'Welcome to the machines': autism and the acquisition of tacit knowledge

Damian E.M. Milton MA, PGCert, BA (Hons), Dip (conv), PGCE, Mifl, MBPsS
Doctoral researcher – University of Birmingham
Lead Consultant – Ask autism project – National Autistic Society
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“The autist is only himself...and is not an active member of a greater organism which he is influenced by and which he influences constantly.” (Asperger, 1991: 38).
The ontology of autism.
The ‘machine-like’ metaphor
Medicalised typology of a separable category of human incapable of social reciprocity.
The theoretical framework of tacit knowledge as developed by Collins and Evans (2007).
How autism represents a diverse and often disparate spectrum of sociality.
Strings and language

- Whilst language is conceptualised as a set of meanings located in society, strings are conceptualised as base objects that are the means by which language is inscribed and shared.
- Collins (2010) suggests that computers deal in strings and not language interpretation. No string has inherent meaning, as it is in linguistic interpretation that meaning is constructed and negotiated.
- Autistic people are often misinterpreted as only being able to deal in strings of information, as if they totally lacked a sociality and a language, or as lacking meaning-making emotions.
Embodiment and socialisation

- The acquisition of knowledge and expertise
- Expertise as functional competence
- Embodied experience (Heidegger, Merleau-Ponty, and Polanyi, cited in Collins and Evans, 2007).
- Collins and Evans (2007) – the primary site of the acquisition of knowledge and expertise is social, thus the mastering of a skill requires more than the embodiment of it, but the socialisation of people into relevant social practices.
Mimeomorphic actions: performed in the same way each time and thus can be reproduced mechanically.

Polimorphic actions: depend on context for interpretation and continuation and thus not reproducible by machines.
Polimorphic actions require social understanding and flexibility to adapt actions to changing social contexts. This is the reason given by Collins and Evans (2007) to suggest why machines cannot replicate humans. It could also be argued that autistic people, if one is to believe current dominant ideologies regarding what autism ‘is’, are machine-like, unable to replicate appropriately the behaviours and understandings of non-disordered humans.

Not all autistic displays of knowledge and expertise can be explained away as highly honed mimeomorphic actions. Despite such processing of strings of information often being seen as a strength among many on the autism spectrum (Murray et al., 2005).
The sociality of an outsider

- With autistic people, especially those who acquire verbal articulacy, one often finds the sociality of an ‘outsider’ (Becker, 1963).
- Also, it is often said that one of the most defining features of autism is a ‘spiky’ cognitive profile (Milton, 2012a) that can lead to extreme strengths in areas of mimeomorphic actions, but also potentially a widening of perspective and sociality, particularly in later years of development.
- Such a sociality is then stigmatised (Milton, 2011a) rather than being seen as a potential asset within communities of practice.
Collins (2010) demarcates three main categories of tacit knowledge:

- Weak / relational
- Medium / somatic
- Strong / collective
Weak relational tacit knowledge arises from social interaction, yet any piece of it in principle can be made explicit.

Collins (2010) gives the example of an experienced warehouseman who can find specific objects within a warehouse, yet would not be able to list every object, however one could program a computer to do just this task.

At times knowledge that can be made explicit is not, due to accident, lack of time, or as Collins (2010) indicates: ‘mismatched saliences’, an issue that perhaps relates to the ‘double empathy problem’ of mutual misunderstanding between autistic and non-autistic people (Milton, 2012b).
Somatic tacit knowledge

- For Collins (2010) somatic tacit knowledge can in principle also be made explicit, yet may be very difficult to do so.
- For instance, somatic-limit tacit knowledge is knowledge that can be explained or written down, yet cannot be used in a pragmatic way by humans due to the limits of their bodies, yet machines of the right design may be able to apply such knowledge due to differing somatic affordance.
- Somatic-affordance tacit knowledge can only be performed and applied as actions in practice due to the affordances of the materials from which a body or entity is made.
- In this respect the limit is not explicability but embodiment.
Strong collective tacit knowledge

- Strong or collective tacit knowledge as defined by Collins (2010) can only be acquired through immersion in the language and practices of society and is conceptualised as a property of society.
- In this conceptualisation, individuals are seen as ‘parasitic’ on the social.
- This ability to be parasitic on the social body being a unique property of humans, as neither other animals nor machines are capable of such collective knowledge acquisition.
- The term used by Collins (2010) to identify this split being ‘Social Cartesianism’.
“What is being argued is that humans differ from animals, trees, and sieves in having a unique capacity to absorb social rules from the surrounding society – rules that change from place to place, circumstance to circumstance, and time to time.” (Collins, 2010: 124).
Due to popular (mis)understandings of what constitutes autism, it is often incorrectly assumed that in such terms autistic people are somehow less than human, animalistic, or machine-like, only capable of compiling and broadcasting strings of information.

It may be the case that the autistic mindset is one adapted to perform mimeomorphic actions well rather than polimorphic, but ‘monotropic’ (Murray et al. 2005) or not, autistic people are ‘parasitic on the social’, however, the differing style of processing, idiosyncratic developmental trajectories, and later social alienation, stigma and anomie (Milton, 2011a) can result in an irregular ‘parasite’, with some highly developed skills and interests, yet also a different experience and understanding of the social body.
“They [autistic people] are creating the language in which to describe the experience of autism, and hence helping to forge the concepts in which to think autism.” (Hacking, 2009, p. 1467).
If autistic people were primarily machine-like, then where do the idiosyncratic expressions of autistic people (Mullin, 2009) originate from?

If one were to follow the theory of Murray et al. (2005), perhaps it is the affordances of an autistic mind-set leading to the honing-in on particular aspects of the social which inspire interest and attention – a ‘monotropic social parasite’, with a fragmented experience of the social?
Collins (2010) points out that domesticated animals, whilst immersed in human society are not able to be socialised, in the sense one does not encounter vegetarian, arty, or ‘nerdy’ dogs, they are simply just dogs.

Yet one does encounter autistic people who are vegetarian, artistic, and certainly ‘nerdy’.

Autistic people have distinct interests and abilities that involve social practices, and this includes those who are deemed ‘non-verbal’ who are often musical or artistic, and whose bodily movements have been argued to be a form of language (Baggs, 2007, Milton, 2012c).
Much social skill or behavioural training with autistic people are predicated upon breaking down such social information into explicated strings of information which does little to help autistic people adjust to the changing flux of negotiated socially constructed realities.

Recently however, methods such as ‘Intensive Interaction’ (Nind and Hewitt, 1994) which focus on relationship building and child-led activities have begun to challenge this dominance within the field.
“...the individual is a temporary and leaky repository of collective knowledge. Kept apart from society for any length of time and the context sensitivity and currency of the individual’s abilities will fade.” (Collins, 2010: 133).
A sense of self

- Collins (2010) states that a notion of ‘self’ is dependent on the ability to carry out polymorphic actions, requiring different instantiations and interpretations depending on context.
- This ability is no doubt a difficulty and challenge for many autistic people. Indeed, difficulties in episodic memory and the construction of ‘self’ have often been commented upon in relation to autism (Milton, 2012d).
- The differing sociality that is produced from autistic ways of being are often stigmatised for not abiding by so-called ‘simple’ ubiquitous expertise, leading to a lack of opportunities for extension into the social world, finally resulting in alienation, anomie, ‘problems in living’ (Milton, 2012e), and a vicious cycle of psycho-emotional disablement (Milton, 2012f).
Interactional expertise

- The imitation game
- Contributory expertise
- How much interactional expertise is possible?
The ‘idealised’ form of classical autism would suggest that autistic people would be truly ‘machine-like’ in their responses?

In this paper, it has been outlined that the social parasitism commented upon by Collins and Evans (2007) is never a ‘zero-sum’ game (i.e. truly machine-like), with supposed ‘low functioning’ autistic people often finding avenues in which to communicate.

The counter-examples of those who build a capacity for social communication are not limited to those deemed to have ‘mild symptoms’, but the vast majority of those on the spectrum (and to some extent all on the spectrum).


