MAKING, GROWING, LEARNING[1]

Two lectures presented at UFMG, Belo Horizonte, October 2011

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In these two lectures, I want to make just five points. They are:

- The concept of transmission is linked to a genealogical model that separates the acquisition of knowledge-as-information from its practical enactment, and is not for that reason appropriate to describe the ways in which people ordinarily come to know what they do.
- Learning in practice, even when it involves imitation or copying, is a creative process, but the source of this creativity lies not in innovation but in improvisation.
- Such practice entails not the matching of forms but the alignment of movements, through a co-ordination of perception and action that is of the essence of skill.
- Skilled practice, thus conceived, is an itinerant movement along a way of life, understood as a path to be followed rather than a corpus of rules and principles transmitted from ancestors.
- This path-following is given not in an engagement between practitioners and the material world, by way of the senses, but in the coupling of substantial flows and sensory awareness in a world of materials.

The remainder of what I have to say is no more than an amplification of these points. I shall deal with each in turn.

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I. Against transmission

When we speak of intergenerational learning, it is common to say that knowledge is transmitted from one generation to the next. In a loose sense there is nothing wrong with that, but there has been a tendency – particularly in the literature of psychology – to interpret the metaphor of transmission much more literally, as though in the performance of a learned tradition, people 'convert into bodily behaviour', as anthropologist Dan Sperber (1996, p.61) once put it, representations or prototypical schemata that have already been copied into their heads through a prior process of replication. The logic applied here is that of what I have called the *genealogical model*, the defining assumption of which is that individuals are specified in their essential genetic and cultural constitution, independently and in advance of their life in the world, through the bestowal of attributes from ancestors (INGOLD, 2000, p.134-139; 2009, p.195-196).

In biology, this assumption underwrites the distinction between genotype and phenotype. Whereas the genotype is supposed to furnish a formal specification of the organism-to-be, given at the point of conception and coded in the DNA of the genome, the phenotype is the manifest form that arises from the organism's growth and maturation in a specific environment. In psychology the same logic is played out in the classic distinction between social and individual learning: the first referring to the way in which context-free information is copied across from teacher to novice, the second to novices' repeated attempts to apply already copied information in particular environmental contexts of action. Some anthropologists and psychologists have even taken to calling the elements of transmitted information 'memes', that are said to inhabit the mind and control the carrier's thought and behaviour just as genes inhabit the body and control its ontogenetic development. Though popularised in the last decades by Richard Dawkins and his acolytes (DAWKINS, 1976; BLACKMORE, 2000), this idea has in fact been present in the literature for a century or more, its longevity matched only by its proponents' conviction that it stands at the cutting edge of science (for examples and references, see INGOLD, 1986, p.362).

A moment ago I quoted the words of Dan Sperber, who has been one of the leading advocates of the transmission model of cultur-

al learning. Let me present you with one of his favourite examples. It concerns the preparation of Mornay sauce. The recipe for preparing this sauce has been handed down from generation to generation as part of a culinary tradition. It comprises a series of instructions that in the past would have been enunciated orally but are nowadays written down in a book. Any novice, given the capacity to read, can acquire these instructions. Or more precisely, what exists on paper as a set of ink patterns can be translated into a corresponding set of verbal commands in the reader's memory. No actual cookery is involved here, for cooking – in Sperber's account – has to do not with the replication of knowledge, or with its copying across generations, but with its behavioural enactment. To cook, according to Sperber (1996), the received instructions have to be converted into actual bodily behaviour.

That sounds simple enough, but there's a catch, which can be highlighted by means of another of Sperber's examples. Like the recipe for Mornay sauce, the story of Little Red Riding Hood is also part of a long tradition. Generations of children have heard it told and, as adults, have in turn told it to their children. Each such telling, according to Sperber (1996, p.62), is a bodily performance based on a remembered script. But if that is so, then by the same token one would convert the recipe for Mornay sauce into behaviour just by reciting the words. Sperber's claim, however, is that it is by *preparing the sauce* that already copied instructions are converted into behaviour. And this makes about as much sense as supposing that the child converts the story of Little Red Riding Hood into behaviour by setting off to her grandmother's with a pot of butter and a cake! There is indeed a parallel between storytelling and cooking, not because both entail the enactment of a pre-copied script, but because in both cases, the enactment is itself a process of copying in which information is not so much passively handed down as actively regenerated (INGOLD, 2001, p.140-141).

How do novices actually learn to cook (rather than to reproduce recipes)? They do so, of course, by working alongside already skilled practitioners in the kitchen. Though I have never had the proverbial opportunity to teach my mother to suck eggs, I did have the opportunity many years ago to teach my (then) small daughter how to break them, in the course of learning how to make an omelette. This operation requires no small degree of skill. Keeping a firm hold of the egg,

you have to strike it against the edge of a cup or mixing bowl so as to achieve a clean crack of sufficient extent to enable you subsequently to split the shell easily into two halves, releasing the contents into the bowl. If the force of the strike is too light the shell will not crack, or the crack will be so short that when you try to split open the shell you have to apply so much pressure that the whole shell is crushed into pieces, leaving shards of the shell in the bowl and fingers covered in egg. If the force is too great the entire egg splits on impact, and most of the contents end up all over the work surface rather than in the bowl. What makes the task especially difficult is that the force required is not constant. It varies from egg to egg, depending on the thickness of the shell.

The problem for the novice is this. How do you know how thick the shell is when you cannot see until the egg is broken? There is a trick to this that you will not find in any recipe book, but which experienced cooks use so routinely that they are scarcely aware of it. First tap the egg lightly against the edge of the bowl. Listen for the sound. This will tell you how hard to strike next time so as to achieve a clean crack. Thin shells and thick shells sound differently when they are tapped. So this is how I teach my daughter to break eggs. She holds the egg in her down-turned hand. I hold her hand in mine, also down-turned. Together we strike the egg against the bowl, first lightly and tentatively, then firmly and with controlled force. In that way, my daughter gets the feel of it for herself, and the sound of it too. She is also looking what she is doing. Through repeated trials she becomes progressively better able to adjust her striking force to a multisensory monitoring of the task as it unfolds, seamlessly combining vision, hearing and touch.

Having learned to break eggs, let me now return to the recipe for Mornay sauce. When the recipe tells me to 'melt the butter in a small pan and stir in the flour', I am able to follow it only because it speaks to my experience of melting and stirring, of handling such substances as flour and butter, and of finding the relevant ingredients and utensils from the various corners of my kitchen (LEUDAR; COSTALL, 1996, p.163). The verbal commands of the recipe, in other words, draw their meaning not from their attachment to mental representations inside my head, but from their positioning within the familiar context of my activity in the home. Like signposts in a landscape, they provide specific directions to practitioners as they make their way through a field of

related practices. Each command is strategically located at a point which the original author of the recipe, looking back on previous experience of preparing the dish in question, considered to be a critical juncture in the total process. Between these points, however, the cook is expected to be able to find his or her way around, attentively and responsively, but without further recourse to explicit rules of procedure – or in a word, skilfully.

Thus the information in the book is not, in itself, knowledge. Rather, it opens up a path to knowledge, thanks to its location within a field of practices that is already partially familiar by virtue of previous experience. Only when placed in the context of skills gained through prior experience does information specify a route that is comprehensible and that can practicably be followed, and only a route so specified can lead to knowledge. It is in this sense that all knowledge is founded on skill. Just as my knowledge of the landscape is gained by walking through it, following various signposted routes, so my knowledge of cookery comes from following the several recipes of the book. This is not knowledge that has been transmitted *to* me; it is knowledge that has grown *in* me as I have followed the same paths as my predecessors and under their direction (INGOLD, 2001, p.137-138). Recipes, in this sense, are just like stories. They have a narrative structure: 'first do this, then that; observe, as you do this and that, how the consistency of your ingredients changes'.

Now of course, anthropologists have long recognised the educative functions of storytelling the world over. But they have been wrong to treat stories as vehicles for the intergenerational transmission of encoded messages which, once deciphered, would reveal an all-embracing system of mental representations. For stories do not, as a rule, come with their meanings already attached, nor do they mean the same for different people. What they mean is something that listeners have to discover for themselves, by placing then in the context of their own life histories. Indeed it may not be until long after a story is told that its meaning is revealed, when you find yourself retracing the very same path that the story relates. Then, and only then, does the story offer guidance on how to proceed. Evidently, in cookery as much as in any other field of practical activity, people do not acquire their knowledge ready-made but rather *grow into it*, through a process that might best

be called *guided rediscovery*. As I have already suggested, the process is akin to that of following trails through a landscape: each story will take you so far, until you come across another that will take you further (INGOLD, 2009, p.203).

I refer to this trail-following as *wayfaring* (INGOLD, 2007, p.75-76). And my thesis, in a nutshell, is that it is through wayfaring, and not transmission, that knowledge is carried on. It is usual to say of the people of a culture that they follow a 'way of life'. More often than not, this is taken to mean a prescribed code of conduct, sanctioned by tradition, that individuals are bound to follow in their day-to-day behaviour. The task of the wayfarer, however, is not to act out a script received from predecessors but literally to negotiate a path through the world. Thus the way of life is a path to be followed, along which one can keep on going rather than coming to a dead end or getting caught in a loop of ever-repeating cycles. Indeed 'keeping going' may involve a good measure of creative improvisation. It is in following this path – in their movement along a way of life – that people grow into knowledge. I now want to specify more precisely the sense in which the movement of learning in practice is creative.

There is a tendency in much writing on creativity to locate its sources in images and objects rather than actual performance. This is why creation is so often equated with innovation. The equation rests on a 'backwards' reading according to which the creativity of action is judged by the novelty of its outcomes, by comparison with what has gone before, and traced to its antecedent conditions in the form of unprecedented ideas in the minds of individual agents. This backwards reading is equivalent to what anthropologist Alfred Gell, writing about the work of art, has called the *abduction of agency* (GELL, 1998, p.13). Creativity is accordingly opposed to imitation, regarded as running off replicas from an already established design. Precisely such a view underpins theories of observational learning, of the kind I have just described, which posit that knowledge is acquired through a process of transmission. Creative innovation can then come about only through the mutation or recombination of elements of transmitted design.

Yet this omits the creativity of the very process wherein every design is practically enacted. To recover this generative dynamic, creativity must be read 'forwards', in the movements that give rise to things,

rather than backwards from their outcomes. And to read creativity forwards entails a focus not on abduction but on *improvisation* (INGOLD; HALLAM, 2007, p.3). To improvise is to follow the ways of the world, as they unfold, rather than to recover a chain of connections, from an end-point to a starting-point, on a route already travelled. And the aim is not to reach a terminus but to *keep on going*. In keeping going, however, one may travel the same ground, over and over again. In any skilled craft, the development of proficiency calls for repetitive practice in which novices are required to copy or imitate exemplars shown to them, thereby incorporating into their own bodily dispositions the sensibilities of the masters in whose paths they follow, while simultaneously developing personal styles of their own.

In the Chinese art of calligraphy, for example, novices begin by tracing the shadows of the model to be copied, which is placed directly below the translucent paper on which they write. In the next stage, paper and model are placed side by side, forcing them to improvise the necessary gestures for themselves rather than being guided by the shadows of the masters. Then, in the final stage of learning, novices are encouraged to shake themselves loose from the masters' 'clutching hands'. In this stage, as Yuehping Yen writes in her fine study of the power of calligraphy in contemporary Chinese society, 'all the learned rules are banished into oblivion and the heart becomes the only guide of the hand' (YEN, 2005, p.123). At no point in this three-stage process of enskilment, however, do practitioners cease to copy. Every performance of a calligraphic work is a 'going over', in so far as it is modelled on previous studies, yet every going over is itself an original movement which carries the work on, even as it follows paths already traced.

For this reason, no work is ever finished. Crescent rather than created, it cannot be contained within the bounds of a project that originates with a conception in the mind of an agent and ends with its realisation in the material. It rather carries on throughout its performances, none of which *is* the work but all of which contribute to its never-ending generation. In this regard, calligraphy has much in common with the performance of instrumental music. As a practising cellist, I have played the same movements from Bach's set of suites for unaccompanied cello again and again. This is not like running off identical copies from a template, whether engraved in memory or on the score. It is not an *iteration*

but an *itineration* (DELEUZE; GUATTARI, 2004, p.410). For in my consciousness and in my experience, the music lives on as an ever-flowing current. Each time I begin to play I am launched once more into the current, through which I have to feel my way – rather as a boatman feels the stream – with no assurance of how things will turn out. It is, at every moment, a risky endeavour. Though one may recover from errors, it is impossible to go back and correct them. I am, when I play, an itinerant, a wayfarer. And like all wayfarers, I have to improvise.

Nor is my performance any less improvisatory, to the extent that it is scored. To the contrary, the more strictly the performance is specified, the greater the improvisational demands placed on practitioners to 'get it right'. Any formal resemblance between the copy and the model is not given in advance but is rather a horizon of attainment, to be judged in retrospect. That is why there is creativity even, and especially, in the maintenance of an established tradition (INGOLD; HALLAM, 2007, p.5). The music psychologist Nicholas Cook (1990, p.113) has shown that a classical musician who plays from a score improvises just as much as a jazz musician who does not. The difference lies in their aims. The former is, as it were, centripetal, aiming for the bull's eye, the latter centrifugal, seeking to cast wide. The same variation, from centripetal to centrifugal, can be discerned in many other fields of performance, such as in calligraphy, in dance and in athletics. To see this, you only have to compare the sports of archery and putting shot.

Now in athletics and the performing arts, as in any craft, novices have to learn through repetitive practice in copying models shown to them. To copy, however, is not to replicate a pre-existing form but to align observation of the model with action in a world suspended in movement. Fluent performance has a rhythmic quality. But this quality does not lie in the repetitiveness of the movement itself. For there to be rhythm, movement must be *felt*. The practitioner who has a feel for what he is doing is one who can bring the many concurrent movements with which he must engage more or less into phase with one another. This calls for continual correction, in response to an ongoing perceptual monitoring of the task as it unfolds. Rhythmicity, as the philosopher Henri Lefebvre (2004, p.90) has argued, implies not just repetition but *differences within repetition*. Feeling, then, lies in the co-ordination of

movement and perception that is of the essence of skilled practice. By way of perception, the practitioner's own rhythmic gestures are attuned to the multiple rhythms of the environment (INGOLD, 2006, p.76-77).

Thus any task, itself a movement, takes place within what André Leroi-Gourhan (1993, p.282) – the great French anthropologist of techniques – called a 'network of movements', within which the existence of every practitioner is suspended. I believe it is more appropriate to speak of a meshwork than a network, of contrapuntal lines rather than connected points, but I shall return to this later. For now, the conclusion I want to stress is that the measure of skill lies in the sensibility that enables practitioners to respond to environmental perturbations that would throw the performance off course, were it confined to the execution of a fixed motor programme. As anthropologist Charles Varela (2009, p.viii) has pointed out, skilled performance aims for a *precision* which should not be confused with the *accuracy* of pre-planned and measured execution. The novice, sticking rigidly to the rules, is inclined to go astray; the expert recovers poise by bending them.

Anthropologist Greg Downey (2011) offers a good illustration of this point, drawn from his experience of learning the Afro-Brazilian dance and martial art known as *Capoeira Angola*. The particular move on which he focuses, the headstand, may seem extreme and even foolhardy to those of us unaccustomed to thinking of the head and neck as a fifth limb. But to people who are used to carrying loads on the head – sometimes very heavy loads, equal to or even exceeding the weight of the body – the headstand entails no more than an inversion in which the head (on the ground) carries the weight of the body rather than the body (on the ground) carrying an equivalent weight on the head. Whether learning to carry loads on the head or to stand on it, however, the key point for Downey is that learning is itself a developmental process: it is the way a human organism undergoes growth and transformation – physiologically, neurologically and psychologically – in and through the movements it carries on and the postures it endures.

Though the demands placed on the developing body in the course of learning moves in *capoeira* such as the headstand may seem to us extreme (though no more extreme, as Downey remarks, than learning to spend the best part of every day in a sitting position, as we academics do), the principle is the same regardless of the particular activi-

ties in question. Living bodies are never made but always in the making, and their specific expertise is not added on, in the form of a motor schema internalised into a body already primed with the capacities to receive it, but is itself the developmental outcome of what Downey (2011, p.86) calls 'kinetic self-exploration'. In this exploration, though guided by others, novices have perforce to find their own ways. And if it turns out that specific skills are common to a community of practice, this is not because the operations of practitioners' bodies are directed from within by the same motor schema, transmitted to them at the start, but because these developmental explorations have converged upon the same or similar outcomes.

Dance anthropologist Brenda Farnell has directly confronted the question of how we are to understand the creativity of apparently imitative and consistently repeated movements, in the work of contemporary dance artists (FARNELL; WOOD, 2011). The precision and coordination of these movements call for a finely tuned kinaesthetic awareness, along with an awareness on the part of each dancer of their own internal bodily sensations, the exercise of both focal and peripheral vision, a sensitivity to the rhythms and sounds of breathing and footwork, and an ability to feel each other's presence in a shared intersubjective space. The development of these perceptual skills requires years of practice. Of course this practice develops the dancers' muscles, and their athletic prowess. But muscle power and athleticism take second place, as goals of training, to the development of movement perception. What develops, according to Farnell's collaborator, choreographer Robert Wood, is a 'whole-body intelligence' – an intelligence in motion, capable of responding to an ever-changing environment. This intelligence, says Wood, allows the dancer to 'let go', to *be*.

But how can such letting go be reconciled with a daily training regime in which prescribed movements are repeated over and over again? Would not such a regime have the opposite effect of habituating movement, dulling the senses, and sending conscious awareness into retreat? The answer hinges on the meaning of 'embodiment'. The philosopher of dance Maxine Sheets-Johnstone (1998, p.359) protests against the facile appeal to this concept, so pervasive in current writing in the arts, humanities and social sciences, as if merely by placing the word 'embodied' before 'practice', the still festering wound created by

the surgical separation of the organ of self-knowledge from the flesh and blood of humans beings could be magically healed. Employed in this sense, she argues, the notion of embodiment is nothing more than a 'lexical band-aid', which allows the divide between knowing and being to persist simply by covering it up. And it will continue to do so for as long as we fail to recognise that the key to both self-knowledge and organic life is *movement*.

It is not just that, as living organisms, we move. We *are* our movements; therefore the knowledge we have of ourselves is inseparable from the sense we have of our movements, or in a word, from *kinaesthesia*. As animate beings, Sheets-Johnstone (1998, p.359) insists, we do not experience ourselves and one another, in the first place, as 'packaged', but as both moving and moved, in ongoing response – or what I would call *correspondence* – to those around us. This is as true of the movements of everyday life as it is of their more specialised refinements in dance, which is why dance – not as an object but as a means of investigation – can cast such a bright light on what it means not just to live *in* the world, but to be alive *to* it.

Arguably, however, Sheets-Johnstone's protest is more against a particular use of the concept of embodiment – albeit so pervasive as to be almost universal – than against the concept *per se*. For when Farnell describes human beings as 'primarily embodied meaning-makers', she quite explicitly does *not* intend to convey the idea of the body as a package, within which practices are, so to speak, wrapped up. Nor, to invoke another widespread image, is it to be understood as a sink, into which practices settle like sediment in a ditch. The body, in Farnell's usage, is neither an object of performance nor its instrument, but rather a dynamic centre of unfolding activity. Whether in dancing, gesturing, talking or writing, performance – she insists – issues *from* the body, it is not *about* the body (FARNELL, 2000, p.413; FARNELL; WOOD, 2011, p.111). And this takes us back to our question of how to reconcile the repetitiveness of training with the heightened sensitivity that it is supposed to engender.

The aim of such training is not primarily ergonomic: it is not about creating bodies that are more energetic and efficient in their movements. It is about the education of perception. We have already seen, through the example of *capoeira*, that learning cannot be properly

understood as the internalisation of a motor schema. It is not, therefore, imitative, if by imitation we mean the replication, within the minds of novices, of schemata originally housed within the minds of experts, and expressed in bodily execution. But it is about copying, about aligning one's own ongoing movements with those of one's surroundings. Improvising a path through a field of practices, rather than mechanically executing the rules and representations of transmitted culture, the skilled practitioner does not impose pre-existent forms on inert matter but intervenes in the fields of forces and currents of material wherein forms are generated. In this sense, as I have already shown, practitioners are wayfarers or itinerants. Their skill, then, lies in their ability to find the grain of the world's becoming, and to follow it, while bending it to their evolving purpose (INGOLD, 2010, p.92). In the next lecture, I will explore the implications of this conclusion for our understanding of making and doing.

II. For enskilment

In my last lecture, I set out to show that skilled practice lies not in the mechanical application of rules and representations that have already been transmitted, but in a precise correspondence, brought about through the coordination of perception and action, between the movements of the practitioner and movements in the world. In this sense, I argued, the practitioner is a wayfarer, whose task it is to follow a path. In this lecture I want to focus on the last of the five propositions that I introduced at the outset, namely that this path-following is given not in an engagement between practitioners and the material world, by way of the senses, but in the coupling of substantial flows and sensory awareness in a world of materials.

In his notebooks, the artist Paul Klee repeatedly urged that the processes of genesis and growth that give rise to forms in the world we inhabit are more important than the forms themselves. 'Form is the end, death', he wrote. 'Form-giving is movement, action. Form-giving is life' (KLEE, 1973, p.269). This, in turn, lay at the heart of his celebrated 'Creative Credo' of 1920: 'Art does not reproduce the visible but makes visible' (KLEE, 1961, p.76). It does not, in other words, seek to repli-

cate finished forms that are already settled, whether as images in the mind or as objects in the world. It seeks, rather, to join with those very forces that bring form into being. Thus the line grows from a point that has been set in motion, as the plant grows from its seed.

Taking their cue from Klee, philosopher Gilles Deleuze and psychoanalyst Félix Guattari (2004, p.377) argue that the essential relation, in a world of life, is not between matter and form but between *materials* and *forces*. It is about the ways in which substances of all sorts, enlivened by cosmic forces and with variable properties, mix and meld with one another in the generation of things. Whenever we encounter encounter matter, as Deleuze and Guattari (2004, p.451) insist, 'it is matter in movement, in flux, in variation'. And the consequence, they go on to assert, is that 'this matter-flow can only be *followed*'.

What Deleuze and Guattari call a 'matter-flow', I would call *material*. Accordingly, I recast the assertion as a simple rule of thumb: to *follow the materials*. To apply this rule is to intervene in a world that is continually on the boil. Perhaps it could be compared to a huge kitchen. In the kitchen, stuff is mixed in various combinations, generating new materials in the process which in turn become mixed with other ingredients in an endless process of transformation. To cook, containers have to be opened, and their contents poured out. We have to take the lids off things. Faced with the anarchic proclivities of his or her materials, the cook has to struggle to retain some semblance of control over what is going on.

An even closer parallel might be drawn with the laboratory of the alchemist. The world according to alchemy, as art historian James Elkins explains, was not one of matter that might be described according to the principles of its molecular composition, but one of *substances* which were known by what they look and feel like, and by following what happens to them as they are mixed together, heated or cooled. Alchemy, writes Elkins (2000, p.19), 'is the old science of struggling with materials, and not quite understanding what is happening'. His point is that this, too, is what painters have always done. Their knowledge was also one of substances, and these were often little different from those of the alchemical laboratory. As practitioners, the cook, the alchemist and the painter are not so much of imposing form on matter as of bringing together diverse materials and combining or redirecting their flow in the anticipation of what might emerge.

Much has been written in recent years on the relations between persons and things, guided by the thought that the material world is not passively subservient to human design. Theorists have expressed this, however, by appeal not to the vitality of materials but to the agency of objects. If persons can act on objects in their vicinity, so, it is argued, can objects 'act back', causing persons to do what they otherwise would not. The speed-bump on the road, to take a familiar example adduced by Bruno Latour (1999, p.186-90), causes the driver to slow down, its agency here substituting for that of the traffic policeman. We may stare at an object, explains Elkins (with acknowledgement to the psychoanalysis of Jacques Lacan), but the object also stares back at us, so that our vision is caught in a 'cat's cradle of crossing lines of sight' (ELKINS, 1996, p.70). And in a precise reversal of conventional subject-object relations, archaeologist Chris Gosden (2005, p.196) suggests that in many cases, it is not the mind that imposes its forms on material objects, but rather the latter that give shape to the forms of thought.

In this endless shuttling back and forth between the mind and the material world, it seems that objects can act like subjects and that subjects can be acted upon like objects. Instead of subjects and objects there are 'quasi-objects' and 'quasi-subjects', connected in relational networks. Yet paradoxically, these attempts to move beyond the modernist polarisation of subject and object remain trapped within a language of causation that is founded on the very same grammatical categories and that can conceive of action only as an *effect* set in train by an agent. At best, they lead only to contradiction and confusion. At worst, they have led theorists to make fools of themselves in ways that we would be ill-advised to emulate.

For the world we inhabit, I maintain, is not comprised of subjects and objects, or even of quasi-subjects and quasi-objects. The problem lies not so much in the *sub-* or the *ob-*, or in the dichotomy between them, as in the *-ject*. For the constituents of this world are not already thrown or cast before they can act or be acted upon. They *are* in the throwing, in the casting. The point may best be illustrated by means of a simple experiment that I have carried out with my students at the University of Aberdeen. Using fabric, matchstick bamboo, ribbon, tape, glue and twine, and working indoors on tables, we each made a kite. It

seemed that we were assembling an object. But as soon as we carried our creations outside, they leaped into action, twirling, spinning, nose-diving, and occasionally flying. How did this happen? Had some animating principle magically jumped into the kites, causing them to act most often in ways we did not intend? Were we witnessing, in their unruly behaviour, the consequences of interaction between – in each case – a person (the flyer) and an object (the kite), which can only be explained by imagining that the kite had acquired an 'agency' capable of counteracting that of the flyer?

Of course not. The kites behaved in the way they did because, at the moment we went out of doors, they were swept up, as indeed we were ourselves, in those currents of air that we call the *wind*. The kite that had lain lifeless on the table indoors, now immersed in these generative currents, had come to life. What we had thought to be an object was revealed as what I would call a *thing*. The thing about things, if you will, is that far from standing before us as a fait accompli, complete in itself, each is a 'going on' – or better, a place where several goings on become entwined. As the philosopher Martin Heidegger (1971, p.181) put it, albeit rather enigmatically, the thing presents itself 'in its thinging from out of the worlding world'. It is a particular gathering together of materials in movement.

Thus the very 'thinginess' of the kite lies in the way it gathers the wind into its fabric and, in its swooping, describes an ongoing 'line of flight' (DELEUZE; GUATTARI, 2004, p.323). On no account should this line be confused with the line connecting the kite with the flyer. For the line of flight, as Deleuze and Guattari insist, *does not connect*. It 'is not defined by the points it connects, or by the points that compose it; on the contrary, it passes between points, it comes up through the middle… A becoming is neither one nor two, nor the relation of the two; it is the in-between, the line of flight… running perpendicular to both' (2004, p.323). Like the stems of plants growing from their seeds, to return to Klee's image, such lines trace the paths of the world's becoming – its 'worlding' – rather than connecting up, in reverse, sequences of points already traversed. That is why I prefer the word 'meshwork' (INGOLD, 2007, p.80-82) to 'network' to describe what Leroi-Gourhan saw as the ensemble of movements within which skilled practice is carried on. Think of the mesh of vegetation in a for-

est, or of roots underground, each of which seeks to carry on by seeking a way through the tangle.

What goes for the kite-in-the-air, in its thinging, also goes for the flyer-on-the-ground. If the kite is not endowed with an agency that causes it to act, then neither is the human flyer. Like the kite, the human is not a being that acts – an agent – but a hive of activity, energised by the flows of materials, including the currents of air, that course through the body and, through processes of respiration and metabolism, keep it alive. Like the kite's line of flight, so the life-trajectory of the flyer follows a course orthogonal to any line we might draw connecting the kite as (quasi-) object with the flyer as (quasi-) subject. In practice, then, flyer and kite should be understood not as interacting entities, alternately playing agent to the other as patient, but as trajectories of movement, responding to one another in counterpoint, alternately as melody and refrain. In short these contrapuntal trajectories proceed in *correspondence*, like melodic lines on a musical stave.

Both flyer and kite, in this sense, are things. Indeed *persons are things too*. As a hive of activity and an entanglement of material flows, every person *is* a living organism. We have no need, then, to conjure up an additional capacity, installed within the organism, to stand in as the 'cause' of this activity, as though the activity were the effect of some internal agency. Indeed the 'problem of agency' is one that theorists have largely created for themselves, born of the attempt to re-animate a world already rendered lifeless by an exclusive focus on the 'objectness' of things. It is striking that the more theorists have to say about agency, the less they seem to have to say about life. To rewrite the life of things as the agency of objects is to effect a double reduction, of things to objects, and of life to agency. My aim is to reverse this reduction, to restore things to life, and in so doing, to celebrate the creativity of what Klee called 'form-giving'.

To achieve this aim it is necessary to overcome the tendency to which I referred in my last lecture, to read creativity *backwards*, from the novelty of outcomes to ideas in the minds of individual agents to which these outcomes are supposed to give material expression. You will recall that this attribution of the final form of a work to an initial idea or intention in the mind of a maker is what Alfred Gell called the 'abduction of agency'. Every work of art, for Gell (1998, p.13), is an 'object'

that can be 'related to a social agent in a distinctive, "art-like" way'. By 'art-like', Gell means a situation in which it is possible to trace a chain of causal connections running from the object to the agent, whereby the former may be said to index the latter. To trace these connections – to look through the work to the agency *behind* it (KNAPPETT, 2005, p.128) – is to perform the cognitive operation of abduction.

From the argument I have already set out, it should be clear why I believe this view to be fundamentally mistaken. A work of art, I insist, is not an object but a thing, and as Klee argued, the role of the artist – as that of any skilled practitioner – is not to give effect to a preconceived idea, novel or not, but to join with and follow the forces and flows of material that bring the form of the work into being. The work invites the viewer to join the artist as a fellow traveller, to look *with* it as it unfolds in the world, rather than *behind* it to an originating intention of which it is the final product.

In a dialogue with his son Yves, himself a practising artist, the novelist and critic John Berger (2005, p.124-126) observes that you cannot *be* a mountain, or a buzzard soaring in the sky, or a tree in the forest, but you can *become* one, by aligning your own movements and gestures with those of the thing that captures your attention. This is what happens, for example, in the practice of drawing, which Klee (1961, p.105) famously characterised as taking a line for a walk. Like the mountain path, the buzzard's flight or the tree root, the drawn line does not connect predetermined points in sequence but 'launches forth' from its tip, leaving a trail behind it. Where the path winds, the bird flies and the root creeps, the line follows. But following, as Deleuze and Guattari (2004, p.410) observe, 'is not at all the same thing as reproducing': whereas reproducing involves a procedure of *iteration*, following involves *itineration*.

Practitioners, as I argued in the last lecture, are itinerants, whose works are consubstantial with the trajectories of their own lives. And it is in the very forward movement of improvisation, rather that in the retrospective work of abduction, that the creativity of their practice is to be found. To improvise, write Deleuze and Guattari, (2004, p.344) is 'to join with the World, or to meld with it. One ventures from home on the thread of a tune'. Life, for Deleuze and Guattari, issues along such thread-lines. They are the 'lines of flight' that we have already

encountered in our earlier example of the kite. Along them, points are not connected so much as swept up and rendered indiscernible in the current of movement. Life, as I have already indicated, is open-ended; its impulse is not to reach a terminus but to keep on going.

Now following – aligning one's movements with the trajectories of things in the world – calls for observation. This is not, however, the distanced and disinterested contemplation of a world of objects, nor does it result in the formation of mental images or representations. To observe is not so much to see what is 'out there' as to *watch what is going on*. Its aim is not to represent the observed but to participate with it in the same generative movement, intimately coupling the movement of the observer's attention – whether visual, aural, haptic or olfactory – with currents of activity in the environment. Earlier, I referred to recent writing on persons and things which suggests that agency is not exclusive to persons but distributed in interactive networks in which objects can act like subjects, and subjects can be acted upon like objects. Is there no more in the world, then, than these subject-objects and object-subjects?

In supposing that such entities comprise *all there is*, theorists of material culture envisage a word in which the die is already cast – a world that has already precipitated out from the currents, mixtures and transmutations of substances from which they are formed. To follow the materials, however, is to enter into a world-in-formation, in which things appear not as bounded objects but as confluences of materials that have momentarily melded into recognisable forms. Far from containing the materials from which they are formed, things leak, and are only sustained because of the interchange of materials across their surfaces. It is because of these fluxes that the inhabited world is imbued with life. In shifting our focus from ready-made objects to processes of generation and dissolution, I believe we should attend not to the *materiality* of things but to *materials-becoming-things*. Whereas objects *exist*, every thing – as I have already shown – is a *going on* or, better, a place where many goings on get tangled up together. And to engage with things, I maintain, you have to join with them in the processes of their formation.

In my last lecture I referred to Yuehping Yen's work on Chinese calligraphy. One cannot observe a work of calligraphy, Yen explains, let alone understand its meaning, merely by staring at it. One

has to enter *into* it and to join with the calligrapher in his or her 'inked traces' (YEN, 2005, p.89-90). Anthropologist and craftsperson Stephanie Bunn (1999, p.26) has said much the same about understanding pattern, for example in knotwork, knitting and basketry. 'We may see the pattern in our mind's eye, but we do it, we know it, we embrace it through the movement of our bodies'. It is similar with patterning in music. On a purely intellectual level it might be possible to apprehend, say, of one of Bach's suites for unaccompanied cello as a complete, perfectly formed structure. But as a practising cellist I cannot listen to a performance without feeling the music flowing through my body, arms and fingers as though I were playing it myself. To listen is to unite the process of one's own kinaesthetic attention with a trajectory of sound.

What happens when I play? Holding the bow, I bring it into contact with the strings. But where, then, is the music? Does it lie somewhere in between me, my bow and the cello? Does it *begin* with a sound-image in my mind, and *end* in the reverberations of the instrument? Certainly not! Rather, the point of contact between bow and strings is the site from which the music pours forth. Likewise, calligraphy pours forth from the site of contact between brush and paper. The movement of making does not lie in the relation *between* one thing and another – between the mental image and the material object – but in a movement orthogonal to this relation, on the one hand of sensory awareness, and on the other of material flow. This is the movement of life itself, and it is the creativity of this movement, in the process of improvisation rather than abduction, that I have sought to recover.

The implication of this argument, however, is that we need to find a new way of thinking about the senses – one which does not repeat the mistake of art historians and theorists of the visual who have written volumes on the cultural history of vision based on the assumption that to see it to inhabit a domain of images (ELKINS, 1996; 1999). For students of the visual, seeing apparently has nothing to do with observation, with looking around in the environment or watching what is going on. Nor does it have anything to do with the experience of illumination that makes these activities possible. It rather has to do, narrowly and exclusively, with the relations between objects, images and their interpretations. Where there are no images to view, there is no vision. It is as though the eyes opened not upon the world itself, but

upon a simulacrum of the world whose objects already bear witness to the experience of sight and return that experience to us in our gaze. Cut adrift in this world of images, in which all one can ever see is itself a reflex of vision, the viewer seems blind to the world itself.

A principal claim of the anthropology of the senses, of course, is to have dethroned vision from the sovereign position it had allegedly held in the intellectual pantheon of the western world, and to highlight the contributions of other, non-visual sensory modalities, above all to the sensory formations of non-western peoples (HOWES, 2003). It is therefore ironic that in 'rediscovering' these modalities – of hearing, touch, smell and so on – anthropologists of the senses have implemented exactly the same manoeuvre as have their intellectual bedfellows in the study of visual culture. To the worlds of images conjured up by the latter, they have simply added worlds of sounds, of feelings and of smells.

A symptom of this manoeuvre is the multiplication of 'scapes' of every possible kind. If the eyes return the world to us in its visual image, conceived as landscape, then likewise the ears reveal a soundscape, the skin a touchscape, the nose a smellscape, and so on. In reality, of course, the environment that people inhabit is not sliced up along the lines of the sensory pathways by which they access it. It is the *same* world, whatever path they take. But these multiple 'scapes' do not refer to the practically and productively inhabited world. They refer to the virtual worlds conjured up by capturing the embodied, perceptual experiences of habitation and rendering them *back*, in artificially purified forms, for interpretation and consumption. This is what happens in listening to music, for example, when – instead of launching your own awareness on the current of sound – you purchase a CD and sit in a darkened room with your ears covered by earphones. Just as the viewer wrapped up in images is blind to the world, so too the listener wrapped up in recordings cannot hear.

Perhaps I could return to the example I presented in my last lecture, of learning to break eggs into a mixing bowl. As you tap the egg against the edge of the bowl, you touch, you listen and you watch what you are doing. This is a matter not of inhabiting worlds of sense, but of sensing the world (INGOLD, 2011). Yet it is precisely these modalities of practical engagement that are missing from an anthropology of the

senses that has nothing to say about how people see, hear and touch as they go about their everyday business, and everything to say about how their experiences of seeing, hearing and touching feed the imagination and infuse its discursive and literary expressions. In the very objectification of the senses, as things that one could have an anthropological study *of*, it appears that the eyes, ears and skin are no longer considered to be organs of a body that, as it makes its way in the world, attentively looks, listens and feels where it is going. On the contrary, they have become instruments of playback, capturing moments of experience and relaying them back to a reflexive consciousness for subsequent review and interpretation.

My argument is that in being alive we move forward, sensing the world, rather than back, retreating into worlds of sense that have been artificially reconstructed on the basis of prior experience. I want to argue for a forward-moving anthropology, whose temporal orientation is the same as the orientation of the lives it studies. It is to move and think *with* things, rather than *about* them, and to allow our knowledge to grow and flourish amidst the movements of the worlding world. Anthropology, then, could be the foundation for a new science of becoming.

NOTA

1 Texto da Conferência gentilmente cedido pelo autor Tim Ingold.

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Recebido: 25/10/2012
Aprovado: 20/08/2013

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