

Peirce on Colour (with Reference to Wittgenstein)

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Introduction

In my work on colour naming with the indigenous people of North-west Coast Canada - the *Kwakwaka'wakw* - I found an emphasis on the *sfumato* of smoke, mist, sea-sky interactions, shifting in-betweenness, luminosity, flickering, brilliance, transformation and constantly changing illumination – but no notion of 'colour.' Requesting 'colour terms,' I encountered a 'strange weave of space and time, of distance and proximity, with a form of 'perception' that 'gazed back at me' (Bratu Hansen 2008:339).

Clearly, an 'active vocabulary of 'colour terms', was not part of their world.

In 1990, with members of the *Kwakwaka'wakw*, on islands, off Vancouver Island, I carried out mainstream Cognitive Science's colour naming experiments; I applied Berlin and Kay's (1969) experimental procedure, thereby establishing the 'evolutionary level' of their 'colour naming' tactics, namely their inability to produce 'any 'recognisable colour names.' B&K concluded that this is empirical 'evidence' of the low evolutionary level of colorimetric mentation of the *Kwakwaka'wakw*. This theory (resonating with Spencer 1857 and Darwin 1871 both on evolution) propounds a universalist theory of seven evolutionary stages of 'colour naming,' found the world-over. Deficiencies in colour-naming in the realms of so-called '3rd and 4th World' peoples, confirm their position at the lowest echelon of evolution. The Anglo-American world in contrast, 'correctly' names the Munsell Color Chart (a major definition of 'colour'), thereby confirming its apical evolutionary status.

In carrying out B&K 'experiments,' I merely confirmed their theory – as it is, of course, circular and self-referential in all its presuppositions¹. My conclusions, however, were different: I had encountered a powerful instance of 'imperialist scientism' (Dupré 2001), which reduced my own 'empirical work' to mere casuistry.²

To explain this further, I turn to Peirce, and thereafter, offer fleeting comments on Wittgenstein on 'colour,' both giving new ground for my rejection of B&K's work.

Peirce

'Colour' for Peirce is is *not* deterministic, but fluid and variant, in the flux of perpetual change. He contrasts mainstream empiricism, for which 'colour' is *sentience*, with *sapience* (Brandom 2000 :5). Emphasising *sapience*, Peirce explains it as a dialectics, exploring the relation of colour to science and metaphysics, to epistemology, to the physical sciences, to a model in framing theories of value, to the development of sociocultural institutions and to intersubjective behaviour (Kevelson, 1996).

In the realm of 'colour,' Peirce is concerned with the phenomenology of ideas, as *possibly* evolving into the actual – *but not necessarily*. He abandons the *either/or* formula of mainstream empiricism, offering a *third way* -

¹ Knowledge of 'facts' presupposes knowledge of interpretations. Knowledge of interpretations presupposes knowledge of facts. (Putnam 2000 (1995):18).

² Casuistry – clever but false reasoning.

later to become 'Pragmatism.'³ Peirce rejects Kant's *a priori* empirical determinism, proposing that organism and environment define one another, a position later asserted by Lewontin (1995:132):

... just as the information needed to specify an organism is not contained entirely in its genes, but also in its environment, so the environmental problems of the organism are a consequence of its genes.

Peirce's approach to 'color' is later reinforced by Dewey,⁴ James, Mead;⁵ more recently, Putnam, Brandom, and Davidson - especially the latter's 'On the Very Idea of a Conceptual Scheme' (1973).⁶ Hacking (2002:35) too asserts:

A concept is no more than a word or words *in the sites in which it is used*.⁷

Similarly Peirce argues that perceptual judgment of 'colour' is inferred 'abductively;' for, in physiological terms, the same stimulus may, depending on the prevailing conditions, give rise to *any number* of responses.

Amongst the indigenous peoples of North West Canada, 'colour' was first encountered in the C18th by the shipment of intense red-dye pigment imported by traders from China. For indigenous use, this was de-saturated and darkened. Such an instance supports Peirce's assertion that 'colour naming' is no autonomous, empirical process - but a person acting abductively, acquiring further *habits* by chance.

'Abduction' in this sense, is the acceptance of a hypothesis, although only probational, and always fallible.⁸ Following Peirce, Gibson's version of 'abduction' - 'education of attention'⁹ - is taken-up in Anthropology by Ingold (2000: 108), stressing 'no observation without participation.' And contra B&K's *stasis*, Ingold says: 'movements' and 'interactions' are crucial aspects of 'habits.'

Bourdieu's *habitus* too presents a version of Peirce. In (1977:87) he says

... if people from different backgrounds orient themselves in different ways, this is not because they are interpreting the same sensory experience in terms of alternative cultural models or cognitive schemata, but because, due to their previous bodily training, they are differentially attuned to the environment.¹

'Differential attuning' of the *habitus*, is, as Bourdieu (1999:5; 1988:87) says, a theory of the internalisation of

³ See also Vygotsky and Husserl.

⁴ Vygotsky was possibly influenced by Boas via their joint colleague Dewey at New York University.

⁵ James (1890/1950:104-127) on Habit. Also Lewis (1883-1964) in Rosenthal (2007:75)

⁶ Conceptual schemes ... are systems of categories that give form to the data of sensation ... (Davidson 1984:183-198)

⁷ Peirce too (in 1886) claims 'My language is the sum total of myself.'

⁸ Its 'major principles' being perspectives of theory as 'explanation,' and praxis as 'culture' (Heelan and Schulkin 1998). It is a basic insight that Pragmatism can be both fallibilistic and anti-sceptical (Putnam 2000:21).

⁹ For Gibson, this is inseparable from a person's life in the world. He rejects mechanical and mental causality, treating perception as a unified functional activity of observers (Reed 1988:3).

exteriority, and the externalisation of interiority whereby objectivity becomes rooted in unconscious experience, by means of practice.

These theorists question the empirical notion of 'conceptuality/categorisation' - criticising rigid, single-track logicity (logocentrism) and its *a priori* empiricism. In contrast, in Anthropology, Ingold (2001:243) has posited 'relational fields' of which:

... we need nothing less than a new approach to ... the self-organising dynamics and form-generating potentials of relational fields.¹⁰

And Palsson (2007: 219) proposes 'genome rhizomics,' with temporary 'splits,' creating the fleeting and variable nature of the cultural world.

Peirce himself sees 'the habit-making tendency' to be part of our response to the 'complex things that happen to us,' which impel us to action. Re-casting mainstream empiricism, he asserts that 'cognition' arises by a process of becoming - the 'flow of action and reaction' - as change comes to pass, in which no 'first premises' need be assumed. He says:

... our very percepts or presentations are the results of cognitive *elaboration* (5.41).

This infers percepts emerge from our own complexity, with no pure, unanalysable 'visuality' in the background. It implies the inseparability of fact and value, fact and theory and fact and interpretation. Consequently there are no first impressions of sense, no first cognitions, and no individual judgments originating a series of inferred judgments (Brandom 1998). 'Perceptual judgment' in the Cartesian, Kantian and Mainstream Empiricist Tradition - the 'intuitive judgments of experience' - is what Peirce *rejects*.¹¹

This form of argumentation resonates with Peirce's¹ reaction to the C19th theorist and scientist, Helmholtz, asserting that his theory of colour and the materiality of the world, is the *pet petitio principii* of our time. Peirce is scathing in his criticism of Helmholtz's adaptation of the theory of the 'mixture of colours' 'borrowed' from Thomas Young (Kvelson 1996: 116-7). Yet, Peirce's criticism has generally been ignored, as Helmholtz remains the Father-figure in mainstream 'colour-science.'

In contradistinction to Helmholtz, Peirce regards 'percept' and 'perceptual judgment' as inseparable, blurring distinctions between them. In this way his notion of the 'intentional multiplicity of meaning' threatens the credibility of the empirical method, and modes of systematic investigation.

Peirce on 'colour,' is prelude to Einstein, who says:

As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain they do not refer to reality' (Feigl & Brodbeck, eds 1953).

Peirce also counters mainstream notions of 'rigorous determination' of the 'sensory core,' arguing it's inappropriateness involves 'the truth' of statements, that involve 'the truth' of others, and so on *ad infinitum*. In contrast, he proposes *the structuring of 'habit'*, since the character of the sensory core is determined by the generative functioning of habit. Thus practice itself forms the 'skill' or 'mastery' of colour perception. Peirce's arguments thereby assert 'colour, colour naming and categorisation' to be *socially gen-*

erated historical prostheses - the production of an *exosomatic organ*. Thus colour has no 'immediacy' or pre-determined givenness, as colour science asserts, but evolves as part of a historic, dynamic, complex 'sign-system.'

II. Wittgenstein

Having pursued the presentiments of Peirce on 'colour,' I now turn briefly to Wittgenstein.

Wittgenstein's friend Frank Ramsey (Nubiolo 2009), introduced him to the work of Peirce - especially his work on sign and meaning (or token and type) - a variant terminology of 'category.' Ramsey refers to induction as 'habit' requiring no formal or logical justification, being more concerned with methods of thought, 'its reasonableness being pragmatic' (ibid:7). Especially in *On Certainty* Wittgenstein approaches Pragmatism and practical dimensions of thought along these lines. As Nubiolo (2008:10) says:

Peirce's habits and Wittgenstein's language games turn out to be alternative expressions for a common strategy of resisting the abstract theorising of much traditional philosophy.

Wittgenstein confirms this with his *Remarks on Colour* (1977) where he itemises 'colour-language-games' as follows:

4e 14 There is, after all, no commonly accepted criterion of what is a colour, unless it is one of *our* colours (my emphasis).

9e I-58 The difficulties we encounter when we reflect about the nature of colours ... are embedded in the indeterminateness of our concept of sameness of colour.

26e 73 There is no such thing as *the* pure colour concept.'

35e 142 The various 'colours' do not all have the same connexion with three-dimensional vision.

36e 154 Can't we imagine that people do *not* have our colour concepts and that they *have* concepts which are related to ours in such a way that we would also want to call them 'colour concepts'?

(59e III-32 'Practices give words their meaning').

It's clear that both Peirce's and Wittgenstein's approach to 'colour' are complementary - they both contest the notion of eternal 'categories.' Yet while Peirce presents a radical challenge to the ontology of colour, questioning the very notion of 'innateness,' Wittgenstein proposes 'indefinability' but does not challenge the ontology of 'colour,' as Peirce does.

Conclusion

Kay (1999) - and more recently on the Internet - ratifies a fecund theory of colour perception, naming, and categorisation, defined by domain-specificity, modularity and innateness. The models used, deriving from Descartes, Newton and Kant, inherited by Mainstream Cognitive Science, make 'colour' a highly artificial, seriously oversimplified and blatantly false situation (as the consequences of the *World Color Survey* (2005) show). I therefore suggest that B&K's theory of Basic Color Terms is a scopic regime, that melds together the military, cinematic and techno-scientific logistics of perception. Thus 'colour' has become a diffuse mechanism with a network of permanent power, forming a new determinant of 'Reality.'

¹⁰ Rabinow (2004: 9) 'even 'ethics is a question of power and rhetorical skills.'

¹¹ Cf. Gibson's 'ecological optics' (Reed 1988:241).

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