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# The Enthralled Dog: A Variant Technology

ByMelanie Gilligan

The recent revelation of certain dogs' ability to predict their masters' epileptic seizures is certainly good news for sufferers. Melanie Gilligan looks at the implications for cognitive science and our understanding of the complex interactions between biological 'networks'.

The use of animals to assist the disabled has expanded to include the realm of the scientifically unexplained. Epileptics are now being coupled with 'seizure-alert' dogs to circumvent the potential harm of surprise fits. The dog is trained to be incessantly attentive to its master; when it senses an oncoming seizure, it alerts the owner by close eye contact, circling, pawing and barking. Once the owner has prepared for the fit, the dog protects her until the crisis has passed.[1]

[IMAGE]

The benefit and efficacy of this canine-human relationship are not in question. Owners have reported dogs having had a 'premonition' of a seizure up to eight hours before its arrival. But the basis of this technique seems rather unpalatable to contemporary science. It is not just that the precise factor or factors that might enable this sort of 'premonition' remain unclear (researchers have proposed a scent, minute visible signals, or electric fluctuations imperceptible to the epileptic as likely indications.) There is also an astonishing degree of unanimity amongst commentators that effective alerting behaviour is dependent on the closeness of the 'bond' between human and canine.[2] According to 'seizure-alert' dog agency PAWS, the dog's ability to predict its master's seizures 'evolves as time passes and mutual trust develops'; though certain dogs are born with the ability to detect seizures, only those that are particularly 'considerate' of the wellbeing of their masters become useful as seizure-alerters. Less loyal animals may sense the impending fit, but will either fail to have, or to act on, the urge to help the epileptic. Other animals may be well meaning, but fail to parlay intention into useful action. One young woman was killed by her 'seizure-alert' Doberman, who in its protective fervour dragged her to safety during an epileptic fit- by taking firm grasp of her neck.

The centrality of canine intention in this seizure-alert system situates it in the barely understood or theorised realm of interspecies intersubjectivity. The dog becomes an uncanny living alarm system whose 'conscious feelings' are a critical part of the therapeutic relationship. The therapy does not follow the traditional formula for deployment of animals in western science: breaking the animal down into constituent units, such as genes or parts. Here, the animal remains intact – 'thoughts' 'n' all. In this sense, the practice represents not only an inversion of scientific reductionism, but a reappraisal of social aspects of consciousness in medicine. The epileptic-and-dog is a subject-powered medical technology, an apparent confirmation of Donna Haraway's assertion that the age of 'cyborg subjectivities' is upon us. For her, such modifications are part of a collateral transgression of human/animal, artificial/natural divisions engendered in technological advancements such as biotechnology, genetics and computer engineering during the last century.[3]

If the dog-epileptic is a therapeutic system in which the complex agencies of both the actors involved are utilised without reduction then, in the terms of cognitive science, the dog's ability to spot its master's fits could be called an 'emergent' property of this system. Such a definition might describe the radical unpredictability of the fine interactions which produce the phenomenon of prescience, if it isn't taken as equivalent with the assertion that 'properties of mind' are predicated on complex sets of physical properties- for instance, the physical properties of the brain. Furthermore 'emergence', as defined in the discipline of Artificial Life, begins from predetermined parameters and is conducted as a confined experiment, so cannot be sufficient to the complete contingency of interrelations- or

intersubjectivities- that characterize complex systems. Here, the prescience emerges from the complex system of dog-and-epileptic without either the possibility or the necessity of a reductive description of the material aspects of its emergence. The already richly elaborated interrelation of dog and human is sufficient and, in this peculiar therapeutic context, appears to work.

All of this should leave cognitive science - a discipline based on the claim that awareness, since it 'evolved' from social behaviour, is a technology that can eventually be recreated - with some sense of its own infancy. Could its subdiscipline, Artificial Life, with all its computer simulations of 'evolutionary dynamics' and animal 'group behaviour', even conceive of producing a system complex enough to allow an equivalently therapeutic interrelation? Is the logic of expedience evident in much programming of so-called 'self-organising' systems really directing AL towards learning about mind? It seems at least possible that the prescience produced in the dog-epileptic technology is reliant on the entire history of rich social interaction (including the core relations of dependency and co-dependency) between human and canine. Could cognitive science, which views the epileptic's dog as a machine, a prosthetic alarm appended onto the human nervous system, really produce such a relation ex nihilo? Such an enterprise begins to take on the semblance of a category error when we consider that social-environmental history, immediate 'bond', as well as genetic inheritance are all essential aspects of the complexity underlying the dog's predictive ability.

The efficacy of the dog-epileptic relationship suggests that cognitive science might concern itself less with reproducing consciousness and more with the cyborgian possibilities of guided scientific-medical interactions between already-complex systems. It's certain that the awareness of a dog won't be a simple target for cognitive scientists to recreate, even on their own ahistorical terms of self-organisation and 'interaction'. The adopted methodology of AL treats consciousness as a process of interactions, not a social-historical fact. The discipline's dominant impulse is to focus on isolated simulations that end up comparing feebly with the productive interactions of sentient histories. An understanding of the accretion of 'properties of mind' in terms of the interrelation of social and environmental conditions and the contingency of such combinations could be far more productive. Rather than put together a whole that amounts to more than the sum of its parts, this discussion begs the question: why should the projects of cognitive science and AL attempt the creation of 'wholes' in the attempt to reproduce systems that are constituted definitively in, and as, complex relations? Its understanding of terms like 'mind' and 'life', it seems, would be far better advanced through studying these relations which – like epileptic-dog – seem to point unquestionably to the socially and historical roots of intersubjectivity... even between the species.

[1] Study entitled 'Evaluating the abilities of seizure-alert dogs', conducted by Dr. Roger L. Reep, Deborah Dalziel, Dr. Paul Davenport, Dr. Basim Uthman <<http://www.vetmed.ufl.edu/ufmrg/dog/>>

[2] See <<http://www.ismi.net/paws/photos/other.html>>

[3] Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature*. p.152. Frre Association Books Ltd. (1991)