

1

AGAINST TRANSMISSION

Leaving school

For those of us raised in nominally western or modern societies, the word ‘education’ most commonly summons up memories of going to school. We went there, so we recall, to be educated: to learn to read and write, to count and calculate, and by these means to become conversant with all the branches of knowledge, from the sciences to the arts and letters, that make up the legacy of our civilisation. Of our children, we might perhaps acknowledge that their education commences even before they go to school, in those pre-school institutions, traditionally known as nurseries and kindergartens, where the seeds of future learning are planted. And we might ourselves have benefited from education even after leaving school, by attending institutions going by a variety of names – colleges, universities, polytechnics – which claim to take us either ‘further’ or ‘higher’, depending on their academic status, along the road to civility. But the school, in our usual reckoning, remains the primary site of educational formation, in relation to which pre-school is understood as preparation and post-school as fulfilment. In a democratically constituted society, it is of course the responsibility of the state to ensure adequate educational provision for its citizens, and the minister of state for education is tasked, above all, with the oversight of schools, and with the regulation of what goes on in them, including what gets taught and how.

The practice of education and the institution of the school, in short, seem joined at the hip. You cannot apparently have one without the other. What are we to say, then, of societies without schools, or where only a minority enjoy the privilege of attending them? Is it acceptable to say of persons who have not been to school that they are uneducated, and therefore uncivilised? Such persons know a great deal that we, educated folk, do not. Anthropologists have gone to great lengths to document this knowledge, to reveal its detail, sophistication and accuracy, and to uncover the

2 Against transmission

processes by which it is acquired. They have denounced, with good reason, the division of the peoples of the world into educated and uneducated, civilised and primitive. This is no more than a reflection, they say, of ethnocentric prejudice. Knowledge differs from culture to culture, as do the institutions that facilitate its passage from each generation to the next. The school is one such institution, but there are plenty of others. Is education, then, something that happens to every human being, living in society, as they pass from immaturity to maturity? Might it perhaps be listed alongside those capacities, including for language and symbolic thought, which are often considered to be the distinguishing marks of humanity? All animals learn, of course, in the sense of adjusting their ways of doing things in response to prevailing environmental conditions. It is quite another matter, however, to set up virtual scenarios in anticipation of conditions not currently prevalent but that might plausibly be encountered at some time in the future, so as to instruct novices in how to deal with them. Deliberate instruction of this kind – or what is generally known as pedagogy – may indeed be uniquely human.¹

Pedagogy is the art of teaching. There are all sorts of ways of distinguishing between teaching and learning, or of showing how the one exceeds the other, depending for example on whether the learner merely picks up habits from observations of what others do or has them deliberately demonstrated, or on whether the demonstration is framed in terms of rules or principles abstracted from contexts of application. Learning to make a flaked stone tool in the presence of a master knapper exemplifies the former; learning to navigate by means of star charts exemplifies the latter.² These distinctions, of great significance to students of comparative human and non-human behaviour, are not of immediate concern to me at this point. What does concern me is an assumption that runs through virtually all discussion of these matters, namely that education in its broadest sense is about the *transmission of information*.³ For those who hold that education takes place in schools, the school is taken to be a sequestered space in which knowledge is transmitted, in advance of its application when students take it out into the world beyond. For those who hold that education is a practice of pedagogy universal to humans, whether they attend school or not, the same logic applies. The school may not be the only kind of institution vested with a pedagogic purpose, but alternative institutional practices ranging from storytelling to ritual initiation may still be modelled on it, at least in analysis, and credited with an equivalent function. Thus they may be said to operate in a ‘school-like’ way, to transmit the legacy of custom, morality and belief that adds up to what we call a ‘culture’ to each successive generation, such that it may subsequently be expressed and enacted in the practice of everyday life.

My aim in this chapter is to argue against the idea of transmission, to show that this is not the way in which people ordinarily come to know what they do, that indeed it seriously distorts the purpose and meaning of education. This, in turn, will lay the foundation for my next chapter, in which I shall argue that education is really about attending to things, and to the world. In short, I want to prove that education is a practice of attention, not of transmission – that it is through attention that knowledge is both generated and carried on. To make the case against

transmission, I begin with the writings of John Dewey, pragmatist and philosopher, justly regarded as the pre-eminent educational theorist of the early twentieth century, whose book *Democracy and Education* was published exactly a century ago.⁴

The continuity of life

Who would have thought of opening a treatise on education with the following sentence: 'The most notable distinction between living and inanimate things is that the former maintain themselves by renewal'?⁵ Dewey's point of departure is not the school, nor the people, nor even humanity. Rather than starting from the idea of education as schooling and then extending out to wider domains of human and even non-human culture, Dewey proceeds in quite the opposite direction. To understand what education is about, he says, the first thing to which we have to attend is the nature of life. We have to understand how plants and animals differ from stones. The stone, beaten by the elements, wears away or even breaks apart. But living things, quite to the contrary, take in the elemental energies and substances – light, moisture and earth – and turn them into a force for their own growth and self-renewal. Yet they cannot keep this up indefinitely, nor can they proceed in isolation. Every life is tasked with bringing other lives into being and with sustaining them for however long it takes for the latter, in turn, to engender further life. The continuity of the life process is therefore not individual but social. And education in its broadest sense, according to Dewey, is 'the means of this social continuity of life'.⁶ Wherever and whenever life is going on, so too is education. It is going on, more narrowly, in spheres of *human* life and in the latter, most particularly, in the *school*.

Yet the school, far from realising the educational imperative in its purest form, is but one of many means for securing social continuity, and a relatively superficial one at that, prone to the distortion that comes from isolating the informational content of knowledge from the life-experience through which, and only through which, it can take on any kind of meaning. Indeed education in the sense Dewey intended is more likely to be going on beyond the school than within its walls. What is truly essential to education, for Dewey, is not formal pedagogy, mediated through such specialised cognitive instruments as language and symbolic representation, but *transmission* and *communication*. These are not just means that make it possible for social life to go on; they are of the essence of social life itself. 'Society', says Dewey, 'not only continues to exist *by* transmission, *by* communication, but it may fairly be said to exist *in* transmission, *in* communication'.⁷ Now at first glance, this assertion seems to fly in the face of my own ambition for this chapter, which is precisely to argue *against* the idea of education as a process of transmission, and by implication of communication. I aim to show that transmission is the death of education, and that it takes the very heart out of social life. How, then, can I possibly adduce Dewey in my support? To answer this question, we need to take a closer look at the meanings of these key terms, communication and transmission. For the senses in which Dewey employs them are not at all the same as those in common

4 Against transmission

use today, inflected as they have been by the revolutions in informatics and communications technology that dominated the second half of the twentieth century.

Let me start with ‘communication’. For most of us today, this has to do with conveying information, or sending messages. I have something to impart: I encode it in some physical form that allows it to be conveyed to you with minimal distortion; you receive the package and decode the contents. Ideally, you should then end up in possession of exactly the same information as I began with. You may, in return, send something back; we could then speak of communication as the *exchange* of information. But this is not how Dewey understands the term. Noting the affinity between the words, ‘communication’, ‘community’ and ‘common’, he is interested in how people with different experiences of life can reach an accord – a degree of like-mindedness that allows them to carry on their lives together.⁸ Perhaps, following medieval precedent, one could turn ‘common’ into a verb; to communicate would then be ‘to common’.⁹ In contexts of education, this commoning is above all an achievement of persons of different generations. Its educative power, furthermore, lies in the fact that information does *not* pass from head to head without distortion. For if I am to share my experience with you, it is not enough to package and send it as it is. You might receive the package, but will be none the wiser for it. For sharing to be educative, I have to make an imaginative effort to cast my experience in ways that can join with yours, so that we can – in a sense – travel the same paths and, in so doing, make meaning together.¹⁰ It is not that you end with a piece of knowledge implanted in your mind that once had belonged only to me; rather we come into a concordance that is new to both of us. Education is transformative.

Commoning and variation

Now what education is to the continuity of life, in Dewey’s usage, communication is to transmission. The one is the means to the other. Though Dewey takes less care to define ‘transmission’ than he does ‘communication’, it is clear that the one thing he does *not* mean by the term is what it is conventionally taken to mean nowadays, namely the conveyance, from one generation to the next, of a corpus of instructions and representations for the conduct of a form of life. Transmission is possible, Dewey argues, because lives overlap, because as some grow older and eventually die, others are already born and growing up. It is through participation in each other’s lives – through the ongoing and unrelenting efforts of young and old, immature and mature, to reach a concordance of sorts – that education proceeds and the knowledge, values, beliefs and practices of a society are perpetuated. Indeed Dewey is insistent that only if there is participation on both sides can education be carried on. Senior and junior parties must share a stake in the outcome. If they do not, then what we have is not education but what Dewey calls ‘training’. You can train a domestic animal to behave in the way you want by rewarding it, for example, with morsels of food. But so long as the animal’s interest is in the food, not in the service rendered to its master, then this does not amount to education. All too often, Dewey laments, the young of our own kind are similarly treated, the child ‘trained

like an animal rather than educated like a human being'.¹¹ Insofar as such training moulds the raw material of immature humans to a pre-existent design, while it might replicate the design, it serves no educational purpose whatsoever.

This is the moment to introduce a third term which, alongside communication and transmission, plays a key role in Dewey's philosophy of education. This is 'environment'. As communication is the commoning of life and transmission its perpetuation, so environment is its variation. That is to say, it is not simply what surrounds the individual, or the sum total of encompassing conditions. What makes an environment is the way in which these conditions are drawn, over time, into a pattern of conjoint activity. Imagine an astronomer, gazing at the stars. For him the stars, however remote, are part of the environment – they are of *concern* to him. And being of concern, they cause him to vary as his gaze wanders from star to star. Reasoning from this example, Dewey concludes that 'the things with which a man varies are his genuine environment'.¹² They go along with him, and vary as he does, in accordance with his inclinations and dispositions. One way of putting this is in terms of question and answer. The stars question the astronomer, they arouse his curiosity, and he is moved to respond. This response is not just a reaction, as if to a disturbance of vision that irrupts into consciousness, but an answering that prolongs the astronomer's own tendency, which lies in the desire to know them better. We might say, as indeed Dewey does, that the astronomer *corresponds* with the stars. The promise of education lies in the capacity to respond and to be responded to: without such 'response ability', as we might call it, education would be impossible.¹³ The idea of response ability is key to my argument in this book, and is one to which I shall return. For the present, I would like to conclude this section by establishing the link between communication as commoning and environment as variation.

The point I want to emphasise is that there is no contradiction, as might appear at first glance, between these two terms. Rather, commoning and variation are co-dependent. On the one hand, there can be no movement, growth or life in the sharing of experience unless there is variation in what each participant brings into it. The achievement of commonality is not the discovery of what individuals have in common to begin with: it is a continual creation, not a regress to an origin. In the absence of variation, the only difference could be between those with more endowments and those with less, and education – as a direct transfer of knowledge and values from the former to the latter – would be reduced to training. As Dewey is at pains to stress, immaturity is not a lack, it is a specific power of growth, and the purpose of education is not to fill a void in the mind of the child so as to raise it to the level of the adult, but to bring young and old together in order that social life should carry on. Even as the young grow old, in sharing in the wisdom born of long experience, so the old grow young in sharing the sympathetic curiosity, sensitivity and openness of mind of their juniors.¹⁴ There is no end to it: growth can only be a means to further growth as is life to further life. On the other hand, there can be no variation without co-participation in a shared social environment. It is in the correspondence with others – in answering to them, not in the receipt of what is handed down – that each of us comes into our own as a person with a

6 Against transmission

singular and recognisable voice. Whereas training suppresses difference, or admits it only on the margins as idiosyncrasy, education fosters difference as the very fount of personhood.

To sum up: commoning and variation depend on one another, and both are necessary for the continuity of life. The educational community is held together through variation, not by similarity. It is a community – not just a living together but literally a *giving* together (from *com-*, ‘together’, plus *-munus*, ‘gift’) – in which everyone has something to give precisely because they have nothing in common, and in which generous co-existence overcomes the essentialist regression to a primordial identity.¹⁵ ‘Having in common’ – like humanity itself – is not a baseline but an aspiration; not given from the start but a task that calls for communal effort. This effort demands of everyone, young and old, that they open up to others, each contributing, in his or her own actions, to the conditions of common life from which further variation arises. Thus do the people of each generation play their part in establishing the environmental conditions under which their successors are raised and grow to maturity. And Dewey’s conclusion, on these grounds, is that education cannot take place by ‘direct conveyance’ but only indirectly, ‘through the intermediary of the environment’.¹⁶ But in the age of informatics, it is precisely to direct conveyance, and *not* to the continuity of life-in-an-environment, that the concept of transmission has come to refer. That is why, in the name of Dewey, I now take up arms against it.

The genealogical model

Consider the relation between parent and child. The former may be mother or father; the latter a son or daughter. In anthropological parlance, the technical term for the relation, irrespective of gender, is *filiation*. How, then, should we describe it? On the kinship charts of anthropologists, it has long been conventional to depict filiation as a vertical line connecting two diamond-shaped icons. The icons stand for persons, their diamond shape signifying that they may be male or female. But what is the significance of the line? It only takes a second glance to realise that this apparently innocent depiction is bristling with hidden assumptions. The first is that in the relation of filiation, the lives of parent and child are not joined but kept well apart. They are separated from the outset, and ever remain so, no more, no less. Far from reaching out or responding to one another, they remain confined to their respective places, each inside their particular icon. Ageing neither removes the parent further from the child, nor brings her closer; growth and maturation bring the child no closer to the parent. In the second place the line is not, therefore, a line of life. Whatever it conducts is not life itself but a set of endowments, properties or instructions for living it. And third, since the line is there from the off, and does not grow or extend over time, these attributes must be endowed independently and in advance of the child’s growth and development in the world. According to the chart, in short, filiation is direct, and wholly unmediated by environmental experience. And the line? It is, of course, a line of transmission. Along such lines,

individuals come into immediate possession of attributes (properties, endowments, characteristics) that already exist, prior to putting them into play in the business of life. Or in a word, they *inherit*.

Evidently the kinship chart applies a determinate logic. It is the logic of what I have called the *genealogical model*, the defining assumption of which is that individuals are specified in their essential constitution, independently and in advance of their life in the world, through the bestowal of attributes from ancestors.¹⁷ To forestall any possible misunderstanding, I do not for one moment mean to suggest that the many peoples around the world who like to record and recite their genealogies have resort to this logic.¹⁸ Far from it! In the stories they tell of their illustrious ancestors, of begetting and being begotten, every generation leans over and touches the next, like fibres that – aligned longitudinally – secure the continuity of the whole rope that reaches from past to present.¹⁹ These are life stories. The genealogical model, by contrast, is an artefact of formal anthropological analysis, the origination of which is often credited to one of anthropology's own more illustrious ancestors, W. H. R. Rivers. Indeed the method that Rivers proposed, in the early decades of the twentieth century, for the rigorous collection and analysis of genealogical data remains in common use today.²⁰ However the model is by no means exclusive to anthropology, and it could be that Rivers's achievement was more strictly to have customised, for the study of human kinship, a way of thinking that was already well established, at least across the sciences of biology and psychology. It is true that in recent anthropology the model has been subjected to sustained critique, partly in the light of the insistence – among those with whom anthropologists have worked – that relations of kinship are not predetermined by genetic connection but forged as people live together, often under one roof, and contribute materially and experientially to each other's formation.²¹ In biology and psychology, however, the genealogical model remains alive and well, and for the most part unquestioned.

In biology, the model underwrites the twin distinctions between genotype and phenotype, and between phylogeny and ontogeny. Whereas the genotype is supposed to furnish a formal design specification of the organism-to-be, given at the point of conception and coded in the genome, the phenotype is the manifest form that arises from the organism's growth and maturation in a specific environment. A fundamental premise of the model, originally enunciated by August Weismann at the close of the nineteenth century (though in terms that predated the language of modern genetics), is that only the elements of the genotype, and not those of the phenotype, can be passed across generations in an ancestor-descendant sequence. Thus the expression of these elements is confined within each generation to the life cycle of the individual. It follows that just as filiation is orthogonal to growth and maturation in the anthropology of persons, so descent is orthogonal to life, or phylogeny to ontogeny, in the biology of organisms. 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, specifying the patterns of cultural life, is copied across from tutor to novice, the second to novices' repeated

8 Against transmission

attempts to apply already copied information within particular environmental contexts of action. Indeed, so perfect is the logical compatibility between biological and psychological versions of the genealogical model that scholars have been quick to propose synthetic theories of biocultural evolution according to which genetic and cultural information passes down parallel tracks. Every individual is said to inherit two sets of specifications, one established through genetic replication, the other through the replication – by way of observation and imitation – of analogous units of culture, which are together brought to bear in subsequent interaction with the environment.²²

The fixation in these theories on the concept of inheritance is the surest indication that the genealogical model is at work. The model is however disabled by a fallacy that lies at its very core. Succinctly expressed by the philosopher of biology Susan Oyama, it is that information must be presumed to ‘pre-exist the processes that give rise to it’.²³ The fallacy is as disabling for the idea of genetic transmission as it is for its cultural analogue. I begin with the former, before turning to the latter, with which I am principally concerned.

Undoing the circle

The genome of an organism, present in every cell of the body, is made up of long lengths of deoxyribonucleic acid (DNA) which have the singular property, within the chemical matrix of the cell, of turning out copies with identical sequences of acidic bases. This property, remarkable in itself, is not however so remarkable as to warrant the conclusion that the DNA sequence already encodes a character specification for the organism. The replication of the molecule is one thing, the reproduction of the organism quite another, and a link between them can only be established by way of the process of ontogenetic development – that is of the organism’s growth and maturation within a specific environment. The idea of the ‘genetic trait’ is therefore a contradiction in terms insofar as it attributes, to what is copied at the inauguration of the life-cycle, properties that only emerge in the course of development. In the genotype, conceived (in contradistinction to the molecular genome) as a complex of traits, the organism appears to be completed even before it is begun, its life-cycle collapsed into an iconic point – precisely as in the kinship charts of anthropologists. Indeed the genotype, in truth, is no more than a formal, context-independent description of the organism, shorn of environmentally induced variation. As such, it exists nowhere save in the imagination of the observing biologist who, having installed it at the heart of the organism as a programme or blueprint for subsequent development – that is, as a *bio-logos* – sees the organism’s unfolding life merely as a transcription, under specific environmental conditions, of what has been inscribed at the start.²⁴

The circularity of this reasoning needs no further comment. I draw attention to it only because an equivalent circularity arises whenever the genealogical model is applied, by analogy, to learned tradition. For the copying of genetic traits, the model substitutes the copying of analogous traits of culture. And what replication does for

genes, imitation is said to do for culture. Whether unique to humans or not, cultural inheritance is supposed to rest on an instinct to imitate, which automatically causes overt behaviour, witnessed by the observant neophyte, to be imprinted in the neophyte's mind as a covert schema for its replication. However, this appeal to the imitative instinct, as Dewey pointed out a century ago, mistakes the like-mindedness that results from living together for a psychological force that produces it. It is, he caustically observed, to put the cart before the horse: 'it takes an effect for the cause of the effect'.²⁵ Quite so! Indeed the idea of the 'cultural trait' is as much a contradiction in terms as its genetic counterpart, and for the same reason: it begins where it ends. What is sometimes called the 'culture-type', by analogy with the genotype, installs at the outset – as a complex of traits – habits or dispositions that can only arise through conjoint practice and experience in an environment.²⁶ Like the genotype, the culture-type is a descriptive formalisation of observed behaviour which the analyst imagines to be copied *in* to the minds of the individuals of a culture only to find that it is copied *out* in their subsequent (and consequent) behaviour. That the learning entailed in copying should be called 'social', although it is alleged to precede the recipient's entry into the theatre of social life, and that the learning which follows should be called 'individual' even though it is performed with others in this very theatre, only highlights the confusion. Theorists of cultural inheritance, it seems, have contrived to compress everything social into the heads of individuals, leaving the environment bereft of any social relationality whatever and invoked for no other reason than that individuals should have something tangible to interact with.

All this is not, of course, to deny that imitation or copying goes on among human beings, and possibly among animals of other kinds, or that it is necessary to secure intergenerational continuity. But it does not so much precede environmentally situated practice as proceed by way of it. As Dewey puts it, imitation is 'a misleading name for partaking with others in a use of things which leads to consequences of common interest'.²⁷ The problem, then, is how to transform experience in such a way that it can join in the production of commonality. How can 'the young assimilate the point of view of the old', Dewey asks, or 'the older bring the young into like-mindedness with themselves?' His answer, in its most general formulation, is 'by means of the action of the environment in calling out certain responses'. As the environment undergoes continuous variation, so the person varies in answer to it, and vice versa. The old, in their manner or comportment, vary with the young; the young, in their endeavours to reproduce what they observe, vary with the old. Or in short, what we are inclined to call imitation is really a modality of correspondence. But if that is so, then by the same token it cannot be understood as a modality of transmission – not, at least, in the sense of transmission implied by the genealogical model. It is simply impossible, Dewey insists, for the beliefs and attitudes that a social group cultivates in its immature members to be 'hammered in' or 'plastered on'; they cannot be 'physically extracted and inserted', and they cannot spread by 'direct contagion' or 'literal inculcation'. You might be able to do such things with material entities like nails, teeth and germs, but not with ideas whose very formation depends on experience.²⁸

Whatever the force of Dewey's strictures, they appear to have had little impact on mainstream psychology, whose practitioners continue to think that elements of mental content such as beliefs and attitudes can be extracted and inserted in just the way that he so strenuously sought to refute, and have devoted much effort to the discovery of built-in cognitive mechanisms that would bring about this miraculous feat. Some psychologists, together with a handful of anthropological camp-followers, and rather more from biology, have even taken to calling these mental elements 'memes'. Just as genes inhabit the body and control its ontogenetic development, so memes – they claim – inhabit the mind and control the carrier's thought and behaviour. This is not, in fact, a new idea. Though popularised in the last decades by biologist Richard Dawkins and his acolytes, it has been present in the literature for a century or more, its longevity matched only by its proponents' unwavering conviction that it stands at the cutting edge of science.²⁹ Indeed it is hard to resist the conclusion, to which I shall return below, that the idea of memetic transmission is itself an inverted image of scientific rationality, as reflected in the mirror of culture. Perhaps that is why it has proved so tenacious, for so long.

How to follow a recipe

One recent anthropological advocate of the idea is Dan Sperber, though he calls the transmitted elements 'representations' in preference to 'memes'.³⁰ According to Sperber, representations are directly contagious: they can spread through a population like an epidemic, infecting minds primed by heredity to receive them and causing their hosts to behave in ways conducive to their further propagation – much as having caught a cold, you are inclined to sneeze. Thus the air is thick with information-bearing particles, which are picked up, spread about and replicated as we go about our everyday business. Among these particles – to cite one of Sperber's favourite examples – would formerly have been spoken sounds that encode instructions for the preparation of Mornay sauce. These sounds, once part of an oral culinary tradition, have nowadays been largely displaced by ink patterns visible on the pages of recipe books. Either way, the aspiring cook has only to decode the sounds or the patterns to receive the instructions, now implanted as representations in her mind. And to prepare the sauce, all she needs do is to convert these instructions into bodily behaviour, though the precise way in which this is done may of course depend on specific features of her kitchen.³¹

There is however a catch in this story, which lies in the conditions of encoding and decoding. If sounds or ink patterns are to serve as vectors for the transmission of instructions, and if these instructions are to be received in their entirety in advance of any actual cookery – for how else could they be 'converted into behaviour'? – then we must have some way of putting meaning into sounds and patterns, and of reading meaning from them, which is independent of any context of action. To restate the issue in more general terms: there can be no direct transmission of information from one context of enactment to another without rules of encoding and decoding that are themselves context-independent. The meanings

of spoken or written words, or of any other symbols that might be used (such as numeric or geometric), must be given in advance. Once again, Dewey was already onto the problem long before his successors were even aware of it. Our familiarity with both spoken and written language, he notes, is such that we are easily deceived into thinking that knowledge can be inserted directly into the mind of another: 'it almost seems as if all we have to do ... is to convey a sound into his ear'.³² Merely whisper the words 'melt the butter in a pan and stir in the flour' and a Mornay sauce will magically materialise! But there is, as Dewey tells us, far more to it than that.

Assuming for a start that I speak your language (and thus putting in brackets the wealth of childhood experience by which we have come into possession of our mother tongue), I can follow what you say only because it corresponds to my experience, as it does to yours, 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. The verbal instructions of the recipe, in other words, draw their meanings neither from their attachment to mental representations inside my head, nor from their attachment to those inside yours, but from their positioning within the familiar environment of the home.³³ True, had I read the words in a recipe book rather than had them in my ear, I might never have met the author; indeed we may have lived far apart in space and time. But as Dewey observes, physical proximity does not in itself create community: 'a book or a letter may institute a more intimate association between human beings separated thousands of miles from each other than exists between dwellers under the same roof'.³⁴ What matters is that we have experience to share. And this was Dewey's point. Neither verbal sounds nor the graphic marks of writing, he insisted, come with their meanings already attached; rather they gather their meanings, in the same way that things do, from their enrolment in the shared experience of joint activity. Agreement on the meanings of words is an achievement of commoning: we have continually to work at it, and for that reason it is always provisional, never final.

The experience that you and I share, or that I share with the author of the recipe book, is of travelling through a field of associated tasks. Elsewhere I have coined the term 'taskscape' to refer to this field.³⁵ Like signposts in a landscape, the instructions in the book provide specific indications for practitioners as they make their way around the taskscape, each instruction strategically located at a point which the author, looking back on previous experience of preparing the dish in question, considered to be a critical juncture in the total process. Between these points, the cook is expected to be able to find his or her way, attentively and responsively, but without further recourse to explicit rules of procedure – or in a word, skilfully. In itself, then, the recipe is not knowledge. Rather, it opens up a path to knowledge, thanks to its location within a taskscape 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 in skill. Just as my knowledge of the landscape is gained by walking through it, following various signposted routes, so

12 Against transmission

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.³⁶

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’. And everything I have said about recipes applies to stories too. Anthropologists have been right to draw attention to the educative functions of storytelling, the world over. But they have been wrong to conclude that stories are therefore vectors for the coded transmission of information that, once deciphered, would reveal a comprehensive system of knowledge, beliefs and values.³⁷ Far from coming with their meanings already attached, the significance of stories – just like the significance of instructions in the recipe book – is something that listeners have to find for themselves, by drawing them into correspondence with their own experience and life histories.³⁸ Stories overlap, with each telling leaning over and touching the next. So too do the lives of which they tell. That’s the way they carry on. It is worth recalling, here, my earlier distinction between the genealogical model and the recitation of genealogies. One gives us a connected sequence of ancestors and descendants, in which every link between parent and child is a line of transmission. But the other gives us a correspondence of lives – now overlapping, now overtaken – commoning and varying as they go. As experienced rather than modelled, filiation is not a link in a chain but a ‘growing older together’ that continues until the parental life is cast off, by which time the child will have founded other lives with which to correspond.³⁹

Reason and inheritance

In view of all the objections that have been raised against the notion of education as transmission or ‘direct conveyance’, and not only in the writings of Dewey, its obstinate persistence calls for some explanation. Dewey himself wondered why, despite widespread condemnation of the ideas of teaching as a kind of decanting, and of learning as passive absorption, they had nevertheless remained so entrenched in practice. For him it was a source of considerable frustration.⁴⁰ A century later, not much has changed. At school, students are still expected to follow a curriculum which has been laid down in advance, and to progress through measurable stages from initiation to completion. It seems as if some inexorable logic drives us to impose an ever more constrained and finite regime of pedagogic training, at the same time that we exalt the value of education as the royal road to rational enlightenment. I am reminded of the piano lessons I had to endure as a child. Through a mixture of threats and incentives, which had nothing to do with music, I was cajoled into practising scales and arpeggios. Devoid of melodic interest, they were to be played evenly and without expression. Only through undergoing such mechanically determined motions, I was told, could I have any hope of eventually achieving the virtuosity and expressive freedom exemplified by masters of the

instrument. Needless to say, I abandoned this regime as soon as I could, and have derived much musical enjoyment from my uneven but nevertheless variable playing ever since. The contradictory appeal to freedom and determinism, here as in so many other fields of endeavour, flies in the face of Dewey's call for an education dedicated to the growth of persons in community. Could it be that the very ideal of enlightenment is what keeps the transmission model alive? The history of anthropology provides a clue to the answer.

To say that anthropology has long had a problem with the concept of culture would be an understatement. The problem lies in the fact that the very same word with which, among our own kind, we exalt the refinement of taste and manners is also routinely applied to the heritage of other, unlettered folk whose thought and conduct is supposed to follow the dictates of tradition.⁴¹ Historically, anthropology has lurched from one extreme to the other, from the celebrated definition of 'Culture or Civilisation' with which Edward Burnett Tylor opened his *Primitive Culture* of 1871, encompassing everything 'acquired by man as a member of society', to Robert Lowie's ostensible borrowing of the same definition in his *History of Ethnological Theory* of 1937, where culture nevertheless became 'the sum total of what an individual acquires from his society ... not by his own creative efforts but as a legacy from the past'.⁴² For Tylor, Culture (always in the singular and with a capital 'C') was the great civilisational process by which humanity had progressively lifted itself up, to different degrees among different nations, from rude superstition to reason and enlightenment. Lowie, on the contrary, saw in culture an almost haphazard diversity of habitual ways of living and thinking, effortlessly absorbed by its myriad carriers. For the entirety of human culture, which Tylor had called a 'complex whole', Lowie famously substituted a 'planless hodgepodge'.⁴³ The difference between their respective definitions hinged on what it means to say that culture is 'acquired'. Tylor's 'man in society', in pursuing his own advancement, actively acquires knowledge through intellectual inquiry. Lowie's 'individual', on the other hand, effortlessly soaks up whatever he is exposed to, acquiring his culture as an already completed inheritance. Arguably, however, it was the very project of Culture that precipitated the perceived inertia of cultural tradition. 'Man in society', having reached the summit and surveying the landscape of humanity from his Olympian heights, sees only the 'hodgepodge' beneath, of individuals caught in their diverse ways, trapped by the legacies of the past and lacking the creative energy to break out. We *have* Culture and they do not because they are *had by* culture and we are not.

Today we see this same duplicity in debates over 'science' and 'traditional knowledge'. Thanks to the combined efforts of anthropologists and their consultants, it is now widely recognised that people who still inhabit the land and draw a living from it, yet who may have benefited little from 'western' education, know their environments in ways that are extensive, detailed and precise. Their knowledge grows and is grown in the correspondence not only of successive generations but also with animals, plants and the land. Even scientists, who had formerly dismissed the knowledge of inhabitants as too subjective, qualitative and anecdotal to be of

value, have finally woken up to its potential significance. But what science still finds hard to grasp is the nature of this knowledge. For the project of science, conceived as the acquisition of knowledge through empirical inquiry and rational analysis, precipitates its opposite, namely knowledge that appeals to neither fact nor reason, but to the legacy of tradition. The result is that ways of knowing which are nothing if not dynamic and open-ended come to be recast in the scientific imagination as fixed formulae, handed down without question and with the authority of time immemorial. The people themselves, though it is conceded that they know, are not expected to know that they know. Nor do they realise how, unbeknownst to them – through countless generations of miscopying-in-transmission, accidents of recombination, and a sifting of alternatives depending on which are most successful in getting their carriers to behave in ways conducive to their further propagation – their knowledge has come to be so well adapted to life in the environments they inhabit. Culture adapts, declare the scientists (as though it were some great discovery rather than a reflection of their own reason), in ways analogous to adaptation by variation under natural selection in the organic domain! But the adaptive functions of so-called traditional knowledge, and the selective forces that have shaped it, are – according to this narrative – evident only to the scientists who framed it in the first place, not to the people who are apparently destined to expend their lives in its enactment.⁴⁴

Traditional knowledge, in short, is an artefact of scientific reason, precipitated by science's own claim to have transcended it. Assimilated to the culture-type, it belongs to a rationalisation of behaviour precisely analogous to the equivalent genotypic rationalisation of organic design. Both genotype and culture-type, as we have already seen, are thrown up by the genealogical model, which substitutes for growth and development the binary of reason and inheritance. On one side of the binary are scientists and other people *of* Culture; on the other side are the custodians of traditional knowledge, people *in* culture. And if the latter, not knowing what they know, are to cross the Rubicon from tradition to reason, then paradoxically, they need science to re-educate them in their own knowledge, to explain it back to them in formal terms, so that they can see how it might be used as an instrument of rational management and in order to free them from the shackles of the past. The paradox is not however confined to the peculiar dialogue of science and traditional knowledge. It is found, too, in contemporary discourses of education, where the same Rubicon divides the naivety of childhood from adult intelligence. We are convinced that children should be educated in order that they can cross from one condition to the other. To this end, the world they know from experience has to be returned to them in rationalised form, as a system of rules and principles, or what once were called *rudiments*. Drained of environmental variation, these rudiments are conveyed to students as if they mapped an already known continent, serving as a territorial foundation for their own ascent to reason. The world, we suppose, has to be explained to those who will inherit from us in order that they might free themselves from its determinations, yet in the very project of explication we cast them – whether they be native dwellers or children – as beings of inferior

intelligence to our own, beings who must perforce rely on what has been transmitted to them since they are as yet incapable of working things out for themselves.⁴⁵ Far from overcoming the presumed inequality of intelligence, the logic of reason and inheritance reproduces it.

Back to school

Human culture, in the pedagogic imagination, is an immense pyramid. At its tip is the voice of reason, singular and resplendent. With its claim to universality, reason is indifferent to variations in the experience of those who speak in its name. Transcending experience, it speaks with one voice and one alone, and all who speak with it are therefore interchangeable.⁴⁶ At the base of the pyramid, swarms of assorted memes jostle for hosts into whose mouths they will put their proverbial utterances, and into whose hands they will place their prescribed designs. These hosts, too, lack any voice they can call their own. They are but vectors, fated to broadcast the memes with which they have been infected – and anyone infected with the same meme will say the same thing. They speak not for themselves but for culture. The world according to pedagogy, in short, is a theatre of marionettes: above, reason, the master puppeteer, pulls the strings; below, a motley cast of characters, assembled from the elements of transmitted tradition, are compelled to dance to its tune. ‘Reason’, as philosopher Michel Serres wryly observes, ‘never discovers, beneath its feet, anything but its own rule’.⁴⁷

Consider for example the theorem of Pythagoras, that the square on the hypotenuse is equal to the sum of the squares on the opposite two sides. That it is associated with the name of Pythagoras is by the way, for in pedagogy the name no longer refers to the real historical character, shrouded in the mists of time, but has instead come to stand for the quintessence of abstract mathematical reason, to which the theorem is an eternal monument. And for this purpose, in principle, any name would do. But what are we to make of the ‘hypotenuse’? How often do any of us use the term in everyday life? Indeed for most of us, Pythagoras’s theorem is just one of those things we have learned to recite at school. It is a formula for transmission, not a demonstration of reason, and in receiving it as such, and replicating it on demand, we are merely confirmed in the impression we have of ourselves as beings of inferior intelligence, at least in comparison to mathematicians. That it includes such an esoteric word as hypotenuse – a word seldom heard today outside of the closed circle of the theorem and its recitation – merely serves to confirm its remoteness from experience. The theorem seems to exist, in Dewey’s words, ‘in a world by itself, unassimilated to ordinary customs of thought and expression’.⁴⁸

Dewey, you will recall, thought we should commence our comprehension of what education is all about not from school but from life. The problem with school education, in his estimation, was that it has a way of isolating what is taught from the crucible of lived experience in which real knowledge is generated. The result is a tendency to reduce knowledge to information, conveyed by means of verbal and other symbolic forms the meanings of which are lost upon those who have

no opportunity to participate in the practices that may, in past times and remote places, have originally given rise to them. Hypotenuse might have been part of the everyday vernacular for ancient Greek builders, but it is no longer so for today's schoolchildren. There is a standing danger, Dewey warned, that as schools become increasingly dedicated to the transmission of information in this isolated form, what is taught and learned in them will be split apart from everyday life, leading to a bifurcation between technical excellence and ordinary knowledge by which the landscape of education will cease to be one of continuous variation, giving way instead to spikes of expertise, sticking up from a homogeneous and isotropic base of common sense.⁴⁹ Surveying the scene a century after Dewey was writing, it is evident that his prophecy has been catastrophically fulfilled.

It would be wrong however to go to the other extreme, and wish for a society without schools. Perhaps we are trapped in a vicious circle: perhaps we need schools only because we have them, and because we have built a society founded upon the qualifications that they alone can provide. But it is a circle from which we are no more able to break out than we can take ourselves back to an imagined past when everything anyone needed to know could be learned through participation in the life of the community. Whether this was ever so is moot; but it is certainly no longer so today. The world we presently inhabit is so complex, and places such diverse demands on its inhabitants, that some such institution is indispensable. Moreover if formal schooling is available and necessary for some, it must be so for all, lest those who do not benefit are left at a permanent disadvantage, unable to enjoy the life-chances of their school-educated contemporaries. The question, as Dewey made very clear, is not one of how to eliminate the school but of how to strike the right balance between formal and informal modes of education.⁵⁰ And there was no doubt in his mind, and in ours today, that the balance has tipped disastrously onto the side of formal schooling.

One consequence of this imbalance is the tendency to think of education exclusively in the language of pedagogy, and to seek its preconditions in capacities of symbolisation often considered unique to humans. This is what predisposes anthropologists, working in societies without schools, to look for education in the transmission of symbolically encoded information, for example in contexts of storytelling. Initially in the possession of seniors, it is supposed that information is progressively released to juniors whose mental capacities are innately primed to receive it. Thus the original difference between juniors and seniors is gradually erased as the former are 'topped up' to the level of the latter, only for the process to be repeated in the next generation. But if that were so – if the only possible inter-generational difference were between degrees of inheritance, or between knowing more or less of a pre-existing repertoire – then social life itself would be stultified. Cut off from the very source of its nourishment, it would be stuck in a groove of ever-repeating cycles from which only accidental errors of transmission could offer hope of escape. Yet despite their stultifying effect, the metaphors of transmission and inheritance have continued to monopolise our thinking, not just in anthropology but across the entire spectrum of the human sciences. Far from respecting difference, these

metaphors cast it as varying degrees of ignorance, or of mistaken or irrational belief, vis-à-vis the omniscience of scientific reason that would put a stop to the process of commoning and eradicate all difference, if only it had the power to do so.

In this chapter I have argued, with Dewey, against the counterposition of reason and inheritance that underwrites the dominant model of pedagogy. This model, in effect, drives a wedge between ways of knowing and the knowledges they convey. Who knows is one thing; the content of what is known is another. Pedagogy, then, enacts its own method, which can in principle be specified independently of both the who and the what of education. It is tantamount to a method of transmission, judged in terms of its efficiency not in growing persons or their knowledges but in transcribing pre-existent content from head to head. It is my contention, to the contrary, that the first place to find education is not in pedagogy but in participatory practice: not in the ways persons and things are symbolically represented in their absence, but in the ways they are made present, and above all answerable to one another, in the correspondences of social life. Knowledge grows along lines of correspondence: in commoning, wherein they join; and in variation, wherein each comes into its own. Every way of knowing, then, is a distinct life-line, a biographical trajectory. It follows that becoming knowledgeable is part and parcel of becoming the person you are. This is what brings it about that when you think, it is with *your* mind and no one else's; that when you speak it is with *your* voice; that when you write it is with *your* hand. Democratic education, in short, is the production not of anonymity but of difference. It is not what makes us human, for as creatures born of man and woman we are all human to begin with. It is what allows us humans collectively to make ourselves, each in his or her way. It is a process not of becoming human but of *human becoming*. And as I shall show in the next chapter, this means that we should cease regarding education as a method of transmission, and think of it rather as a practice of attention.

Notes

- 1 David and Ann James Premack (1994) make a strong case for confining pedagogy in the strict sense to human beings. But the matter remains contentious, with some authors claiming to have observed teaching among chimpanzees (Boesch 1991), and others finding it even more widely distributed in the animal kingdom (Caro and Hauser 1992). Much hinges on finer points of definition, as between emulation, imitation and teaching proper (Boesch and Tomasello 1998, Boesch 2003). For a recent review, see Gärdenfors and Högberg (2017).
- 2 On learning to make stone tools, see Stout (2005); on learning to navigate by star charts, see Lewis (1975) and Turnbull (1991).
- 3 See, for example, the essays in Bloch (2005). For a critique, see Ingold (2001).
- 4 Dewey (1966). The book was first published in 1916.
- 5 Dewey (1966: 1).
- 6 Dewey (1966: 2).
- 7 Dewey (1966: 4), emphases in the original.
- 8 Dewey (1966: 4). The key point, as educational theorist Gert Biesta observes in commenting on Dewey's text, is that common understanding is *not* a condition for participation: 'It is not that we first need to come to a common understanding and only then

18 Against transmission

begin to coordinate our actions. For Dewey it is precisely the other way around: common understanding is produced by, is the outcome of successful cooperation in action' (Biesta 2013: 30).

- 9 The Canadian writer and activist Heather Menzies speaks of commoning in just this sense, as 'a way of doing and organizing things as implicated participants ... *immersed in the here and now of living habitat*' (Menzies 2014: 122–123, original emphasis). See also Bollier and Helfrich (2015), who entitle their collection *Patterns of Commoning*.
- 10 'The experience', as Dewey put it, 'has to be formulated in order to be communicated. To formulate requires ... considering what points of contact it has with the life of another so that it may be got into such a form that he can appreciate its meaning. ... One has to assimilate, imaginatively, something of another's experience in order tell him intelligently of one's own experience. All communication is like art' (Dewey 1966: 5–6).
- 11 Dewey (1966: 13).
- 12 Dewey (1966: 11). Of course, Dewey could just as well have written of 'the things with which a *woman* varies...'. Throughout this book, wherever the gender of the person is immaterial, as it principally is, I have used masculine and feminine pronouns interchangeably – sometimes one, sometimes the other.
- 13 I have drawn the phrase 'response ability' from the writings of the composer John Cage (2011: 10). See also Biesta (2006: 70).
- 14 Dewey (1966: 42–43, 51).
- 15 In an eponymous volume, Alphonso Lingis speaks of 'the community of those who have nothing in common' (Lingis 1994). Community is about being, not having. In similar vein, Jean-Luc Nancy insists that we acknowledge the proper meaning of 'being-in-common' as '*in-* common or *with*', and not 'a Being or an essence of the common' (Nancy 2000: 55, original emphases). On the etymology of community as 'giving together', see Esposito (2012). 'Members of a community are bound', Esposito writes, 'by the duty of a reciprocal gift ... that conducts them outside of themselves in order to address the other' (2012: 49).
- 16 Dewey (1966: 22).
- 17 For a detailed account of the genealogical model, see Ingold (2000: 134–139).
- 18 This confusion between the genealogical model and the recitation of genealogies is exemplified in Philippe Descola's discussion of transmission in his magnum opus, *Beyond Nature and Culture* (2013: 329–333). For Descola, transmission is 'above all what allows the dead, through filiation, to gain a hold over the living' (2013: 329). It is the weight of ancestral past that ever presses on their descendants in the present, 'passed on inexorably from one generation to the next' (2013: 331). This is to employ the word 'transmission' in the original Deweyan sense of the continuity of life. The sense of transmission underpinning the genealogical model, however, is just the opposite. It precludes any acknowledgement of what the present owes to the past for its continuation, nor are the people of the present tasked with carrying on the work of their forbears. For with transmission in this sense, what is 'passed on' is not the current of life itself but the specifications for living it. For a more extended critique, see Ingold (2016a: 317–318).
- 19 For a diagrammatic depiction, see Figure 4.6 in Ingold (2007: 118).
- 20 Rivers's article, 'The genealogical method of anthropological inquiry', was first published in 1910 (Rivers 1968). See Ingold (2007: 109–116).
- 21 See, for example, Bamford and Leach (2009).
- 22 This idea of gene–culture coevolution has given rise to an extensive literature. Representative examples are Durham (1991), Richerson and Boyd (2008), and Paul (2015).
- 23 Oyama (1985: 13).
- 24 In this paragraph I have summarised arguments set out at greater length in Ingold (2002).
- 25 Dewey (1966: 34).
- 26 To the best of my knowledge, this idea was first proposed in 1978 by Peter Richerson and Robert Boyd, in a founding contribution to the theory of gene–culture evolution. 'To predict the phenotype of a cultural organism one must know its genotype, its

environment and its “culture-type”, the cultural message that the organism received from other individuals of the same species’ (Richerson and Boyd 1978: 128).

- 27 Dewey (1966: 34).
- 28 All direct quotations in this paragraph are from Dewey (1966: 11).
- 29 See Dawkins (1976) and Blackmore (2000). For examples of earlier proposals for a cultural analogue of the gene, and references to these, see Ingold (2016b: 299).
- 30 Sperber (1996).
- 31 Sperber (1996: 61).
- 32 Dewey (1966: 14).
- 33 Ingold (2001: 137).
- 34 Dewey (1966: 4–5).
- 35 Ingold (2000: 198–201).
- 36 Ingold (2001: 137–138).
- 37 An example is Donna Eder’s (2007) sensitive account of indigenous Navajo storytelling, and its transferability to the institutional context of the western school. While stressing the importance of focusing on the practices of telling as well as the content of what is told, Eder nevertheless holds that the purpose of the stories is to convey a set of implicit beliefs and meanings that together enshrine the ‘principles necessary to live well’ (Eder 2007: 279, 288). The beliefs and meanings are already there, buried in the story texts, even before their narration.
- 38 Ingold (2011: 162).
- 39 The phrase ‘growing older together’ comes from the social phenomenology of Alfred Schütz, who used it to describe how consociates, such as parents and children, ‘are mutually involved in one another’s biography’ (Schütz 1962: 16–17).
- 40 Dewey (1966: 38).
- 41 In *The Invention of Culture*, first published in 1975, Roy Wagner offers a classic account of how each sense of culture precipitates the other (Wagner 2016: 21–27).
- 42 See Tylor (1871, I: 1); Lowie (1937: 3).
- 43 Lowie (1921: 428).
- 44 The critical literature surrounding science and traditional knowledge is extensive. Exemplary discussions can be found in Agrawal (1995), Cruikshank (1998: 45–70), Ingold and Kurttila (2000) and Nadasdy (2003).
- 45 This is the argument of philosopher Jacques Rancière (1991), to which we will return.
- 46 The community of reason, as Biesta puts it, ‘is constituted by a common language and a common logic. It gives us a voice, but only a representative voice. ... Although it does matter *what* we say, it does not matter *who* is saying it, because in the rational community we are interchangeable’ (Biesta 2006: 62, emphases in the original).
- 47 Serres (1997: xiii).
- 48 Dewey (1966: 8).
- 49 Dewey (1966: 8–9).
- 50 ‘One of the weightiest problems with which the philosophy of education has to cope is the method of keeping a proper balance between the informal and the formal, the incidental and the intentional, modes of education’ (Dewey 1996: 9).