

Chapter 11

When ANT meets SPIDER: Social theory for arthropods

Tim Ingold

Deep in the woods, amidst the undergrowth and detritus of a forest floor, two distinguished arthropods – renowned in the animal kingdom for their ingenuity and technical accomplishments – have struck up a conversation. One is ANT, the other is SPIDER. Both being philosophically inclined, their concern is to understand the world and their place in it. On this particular occasion, it is ANT's turn to open the debate.

'We ants', he declares, 'are not isolated individuals. Our brains may be no bigger than pin heads, yet we can achieve great things. Our nests are monumental mounds and our roads are highways through the forest, overrunning everything in their path. We can accomplish these feats because we collaborate. We live together in colonies, many thousand strong, sharing our food and work. In a word, we are the most *social* of insects'.

SPIDER, more solitary by nature, finds the idea of life in a colony hard to grasp. She admits that she would be more inclined to eat others of her kind than to work with them. Curious to know what it means to be social, she resolves to press ANT on the issue. 'In the course of your activities', she remarks, 'you have to deal with all sorts of things. I have seen you dragging worms and bugs that you have killed for food to your nests, along with building materials like twigs, pine needles and leaves, often many times your body size. I have seen you "touching up" aphids and licking the honeydew from their bodies. And I have seen you picking up and carrying around the larvae of your own kind. Tell me, do you have social relations with these things or only with mature members of the colony like yourself?'

'Now there, my dear SPIDER', replies ANT, 'you have touched on an issue that has been the source of some controversy in the formicoid world and I have to confess that my own views on the matter are somewhat unorthodox. To cut a long story short, there have up to now been two schools of thought. According to one school, we should think of the colony as a functioning totality that is more than the sum of its parts – a sort of super-organism – within which the life

T. Ingold

Department of Anthropology, School of Social Science, University of Aberdeen,
Aberdeen, UK

e-mail: tim.ingold@abdn.ac.uk

of every individual is entirely given over to the greater good of the collectivity. According to the other school, what we call “the colony” does not correspond to any real, concrete entity. We merely use the term as shorthand for what, in reality, is a vast aggregation of individuals, each driven by those basic instincts with which it has been innately endowed. My own view, however, is that we should characterise the colony, in the first place, in terms not of its membership or composition but of what is actually going on there. Every colony is a hive of activity. And if we follow the lines of activity, we find that they can be traced back neither to a single, collective super-organism nor to a plurality of individual organisms. Rather, to trace the lines of activity is to describe a vast network, in which any individual appears as but a particular node. Every ant in the colony is part of the action and carries it forward in its own way; it is, if you will, an *act-ant*’.

‘So if you want to assign responsibility for what is going on’, interjects SPIDER, ‘you could not lay it at the door of the individual or the collectivity. It is rather spread around the entire network’.

ANT waves his antennae in approval. ‘Exactly so. That’s why I say that the individual act-ant is not an agent. Rather, agency – that is, what makes things happen – is *distributed* throughout the network’.¹

‘That is all very well’, retorts SPIDER, ‘but you have still not answered my original question. You speak of the colony as a network of *act-ants*. But can the network also include *non-ants*? Can non-ants also have social lives?’

Absolutely’, ANT continues. ‘*Anything* can belong to the network, whether ant or non-ant. It is on precisely this point that I take issue with my colleagues. They seem to think there is something about being an ant – some essential anthood – that sets them apart from other creatures, in a separate world of *anture* as distinct from the material world of *nature* in which the existence of all other creatures is confined. Social relations, they claim, are not natural but *antural*. But the world I inhabit comprises both act-ants and non-ants, including such things as pine-needles, aphids and larvae. I insist that these things are not just passive objects. I am bound up in relations with them, as I am with my fellow ants. They, too, are part of the network. And they are caught up in it just as flies, my dear spider, are caught up in your web’.

‘But there you are surely wrong’, exclaims SPIDER. ‘The lines of my web are not at all like those of your network. In your world there are just entities – bits and pieces of diverse kinds that are brought together or assembled so as to make things happen. Every “relation” in the network, then, is a connection *between* one entity and another. As such, the relation has no material presence. For the materiality of the world, in your view, is fully comprehended in the entities connected. The lines of

¹ As John Law and Annemarie Mol put it (Chapter 4, this volume), ‘entities ... enact each other. In this way of thinking agency becomes ubiquitous, endlessly extended through webs of materialised relations’. What matters, then, is not what these entities are, but what they do, and reciprocally, what is done to them. Curiously, Law and Mol claim that the English language makes it difficult to express a condition intermediate between doing and being done to, despite the rich vocabulary of vernacular terms and phrases such as ‘minding’, ‘keeping watch’ and ‘looking after’.

my web, to the contrary, are themselves spun from materials exuded from my own body and are laid down as I move about. You could even say that they are an extension of my very being as it trails into the environment – they comprise, if you will, my “wideware”.² They are the lines *along* which I live and conduct my perception and action in the world.³ For example, I know when a fly has landed in the web because I can feel the vibrations in the lines through my spindly legs and it is along these same lines that I run to retrieve it. But the lines of my web do not *connect* me to the fly. Rather, they are already threaded before the fly arrives and set up through their material presence the conditions of entrapment under which such a connection can potentially be established’.

SPIDER’s account reminds ANT of an incident that took place during his winged mating flight, when he very nearly became caught in a spider’s trap. It was touch and go but after a sticky experience he had eventually managed to break free. Was it the web, however, or the spider that had ensnared him? Wondering about this, ANT comes to the conclusion that ‘it was, of course, both the spider and the web or what we might regard as a *hybrid* entity, the “spider-web”, formed by their conjunction’. But there is more, as ANT goes on to explain. ‘The web cannot function as a trap unless it is supported. In fact it was hung from lines attached to the twigs of bushes and to grass stems. So it was the way in which the spider, the web, the stems and the bushes all came together in the network, at that particular moment, that led to my nearly ending up as the spider’s dinner’.

On hearing the word ‘hybrid’, SPIDER’s legs begin to twitch nervously. She dislikes the term and has reservations about the way it has been promulgated by ANT and his confabulators.⁴ ‘Your talk of hybridity’, she responds tetchily, ‘entirely misses the point. You imagine a world of entities – spider, web, stems, twigs and so on – which are assembled to comprise the necessary and sufficient conditions for an event to happen. And you claim that the agency that “causes” this event is distributed throughout the constituents of the assemblage. My point, however, is that *the web is not an entity*. That is to say, it is not a closed-in, self-contained object that is set over against other objects with which it may

² The notion of ‘wideware’ is taken from Andy Clark (Chapter 1, this volume). ‘The relation between the biological organism and the wideware’, writes Clark, ‘is as important and intimate as that of the spider and the web’. Elsewhere, art historian James Elkins draws on the metaphor of the web to describe the ‘skein of vision’ within which every human being catches the objects of his or her attention (or is alternatively caught). ‘I am not the spider who weaves the web, and I am not even the fly caught in the web: I am the web itself, streaming, off in all directions with no center and no self that I can call my own (Elkins 1996:75).

³ The same could be said of the trails or paths made by human walkers. Of such a trail, we might ask (as do Law and Mol, Chapter 4, this volume) ‘where does this path come from, and where might it lead?’ This is not an appropriate metaphor, however, for tracing the connections between entities in a network, as Law and Mol intend.

⁴ An example can be found in Chapter 5 (this volume) in which Owain Jones and Paul Cloke speak of ‘the ways in which non-human organisms and materials contribute to the networked agencies of hybrid collectifs’. Likewise Tom Yarrow, in Chapter 7, refers to ‘the hybrid networks of people and things in which different kinds of “actants” are conjoined’.

then be juxtaposed or conjoined. It is rather a bundle or tissue of strands, tightly drawn together here but trailing loose ends there, which tangle with other strands from other bundles. For the twigs or stems to which I attach these trailing ends are themselves but the visible tips of complex underground root systems. Every plant, too, is a living tissue of lines. And so, indeed, am I. It is as though my body were formed through knotting together threads of life that run out through my many legs into the web and thence to the wider environment. The world, for me, is not an assemblage of heterogeneous bits and pieces but a tangle of threads and pathways. Let us call it a *meshwork*, so as to distinguish it from your *network*. My claim, then, is that action is not so much the result of an agency that is distributed around the network, but emerges from the interplay of forces that are conducted along the lines of the meshwork'.⁵

As ANT and SPIDER are conversing on the forest floor – surrounded by what ANT (the network builder) perceives as an assortment of heterogeneous objects and what SPIDER (the web weaver) perceives as a tissue of interlaced threads – something else is going on in the air above their heads. A couple of butterflies are dancing. 'Observe', says ANT, 'how in its fluttering, each butterfly responds to the movements of the other. We might even call it a "dance of agency"'.⁶ Clearly, the butterflies are interacting in the air, just as we act-ants interact on the ground in the acrobatics of our collaboration'.

'But have you', asks SPIDER, 'given any thought to the air itself? The butterfly's flight is made possible, thanks to air currents and vortices partly set up by the movement of its wings. Similarly, the fish in the river is able to swim, sometimes at remarkable speed, because of the way it creates eddies and vortices in the water through the swishing of its tail and fins.'⁷ But what sense would it make to say that the air, in the first case, is a participant in the network, with which the butterflies dance as they do with one another; or in the second case, that the fish dances with water as it might with other fish in the shoal? Indeed it would make no sense at all. Air and water are not objects that act. They are material media in which living things are immersed, and are experienced by way of their currents, forces and pressure gradients. True, it is not the butterfly alone that flies but butterfly-in-air and not the fish alone that swims but fish-in-water. But that no more makes the butterfly a fly-air hybrid than it makes the fish a fish-water

⁵ On the distinction between network and meshwork, see Ingold (2007: 80–2).

⁶ The notion of the 'dance of agency' is taken from Lambros Malafouris (Chapter 2, this volume). In such a dance, Malafouris explains, there must be an equality or symmetry between the two partners. As the following argument makes clear, however, Malafouris is misguided in applying this notion to the relation between the potter and wet clay. For the potter and the clay are *not* equal partners. The clay is to the potter as air is to the butterfly, water to the fish, and the web to the spider. As such, it constitutes the ground for interaction, but is not an interactant.

⁷ Andy Clark (Chapter 1, this volume) illustrates this point with the example of the tuna fish. 'The real swimming machine', he suggests, 'is thus the fish *in its proper context*: the fish plus the surrounding structures and vortices that it actively creates and then maximally exploits'. The 'proper context', in this case, is a fluid material medium with its pressure gradients and lines of force. It is not an assemblage of discrete material objects.

hybrid. It is simply to recognise that for things to interact they must be immersed in a kind of force-field set up by the currents of the media that surround them. Cut out from these currents – that is, reduced to objects – they would be *dead*. Having deadened the meshwork by cutting its lines of force, thus breaking it into a thousand pieces, you cannot pretend to bring it back to life by sprinkling a magical dust of “agency” around the fragments. If it is to live, then the butterfly must be returned to the air and the fish to the water’.

‘And I’, SPIDER goes on, ‘must return to my web. For I have to say that what air is for the butterfly and water is for the fish, my web is for me. I cannot fly or swim, but I can weave a web and exploit its properties of stickiness, tensile strength and so on to run around and catch flies. I may dance the tarantella with the fly that alights on my web, but the web itself is not a dancing partner. It is not an object that I interact with, but the ground upon which the possibility of interaction is based. The web, in short, is the very condition of my agency. But it is not, in itself, an agent’.

‘That, if I may say so’, interjects ANT, ‘is a very arachno-centric viewpoint. Presumably, by your same argument, if you were a fly you could also claim to be an agent, and if you were an ant like me, you could claim to be an agent too. How many legs, I wonder, do you need to qualify as an agent: six, eight, a hundred? Our mutual acquaintance the centipede would indeed do very well. With so many legs he must be a truly powerful agent’.

‘You jest of course, my dear ANT’, responds SPIDER. ‘Nevertheless to your question I would answer: at least four! For although I would be prepared to admit to the agency of our four-footed friends, the rat and the mouse, I would draw the line at bipedal humans. You may be an agent from your formicoid perspective and I from my arachnid one, but from the perspective by which humans distinguish themselves from all other creatures, it is impossible to see how they could exercise any agency at all. On one occasion, I dangled inconspicuously from the ceiling of one of their so-called “classrooms” and overheard a human philosopher lecturing to others of his number. “I am a human subject”, the man intoned. “*I know, therefore I am*. I know, and am, because I have a mind. That is what makes me human. And it is this, too, that enables me to act. Of course I have a body too, like every other creature. The spider has a body; so does the ant. But the spider and the ant are all body; there is no more to them than that. Though we may observe their behaviour, they cannot act. But *I am not my body*. I am a body *plus*. It is by the measure that I am *more* than my body that my humanity – along with the scope of my action – is defined”.

“Well”, thought I silently to myself, as I swung from the end of my thread, “if that’s where you imagine the essence of your humanity lies, then it is certainly not to be found in what you humans do. What you have been talking about is intelligence, a cognitive capacity to work things out in advance, in the head, prior to their implementation in the world. But *intelligence* is one thing; *agency* quite another.⁸ It is a serious mistake to confuse the two”. And I

⁸ ‘Intelligence’, as Richard Harper, Alex Taylor and Micheal Molloy state (somewhat controversially) in Chapter 6, ‘is a term only applicable to human beings’. But ‘agency’ is not.

remembered the story of the apocryphal centipede who, when asked how he managed to co-ordinate the movements of his hundred legs, found himself paralysed and starved to death. So long as he had acted unthinkingly, leaving his legs to look after themselves, there had been no problem. But as soon as he stopped to think intelligently about what he did, he could no longer act. His agency was thwarted'. More generally, a creature that could do nothing that had not been fully thought out in advance could never, in practice, do anything at all.

'We all know about the arrogance and stupidity of humans', laughs ANT in response, 'especially the philosophers among them who have nothing else to do in life than to think. If we could only reduce them in scale and put them to work in one of our nests, they would learn a thing or two! They would soon discover, as I have explained already, that agency is not exclusive either to ants or to non-ants but is distributed throughout the network formed by their collaboration. We need, in short, to establish a principle of symmetry, by which neither side of the ant/non-ant dichotomy is privileged over the other'.

'I do not want to accord a special privilege to ants or to spiders', responds SPIDER, 'let alone to human beings. Yet I cannot accept your principle of symmetry. The problem lies in your blanket category of the 'non-ant' which includes everything from grains of sand and dead leaf-matter to aphids and butterflies – and even humans! Our concept of agency must make allowance for the real complexity of living organisms as opposed to inert matter. It is simply absurd to place a grain of sand and an aphid on the scales of a balance and to claim that they are equivalent. They may weigh the same amount, but in terms of complexity they are poles apart. The key difference is that the aphid, animal that it is, has a nervous system – just as do you and I. When I crouch at the centre of my web, I am all a-quiver, just like the leaf of a tree in the summer breeze. I am sensitive to the slightest movement or vibration. What makes the difference between me and the leaf, however, is that every movement I make is also a movement of my *attention*. It is the attentiveness of this movement that qualifies it as an instance of *action* and, by the same token, qualifies me as an *agent*. To put it another way, the essence of action lies not in aforethought (as our human philosopher would claim) but in the close coupling of bodily movement and perception. But that is also to say that all action is, to varying degree, *skilled*. The skilled practitioner is one who can continually attune his or her movements to perturbations in the perceived environment without ever interrupting the flow of action.⁹ But such skill does not come readymade. Rather, it *develops*, as part and parcel of the organism's own growth and

⁹ As John Sutton explains (Chapter 3, this volume), 'the minutely adaptable exercise of embodied skills precisely requires an openness to and awareness of the specifics of a situation'. But this does not mean, as Sutton seems to think, that the 'grooved embodied engagement' of the practitioner is modulated by cognitive intervention or 'doing' by 'knowing'. Rather, practice that is skilled does not follow a groove at all but rather cuts its own groove as it is guided by perception.

development in an environment. Since agency calls for skill, and since skill arises through development, it follows that the process of development is a *sine qua non* for the exercise of agency. To attribute agency to objects that do not grow or develop that consequently embody no skill and whose movement is not therefore coupled to their perception, is ludicrous’.

Listening to this, ANT remains unimpressed. ‘Well, you would say that, wouldn’t you’, he remarked caustically. ‘You are SPIDER, and you stand for the proposition that *Skilled Practice Involves Developmentally Embodied Responsiveness*. I appreciate your views; they are indeed worth their weight IN GOLD (which is very little, I might add, since you are such a lightweight creature). But I am ANT. I stand for *Actor Network Theory*. Not for nothing am I known as THE TOWER among arthropods. For my philosophy towers over yours’.

‘You are indeed a master of lofty thoughts’, admits SPIDER wearily. ‘But I cannot, for the most part, understand a word of what you say’. And with that, she scuttles off.

References

- Elkins, J., 1996. *The Object Stares Back: On the Nature of seeing*. Simon and Schaster, New York.
- Ingold, T. 2007. *Lines: A Brief History*, London: Routledge.