavor.
The purpose and structure of this overview

The purpose of this overview of pragmatism and design research is to start exploring how such basic principles of pragmatism could be developed into a platform for design research today. The overview departs from, and builds on, the “classical pragmatists” and their foundational ideas, but also points toward important later developments of subsequent interpreters.

In the next chapter we will take a closer look at the classical pragmatists, their backgrounds and profiles and some of their key themes of relevance for design research. Some historical and personal background is also provided to put the ideas of Peirce, James, Dewey and Mead in context.

The following chapter treats some of the later interpretations of pragmatism that have become influential in Europe as well as the US. In the final chapter we move on to connect the principles of pragmatism with design research. We take a look at the role of art and aesthetics in pragmatism as well as interpretations of pragmatism in design theory. Finally we discuss some implications of pragmatist principles for design research.

Given the vast scope and influence of pragmatist thought, any overview of pragmatism is necessarily incomplete and selective, reflecting choices of the author(s). Rather than trying to provide a review of their range of concepts, the focus is on a limited number of concepts and ideas, reflecting certain aspects of pragmatist thought. The reason behind this choice is the view that a certain depth is required to really grasp the principles of pragmatism and for understanding their profound implications for research in, on, through or by design. All too often, in design theory as elsewhere, the classical pragmatists are treated rather superficially, for example as a reference to the close connection between thinking and doing. However, without insight into the thinking behind such catch-phrases, the rich contribution of these seminal thinkers not fully harvested.

The down-side of a rather narrow selection of themes is of course that there are many aspects of pragmatist thought not captured in this overview. For example, Dewey’s extensive writing on education is omitted, like James’ texts on religious experience. Nor is there any discussion of the social and democratic ambitions of the classical pragmatists or their followers. This is not because they are not interesting or (potentially) relevant for design research, but because of space constraints.

What has guided this particular selection of themes and contributors is primarily the link to design – itself a highly diverse academic discipline without a coherent identity. The themes and concepts selected for this overview are chosen either because they are the ones doctoral design students are most likely to come across in the literature, or because of their relevance for design theory or research. This overview is thus not intended to be a philosophical treatise, but rather a point of departure for the reader (the design researcher) to orient him- or herself when exploring the pragmatist tradition.

Indeed, taking a pragmatist stance means theory is never “finished” or “complete”, and always “in the making” to use James’ expression. There are always many different possibilities for interpreting and making sense of some phenomenon or idea, depending on your own background, experience and research interest. This is illustrated not least by the classical pragmatists themselves who, with their different backgrounds, disciplinary perspectives and research interests, have taken very different routes, exploring different aspects – and sometimes even arriving at different conclusions – departing from the same basic ideas.
2. THE CLASSICAL PRAGMATISTS AND THEIR KEY CONCEPTS

The collective work of the classical pragmatists is vast, and together their interests covered the range of human affairs. They did not consider philosophy a distinctly demarcated discipline, but emerged from their reflections and experiences of a variety of human knowledge and activities. They all had experience from other disciplines as well as professional activities outside academia that strongly influenced their philosophical output. The aim of the brief accounts of Peirce, James, Dewey and Mead below is to provide a basic understanding of pragmatist principles and the concepts often referred to in design and social theory. Such an understanding should provide a productive platform for exploring what a pragmatist perspective could mean for contemporary design theory and research.

Charles Sanders Peirce (1839–1914)

As the son of Benjamin Osgood Peirce, a prominent Professor of Mathematics at Harvard University, Charles Sanders was treated to an early education in the field and a great deal of intellectual encouragement and stimulation. He was a precocious child and his interest in logic began at an early age. After he graduated from Harvard in 1859 he was employed by the U.S. Coast and Geodetic Survey until 1891, mainly surveying and carrying out geodetic investigations. For over thirty years then, Peirce was involved with practical and theoretical problems associated with making scientific measurements. This experience was no doubt critical for his views on philosophy and logic. To him, philosophy and logic were also sciences themselves, although not physical sciences. Furthermore, he understood philosophy to be the philosophy of science, and he understood logic to be the logic of science.

Peirce has come to be regarded as one of the greatest logicians of his time. Yet he held no academic employments apart from a second job teaching logic in the Department of Mathematics at Johns Hopkins University between 1879 and 1884. He led an often difficult life and in periods struggled to make ends meet, especially towards the end of his life when he was dependent on the help of friends for his support. In particular William James did much to support his friend by promoting his work and inviting him to hold guest lectures.

In spite of the enthusiasm of James and a few others, Peirce never reached out to a wide audience in his life-time. While wrote extensively on a wide range of philosophical subjects he never compiled his thoughts into a book and his writing style lacked the clarity and crispness that might have made his views more readily accessed by greater audiences. His work has been put together posthumously, notably in the eight volumes of Collected papers of Charles Sanders Pierce (1932-1958). References to Peirce's Collected Papers (CP) are noted here in standard format: volume number, followed by paragraph number (e.g. CP 1.2). Various later smaller edited collections have also been published, such as the Philosophical Writings of Peirce (1955). Referenced in this overview as PWP, followed by page number.

As noted in the introduction Peirce is generally acknowledged as the founder of pragmatism. Nevertheless, among the thinkers of first rank “few have in their life time addressed so small a public as Peirce” (PWP ix) Justus Buchler, the editor of Philosophical Writings of Peirce wrote. Peirce himself, somewhat sourly, noted “I am a man of whom critics have never found anything good to say. When they could see no opportunity to injure me, they have held their peace” (PWP 3).

As pragmatism spread Peirce did not always feel comfortable with the direction it took. In an attempt to set things straight, defending pragmatism against its critics that still remain “unable to ‘catch on’ to what we are driving
at ... Suffice it to say once more that pragmatism is, in itself, no doctrine of
metaphysics, no attempt to determine any truth of things. It is merely the
method of ascertaining the meaning of hard words and of abstract concepts. ... 
All pragmatists will further agree that the method of ascertaining the meaning
of hard words and concepts is no other than that experimental method by
which all the successful sciences (in which number nobody in his right senses
would include metaphysics) have reached the degrees of certainty that are
severally proper to them today; this experimental method being itself nothing
but a particular application of an older logical rule, ‘By their fruits ye shall know
them’” (PWP 271).

Pragmatism is thus a scientific method which he formulates in How to Make
our Ideas Clear (1878) as:

... consider what effects, which 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.

According to Peirce, to determine the meaning of an idea one should “try it
out” in the “objective world”. The results of this experiment will constitute the
meaning of the idea. If there are no results, or if the results are meaningless,
then chances are the idea is not significant. Peirce is not defining truth; he is
offering a method of finding truth. When he speaks of “truth,” “meaning,” and
“method,” he limits his discussion to problems, ideas, and propositions which
are capable of experimental investigation. To him these are to be found in
science, not in metaphysical debates or “soft” and “subjective” notions such as
the qualities of feeling.

Deduction, induction and abduction

Out of Peirce's extensive work on logic, the notion of abduction as a distinct
form of inference is probably for what he is most well known. Indeed, it was at
the core of his philosophy;

“If you consider carefully the question of pragmatism you will see that it is
nothing else than the question of the logic of abduction. That is, pragmatism
proposes a certain maxim which, if sound, must render needless any
further rule as to the admissibility of hypothesis to rank as hypothesis, that
is to say, as explanations of phenomena held as hopeful suggestions” (CP
5.196).

Before the 1860's, logicians had commonly divided arguments into two
subclasses: deductive arguments (necessary inferences) and inductive
arguments (probable inferences). Around this time Peirce began to argue that
there were two distinct classes of probable inferences; in addition to inductive
inferences he introduced abductive inferences, which he also referred to as
hypothesis or retroductive inferences.

Peirce arrived at this new form by exploring what would happen if
interchanging the propositions in the basic syllogism known as deduction; All
Ms are Ps; all Ss are Ms, therefore, all Ss are Ps.

Peirce typically used deduction to describe problems in connection with
drawing conclusions on the basis of taking samples. Using his classic example
about the coffee beans (PWP Ch 14), deduction would be:

• Major premise (Rule): The beans in this bag are white
• Minor premise (Case): The beans in this particular random sample are
taken from this bag
• Result: Therefore, the beans in this particular random sample are white.

Induction is formed by interchanging the Result with the major premise (the
Rule), yielding the argument:

• The beans in this particular random sample are white
• The beans in this particular random sample are taken from this bag
Therefore, the beans in this bag are white
This argument then, is inference from random sample to population. As opposed to deduction it is not necessary inference as it might be that although the claims stated in the premises are true, the claim made in the conclusion may well turn out to be false.

**Abduction** is formed by interchanging, from the case of deduction, the conclusion (the Result) with the minor premise (the Case):

- The beans in this bag are white
- The beans in this particular random sample are white
- The beans in this particular random sample are taken from this bag

Like induction, this argument is a form of probable inference, but as opposed to both deduction and induction it is not an argument from population to sample, or vice versa. Rather it has the character of a hypothesis; it is a conjecture or inference to a plausible explanation. Abduction is the process of forming an explanatory hypothesis based on some “surprising” observed fact; it is not always inference to the best explanation, but it is always inference to some explanation, or at least something that clarifies or makes routine some information that has previously been surprising. It is thus the only mode of inference that can truly give rise to surprises – i.e. to come up with something truly novel.

**Scientific method, scientific attitude and fallibilism**

Peirce later developed the above forms of argument into a view of the systematic procedure for seeking truth that he called the “scientific method”. Deduction, induction and abduction are here seen as three phases of Peirce’s methodology of science.

Scientific method begins with abduction: because of some surprising or puzzling phenomenon, a hypothesis is made about what is actually going on. When a hypothesis that can explain the surprising phenomenon, allowing us to test it, is formed, scientific method proceeds to the second phase, deduction – drawing conclusions about what observable phenomena should be expected if the hypothesis is correct. The conclusions reached about what other phenomena should obtain if the hypotheses were to be true must be such that experimental tests can be performed to tell us whether the further phenomena do or do not obtain. Scientific method enters the final third phase, induction, when experiments are actually carried out to test the hypotheses by ascertaining whether the deduced consequences do or do not obtain. At this stage, scientific method proceeds to one of two feedback loops; if the deduced consequences do obtain we loop back to the deduction stage, entering into yet another cycle of deduction of new consequences of the hypotheses, and then testing for them again. If the deduced consequences do not obtain, we loop back to the abduction phase to develop a new hypothesis based on the new experiences, and so forth.

Peirce’s understanding of scientific method is thus not very different from the standard idea of scientific method as being a method of constructing hypotheses, deriving consequences from these hypotheses, and then experimentally testing the hypotheses. This resemblance is perhaps best seen as an indication of Peirce’s influence as philosopher of science.

Peirce’s primary interest is hence less in science as an output, or “organized knowledge”, than in the process of science. In addition to the scientific method he emphasizes science as an attitude, or the qualities that characterize the scientist: Science consists of “diligent inquiry into truth for truth’s sake ... For it is not knowing, but the love of learning, that characterizes the scientific man” (PWP 42). This pursuit of truth and learning cannot proceed without imagination – a scientific man can stare at phenomena as much as he wants, “but without imagination they will not connect themselves together in any
rational way”. Therefore;
“It is not too much to say, that next after the passion to learn, there is
no quality so indispensible to the successful prosecution of science as
imagination” (PWP 43).

Peirce had great confidence in a “scientific community” to collectively make
progress in the pursuit of truth. Yet we should be wary of looking for any
absolute or final answers, as the notion of *continuity* is of prime importance
to philosophy according to Peirce. A true continuum is something whose
possibilities of determination cannot be exhausted by any multitude of
individuals.

“The principle of continuity is the idea of fallibilism objectified. For
fallibilism is the doctrine that our knowledge is never absolute, but always
swims, as it were, in a continuum of uncertainty and of indeterminacy. Now
the doctrine of continuity is that all things so swim in continua. (PWP 356)

Once you have embraced the principle of continuity, Peirce concludes, no
explanation of things will satisfy you except that they grew. If all things are
continuous, the universe must be undergoing a continuous growth from non-
existence to existence. All laws are thus the result of evolution, and the only
tendency that can grow by its own virtue is the tendency of all things to take
habits. Philosophers thus cannot know anything at all about reality except by
making guesses about it. A scientific attitude requires trying to find out how
these guesses stand up to experience by experiment.

**Semiotics – Peirce’s theory of signs**

Closely connected to the forms of argument and scientific method is Peirce’s
theory of signs, or semiotics. Indeed, logic to Peirce, in a general sense is “only
another name for semiotic, the quasi-necessary, or formal, doctrine of signs”
(PWP 98).

At the core of this theory is the notion of interpretation. Representation,
to Peirce, is triadic; it involves a sign, an object and an interpreter. A sign, or
representamen, is something which stands to somebody for something in some
respect or capacity. It addresses somebody, i.e. creates an equivalent, or perhaps
a more developed, sign in the mind of that somebody. This sign is called the
interpretant of the first sign. The sign stands for something, which is its object.
It stands for that object not in every respect, but in reference to some sort of
“idea”, or ground. Peirce here uses the notion of an “idea” in the everyday sense
of the word – e.g. as when we say that a person catches another person idea,
or when a person recalls what s/he was thinking at some previous time, s/he
recalls the same idea.

The triadic relation between representamen, object and interpretant is
genuine in that the three members are bound together by it in a way that does
not consist in any complexus of dyadic relations.

**Signs**, in turn, are divided into three different kinds:

- **Icons** are signs that show their objects through similarity or resemblance.
  A painting is an icon of the object it depicts, and a map is an icon of a
  particular place. The meaning of icons lies primarily in their connotation as
  the qualities or attributes of the icon resembles the qualities or attributes of
  the object it refers to.

- **Indices** are signs that indicate their objects in a causal manner. Smoke
  is an index of fire and a symptom is an index of a disease. The meaning of
  indices lies in their denotation as the primary quality of an index is to draw
  attention to its object by getting the interpreter to focus on the object, e.g. a
  pointing a finger or knock on the door.

- **Symbols** are words, hypothesis or arguments that depend on a conventional
  or habitual rule. A symbol is a sign “because it is used and understood
as such” (CP 2.307). It has what Peirce calls pragmatic meaning, i.e. it has purpose of the person using it. Knowing how interpreters habitually interpret a sign, the utterer can use the symbol to cause a specific effect in the interpreter.

According to Peirce's theory of signs, the meaning of a symbol, like a word, is thus based on social conventions. This does not mean, however, that meaning is fixed or static. **Pragmatic meaning** to Peirce is dynamic as it continues to evolve over time. As a sign sparks a subsequent sign (an interpretant) in the mind of the interpreter, and since an interpretant is itself a sign, an infinite chain of interpretation, development or thought is begun.

**William James (1842–1910)**

William James was the oldest of five siblings, one of which was the author Henry James (Jr.) and another the diarist Alice James. The family was dominated by the patriarch Henry James (Sr.), known as a strong individualist, critical of most established institutions. Family life provided a foundation for cultural and intellectual development, and the spiritual discussions around the dinner table have become well known. The family spent several years in Europe, where William James attended school in Geneva and Paris. He developed a profound interest in the arts and studied painting for three years before giving up his dreams on an artistic career, strongly encouraged by his father to pursue a career in science. He entered Harvard to study chemistry, followed by Harvard School of Medicine. James earned his M.D. degree in 1869, but never practiced as he regarded 19th century medicine as largely humbug. Instead he took a job at Harvard teaching physiology, and a few years later started to teach psychology within the realm of his post in physiology.

During his tenure at Harvard he was variously appointed as (Assistant) Professor of Physiology, Philosophy and Psychology. While these changes perhaps reflect bureaucratic and political maneuvers as much as anything, they also mirror his versatile intellect and how these areas intermingled in his work. During the period when psychology was being established as an academic discipline, philosophy departments were often thought to be its appropriate setting. James, who established the first scientific psychological laboratory in the US, stressed the affinity between the two disciplines and recommended that philosophy and science be pursued together, and that philosophers study physiological psychology (Barbalet 2004). In his seminal work, *The Principles of Psychology*, 1200 pages in two volumes published in 1890 after having worked on it for 12 years, James took psychology away from the metaphysical and speculative vein it had occupied in the 19th century, and created a modern scientific psychology based on biological principles. He published extensively up until his death in 1910 and his complete work would approximate twenty volumes covering a wide range of topics.

This background is clearly reflected in James's philosophy, which should be understood from the vantage point of his psychology. He was trained in the natural sciences and was committed to a scientific outlook and an exponent of scientific psychology throughout his career. Perhaps his own fragile health also contributed to his special sensitivity to the body's pervasive influence on our mental and moral states. James often suffered from various physical conditions throughout his life, including chronic headaches, depressions and "neurasthenia" – ailments he realized were psychosomatic, at least to some extent. The body was always at the center of James’ philosophy. He considered experience as a fundamental reality and the basis for all that we can know. The implications of this insight permeates his whole philosophy. Before addressing James's version of pragmatism we will therefore first take a look at some central ideas of his psychology to be able to understand his particular contribution to pragmatism.
Experience – Consciousness – Emotion

In a famous chapter in the Principles called The Stream of Thought (chapter IV, Vol. 1) James lays out his rich account of experience. Consciousness emerges as a continuous single stream within which everything that we experience is included.

“Consciousness, then, does not appear to itself chopped up in bits. Such words as ‘chain’ or ‘train’ do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows. A ‘river’ or a ‘stream’ are the metaphors by which it is most naturally described.” (James 1890/1950a: 239)

While the objects of our thoughts or perceptions may seem distinct and separate, our consciousness of them is itself continuous. They are like things floating in a stream. We easily confuse thoughts themselves with the things (e.g. objects or events that enter into experience) of which they are aware, James explains. The things themselves are discrete and discontinuous and do indeed pass before us like a train or a chain. For example, a sudden thunder-clap might so stun and confuse us for the moment so as to appear as a real interruption. But that very confusion is a mental state, and a state that passes us straight over from the silence to the sound. When things are violently contrasted with each other – such as the thunder-clap against silence – it is easy to overlook the large amount of affinity and continuity between the thoughts by whose means they are cognized. When the thunder clashes we do not hear thunder pure, but “thunder-breaking-upon-silence-and-contrasting-with-it” as the awareness of the thunder itself “creeps and continues” into the awareness of the previous silence.

“The thunder itself we believe to abolish and exclude the silence; but the feeling of the thunder is also the feeling of the silence as just gone; and it would be difficult to find in the actual concrete consciousness of a man a feeling so limited to the present as not to have an inkling of anything that went before.” (p. 241)

James blames language for our tendency to focus on things rather than experience in thought. We name our thoughts simply after its thing, but a thought encompasses so much more; “dimly a thousand other things”. This includes things known before as well as to come, like the silence accompanies the thunder. But, as James notes, the feeling of thunder implies that there is a certain quality to a thought that can be felt, but not named. And if it can be felt, then consciousness is always embodied. Although we may not always pay explicit attention to it, our own bodily position, attitude, condition, invariably accompanies the knowledge of whatever else we know: “We think; and as we think we feel our bodily selves as the seat of our thinking.”

The continuity of consciousness is thus not only temporal, but also between thinking and feeling, between body and mind. And as thought flows there must be a quality of this flow that we can experience. According to James this flow has a certain rhythm: “Like a bird’s life, it seems to be made of an alternation of flights and perching” (1890/1950a: 243). The perchings are resting-places in the stream of thought, or the “substantive parts” such as the images or ideas that we tend to be more acutely aware of. The places of flight are the “transitive parts” of the stream of thought that connect the substantive parts together in our consciousness, including the contextual transitions and relations between them and form the qualitative background to our experience. What we feel then, are the patterns and qualities of this transitional flow of thought. But the “rush of the [transitional phase of] thought is so headlong that it almost always brings us up at the conclusion before we can arrest it”. If we try to catch it, it ceases to exist:
“As a snowflake crystal caught in the warm hand is no longer a crystal but a drop, so, instead of catching the feeling of relation moving to its term, we find we have caught some substantive thing, usually the last word we were pronouncing, statically taken.” (James 1890/1950a: 244)

We tend to overlook the continuity of the stream of thought because we typically focus on the substantive parts rather than the transitive parts. Although we cannot express the qualities of the latter in words, it does not mean they are not important. To the contrary James argues, it is this nameless but immediately felt quality that organizes the elements of consciousness, determines the direction of its experiential flow, and underlies the specific properties we later articulate in our verbal descriptions.

“There is not a conjunction or a preposition, and hardly an adverbial phase, syntactic form, or inflection of voice, in human speech, that does not express some shading or other of relation which we at some moment actually feel to exist between the larger objects of our thought. ... We ought to say a feeling of and, a feeling of if, a feeling of but, quite as readily as we say a feeling of blue or a feeling of cold.” (James 1890/1950: 245-246)

We do not have the language to capture the full complexity, or all the “shades” of this immediate organizing quality of the “but”. Yet we can all relate to the feeling of the “but” as a kind of hesitant quality of a situation. And this felt quality essentially guides our consciousness, selecting and organizing the elements of our thoughts to make them coherently unified in terms of their felt sense of affinity to that quality.

This emotional “guiding function” is central to thinking and doing as we are not “passive clay, upon which ‘experience’ rains down” (James 1890/1950a: 403), but active participants that selectively engage with the world with intentionality. The vast majority of potential impressions to the senses never enter into experience. “Why? Because they have no interest for me. My experience is what I agree to attend to. Only those items which I notice shape my mind – without selective interest, experience is an utter chaos” (1890/1950a: 402).

The connection between the felt qualities of a situation and action is further developed in James’ theory of emotion. Indeed, Barbalet (2004) has argued that James’ theory of emotion is what brings his psychology and pragmatic theory together as it connects emotion to action and decision making. The apprehension of the future, and the basis for action that will create a particular future, are necessarily emotional.

In essence, James held that during an emotion the brain causes the body to change, and that the feeling of emotion is the result of perceiving the body’s change, or more specifically:

“My theory, on the contrary [to common belief] is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur IS the emotion.” [James 1890/1950b: 449]

This was a highly criticized and contested view during much of the 20th century when it was conventionally held that we first feel scared, then have a creeping sensation over our skin. James’ position, that feelings are largely a reflection of body-state changes, has been recognized and confirmed by modern day neuroscientists and has therefore received renewed attention (see e.g. Damasio 1999).

But emotions are not simply impulses and may as well be related to an imagined event as something that is physically present. “One may get angrier in thinking over one’s insult than at the moment of receiving it” (James 1890/1950b: 442), whether referring to past experience or a possible future occurrence. Indeed, emotions are central to decision making and theorizing as they provide guidance when exploring orientation towards the future, or the
practical consequences of particular actions. The body becomes a “sounding-board” as we react to the “infinitely numerous and subtle” changes induced by thoughts or events. The immense number of parts modified in each emotion is what makes it so difficult for us to reproduce the total and integral expression of any one of them – we may catch the trick with the voluntary muscles, but fail with the skin, glands, heart and other viscera.

“Just as an artificial imitated sneeze lacks something of the reality, so the attempt to imitate an emotion in the absence of its normal instigating cause is apt to be rather ‘hollow’” (James 1890/1950b: 450)

Similarly, we cannot intellectually abstract the feelings that occur as a consequence of every one of these numerous bodily changes. “A purely disembodied human emotion is a nonentity” (p.452).

Emotions are thus embodied and a critical source of information in decision-making, not only in the here and now, as a reaction to an immediate threat or pleasure, but also in devising sophisticated future scenarios. Emotion provides us with the necessary information to take action in highly complex situations where logic and calculation is not enough. This is indeed the case in most social situations, where action is taken in the absence of evidence as to what might be its most appropriate course.

In this sense, reason and emotion cannot be separated and are intertwined in the process of experience. Emotion is ascribed a critical role in guiding attention, behavior, and as a source for originality and new ideas and behaviors.

James’ pragmatism

If Peirce was the originator of pragmatism, William James was to one to make it public and popular. James gave full recognition to Peirce as the founder of pragmatism, and did his best to promote his friend which he found “the most brilliant mind” in philosophy at the time. Peirce’s original papers from 1878 remained largely unnoticed until William James picked up on them twenty years later. During a lecture at the University of California Berkeley, published immediately thereafter as Philosophical Conceptions and Practical Results (1898). James used the term “pragmatism” to denote a theory of truth wherein the “meaning” of a concept is marked by “some particular consequence” in our future practical experience. This important concept would later be fleshed out in James’ famous 1907 lectures, published as Pragmatism – A New Name for Some Old Ways of Thinking. But the relevant “principle” is instrumental throughout much of his writings before and after 1898.

This consequentialist take on truth and meaning, James pointed out, was simply a restatement of Peirce’s own principle of practicalism concerning the meaning of our beliefs, as presented a couple of decades earlier. Nevertheless, James substantially altered Peirce’s pragmatism to fit his more subjectivist viewpoint: an idea’s effectiveness is judged by an individual agent rather than determined objectively by a scientific community. While Peirce was exclusively interested science, and indeed philosophy for Peirce was the philosophy of science, James strives to place philosophy in all our lives and suggests that everyone should wrestle daily with philosophical questions. The kind of philosophy that James had in mind “is only partly got from books; it is our individual ways of just seeing and feeling the total push and pressure of the cosmos” (James 1907/1995: 1). He believed that a new dawn was breaking upon philosophy which is “at once the most sublime and the most trivial of human pursuits” (p.2). Most of the examples that James subsequently uses in Pragmatism are examples from every-day situations and experience.

The pragmatic method, to James, is primarily a method of settling metaphysical disputes that otherwise might be interminable. Is the world one or many? Fated or free?
The pragmatic method in such cases is to try to interpret each notion by tracing its respective practical consequences. What difference would it practically make to anyone of this notion rather than that notion were true? If no practical difference whatever can be traced, then the alternatives mean practically the same thing, and all dispute is idle. Whenever a dispute is serious we ought to be able to show some practical difference that must follow from one side or the other's being right.” (James 1907/1995: 11)

James thus does not offer any answers to philosophical issues, he helps us decide what problems are meaningful to address, and provides a method for doing so – and more importantly, an indication of the ways in which existing realities may be changed. “Theories thus become instruments, not answers to enigmas, in which we can rest” (James 1907/1995: 21).

In James’ version, pragmatism is also a “theory of truth” where “truth” in our ideas and beliefs mean the same thing as it means in science. It means “that ideas (which themselves are but parts of our experience) become true just insofar as they help us to get into satisfactory relation with other parts of our experience ... Any idea upon which we can ride, so to speak; any idea that will carry us prosperously from one part of our experience to any other part, linking things satisfactorily, working securely, simplifying, saving labor; is true for just so much, true in so far forth, true instrumentally.” (James 1907/1995: 23).

This view of truth reflects James’ account of the stream of thought - the reason we call things true is that they perform the function of marrying previous parts of experience with newer parts. There are no general objective truths, but things can only be true in their particular context, to the extent that they “work” in that particular context.

John Dewey (1859-1952),

John Dewey was born in Burlington, Vermont in 1859. After graduating from the University of Vermont, Dewey worked as a school teacher in Pennsylvania, teaching classics, algebra and science. He then moved on to study for a doctoral degree in philosophy at Johns Hopkins University, which he completed in 1884. After a period of working as a teacher at the University of Michigan, Dewey joined the University of Chicago in 1894, taking up the position as head of the new department of psychology, philosophy and pedagogy. At Chicago he became deeply interested in social problems and became friends with social reformers, such as Jane Adams at Hull House, who came to influence his views on education. He also became increasingly interested in the philosophy of education, and published several important books on the topic. To test his theories he started an experimental school, the Laboratory School, in Chicago together with his wife Alice who had a strong interest in social reform. After a dispute with the university president the school was closed and Dewey moved to Columbia University in 1905 where he remained the rest of his career. He traveled extensively during his years at Columbia as philosopher and social, political and educational theorist, to Europe as well as to destinations such as China, Japan, Turkey and the USSR. He was an outspoken person that had an important influence as a philosopher involved in many political discourses in his time. He was elected president of the American Psychological Association in 1899, and became president of the American Philosophical Association 1905.

Dewey’s approach to pragmatism can be seen as based on a combination of Peirce’s scientific thrust and James’ more humanistic bent and focus on embodied experience. He sought to preserve the rigor of science for philosophical thinking, making it applicable to the practical concerns of everyday life. But his understanding of science was much broader than Peirce’s narrow and conventional one. ‘The genuine interest of ‘pure’ science are served
only by broadening the idea of application to include all phases of liberation and enrichment of human experience” (Dewey 1958: 165).

Dewey wanted to remodel philosophy under the inspiration of science, but this does not mean that he wanted philosophy to actually become science, or to adopt all its methods. The problem with philosophers throughout history, according to Dewey, is that they have borrowed from various sources the conclusions of some special analysis, based on prevailing trends in science of their time, and imported them directly into philosophy, neglecting their empirical sources or implications.

“Well, why not, as long as what is borrowed has a sound scientific status? Because in scientific inquiry, refined methods justify themselves by opening up new fields of subject-matter for exploration; they create new techniques of observation and experimentation” (Dewey 1958: 34).

Science should not be imported into philosophy as a method for measuring, manipulating and predicting elements in the material world, nor should we blindly accept its conclusions. Instead Dewey wanted philosophy to imitate science in terms of the sensitivity to the things that open-ended inquiry revealed about the world. Scientific inquirers pay close attention to their practical experiments and use the results to question their reflective premises, re-adjust their theories to allow for new ways of inquiry into the experienced subject-matter.

More importantly than the scientific method, Dewey thus promoted a scientific attitude which involves the application of critical intelligence to the practical problems that people need to resolve in order to lead better lives. This entails an attitude of openness and exploration, being willing to revisit and revise previously accepted beliefs, using techniques of observation and experimentation, while always staying connected to practical human concerns. Like James, he held that the human good should be the goal of both science and philosophy. It is the capacity of science to innovate in pursuit of this goal that he found such a valuable contribution to philosophy.

Dewey’s vision of philosophy draws on a scientific attitude that advocates exploration and experimentation with the aim of improving human lives, firmly grounded in experience. This position is reflected Dewey’s version of the principle of pragmatism: His notion of a “first rate test of the value of any philosophy” asks:

“Does it end in conclusions which, when they are referred back to ordinary life experiences and their predicaments, render them more significant, more luminous to us and make our dealing with them more fruitful? ... Does it yield the enrichment and increase of power of ordinary things which the results of physical science afford when applied in every-day affairs?” (Dewey 1958: 7)

**Experience**

Experience is both the means and the end of inquiry. Indeed it is so central that Dewey concludes his introductory chapter on the philosophic method in *Experience and Nature* (1958) with the sentence: “If what is written in these pages has no other result than creating and promoting a respect for concrete human experience and its potentialities, I shall be content” (p. 39).

Dewey stressed the importance of recognizing the significance and integrity of all aspects of human experience as a fundament for the process of inquiry. For Dewey “experience” is a process situated in a natural environment, mediated by socially shared symbols, actively exploring and responding to the ambiguities of the world. Experience is thus conditioned by our biological structures as well as the social context, it is always *both* bodily and mental as well as social. Referencing William James, Dewey notes that “experience”, like
“life” and “history”, is a “double-barrelled” word in that it recognizes no division between act and material, subject and object, but contains them both in an unanalyzed totality.

Central to Dewey’s work was the ambition to reconcile the dualisms between reason and emotion, thinking and doing, theory and practice, and fundamentally, between body and mind, that pervaded the philosophy of his day. Instead, inspired by Darwin’s theory of natural selection, he advocated a naturalistic theory of logic, which departs from the assertion that logic must be derived from our biological structures and functions and the complex interrelationships between organism and environment. The primary postulate of a naturalistic theory of logic is the principle of continuity of the lower (less complex) and the higher (more complex) activities and forms. All of our higher functioning, cognitive faculties such as conceptualization and reasoning, are thus seen as growing out of and shaped by our abilities to perceive things, manipulate objects, move our bodies in space, and evaluate our situation.

“The growth and development of any living organism from seed to maturity illustrates the meaning of continuity.” (Dewey 1938:23). It also illustrates the central importance of organism-environment interactions. The individual is an active agent, constantly adapting to enveloping conditions aimed at an active restructuring of these conditions. As Dewey put it: “An organism does not live in an environment; it lives by means of an environment” (Dewey 1938:25).

While Dewey stressed the role of the body, the senses and the motor organs in particular, as the means of participating in the world through the flow of experiences, he equally recognized the importance of the social environment. To a very large extent, the ways in which human beings respond to even physical conditions are influenced by their cultural environment. Problems that induce inquiry grow out of the relations of fellow beings to one another,

“and the organs for dealing with these relations are not only the eye and the ear, but the meanings which have developed in the course of living, together with the ways of transforming and transmitting culture with all its constituents of tools, arts, institutions, traditions and customary beliefs” (Dewey 1938:42).

The meanings that emerge out of our transactions with the world, and on the basis of which we act, are thus a consequence of our bodies and sensorimotor systems as well as the physical and social environments. Therefore Dewey refers to his approach as cultural naturalism.

Another concept of central importance for Dewey’s theory of inquiry is that of the situation as the locus of organism-environment interactions.

“What is designated by the word ‘situation’ is not a single object or event, or set of objects and events. For we never experience, nor form judgments about objects and events in isolation, but only in connection with a contextual whole. This latter is what is called a ‘situation’” (Dewey 1938:66).

Pattern of inquiry

Inquiry is preceded by an imbalance in organism-environment interactions, what Dewey called an “indeterminate situation”. We feel doubt because the particular situation we are in is somehow uncertain, unsettled, disturbed, ambiguous, confused. The situation is not only “open” to inquiry, but it is open in the sense that its constituents do not hang together.

Inquiry is then induced when the situation is recognized as problematic. Yet, to find out what the problem or problems are is to be well along in inquiry – a problem well put is a problem half-solved. The way to determining a problem is a process of progressive inquiry. The first step is to seek out the constituents of a given situation, or the “facts of the case”, by observation. A possible relevant solution then emerges as an idea, an anticipation of what
might happen. Because ideas are abstract in nature, the meanings they involve
must be embodied in some symbol. Without some symbol no idea; a meaning
that is completely disembodied cannot be entertained or used, but embodied
meanings or ideas are capable of objective survey and development. “To ‘look at
an idea’ is not a mere literary figure of speech” (Dewey 1938:110).

In this sense, ideas can become operational as they instigate and direct
further operation and activity – they are proposals and plans for action to
further inquiry. In a similar vein, facts become operational as they are used to
test and further develop the ideas. Yet facts are only relevant to the extent that
they interact with one another and can thus be organized into an ordered whole
in response to the situation at hand. Facts are provisional “trial facts” in the
process of testing out how they support (or not) the idea. The operative force
of both ideas and facts is thus practically recognized to the degree that they
are connected with experiment. Inquiry ends when the original indeterminate
situation becomes determinate, that is when it is a closed, or a finished situation
or “universe of experience”.

Dewey emphasized that this structure, or pattern, is common to all forms
of inquiry – common sense as well as science and, as we shall see, art. But
because the problems with which they are concerned are different, their special
techniques and the emphasis on the factors involved vary widely.

Aesthetic experience

Experience in its most complete, most significant and fulfilling mode is to
Dewey experience as art. An experience takes on an aesthetic quality when
we have an experience, i.e. “when the material experienced runs its course
to fulfillment” (Dewey 1934/1980: 35). Normally there is distraction and
dispersion; what we observe and what we think, what we desire and what we get
are at odds with each other. When we have an experience it is integrated within
and demarcated in the general stream of experience from other experiences.
This happens when a piece of work is finished satisfactorily, a problem is solved
or a situation, whether that of eating a meal, playing a game of chess, carrying
on a conversation, “is so rounded out that its close is a consummation and not
a cessation” (p. 35). Such an experience is a whole and carries with it its own
individualizing quality.

Aesthetic experience is thus not confined to the artist or the making of art,
but is an important and integral part of all intelligent and creative human
activity as “esthetic cannot be sharply marked off from intellectual experience
since the latter must bear an esthetic stamp to be itself complete” (Dewey
1934/1980: 38). An experience of thinking has its own aesthetic quality. Again,
it is not a question of difference in kind between the intellectual and the
esthetic – thinking differs from art only in that its material consists of abstract
symbols rather than qualities. Thinking satisfies us emotionally because it is
internally integrated. No intellectual activity is integrated in this way unless
it has an aesthetic quality. Similarly, Dewey does not separate artistic practice
from intellect. The artist thinks as intently as the scientist as she responds
intelligently to every brush stroke to know where she is going. Thinking should
thus not be identified with using mathematical or verbal symbols only. Indeed,
Dewey’s objective with his seminal book Art as Experience was to recover
the continuity of “esthetic experience with the normal processes of living”
(1934/1980:10).

Yet art is particularly interesting for Dewey as it celebrates those moments
when the past reinforces the present and the future is a quickening of what is
now with peculiar intensity. We only become fully alive, according to Dewey,
when we are fully present in the here and now – we are wholly united with our
environment and not troubled by memories of the past or anticipations of the
future, i.e. we have an experience.
Emotion plays a central role in aesthetic experience. The aesthetic quality that rounds out an experience into completeness as a whole is emotional. In this sense emotion is a quality – experience is emotional but there are no separate things called emotions in it. Emotion can also be seen as some sort of mediator between the different aspects of experience.

“It is not possible to divide a vital experience in the practical, emotional, and intellectual from one another and set the properties of one over against the others. The emotional phase binds the parts together into a single whole; ‘intellectual’ simply names the fact that the experience has meaning; ‘practical’ indicates that the organism is interacting with events and objects which surrounds it” (Dewey 1934/1980: 55).

Emotion also mediates the individual-environment interactions. Similarly to the institution of a problem in inquiry, an aesthetic experience is preceded by a rupture in the rhythm that marks the constant interaction of the individual with her surroundings. Emotion is the conscious sign of such a break, actual or impending. Yet it is properly situations that are characterized by emotionality, rather than the person’s “mind”. We feel threatened, for example, because the situation is threatening.

The importance of the individual-environment integration is also emphasized in Dewey’s view of the intimate link between experiencing and creating the artwork as well as with the object of art itself.

While the word “esthetic” refers to experience as appreciative, perceiving and enjoying, Dewey asserts that the distinction between aesthetic and artistic (between consuming and producing) cannot be pressed so far as to become a separation. Just as there is an element of passion in all aesthetic perception, craftsmanship must be “loving” to be artistic, i.e. it must care deeply for the subject matter upon which skill is exercised. To be truly artistic a work must also be framed for enjoyed receptive perception. The doing and making is artistic when the perceived result is of such a nature that its qualities as perceived have controlled the question of production. The aesthetic experience is thus inherently linked with the experience of making.

Dewey also stressed that expression and art require material used as media. An intrinsic connection exists between medium and the act of expression. Even in the most mechanical modes of expression there is interaction with and a consequent transformation of the raw material.

It takes a wine press as well as grapes to ex-press juice, and it takes environing and resting objects as well as internal emotion and impulsion to constitute an expression of emotion. (Dewey 1934/1980: 64)

Correspondingly, Dewey claims that the “expressive object” should not be seen in isolation from the process that produced it, nor from the individuality of the vision from which it came.

It is no linguistic accident that “building”, “construction”, “work”, [like “design”] designate both a process and its finished product. Without the meaning of the verb that of the noun remains blank. (Dewey 1934/1980: 51)

In a similar vein, the perception or consumption of the work of art cannot be fully separated from its production if it is to have an aesthetic quality. In contrast to a spontaneous and uncontrolled activity, the artist works with the aesthetic experience of the perceiver in mind.

The artist embodies himself in the attitude of the perceiver while he works (Dewey 1934/1980: 48)

Art as language(s)

According to Dewey, emotion is central to the act of expressing, or creation of a work of art - indeed it a special skill of artists to be able express the emotional
quality of a situation into a work of art.

A lifetime would be too short to reproduce in words a single emotion. In reality, however, poet and novelist have an immense advantage over even an expert psychologist in dealing with an emotion. For the former build up a concrete situation and permit it to evoke emotional response. Instead of a description of an emotion in intellectual and symbolic terms, the artist “does the deed that breeds” the emotion. (Dewey 1934/1980:67)

To Dewey art is thus a form of communication between artist and audience, mediated through the object of art.

“Because objects of art are expressive, they are a language. Rather they are many languages. For each art has its own medium and that medium is especially fitted for one kind of communication. Each medium says something that cannot be uttered as well or as completely in any other tongue.” (Dewey 1934/1980:106)

Because of practical considerations, Dewey notes, superior importance has been given to speech in everyday life, though this is just one mode of communication. This has unfortunately given rise to the impression that meanings in architecture, sculpture, painting and music can be translated into words with little if any loss. “In fact, each art speaks an idiom that conveys what cannot be said in any other language and yet remains the same” (Dewey 1934/1980: 106).

**George Herbert Mead (1863-1931)**

G. H. Mead was born in in South Hadley, Massachusetts in 1863 but moved to Oberlin, Ohio, in 1870 as his father, Hiram Mead had secured a position as professor of homiletics at the Oberlin Theological seminary. George entered Oberlin college in 1879 where he became an enthusiastic student of poetry, literature and history. Mead was particularly passionate about English writers such as Wordsworth, Shelley, Carlyle, Shakespeare, Keats, and Milton, a passion he preserved throughout his life. After a few years as surveyor at the Wisconsin Central Rail Road Company Mead enrolled at Harvard. During this time Mead struggled with fundamental doubts regarding religion and his Christian background. After a prolonged a spiritual crisis, he ended up as a naturalist and a non-believer. He earned his MA in philosophy in 1887, but also studied psychology and several European languages. While at Harvard Mead stayed in William James's home as a tutor to James’ children, although he did not study under James.

He left Harvard to pursue his PhD at the University of Berlin, where sought to develop a more realistically grounded philosophy. He had become dissatisfied with the dominant speculative approach at Harvard, which did not address the scientific and social problems that concerned Mead. In Germany he also had the opportunity to witness the growing Social Democratic Labor movement which inspired his later work in social reform back in America. He returned to the US and took up a position at the University of Michigan in 1891 where he first met and became friends with Dewey, and followed Dewey to Chicago in 1894 where he remained till his death. In Chicago Mead participated actively in a range of social programs and various local movements.

Many philosophical overviews exclude Mead from the trio of the Classical Pragmatists. Instead, Mead's legacy has become more known in the fields of sociology and social psychology rather than philosophy and is considered the father of the school of Symbolic Interactionism, although he did not use this term himself. More recently however, there has been an increasing tendency to demonstrate the extent to which Mead was embedded in the pragmatic tradition of the time (e.g. Joas 1997; Baert and Turner 2004, Bernstein 2010). Mead and Dewey were close collaborates and friends and they depended on each other for the progression of their respective work. When Dewey was
offered the chairmanship of the Department of Philosophy and Psychology of the University of Chicago in 1894, one of his conditions for accepting was that he could bring Mead with him as assistant professor. He called Mead “the most original mind in philosophy in the America of the last generation” (Dewey 1931: 310) in his obituary, adding that “I dislike to think what my own thinking might have been were it not for the seminal ideas which I derived from him” (p. 311). In particular, Dewey noted, Mead’s vital interest in social psychology and in a social interpretation of life and the world, was where his influence was already most widely felt at the time. “I know that his ideas on this subject worked a revolution in my own thinking” (Dewey 1931: 313).

It therefore makes sense to consider Mead and Dewey as having a common commitment to developing a theory of meaning where they developed complementary aspects (Alexander 1987). If Dewey gave range and vision, Mead gave analytical depth and scientific precision. “If Dewey is at once the rolling rim and many of the radiating spokes of the contemporary pragmatic wheel, Mead is the hub” (Morris 1934: xi). In particular, it is for his description of how the self emerges in social interaction that Mead has been so influential in the social sciences in general and in sociology and social psychology in particular.

Mead wrote almost constantly and published numerous articles in philosophy and psychology, but he never published a book. After his death several of his students put together stenographic records and lecture notes along with some unpublished papers into four volumes. His most known book resulting from this process is Mind, Self and Society from the Standpoint of a Social Behaviorist (1934, edited by Charles W. Morris). Unless otherwise stated the text below is drawn from this book, focusing on the contribution for which Mead is best known; the emergent, inter-subjective nature of the self.

The dialectic of the “I” and the “me”

The word “self” for Mead denotes something that can be both a subject and an object, but it is the property of the self as an object for itself that is the main focus of Mead’s attention. If we cannot take an objective attitude towards ourselves we can only be conscious, not self-conscious – and consequently there can be no rational behavior. However if we do, we become part of our own experience as a self, or as an individual, just like other individuals are objects to us or in our experience. An individual becomes an object to him- or herself only through “taking the role of the other”, i.e. through taking on others’ attitudes towards him- or herself within a social context to which both she and the others belong. This happens in interaction with another person (thus taking on the attitudes of that person) or with a social group or society at large, what Mead calls “the generalized other”.

Our thinking is an inner conversation in which we may be taking the roles of specific acquaintances over against ourselves, but usually it is with what I have termed the “generalized other” that we converse, and so attain the abstract levels of thinking, and that impersonality, that so-called objectivity that we cherish. In this fashion, I conceive, have selves arisen in human behavior and with the selves their minds. (Mead 1925: 272)

This self, when it becomes an object to itself, is essentially a construction that emerges in social experience; the social “me” that we are aware of. It is this aspect of the self that has had such a great impact on social theory. But Mead also raises the question of the nature of the “I”, the subject that is aware of, and reacts to the “me”, and how and when these different dimensions of the self are salient in conduct. We are aware of ourselves, of what the situation is, but exactly how we will act never gets into experience until after the action takes place. The “me” represents a certain organization of the community, or social group, as construed in our attitudes. This “me” calls for a response, but the
response that takes place is something that just happens. It is because of the “I” that we say that we are not entirely aware of what we are, that we surprise ourselves with our own actions.

Recognizing that the self can not appear in consciousness as an “I”, that it is always an object, i.e., a “me”, I wish to suggest an answer to the question, What is involved in the self being an object? The first answer may be that an object involves a subject. Stated in other words, that a “me” is inconceivable without an “I” (Mead 1913:374)

Mead describes the “me” as a form of censor, providing the self with a social control mechanism. It frames the sort of expression to be made, and thus draws out the limits for the “I”, outlining what behaviors are possible, or suitable, in a particular social context. Impulsive behavior however, is uncontrolled behavior, and this is, according to Mead, when the “I” escapes the control of the “me”. Thus, owing to the “I” we are not entirely imprisoned by our socially constructed “me’s”. Although the “me” provides the structure for the self, the “I” constantly reacts to the social attitudes of the group and thus changes the cooperative process of the group to which he or she belongs. Without the “I” there would be nothing novel in experience.

Both dimensions “me” and “I” are essential for the full expression of the self. One has to take in others’ attitudes to belong to a social group; take up this outer social world and integrate it into oneself to be able to think. It is through one’s relationship to others in a group that one has an existence as a group member because of the rational social processes going on within the group. On the other hand, the individual is constantly reacting to the social attitudes of the group and changes in the collective cooperative process of that very group to which he or she belongs.

Mead also emphasized the contextual character of the self. We are different things to different people and in different settings and we have different “elementary selves” that we bring out in different social groups. The relative importance of the “I” and the “me” depends to a large extent on the context. In some situations the “me” is more important (when it is important to conform to certain social rules to achieve the desired reaction), in others the “I” are more predominant (when behavior is impulsive or novel).

**Emotions and physical objects**

One reason Mead is virtually missing from design theory (though see Krippendorff, 2006:46) is probably the (perceived) lack of connection to the physical world and the focus on the cognitive reflexive dimensions of the self at the expense of the immediate embodied and emotional experience of relating to physical objects. However, when re-examining the original thoughts, putting them into a greater pragmatist context, exciting opportunities emerge for understanding the role of design in identity processes.

Indeed, the scattered nature of Mead’s work, collected and put together posthumously, makes interpretations and understanding the context of Mead’s work all the more important. The most influential interpretation for the contemporary understanding of Mead’s theories of the self appertains to Herbert Blumer, one of Mead’s students and (allegedly) the originator of the term symbolic interactionism (Blumer 1969). All interpretations emphasize certain aspects of the original work and downplay others, and Blumer’s interpretation neglects the biological and evolutionary strands in Mead’s thought and intellectualizes the concept of meaning (Joas 1997). Consequently, the work that has followed from this stream has tended to emphasize the social dimensions of Mead’s theory, overlooking the embodied character of the self.

As a consequence, the self’s relation to the physical world is an aspect of Mead’s work that has not received the attention it is due (McCarthy 1984; Joas
Mead did contend that we relate socially to physical objects just like we do to people, and that physical objects play a central role in the constitution and maintenance of social identities. “Any thing – any object or set of objects, whether animate or inanimate, human or animal, or merely physical - toward which he acts, or to which he responds, socially, is an element in what for him is the generalized other; by taking the attitudes of which toward himself he becomes conscious of himself as an object or individual, and thus develops a self or a personality” (Mead, 1934:154). Unfortunately, as noted by Csikszentmihalyi and Rochberg-Halton (1981) Mead’s original meaning of the term “role model” has become narrowed, so that now social scientists tend to emphasize the behavioral patterns of an actual person as constituting a “role model”, leaving out, or omitting the fact that Mead includes “any object” or “set of objects” as having this power as well. Our physical surroundings thus play an active part in our socialization processes, and development of the self; our interactions with physical objects are social, but they are also embodied. Indeed, a key theme in Mead’s biography is the striving to root “mind” in the organism (Joas 1997). Thus according to Mead the social and physical world arises in experience through distance senses and contact experience; through vision and touch. The environment, as we come to know it, is brought forth in cooperative acts. “The human hand, backed up, of course, by the indefinite number of actions which the central nervous system makes possible, is of critical importance in the development of human intelligence” (Mead, 1934:249).

In this sense, Mead can be seen as a complement to Dewey by placing Dewey’s ideas on aesthetics in a social context. In a comment on Dewey’s notion of aesthetic experience, Mead emphasized the importance of the social nature of (shared) aesthetic experience. He notes that the joy to creation, whether belonging to the artist, scientist or skilled artisan “belongs to co-ordinated efforts of many, when the role of the other in production is aroused in each worker at the common task, when the sense of team play, esprit de corps, in spires interrelated activities. In these situations something of the delight of consummation can crown all immediate processes” (Mead 1926:387).

Critically, for design theory, combining Mead and Dewey’s work can provide a platform for understanding design (artistic inquiry) as an integrative process rooted in immediate embodied experience, but an experience that is also social. Meaning is created in interaction with social as well as physical objects, and design objects become an integrated part in our identity processes.

**Summing up – The diversity and richness of the classical pragmatists**

As the brief and highly selective overview above suggested, together the classical pragmatists covered a vast range of topics from various different angles, based on their different backgrounds and reflecting their different aims and areas of interest. This diversity is often noted almost as a characteristic of pragmatism, taken as a sign of lack of coherence by its critics. Equally, it is often noted that they disagreed amongst themselves about some of the central philosophical questions such as the nature of “truth”. Indeed, a significant part of the secondary literature on pragmatism attempts to conceptualize the major splits or divisions within pragmatism. Some focus on the contrast between Peirce’s attention to the intersubjectivity of a community of inquirers and James’ focus on individuals’ thought processes, others point to the difference between those pragmatists who still hold onto some notion of objectivity of truth, and those who have abandoned that search altogether (Baert 2003).

However, while such differences are certainly an important part of the pragmatist heritage, in many cases these disagreements seem to be exaggerated by critics representing a different (often more rationalist) perspective, and
sometimes based on flawed sources or insufficient references. For example, when Peirce famously relabeled his own position “pragmaticism,” which is ugly enough to be safe from kidnappers” he meant to defend himself against the popularized version that had begun to appear in literary journals “where it gets abused in the merciless way that words have to expect when they fall into literary clutches” (CP 5.414). By this comment he did not, as is often claimed, put his own views in opposition to William James and his followers. To the contrary, he concluded that James’ “radical empiricism” substantially answered to the writer’s [i.e. Peirce’s] definition of pragmatism, albeit with a certain difference in the point of view” (CP 5.414). As noted above, they had radically different professional backgrounds and aims with their philosophical endeavors. They also had very different personalities and led their lives according to very different circumstances. In a letter to James, dated October 1903, Peirce wrote: “Your mind and mine are as little adapted to understanding one another as two minds could be, and therefore I always feel that I have more to learn from you than from anybody” (CP 8.296).

Peirce and James thus seem to have been critical for the development of each other’s thoughts, perhaps because of their different viewpoints, and their approaches to pragmatism are complementary in many respects. Pragmatism is a method of philosophy for both. But to Peirce pragmatism (or pragmaticism) was a question of logic. He developed a strictly logical method and was interested in a wider application that would help us understand the meaning of scientific concepts. To James the method of pragmatism, primarily used for solving metaphysical disputes, is based upon psychological principles of experience, rather than logical principles of entailment. James was thus interested in the wider application of the practice-oriented method of pragmatism in human concerns of everyday-life (Barbalet 2004, Pihlström 2004).

The work of the classical pragmatists is therefore better considered as complementary efforts in a common quest for developing a philosophy of meaning and inquiry. Through their different backgrounds, disciplines and foci of interests, they explored different areas of philosophy and neighboring disciplines, but also contributed with different perspectives, addressed different audiences, which sometimes led them to alternative or complementary conclusions.

Pragmatism should not be viewed as a static school of thought, providing any finite answers. Instead it is more productively thought of as a continuously evolving conversation among philosophically inclined thinkers based on some shared principles. The classical pragmatists provided us with a sketch to continue working on and develop. As with any idea or text, the writings of the classical pragmatists need to be understood in the context of the time in which they were formed and presented. One critical common mission was to critique and provide an alternative to the dominant ideas at the time, notably rationalism and absolutism, or foundationalism. Their choice of vocabulary and their argumentation necessarily reflects this context and should thus be understood from this perspective.

As the conversation evolves the continuous challenge is to flesh out what the consequences of pragmatist ideas would be for contemporary contexts – in this case for design research. Below some key principles for pragmatist inquiry are suggested, drawn from the classical pragmatists. While the differences among the voices of the classical pragmatists are certainly as interesting and important as their similarities, we will here focus on what brings the heritage of the classical pragmatists together. The intention is to provide a basis for guiding the rest of this overview, helping the reader interpret later theoretical developments and fleshing out consequences for design practice and research.
Common principles for pragmatist inquiry

The pragmatists were all strongly influenced by Charles Darwin, whose Origin of Species was published in 1859. An evolutionary perspective puts the emphasis on the interactions and on adaptation between organism and environment at the foreground of any analysis and is at the core of pragmatist thought.

The focus on experience as the locus of meaning and inquiry is an extension of this insight, which leads to the anti-dualist stance for which the pragmatists have become known, rejecting any separation between body and mind, emotion and reason, thinking and doing. Similarly, an evolutionary perspective leads to a fundamentally processual world-view, where the individual is constantly reacting to and reflecting on the consequences of its interactions with the environment.

This processual, dynamic view runs through all pragmatist ideas. It is perhaps most radically present in James’ notion of the stream of thought, which in turn has been a critical inspiration for pragmatists since. It is evident in Mead’s dynamic between the “I” and the “me”, as the two phases of the self which pass through experience much like “flights” and “perchings” in James’ stream of thought. Similarly Dewey’s aesthetic experience as an immediate felt quality that provides unity and direction might be regarded as a further development of James’ theory on consciousness. But fundamentally, it goes back to Peirce’s principle of continuity as applied to the logic of scientific inquiry. We can never pin down any absolute certainties, as all we really know is that we are part of a continuously growing and transforming world. Peirce’s “principle of the continuum of inquiry” was then picked up by Dewey as one of main pillars for his Logic – The Theory of Inquiry (Dewey 1938: iii).

Critically, this view also implies that we are active agents as we shape the environment in response to how it shapes us. This process of mutual adaptation, where we all have the capacity to achieve change, also leads to the emphasis on (creative) action for which pragmatism is perhaps most known.

Based on this starting point, some further characteristics of pragmatist inquiry are elaborated on below illustrated with some of the concepts from the review of classical pragmatists above.

Embodied and continuous

Pragmatist philosophy is often referred to as “embodied” in the sense that it does not allow for any separation between body and mind, but “rational operations grow out of organic activities” (Dewey 1938: 19). Whatever we can think, feel or do is thus conditioned by our biological make-up.

James lays out the foundation for an embodied inquiry in The Principles of Psychology in his detailed descriptions of how the “mind” is rooted in the body and how our biological constitutions influence our intellect. His metaphor of thinking as a “flow” in experience highlights the [temporal] continuity of thought, but also how reason and emotion are interwoven in experience as we confront the world surrounding us. The flow of consciousness is whole and continuous, whereas language tends to break it up into definitions, names, nouns and other assorted categories.

Dewey develops James account of consciousness further in his descriptions of aesthetic experience, which is clearly embodied, defined in terms of its immediate, non-discursive quality. For example, Dewey notes the particular importance of the hand and the eye in the creation of art as the hand moves and the eye reports the consequences of what is done. This relation is so close that it controls both the doing and the perception simultaneously.

Hand and eye, when the experience is esthetic, are but instruments through which the live creature, moved and active throughout, operates. Hence the
expression is emotional and guided by purpose. (Dewey 1934/1980: 50)

Dewey also uses the term embodiment in another sense - to describe the artist's interaction with physical elements and sensory information as a medium for externalizing ideas and emotions.

“The urge to express through painting the perceived qualities of a landscape is continuous with demand for pencil and brush. Without external embodiment an experience remains incomplete” (1934/1980:51).

The ability to experiment with sketches and prototypes is critical to the aesthetic quality of an artistic product as it presupposes “a prior period of gestation in which doings and perceptions projected in imagination interact and mutually modify each other” (p. 52). Emotion is a critical aspect of this process as it is reflected upon and used as a guide to the overall and final character of the artwork.

**Interactive and integrative**

The embodied perspective turns the attention to our interactions with the surrounding environment, whether natural or social. The notion of experience as the continuous confrontation of our body-mind with the surrounding world shifts the focus from the object or the person to the relation between them – and the interactions are what we most easily can observe. Just as thoughts and ideas need to be embodied in some symbol for us to be able to make sense out of them, so the emotion that is at the core of the art work has to be expressed in objects throughout the creative process. Experience emerges from these interactions, which make up the basis for intelligent meaning and the aesthetic phase of experience. Problem-solutions emerge through constant interactions with social, cultural and physical contexts.

As Peirce first explained in his theory of semiotics, meaning emerges from the *interactions* between representamen, object and interpretant. It is the relations between them that matters and they can never exist independently.

James, in turn, tried to explain this position at the level of experience when he claimed that we experience relations between objects as well as the objects themselves in his notion of the stream of thought. With his suggestion that we ought to talk about the feeling of *but*, or a feeling of *if*, he is asserting that we have an affective grasp of relations. These feelings are crucial in shaping meaning as they effectively work as a “sounding board” providing guidance for action.

Mead’s portrayal of the “I” and the “me” interacting in experience is a further development of this dynamic in the context of identity formation. The two phases can be separated conceptually, but they blend into each other in experience, and this dynamic is mediated by emotions.

The notion of interaction, which is easier to conceptualize, must not obscure the importance of integration, which is how it occurs in experience. As Dewey notes: “Integration is more fundamental than the distinction designated by organism and environment” (1938:34), as “The processes of living are enacted by the environment as truly as by the organism; for they are an integration” (1938:25).

Dewey’s concept of “the situation” as locus of organism-environment interaction is an illustration of the importance assigned to integration. Everything we think, do and feel are dependent on the particular context, the “here and now” of that particular thought, act or feeling. It is the situation that has qualities and characteristics rather than objects or “minds”. Integration is also critical at the level of experience, an aesthetic experience is an integral experience – indeed this is the key characteristic of an experience.
Experimental and emergent

At the core of most definitions of pragmatism is the focus on practical consequences. Pierce and James used “pragmatism” as the name of a method, principle or “maxim” for clarifying concepts and hypotheses and for guiding philosophical disputes.

This commitment to practice has profound implications beyond a critique of the prevailing philosophical stances at the turn of 19th century. Theorizing always needs to be rooted in practical experience and ideas continuously referred back to (if not “tested” in a traditional scientific sense) as arguments develop. In inquiry interaction does not only occur randomly – it is guided by purpose and emerges as ideas are tested against practical outcomes. Pragmatist inquiry is experimental and emergent in its very nature.

In Dewey’s description of the process of “determining a problem-solution”, as well as “reasoning”, is a process of experimenting by means of “facts” and “ideas”. Similarly, in artistic creation the artist actively uses “material”, whether brush and paint, musical tones, written words, as well as emotion and thought in an experimental process of crafting the artwork.

The notion of experimentation is thus as important at the level of experience as it is at the level of logic or in the scientific method. For research it implies a continuous interweaving between theorizing (thinking) and practicing (doing) as the researcher reacts to and reflects on the practical consequences of tested ideas. In this respect it is also noteworthy that the classical pragmatists were all involved practical activities outside academia that strongly influenced their theorizing. Peirce’s career was primarily as a practicing scientist with the U.S. Coast and Geodetic Survey where he spent his days carrying out geodetic surveys and investigations. James developed the first empirical psychological laboratory in the US. He thought the medical profession at the time was largely humbug and wanted to develop a psychology based on biological principles and modern science. Dewey spent much time and effort on his Laboratory School in order to test his ideas on pedagogy, the study of which also influenced his insights on inquiry. Mead was heavily involved in various social programs and an active member of many local organizations with social aims. He was the treasurer of Hull House and a member of the progressive City Club.

Imaginative and creative

While the pragmatists were strongly influenced by an evolutionary perspective, it is critical to note that this does not entail a deterministic view that is (or was at the time) sometimes associated with it. To the contrary, the focus is on hope and optimism, and a belief in the powers of human imagination and creativity.

As Peirce noted, without imagination there can be no progress in science – we can only observe the parts, but not make any rational connection between them to assess what is, nor make any hypothesis of what might be. Yet we must not let the imagination freewheel, a scientific attitude requires us to keep our purpose in mind and continuously test our new ideas empirically. Scientific inquiry therefore demands a disciplined imagination.

Again, James has made a contribution by outlining the role of imagination in experience. Our emotions help us to devise scenarios and react to future, past or imagined events. This notion is further developed in Mead’s reflexivity and illustrated by the description of the “I” and the “me” as we “take the attitude of the generalized other” when crafting of view of the self. Similarly, Dewey’s “expressive object” is an illustration of the process of experimenting through imagination.

In short, imagination is central to all forms of inquiry as the past and the present is interweaved in experience. Mead developed this idea in his analysis of the basic structure of temporality and consciousness, emphasizing
the novel character of both the past and the present. Each new experience causes us to reconstruct preceding experiences to make sense of the past, which are assumed to be the main cause of what we presently experience. How we experience reality is thus conditioned by each new event and changes continuously as the effects of the present shift our view of the past and the future (Mead 1932). Taking a pragmatist perspective therefore implies that human action is fundamentally creative (Joas 1996).

3. LATER DEVELOPMENTS

During the first few decades of the 20th century, Pragmatism was, without much competition, the leading philosophical school in America, with its key proponents, notably James and Dewey, also being active in public discourse. Interest then declined, and after Dewey died in 1952, at the age of 92, pragmatism lost much of its momentum. Other philosophical schools took over the front position in American thought, notably the analytic tradition of American philosophy and the phenomenological tradition in Europe. In particular, the influence of logical positivism from Europe pressed out pragmatism from the philosophical agenda in the US until it was considered completely outmoded. ‘In 1980, “pragmatism” is a concept most American historians have proved they can get along without’ David Hollinger (1980:88) noted. By then the space devoted to pragmatism in textbooks had diminished markedly.

In the last three decades however, there has been a resurgence in pragmatism, with a diverse range of philosophers exploring and selectively appropriating ideas and themes embedded in the rich tradition of the early pragmatists. The diversity of the later interpreters reflect the diversity in the classical pragmatists.

Today pragmatism is flourishing more than ever, with its influence reaching far beyond the disciplinary boundaries of philosophy and into various branches of the social sciences and the humanities. The revival of pragmatism has also been extended to Europe where links to phenomenology and continental philosophy are now being explored.

The influence of pragmatism on philosophy and social theory in general in the latter part of the 20th century is hard to assess. While some lament the ignorance and exclusion of the pragmatists from influential theories, others find traces of the classical pragmatists in more or less every philosophical treatise. This is perhaps as much a reflection of the philosophical trends as of the richness and breadth of the pragmatist heritage. As noted above, pragmatism spans over wide range of topics and, but perhaps more importantly – it has the capacity to span over philosophical traditions and offers an “in-between” alternative to realism and constructivism. Accordingly, it is possible to find at least some common ground with at least some aspect of most major philosophical schools.

It would therefore be impossible to provide a complete, or even roughly fair picture of the influence the classical pragmatists have had on American and European thinking in the late 20th and early 21st centuries. Below we mention the most important names in the literature - or the ones you are most likely to come across.

The neo-pragmatists and the linguistic turn

No-one has done more to revive pragmatism than Richard Rorty, who developed his own distinctive and controversial brand of pragmatism. He is the most well known and most influential of the philosophers that are sometimes referred to as “neo-pragmatists” to emphasize their new interpretation of pragmatism and mark their distance to the classical pragmatists.

In Rorty’s path-breaking book Philosophy and the Mirror of Nature (1979),
Rorty aggressively attacked what he called “the tradition” in philosophy presenting knowledge as representation – a mental mirroring of the external world. His critique to an important extent departed from the analytic tradition that dominated American philosophy at the time and caused a sensation. Indeed the aim of the book was:

“...to undermine the reader’s confidence in ‘mind’ as something about which one could have a ‘philosophical’ view, in ‘knowledge’ as something about which there ought to be a ‘theory’ and which has ‘foundations’ and in ‘philosophy’ as it has been conceived since Kant.” (Rorty 1979: 7)

Rorty stated that Dewey, alongside Wittgenstein and Heidegger, were “the three most important philosophers of our century” (p. 5) and one of the key sources of inspiration for Philosophy and the Mirror of Nature. But it was in the following, though closely related, collection of essays called Consequences of Pragmatism (1982), that he explicitly came out as a pragmatist.

The rise of the neo-pragmatists coincides with, indeed builds on, the “linguistic turn” in social theory, a term popularized by Rorty with the anthology The Linguistic Turn (1967). Neo-pragmatism, pointing to the definitive influence that historical context has on social ideas and practices, denies the possibility of universal truth and meaning. Neo-pragmatists often overlap with postmodernism, contending that truth does not correspond to the way things are, but exists in a relational theory of meaning that is always changing according to practical necessities of the present moment and at a particular age. Yet there are also fundamental differences, as illustrated by the neo-pragmatists stance on the realism vs. anti-realism debate. Proponents of postmodernism tend to look down on those who subscribe to any form of realism or believe that Enlightenment bestowed us with a valuable set of principles for underpinning intellectual inquiry. The neo-pragmatists hold that such accusations of naivety in this respect are themselves naïve (Malachowski 2010). For example, Rorty (1999) argued that the philosophical issues involved in the discussion on “realism” have historical rather than metaphysical basis. Once this is revealed and the roots of the images and metaphors that make them credible are exposed they become optional. He concluded that the best way forward is thus to dispense with such issues: continued consideration is likely to yield nothing of practical value. The neo-pragmatists thus place themselves outside the whole realist/anti-realist debate, arguing that this opposition is spurious in itself.

According to Rorty, (1999) there are two main differences between the classical pragmatists and the neo-pragmatists that he represents. The first is that the latter avoid talking about experience as James and Dewey did, and talk about language instead. The second is that they abandon the idea that there is such a thing as “scientific method” that could eventually lead to justified true beliefs – a notion advanced by Peirce, but endorsed also by Dewey to some extent.

Rorty’s revived version of pragmatism, which came to inspire subsequent neo-pragmatists, is thus very much his own. “This version makes no pretence of being faithful to the thoughts of either James or Dewey (much less Peirce, whom I barely mention). Rather, it offers my own, sometimes idiosyncratic, restatements of Jamesian and Deweyan themes” (Rorty 1999:xxxi) – “or rather, some would say, Rorty’s invention of two fictional characters which he calls ‘James’ and ‘Dewey’” Bernstein notes (1992: 824-825). Indeed Rorty considers James’s and Dewey’s contributions mainly as “negative”, in that they explain how we can rid ourselves of the intellectual baggage inherited from the Platonic tradition.

The other renowned philosopher that helped revive pragmatism roughly at the same time as Rorty was Hilary Putnam. He became dissatisfied with the prevailing tradition for reasons similar to those of Rorty, but his
response was more conservative. Where Rorty wanted philosophy to move on
to new ground, following some of the directions set out by James and Dewey,
Putnam wanted to retrieve what was useful from the classical pragmatists
and graft it into the existing tradition in those places where it would be most
beneficial (Malachowski 2010). He suggests that the idea that one can be both
antiskeptical and fallibilistic is the unique insight of pragmatism (Putnam
1994). By antiskeptical he refers to the idea that doubt requires justification just
as much as belief, by fallibilism that there is never a metaphysical guarantee
that such-and-such a belief will never need revision.

Pragmatist aesthetics

Another stream of research aiming to revive the ideas of the classical
pragmatists in a more contemporary context turns their focus towards
aesthetics. In sharp contrast to neo-pragmatism and Rorty, who dismissed
the whole notion of “experience” in favor of a focus on language, this stream
departs from the notion of experience as central for inquiry and philosophy
in general. While James is an important source of inspiration, it is of course
Dewey and his writings on art as experience that offers the foundation for the
recent wave of pragmatist aesthetics.

Dewey was the only one of the founding fathers of pragmatism that wrote
extensively on art and aesthetics. But his influence on aesthetic theory was
short lived, and soon eclipsed and rejected by analytic aesthetics. Dewey's
aesthetics received much criticism already when it was released for being the
least consistent part of his thought. Others, viewing the notion of “experience”
as the most fundamental concept of his philosophy, have argued that his
analysis of aesthetic experience and art is the most developed and where the
deepest insights into Dewey’s philosophy are to be found, and thus its most
profound implications (see notably Alexander 1987).

Richard Shusterman

offers the most influential perspective on
Pragmatist Aesthetics (2000). Deeply inspired by Dewey he seeks to
“recuperate and refashion” Dewey’s line of aesthetics. Placed between analytic
and continental aesthetics, combining the latter’s insight and wider concerns
with the former’s empirical spirit and down-to-earth sense, pragmatism is very
well placed to help us redirect and reinvigorate contemporary philosophy of art,
Shusterman argues.

Shusterman takes Dewey further by developing his view on experience
and the role of popular culture. By locating art’s value in its dynamic lived
experience, while resisting the art world’s tendencies to commodify and
separate art from its popular context, Dewey wanted to legitimate popular art.
Nevertheless, he paid scant attention to popular art in his writings and there
is no real analysis of contemporary popular arts – he even associating them
with the “cheap and vulgar”. Shusterman (2000) set about to address Dewey’s
shortcomings in this respect by providing a detailed analysis of the “fine art of
rap”, putting it into the context of “postmodern aesthetics”.

Shusterman also picks up the thread from James’ embodied philosophy,
further developed in Dewey’s naturalism and aesthetics, placing experience
at the centre not only of aesthetic experience, but of all intelligent action. He
then goes on to further develop the pragmatist heritage into his own version
of somaehetics, which he defines as “the critical meliorative study of one's
experience and use of one’s body as the locus of sensory-aesthetic appreciation
(aesthesis) and creative self-fashioning” (Shusterman 2008). The objective is to
revive the idea of aesthetics as a life-improving cognitive discipline that extends
far beyond questions of beauty and fine arts and that involves both theory and
practical exercise.

Mark Johnson

(2007) has a similar ambition. After having spent the
better part of his career exploring the bodily sources of meaning, imagination
and reasoning, he was introduced to Dewey’s aesthetics, which set him off in a new direction. Previously, drawing on phenomenology, linguistics and neurosciences Johnson had sought to explain how aspects of our bodily experiences give rise to our conceptualization and reasoning (see his well-known work with linguist George Lakoff: Lakoff and Johnson 1980, 1999). However, reading Dewey’s aesthetics led him to realize that the structural aspects of our bodily interactions with our environments that he had been focusing on were in themselves dependent on even more submerged dimensions of bodily understanding. This requires a far deeper exploration into the qualities, feelings, emotions and bodily processes that make meaning possible. These visceral origins of meaning are traditionally regarded as the purview of aesthetics in philosophy. If that was the case, Johnson concluded, aesthetics becomes the study of everything that that goes into the capacity to make and experience meaning. An aesthetics of human understanding should therefore become the basis for all philosophy including metaphysics, epistemology and philosophy of mind and language. Departing from Dewey's pragmatism Johnson then turns to cognitive neuroscience in his investigations into the visceral roots of meaning. Art is particularly interesting in this effort as immediate bodily meaning is immanent art, allowing us to bypass the “language-centered prejudice” that leads many philosophers to overlook the deepest roots of meaning.

American Pragmatism and Europe

Pragmatism is often described with the prefix “American” Pragmatism. It is the only original philosophical tradition that was born on American soil and reflects ideas implicitly accepted in the United States since the founding of the country, and particularly the specific political, institutional and scientific context at turn of the 19th century. The ideas developed by the classical pragmatists have also had a profound impact on how American society was shaped. These ideas changed how Americans thought, and continue to think about education, democracy, liberty and tolerance. As a consequence they changed how people live and treat each other and how American institutions developed (Menand 2002. This book gives an extensive account of how the pragmatist tradition was embedded in the context of America of the late 19th century.)

In the course of the 20th century, social theory in Europe and the United States became sharply differentiated. In fact, European and American social thought was often antagonistic. The Frankfurt School established a mode of analysis that was contrasted with the positivism that, according to their proponents, dominated American academia (Baert and Turner 2004).

Indeed, also the important figures of neo-pragmatism, such as Richard Rorty, Hillary Putnam, Donald Davidson and Willard Quine as well as Richard Shusterman and Richard Bernstein were born and bred Americans. Perhaps, it was their need to react against the dominant intellectual culture of the time, dominated by analytical philosophy (itself imported from Britain, from Bertrand Russel and G. E. Moore in particular) that turned them to pragmatism. Ian Hacking, a Canadian who received a “wholly eccentric education” in Europe that identifies himself as an analytic philosopher but not as a pragmatist, has suggested that things might have been different for him if he had been educated in the US instead. In the US he would have been educated in the shadow of logical positivism and thus might have discovered pragmatism as a “rebellious liberation”. In Europe he seems to suggest, the need for such liberation was lesser, given the richer and more diverse philosophical tradition of the 20th century (Hacking 2007).

However, to think of pragmatism as a solely American product might be mistake according to Baert and Turner (2004), who point to the use and re-
use of pragmatist ideas by European intellectuals ever since its inception. The classical pragmatists had close links with Europe and European philosophers from which they drew significant inspiration. They all traveled extensively in Europe and conducted studies there. Much of the pragmatist heritage among subsequent European philosophers has been obscured by the dominance of continental philosophy. Yet it is easy to find common themes with influential philosophers such as Wittgenstein and Heidegger and their critiques of traditional epistemology and metaphysics.

Jürgen Habermas is probably the most well known of the European post-war philosophers that drew explicitly on pragmatism. He is known for bridging continental and American traditions of thought and used his own version of a pragmatic theory of communication to reformulate Critical Theory, while defending post-metaphysical reason that retains commitment to grounded critique. This was the basis for his critique of philosophies that, in his view, give up on the rational and emancipatory core of modernity (Ray 2004). Habermas thus opposes Rorty’s postmodern skepticism that no longer views science as a first and final site for reason and social progress (in contrast to the classical pragmatists). Instead he argues for a Theory of Communicative Action (first published in 1981 in two volumes) which builds on Mead’s social understanding of the genesis of human language in order to develop his own normative theory of intersubjectivity. Peirce provides the basis for Habermas’ understanding of truth and justification.

While there were some local communities in Europe that engaged heavily with the American pragmatists during their time, notably in Italy and the UK, promoted by F. C. Schiller, Scandinavia showed such tendencies. Pragmatism was never a major philosophical movement in the Nordic region, though like else where interest has surged recently (Pihlström 2009). The exception is Dewey’s philosophy of education which was picked up remarkably early in Sweden and came to influence the pedagogical discourse in Sweden. Indeed, the first noted translation of Dewey’s pedagogical texts was into Swedish in an article published in the progressive journal Skolan in 1902 (Hartman et al. 2008).

In conclusion, we can note that it is difficult to pin down specifically what influence the classical pragmatists have had on European philosophy, but there are many (possible) points of convergence, and pragmatist ideas are becoming increasingly important in contemporary theory. We might then agree with Misak’s starting point: What is of interest to the forthcoming text is not so much who was and who wasn’t influenced by the classical pragmatist or who sees him/herself as part of the pragmatist tradition. “What matters is that the best of Peirce, James and Dewey [and, we might add, of Mead] has resurfaced in deep, interesting and fruitful ways” (Misak 2007: 2). And even more importantly – how can we continue to harvest and develop this heritage in new productive ways in the context of design research?

4. PRAGMATISM AND DESIGN THEORY

It is easy to see how the principles of pragmatist inquiry as outlined above resonates with design practice. The focus on continuous practical experimentation throughout inquiry reflects the design process, interacting with sketches and prototypes in order to “express” and clarify ideas. Experience as the point of departure for inquiry, where we use our emotions and bodily reactions as “sounding boards”, immersing ourselves in the attitudes (or experiences) of others, for deciding how to progress, reflects the designer’s ability to empathize with the user and sensitivity to interpret socio-cultural trends - all driven by our innate capacity for imagination and a primordial belief in human creativity. In other words, pragmatist inquiry comfortably accommodates not only the design process, but also what we think of as
specifically “designerly ways of knowing” (Cross 2006). (See also Östman (2005) for an empirical illustration of how Dewey’s pattern of inquiry departing from the aesthetic experience can be seen as a general description of design processes.)

Nevertheless, Buchanan (1992) has noted, although design practice has always tended toward pragmatism and pluralism, design theory has tended toward neo-positivism, inspired by, notably, Herbert Simon’s idea of design as a science of the artificial (1969). This is not to say that there are no traces of pragmatism in design theory. To the contrary, the influence of pragmatism is certainly significant, though not always easy to trace. And while James and Mead are still strangely rare references in design theory, Peirce and Dewey are more frequent in the reference lists. In particular, Peirce’s theory of semiotics has made an impact, and the notion of abduction is often referred to in connection to the design process. Equally Dewey is noted as an important father figure for inquiry as closely connected to practice. However, the acquaintance with the classical pragmatists is often through secondary literature, and even more frequently the connection is implicit rather than building explicitly on the original texts.

As a consequence, Melles (2008b) has argued, the rich heritage and relevance of pragmatism is poorly understood in design theory. It is often what he calls a “vulgar” discourse of pragmatism that prevails over a more intellectually robust version firmly rooted in fundamental principles of pragmatism and it’s epistemological implications. However, an expanded pragmatist inquiry paradigm, incorporating visual and material argumentation and the opportunity for engaging with critical pragmatism, he argues, offers a way forward for academic design research.

Such a theoretically and philosophically informed pragmatist epistemology has particular relevance in the current debate as it presents a theoretical platform for bringing research and practice, art and science together while allowing for methodological pluralism. In short, pragmatism allows for conceptualizing design as an integrative discipline. Buchanan (1992) stresses that the significance of seeking a scientific basis for design does not lie in reducing design to one or the other of the sciences. In contrast, he suggests, it lies in a concern to connect and integrate useful knowledge from sciences and the arts alike - but in ways that are suited to the problems and purposes of the present. He draws on Dewey and his portrayal of intentional operations and indeterminate situations, further developed into the notion of design problems as “wicked problems” (Rittel and Weber 1973), to position design as a new form of liberal arts based on integrative thinking rather than specialization in the facts of a subject matter.

The role of “art” and aesthetic experience in pragmatist inquiry

The tension between “art” and “science” is of course not unique to the discipline of design – it is indeed a dilemma for disciplines grounded in practice – but it is specifically pressing for design as a relatively recent academic discipline with one foot in the arts and another in a diverse mix of disciplines from the natural and social science. The continuity of pragmatist inquiry allows us to link scientific inquiry with artistic practice through aesthetic experience. In order to clarify this link we will take a look at how art (used in a broad, pragmatist sense) infused the scientific inquiry of the classical pragmatists.

While Dewey was the only one of the classical pragmatists who wrote extensively on aesthetics or reflected in any structured way on art, all the classical pragmatists had a deep appreciation for and personal experiences with art. James in particular was greatly influenced by art. He grew up in an intellectual family where art and literature were discussed around the dinner
table. His siblings became famous writers, and William himself dreamed of becoming and trained to become a painter. This experience of studying and practicing art, mainly through painting, no doubt gave him a certain sensitivity to what Dewey later came to label aesthetic experience, the traces of which are clearly visible in his psychology and philosophy, albeit in other words.

As Shusterman (2011) points out, although James never wrote any treatise on aesthetics, all the key themes of pragmatist aesthetics that Dewey would later formulate with much greater detail and argumentation are already present in The Principles of Psychology. James’ investigation on the stream of thought, emphasizing its continuous, embodied and emotional character, and the heightened awareness of moments of unity and integration provided the point of departure for Dewey. Indeed, Dewey was transformed by reading The Principles of Psychology, and no other philosophical work had as profound an impact on his own thinking.

In this sense we might say that James’ appreciation and practice of art had an important influence on his philosophy of science through his aesthetic experiences. Dewey perhaps brings out this connection best when explaining the role of aesthetic experience in Mead’s philosophy. Mead had an “intense love of poetry” and had memorized many poems by heart. He was also a great lover of nature and spent much time on his nature walks.

“Every one who knew [Mead] philosophically at all is aware of his interest in the immediate aspect of human experience—an interest not new in literature, but new in the form which it took in his philosophy. I am sure I am not wrong in connecting this interest, so central in his whole philosophy, with his own immediate sensibility to all the scenes of nature and humanity. He wrote little, I believe, on esthetics, but in many ways the key to his thought seems to me to be his own intense and immediate appreciation of life and nature and literature — and if we do not call this appreciation esthetic, it is because it includes so much more than is contained in the conventional meaning that word has taken on” (Dewey 1931:313).

Peirce stands out in this context as he, in his writings, did not seem particularly interested in art and considered scientists, like himself, distinctly different from artists. He viewed aesthetics, dealing mainly with beauty and embodying the “qualities of feeling”, as distinct from logic, dealing with signification, reference and truth. In contrast to Dewey he seemed to have no interest in trying to bridge the two. If James concluded that “philosophers are after all like poets” (quoted in Bernstein 2010:2), then Peirce was adamant that philosophers should be like scientists.

Nevertheless, Peirce will serve as illustration of the continuity of aesthetic experience and scientific inquiry in this overview. At closer scrutiny, the distinction between art and science is not as clear-cut as it might come across even for him. Indeed, while he later dropped it completely, his first year of study of philosophy was dedicated to the branch of aesthetics exclusively. In particular, he read and studied Friedrich Schiller’s theory of art as expressed in his Aesthetische Briefe, and he always remained fascinated by the phenomenon of art and sensitive to the artistic dimension of creativity. While he might not have been so interested in visiting art museums on his European tours, his letters are full of reflections on aesthetic experiences; the admiration of beautiful things, whether in nature of artifacts, and the reactions they elicit in him (Nubiola and Barrena, 2009).

This connection is also evident in Peirce’s descriptions of the scientific method. While his focus is strictly on “hard words and abstract concepts” and that which can be tried and tested in the “objective world”, it is also apparent that the scientific attitude which characterizes a scientist is not possible to separate from the aesthetic domain: love, passion and imagination are the most important qualities for successful prosecution of science. And Peirce does write
about experience as fundament for inquiry, though this is among the aspects of his philosophy that has received the least attention (Bernstein 2010). Though making no connection to aesthetics, Peirce's notion of “Firstness” as the first category of consciousness, portrayed as an immediate felt quality of experience (see e.g. PWP pp.74) provides the foundation for aesthetic experience.

The “practice” of science thus requires elements of artistic practice and indeed, the output of scientific inquiry resembles an object of art (in a Deweyan sense) – an integrated harmonious whole: “The universe as an argument is necessarily a great work of art – for every fine argument is a poem and a symphony – just as every true poem is a sound argument” (CP 5.119).

In other words, while Peirce separates the scientific method from art conceptually, it becomes clear that in practice an element of “art” or artistic practice is necessary to be a true scientist. Similarly, the role of interacting with visual material using embodied interactions in any form of inquiry can be illustrated by Peirce’s own research process.

The influence of Peirce’s semiotic theory on visual culture is perhaps a reflection of the critical role visual representations had in Peirce’s own work. “I do not think I ever reflect in words: I employ visual diagrams, firstly, because this way of thinking is my natural way of self-communication, and secondly, because I am convinced it is the best system for the purpose” (from Peirce’s notes, quoted in Leja 2000:97). Throughout his professional life he developed and employed totalizing systems for visualizing ideas and their relations. The extensive remains of Peirce’s notes are full of doodles and drawings of different kinds and he noted himself that he drew “incessantly” as he worked (Leja 2000). This practice can be compared to (or as an illustration of) Dewey’s artistic practice where the artist interacts with the material as the “hand and eye” operate simultaneously in crafting the ideas. It also draws attention to the process of sketching in design, where ideas emerge and are clarified through interacting with pen and paper.

**Interpretations of pragmatism in design theory**

As noted above, the pragmatist legacy is developed in design theory primarily through secondary literature, and most importantly through a vocabulary developed by Donald Schön’s work on the reflective practitioner (1983, 1987) and Rittel and Weber’s (1973) metaphor of the wicked problems of planning and design (Melles 2008a).

Donald Schön’s seminal work on an epistemology of practice (Schön 1983, 1987) is particularly important in this respect as it marks a significant shift in design theory. Schön considered himself a displaced philosopher, working in a range of professional environments including, at the end of his career, a university department of urban planning. But he also worked in such diverse settings as a social development NGO and a management consulting firm. These miscellaneous professional experiences made him sensitive to understanding the commonalities and differences between expert communities. Like the classical pragmatists he also had an interest in the arts. He studied performance music at the Paris Conservatory while also studying philosophy at the Sorbonne, and was awarded the Premier Prix in clarinet. He continued to practice throughout his life, composing music as well as performing jazz – experiences that he used to great philosophical advantage (Waks 2001).

Schön earned his PhD in Philosophy from Harvard in 1955. John Dewey was his main informant from the outset, and continued to be the main source of inspiration as he developed his view on reflection-in-action. He borrowed Dewey’s language from the theory of inquiry (Schön 1983:357), but he also sought to re-interpret Dewey in the context of what he called “the crisis of the professions” of the 70’s and 80’s. In an era of rapid change, he noted, society
was questioning the legitimacy of professional autonomy, and professionals were at loss to give a convincing account of the rational or moral basis of their practices.

Schön departed from a critique of a “science of design” as presented by Simon (1969) for being based on approaches to solving well-formed problems by “emulating and extending the optimization methods which have been developed in statistical decision theory and management science” (Schön 1983:47). Professional practice, Schön argued, has to face and deal with messy problematic situations and the workaday life of the professional depends on tacit knowing-in-action. By combining his empirical studies of expert practitioners with conceptual analysis he set out to illuminate the process of practical inquiry and provide an epistemological alternative to the prevailing model of “technical rationality”. Schön’s alternative emphasized the special esoteric “knowledge in action” that any professional practice builds on, acquired from tradition and experience rather than science.

Similarly, Rittel and Weber’s (1973) metaphor of “wicked” problems have Deweyan roots (Melles 2008a) and mirrors Dewey’s view of “problem” derived from “indeterminate situations” in his theory of inquiry. Yet, as Coyne (2005) notes, a pragmatic orientation allows us to proceed with even bolder steps than Rittel and Weber (1973) with their notion of wicked problems: From a Deweyan perspective all problems have the character of being “wicked” to some extent, even mathematical problems or simple puzzles. Just as there can be no complete separation between artistic impulse and scientific rationality in the process of inquiry, there is no clear-cut distinction between tame or “science” problems and wicked or design problems.

Peirce’s notion of abduction has also become an important term in design theory for describing design practice, fuelled by the recent trend of “design thinking” which has turned the interest to the practice of designers to an outside audience well outside the design community. In particular, the concept of design thinking has attracted attention in the world of business as an approach to deal with complex problems and innovation. In this literature abduction reasoning is often described as “the core of design thinking” (Dorst 2011) or “the designer’s most crucial tool” for problem-solving (Martin 2009), or “the necessary logic of design” (Cross 2011). Cross further explains that “design reasoning is different from conventionally acknowledged forms of inductive and deductive reasoning ... Science investigates extant forms. Design initiates novel forms ... A speculative design cannot be determined logically, because the mode of reasoning involved is essentially abductive” (Cross 2011, p. 27).

More often than not the acquaintance with Peirce is through secondary sources and rather cursory in this literature. Abduction is presented as the logic of “what might be”, or the generation of hypothesis, as opposed to induction and deduction, which are analytical approaches for determining “what is”. While this is not entirely wrong (except that induction is also the logic of “what might be” according to Peirce, and all three should be considered analytical approaches as part of the scientific method in a Peircean sense), it is a narrow and decontextualized understanding of the logic of abduction.

A more productive approach is taken by Kolko (2010), who draws on Peirce’s notion of abduction to find a theoretical framework for describing design synthesis. Designers, as well as those who research and describe the process of design, continually describe design as a way of organizing or finding clarity in chaos. The notion of synthesis, according to Kolko, refers to the process of taking a diverse set of impressions, experiences and information from various disciplines and sources to some design object. But because synthesis is often performed privately, or “in the head”, all that is observed is the outcome. How it got there remains somewhat magical to an external observer such as a client, and the value of this process remains fuzzy and poorly understood. Following
Peirce, Kolko describes abduction as the argument to the best explanation –
the hypothesis that makes the most sense given the observed phenomena and
data, based on prior experience. Design synthesis then, is fundamentally a way
to apply abductive logic within the confines of a design problem. He goes on to
describe methods, more specific for designers, in the process of synthesis. They
all include prioritizing large amounts of data, judging the relevance of data,
and forging connections between the elements of data. Like Peirce he concludes
that is not so much the discrete elements of data that are interesting, but the
relationship between them. The activity of defining and forging connections
actively produces new insights and knowledge as new elements are combined
with existing elements and experiences.

Kolko's use of abduction illustrates the connection between design and
science. While he describes design synthesis as fundamentally an application
of abductive thinking to design problems – and thus akin to an early phase
of the scientific process, he also notes that designers have particular methods
and techniques for conducting the abductive part of the process. Specifically,
the sensemaking process of manipulating, organizing, pruning and filtering
data build on specific designer skills and techniques (such as reframing a
situation from a particular user-perspective, graphical mapping of concepts
or experimenting with design patterns to create design ideas). He thus
implicitly points to the importance of experience (in a pragmatist sense) in
design synthesis although he fails to engage with the classical pragmatists that
explicitly deal with it.

**Implications for the practice of design research**

The opportunity for developing a robust platform for design research based on
pragmatist principles seems very timely. The reasons that design practice has
risen on the agenda for business people and policy makers in recent years are at
least to some extent related with increasing interest in pragmatism – they are
both approaches that allow us to better cope with the complex and open-ended
challenges presented by an increasingly globalized world where traditional
boundaries are blurring and change is becoming the only constant.

Pragmatism emerged at the previous turn of the century in America, at a
time of turmoil in the aftermaths of the civil war. In such times of change and
uncertainty, for a country essentially of immigrants, coping with diversity and
proactively constructing one's own situation were not foreign values. Louis
Menand, in his biography of the early years of the pragmatist movement, has
suggested that in spite of all the personal and philosophical differences, what
the early pragmatists had in common was not a group of ideas, but a single idea
– the idea of ideas:

“They all believed that ideas are not “out there” to be discovered, but are
tools – like forks and knives and microchips – that people devise to cope
with the world in which they find themselves. They believed that ideas are
produced not by individuals but by groups of individuals – that ideas are
social. They believed that ideas do not develop according to some inner
logic of their own, but are entirely dependent, like germs, on their human
carriers and their environment. And they believed that since ideas are
provisional responses to particular and un reproducible circumstances,
their survival depends not on their immutability but on their adaptability.”
(Menand 2002: xi-xii)

If this “idea about ideas” sounds highly relevant to the circumstances of the
21st century, then perhaps Bernstein (2010) is right when he claims that Peirce,
James, Dewey and Mead were ahead of their time, and it is only now that we
are beginning to understand the full implications of the change in philosophy
that they set in motion. They anticipated problematics inherent in the “modern/
postmodern” dialectic and sought to develop a creative response to them. This dialectic is now catching up with the classical pragmatists. Hickman (2009) similarly argues that Dewey’s pragmatism represents a kind of “post-postmodernism” that treats concepts as “malleable, but not infinitely so”. As a philosophy rooted in the experimentalism that was required by a people who faced the task of coming to terms with the uncertainties of a radically new environment, searching for unity in uncertainty, American pragmatism is equally relevant at the 21st century. During this time, he suggests, in which “the means of communication are ubiquitous, when previously isolated cultures are rubbing up against one another as never before, and when it is essential that we find commonalities that we can use as platforms for constructing a better world, American pragmatism is made-to-order for the task” (p. 2-3).

Yet, while the ideas of the classical pragmatists may be more relevant than ever, we should also be wary of accepting them too uncritically. The point is not to get it “right” about what Peirce, James or Dewey may or may not have really meant by this or that concept. Rather the aim should be to use their ideas as tools for further inquiry, applied to a particular context of inquiry, drawing on relevant subsequent theoretical developments. Malachowski suggests we view classical pragmatism as “a rough and ready, but luminary, source of guidance rather than a reservoir of detailed maps” (2010:14). Not only will such maps fail in the new terrain of today, where our conceptions of experience and science have developed; it would also be against the pragmatist spirit of continuous experimentation and collective development.

The pitfall at the other end of the scale is to cherry pick one concept or the other from the classical or later pragmatists without engaging with its pragmatist framework. With such a rich and diverse tradition it is of course necessary to selectively choose one aspect or a particular concept to explore further to inform your own research. However, stripped of its philosophical context a concept will not fulfill its potential for informing research, indeed sometimes it rather obscures than illuminates the argument. Such superficial treatment is illustrated with the use of abduction in the literature on design thinking. Presenting design practice as characterized by abductive reasoning reduces design to devising “explanations of phenomena held as hopeful suggestions” in reaction to some “surprising” new fact. While this is a central part of all inquiry it is not of much value unless these suggestions are tested, proceeding to the logic of deduction and induction. What is interesting is not so much that abductive reasoning is applied – indeed that is inescapable – as how it is applied. And, Tonkinwise (2011) has argued, when abstracting design thinking to this high level of generic process, the primacy of aesthetics in designing get lost, which, arguably, is the basis for making designing particularly interesting as a creative practice.

Prospects of pragmatist inquiry for design research

So what, then, would a pragmatist basis for design research in an academic context require? Leaving aside the debate about what design research is, or whether we look at research in, through, by or on design (they can all be considered pragmatist inquiry of different flavors), some suggestions are outlined below.

Firstly, scientific inquiry involves a method and an attitude that cannot be wholly separated in practice. This attitude is designated by a passion for learning and pursuit of “truth” (in whichever way we decide to define truth), but also by a commitment to continually experimenting with and testing the ideas (in whichever form and through whichever material). Inquiry is guided by purpose, and the fuel for this process in our imagination as we need to continuously come up with new ideas that allow us to move forward.

Secondly, any inquiry is grounded in experience as we continuously
interact with our social and natural surroundings, as well as with our imagination as we interact with memories from the past and future imagined events. The so-called intellectual and emotional aspects of inquiry are inseparable in experience, as the body acts as a sounding board in this process. Put briefly, experience is integrative.

According to Dewey then, whether an assignment is given “scientific status” in any given case rests upon facts which are experimentally produced. Science is the product of operations deliberately undertaken in agreement with a plan or project that has the properties of a working hypothesis. This is equally valid for an assignment in “art” as in any other field traditionally called “science”. If the design process echoes Dewey’s pattern of inquiry, it is because it echoes the process for conducting inquiry, whether in the context of common sense, science or art. The basic pattern of inquiry is the same – but the emphasis on the different phases differ as well as the techniques and the material used. In order to explore these idiosyncrasies we need to engage with the level of experience.

The design process is often described as “magic” (Kolko 2010, Liedka and Ogilvie 2011). But the magic of design is as much the magic of the creative and imaginative factors of any inquiry. In order to unveil this “magic”, to the extent possible, we must reintegrate the notion of experience in inquiry and surface, or make visible, how experience drives inquiry. As James noted, we tend to focus on the particulars, or the “things” that we can easily name, rather than experience, which leads us to think of thought as chopped up in bits rather than as a flow. But just as there are “transitive parts” as well as “substantive parts” in the flow of thought, so it is with the process of inquiry. And, reflecting experience, this process is embodied and emotional in character as our body acts as a sounding board, reacting and responding to the “feelings” of our thought as they pass though consciousness. Dewey builds on this idea to explain that also “intellectual” ideas mediated by symbols have and emotional quality to them: We cannot grasp any idea, any organ of mediation, we cannot possess it in its full force, until we have felt and sensed it, as much so as if it were an odor or a color. It should be obvious even to “those who are especially addicted to thinking as an occupation” when they observe their own processes of thought that immediate feeling is not limited in scope (Dewey 1934/1980: 119).

“Different ideas have their different ‘feels,’ their immediate qualitative aspects, just as much as anything else. One who is thinking its way through a complicated problem finds direction on his way by means of this property of ideas. Their quality stop him when he enters the wrong path and send him ahead when he hits the right one. They are signs on an intellectual ‘Stop and Go.’ If a thinker had to work out an idea discursively, he would be lost in a labyrinth that has no end and no center. Whenever an idea looses its immediate felt quality, it ceases to be an idea and becomes, like an algebraic symbol, a mere stimulus to execute an operation without the need of thinking. For this reason certain trains of ideas leading to their appropriate consummation (or conclusion) are beautiful or elegant. They have esthetic character.” (Dewey 1934/1980: 120)

Aesthetic experience, defined as an immediate integrative quality, is thus an intrinsic part in any sophisticated inquiry. And as the output and the process (or the means and ends) cannot be separated, so the resulting theory (or object of art) is aesthetic to the extent that it comes together as a harmonious whole. Yet, as critical as this immediate felt quality is to inquiry, it has received precious little attention. This is no doubt because it is notoriously hard to capture and, as James put it, it is “nameless”.

Johnson (2007) has argued that one of the greatest impediments to an appreciation of embodied meaning is the way philosophers focus almost exclusively on language, defined as spoken and written words and sentences,
as the bearer of meaning. The best way to get around this linguistic prejudice, concealing the deepest roots of meaning, is to look into the process of meaning in the arts, where immanent bodily meaning is paramount. This is in line with Dewey’s own mission with Art as Experience to help us discover art as a condition of life and meaning. He studied art to explore the concept of aesthetic experience, not because it is exclusive to art, but because it is most obviously visible in the domain of what we traditionally call art.

Herein lies an opportunity for design research as a discipline in the intersection of the faculties of art and the natural and social sciences. The pragmatist approach provides the foundation for understanding and exploring the role of the aesthetic dimension in the broader context of scientific inquiry. Design as a form of inquiry allows for exploring designers’ “special aesthetic skills” in design thinking, paying particular attention to embodied interactions with sketches and prototypes as well as visualization practices. In turn, given the centrality of experience in inquiry, a better understanding of design as aesthetic practice and would help us progress our understanding of the role of aesthetic experience in scientific inquiry in general.

The notions of expression and embodiment are of critical importance here. For Dewey, experience is potentially expressive, and aesthetic expression is a natural realization of this capacity. An idea must be embodied, as a symbol, so that we can “look at it”, for it to be useful in the process of inquiry. Similarly, the artist uses “material” to express emotions, thoughts and ideas as she experiments in developing her artistic object. Yet there is a difference in meaning embodied in symbols (as intellectual experience) and meaning embodied in an object of art. The latter allows for a direct experience of qualities and does not have to take the “detour” via symbols. The process of sketching and prototyping, where the final solution emerges by experimenting with ideas through interacting with physical objects and different kinds of sense information is of particular interest for exploring the themes suggested above. Meaning developed in interplay with the artistic product is central to Dewey’s notion of aesthetic experience.

There has been much debate about what would characterize a discipline based on design. Pragmatism does not provide any definite any answers to this debate (indeed there are none to be had), but provides some pointers for a direction.

Design research is also a practice. As such it may well have much in common with design as professional practice. Indeed, we might even talk about design as a particular form, or flavor perhaps, of inquiry based on the tools, techniques and materials used in inquiry. What sets it apart as “scientific inquiry”, or design inquiry in an academic context, is the “attitude” and “method”, guided by purpose and continuous experimentation. It thus becomes a question of degrees where “the material of refined scientific method is continuous of that with the actual world” (Dewey 1938: 35). The important thing according to Dewey is to pay close attention to the empirical context as ideas are continuously developed, where the researchers question “their reflective premises”, re-adjusting the reasoning as well as “open up to new ways of inquiry into the experienced subject-matter” to develop a more comprehensive theory.

Classic concepts in scientific research, such as reliability and validity, need to be rethought. These concepts are derived from a foundationalist view of knowledge rejected by pragmatism. While the notions of reliability and validity are not completely empty concepts, as would be the case for post-modernists, an epistemology departing from experience that on the one hand rejects any notion of absolute truth, and on the other has great confidence in the social process of inquiry to progress a field, cannot take them at face value. Their meaning becomes related to the reflective and experimental process where the original hypothesis or idea is continuously tested against practical reality and
reassessed accordingly.

A pragmatist stance also requires us to reflect on our own aspirations as researchers and the various objectives or interests that knowledge may bring about, and not accept the primacy of one of them. Indeed, the pragmatist insistence on the close relationship between knowledge and aims raises the question of whether explanation-cum-prediction can be achieved at all (Baert 2003).
5. References


