Exploring Materiality and Connectivity in Anthropology and Beyond

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In the gathering shadows of material things

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Whichever way you put it – whether as connecting materialities or material connectivities – the question comes down to this: what does it mean to join things? ‘To join’ is such a simple, everyday verb, but perhaps for that very reason it has largely passed under the radar so far as scholarship is concerned. Yet it is only because things are joined that the material world can manifest any kind of coherence, and only because of its coherence can this world be inhabited. Once you start looking for them, joins are everywhere, in such a bewildering variety of guises that it is difficult to know where to begin any systematic investigation. There are knots and bindings, ties and ligaments, seams and stitches, catches and couplings, clasps and fastenings, hooks and hangers, clips and pegs, bolts and screws, and so on and on. Turning from things to words, the vocabulary for joins and joining, in English as in any other language, is just as rich and diverse, if not more so. In the course of writing this essay I have looked up the meanings of a host of words in the Oxford English Dictionary – including ‘add’, ‘accompany’, ‘apply’, ‘assemble’, ‘append’, ‘annex’, ‘attract’, ‘articulate’ and ‘adhere’, ‘aggregate’ and ‘associate’, to list only those beginning with ‘a’ – and all include ‘join’ among their many meanings.

Underlying both words for joining and things joined, however, there does seem to be one fundamental contrast. To get at it, take a sheet of paper and a pencil, and draw a number of points. Then take a ruler and draw lines between every pair of points so as to create a network. The points are now connected up. But now suppose that each of these points be set in motion. As your hand moves the pencil, its point describes a line. How, then, might you join these lines? Think of them as threads. Like threads, you might gather them together, forming a knot or bundle
in which they are tightly tied in the middle, but with loose ends fanning out in every direction. You could say that the lines are joined with one another, into a nexus. So we have ‘network’ and ‘nexus’, both incidentally derived from the same Latin verb *nectere*, ‘to bind’, whence ‘necessity’. Thus necessity, too, betokens the join. But is this the necessity of *predetermination*, in which everything is connected, or is it the necessity of *constraint*, in which things are so bound together that each, along its own way, participates in the fortunes of the others? Is it about joining *up* or joining *with*? In what follows, I shall seek to show that this contrast, between ‘up’ and ‘with’, gives us alternative ways of thinking about the join which are premised, respectively, on ontologies of being and becoming.

In a world of being, things have already precipitated out, as it were, from the processes of their formation and are available for connection as discrete parts or entities. Contemporary theorists, never shy of using long and complicated words when short and simple ones would do, like to speak of such connection as *articulation*, and of its more or less contingent, networked results as *assemblages*. But in a world of becoming, the focus shifts to the processes of material formation themselves and to how they go along together. For this going along together, or joining with, I use the term *correspondence*, and the nexus formed in the process is what I shall call a *gathering*. Thus articulation is to correspondence as assemblage is to gathering. And while I do not want to insist that joining is all one and not the other – that it is all *up* rather than *with*, or vice versa – I do think that an acknowledgement of the difference is an essential first step towards understanding how these two principles of the join moderate one another in the production of a world that appears on the surface to be full of entities and their connections yet in which everything takes time to build or grow and in which nothing, neither entity nor connection, ever seems to last.

The assemblage

Nowadays, the idea of the assemblage is very much in vogue, a must-have accessory for every aspiring theorist. The term has become something of a catch-all, denoting any collection of stuff, of any kind, contingently thrown together by force of circumstance. Just about anything and everything, it seems, can be one. ‘Assemblages’, writes political theorist Jane Bennett in this vein, ‘are ad hoc groupings of diverse elements’ (Bennett 2010, 23). The attraction of the idea lies in its appearing
to offer a compromise between the alternatives of supposing either, at the one extreme, that the elements in question sacrifice any individuality or autonomy they might once have possessed, on their own, to their membership of the whole of which they are now integral parts, or, at the other extreme, that their association does nothing for them at all, neither limiting nor enabling the capacities that each can bring individually to bear. In the assemblage, elements are indeed affected in what they can do by their association, while yet retaining their autonomy to break away and to combine with other things. The assemblage, then, is neither a whole that has fully incorporated its parts nor one that is finally reducible to them. In it, heterogeneous things are added together, but the sum, as Bennett says, is ‘non-totalizable’ (2010, 24). You can go on adding, or you can take things away, but as every sum is contingent on the event, there is no final answer.

For the philosopher Manuel DeLanda (2006), a leading advocate of assemblage thinking in social theory, what matters above all is the extrenity of the relations between associated elements. They may adhere, aggregate or arrange themselves into ever more elaborate compositions, yet these compositions can just as easily fragment, only to be reconfigured in alternative permutations and combinations of elements. In whatever configuration they appear, however, the elements remain forever foreign to one another, arrayed in collage-like juxtaposition along the lines of their adjacency. In essence, if not in effect, they are given independently of their association, and remain unaltered by it. For were it otherwise – were they to enter into relations on the inside – they would immediately sacrifice any individuality they once had to a new and irreducibly different entity formed of the merger, as an alloy, for example, is formed of base metals. In short, assemblage thinking denies the possibility that entities can relate on the inside while yet remaining true to themselves. Everything there is thus exists, fundamentally, in itself, and it is as such – and not, for example, as a mere stand-in or place-holder for human intentions and purposes – that we should attend to it.¹ This is the founding premise of what many today have taken to calling the ‘new materialism’ – a somewhat hyperbolic brand-name for what is actually a congeries of approaches that have little more in common than the resolution to take material things seriously. And ‘assemblage’ is at the heart of it.

But the word has been around for a lot longer. Common to English and French, it has meant much the same in both languages.² For its earliest sense as a collection of diverse matters, the Oxford English Dictionary finds a precedent in John Locke’s Essay Concerning Humane Understanding of 1690, where the assembled matters were in fact ideas.³ Subsequently,
the term was taken up in geology, and specifically in palaeontology, to refer to the group of fossils characteristic of a geological sediment. And from there it entered archaeology, as a term for the association of prehistoric artefacts particular to a site or context. Though already used in this sense in the mid-nineteenth century by such pioneers of prehistory as Sir John Lubbock, the term did not really come into its own, in the field of archaeology, until the 1970s, in connection with new thinking about behavioural adaptation and deposition processes (Schiffer 1976). More than merely marking out successive strata in the occupation of a site, assemblages came to be seen as the lingering fall-out of intentional and structured human activities, subjected to varying degrees of erosion and decay (Joyce and Pollard 2010). Since the 1990s, the term has even found its way into the study of community ecology, where it has been defined as ‘a taxonomically related group of species that occur together in space and time’ (Stroud, Bush, Ladd et al. 2015).

However, the adoption of ‘assemblage’ by new materialists – archaeologists among them (Harrison 2011; Lucas 2012; Witmore 2014) – owes nothing to these precedents. Its roots lie in another lineage altogether, namely the vitalist tradition of continental philosophy that began with Henri Bergson and culminated in the writings of Gilles Deleuze and his collaborator Félix Guattari, subsequently promulgated in the ‘assemblage theory’ of DeLanda. The irony is that Deleuze and Guattari, writing in their native French, never used the word ‘assemblage’. Rather, it re-entered anglophone literature as the translation of another word that, in French, is of quite different etymological and semantic provenance, namely agencement (Nail 2017). The word is formed from the verb agencer, which my dictionary renders as ‘to fit together’ or ‘to arrange’. Literally, then, agencement is something like an arrangement of things, a layout. Superficially, there may not be much to distinguish arranging things from assembling them, and to quibble over the translation might seem like splitting hairs. Philosophically, however, rather more is at stake than what appears on the surface. At stake, indeed, is the very question from which I began: what does it mean to join things? In the world of materials, what, exactly, is a connection?

This is a question at the heart of the sprawling meditations that Deleuze and Guattari compiled into their Mille plateaux (‘A thousand plateaus’), a work that laid many of the philosophical foundations for new materialist thinking (Deleuze and Guattari 2004). It was in the translation of this work, a mammoth undertaking by philosopher Brian Massumi, that agencement became ‘assemblage’. Although Deleuze and Guattari return to the term again and again, readers looking for clarity
on what they mean by it will be disappointed. In another work, however, they offer a comparison that can help us in thinking the matter through (Deleuze and Guattari 1994, 23). It is between the pieces of a jigsaw puzzle and those of a dry-stone wall. In the puzzle, every piece is precisely pre-cut so as to fit seamlessly with all the others into a total layout wherein, once completed, its original identity disappears. No longer an odd fragment of card with an irregular outline, it exists only as part of the layout. The wall-builder, however, takes stones as he finds them, improvising their layout as he goes along. And even when his work is done, each stone retains its own singularity. As a whole, then, the wall is a thing of fragments, a multiplicity, which coheres only thanks to an emerging settlement – one that could not be predicted – among the stones themselves. The wall, for Deleuze and Guattari, is an agencement.

The key point of distinction is that what counts in holding the wall together is the relations between its elements, and not, as in the jigsaw puzzle, the apportionments by which each is subsumed under the whole of which they are integral parts. In essence, the stones are untouched by their contact: each remains the particular stone that it is. Thus the relations between the stones are exterior relations. But is this really so? Deleuze and Guattari are in no doubt about the matter: ‘Multiplicities’, they say, ‘are defined by the outside’ (2004, 9). In their terms, this is what makes their integration ‘machinic’ rather than ‘organic’, for it is precisely in the mutual externality of its parts that the mechanism is distinguished from the organism. And theorists such as DeLanda, who have ostensibly followed in their footsteps, would agree (DeLanda 2006, 9). But if that were all, why should Deleuze and Guattari have bothered with an awkward word like agencement? Why not use ‘assemblage’ instead? It would surely have saved us all a lot of trouble and confusion had they done so. As already noted, the word ‘assemblage’ exists equally in French and English, and in both languages it can be used to designate a collection of things found in proximity, in a certain context. Moreover, its usage in this sense, as in the fields of palaeontology and archaeology, is well established. It is hard to see what DeLanda’s definition of the assemblage, as ‘made up of parts which are self-subsistent and articulated by relations of exteriority’ (2006, 18), or Bennett’s, as an ‘ad hoc [grouping] of diverse elements’ (2010, 23), really adds to this.

Are the new materialists, in their infatuation with a certain genre of philosophical writing notorious for both its prolixity and its penchant for juxtaposing incommensurable elements culled at random from here, there and everywhere, merely bamboozling us with their verbose neologisms? To a great extent, I think they are. For what they have done is
to take only one side of agencement, as if that were all there is to it. As a result, we have things jumping into arrangements with one another, as the agentive causes of their own emergent effects, in a world where nothing lives, moves or grows, and everything is locked solid (Ingold 2015, 16). This is a fossilised world, which can only be brought back to life through magical invocations of vitality to things in themselves. I want to argue, to the contrary, that there are two sides to agencement: an outer side that it reveals and an inner side that it conceals. On the hidden side lie the forces and energies that course through a world in which things and their properties do not simply emerge, sui generis, but are actively brought forth or produced. The power of agencement, I believe, lies in its capacity to effect a modulation from one side to the other, that is, from the assemblage to its negative, and vice versa. In what follows I want to show that the one always accompanies the other, as a thing and its shadow. I shall call this negative the gathering. Only by taking the two together, the assemblage and the gathering – the light and the dark sides of agencement – can we understand things not just in their arrangement, but in how they come into being, last for a while and then pass away.

The gathering

Let’s return to Bennett’s characterisation of the assemblage as a ‘non-totalizable sum’. What does it mean, to sum? It means, of course, to add things up. The word implies both separation and articulation. For things to be added they must first be detached from each other, rendered discontinuous, as a prelude to their external attachment. In simple arithmetic, the addition is indicated by a plus sign. ‘Plus’ is the sign of articulation. Thus the formula for the assemblage is $E_1 + E_2 + E_3 + \ldots$, where every $E$ stands for a discrete element. In the formula, the elements may be utterly heterogeneous in nature, but the plus signs are interchangeable. One is as good as another. But suppose, as an experiment, that we invert the formula, by hiding every element behind an identical sign, while foregrounding the articulations. What is concealed behind the plus signs? It is of course the work of addition. For stones do not, of their own accord, add themselves up into a wall. In the experience of the wall-builder, the addition of every stone means selecting and retrieving it from the quarry and heaving it into place. Nor does the operation stop there, for the weight of the stone, as it settles, causes others in the vicinity to tilt until a new equilibrium is reached. And our stone, too, will likely tilt as the
builder adds more. Builders work, but so do stones, and they do so only in their bearing on one another.

It is this practical and productive operation, drawing the builder into a laborious engagement with the stones, and the stones themselves into forceful collaboration, that lurks behind the plus signs of our initial formula for the assemblage. Adding stone after stone in the construction of the wall, one such operation follows another, each different from the one before. For as no two stones are alike, nor are the operations of their addition. Thus as surely as every assemblage holds together, albeit contingently, as the serial but non-totalisable sum of its elements, it must also be accompanied by a second series, comprised of the operations involved in the summation. Perhaps we should write the series like this: $O_1 + O_2 + O_3 + \ldots$, where every $O$ stands for a different operation. Each operation, in the second formula, would replace a plus sign in the first. The wall, then, would appear not as the sum of its stones, but as the sequence of the operations that put them there. It would be equivalent to what the great anthropologist of techniques, André Leroi-Gourhan, called the ‘operational chain’ (chaîne opératoire). But given that we can have neither the wall without the labour of building, nor building without the material constituents of the wall, could we not simply merge the two series, by interpolating every operation of the second between each consecutive pair of elements in the first – thus $E_1 O_1 E_2 O_2 E_3 O_3 \ldots$ – so as to fabricate an assemblage in which both elements and operations figure together as alternating components of the mix?

This, I contend, would be a mistake. For there is a fundamental difference between the two series. It is that operations cannot be understood as discrete episodes that follow one another like beads on a string. They are more like the converging and diverging strands of a continuous braid. It is not possible, in practice, to specify at what point any operation begins or ends. For – to continue with our example of the wall – one could trace it back at least to the quarrying that released this particular stone, along with all the others, from its earthly matrix, and even beyond to the geological deposition of the bedrock. Equally, one could trace the operation forward into the stone’s ongoing adjustments with its neighbours in the wall itself, for as long as it stands, or even as it collapses and gradually returns to the earth. Every stone has its story of how it came to be there, just as it is, and so does the builder, in whose experience it figures not as a sealed entity, in itself, but in its heaviness as a test of muscular strength, in its roughness as abrasions of the hands, and in its corners and edges as the friction of contact with other stones. For a while the builder’s story and the stone’s story go along together and are wrapped
up with one another, as are the stories of the stones themselves, from the
time they are hewn from the quarry-face up to and beyond their coming
together once again in the wall. Their relations, in short, are not additive,
like the elements of the assemblage; they are rather complicate, as in the
braid.

Literally, ‘complicate’ means ‘folded together’, and it is this literal
sense that I invoke here. In fact the Latin language, from which this and
so many other of our words for joining are derived, was already onto the
distinction that I am concerned to highlight. It has given us the alterna-
tive prefixes: ad- (or its variants, in which the trailing consonant dupli-
cates the lead consonant of the following syllable, as in ap- (in ‘apply’),
at- (in ‘attend’) and ag- (in ‘aggregate’)) and con (or its variants com-
as in ‘comply’) and simply co- (as in ‘cohere’)). The result is a succes-
sion of paired contrasts, including not only ‘adjoin’ versus ‘conjoin’,
but also ‘adhere’ versus ‘cohere’, ‘admit’ versus ‘commit’, ‘apply’ versus
‘comply’, ‘attract’ versus ‘contract’, ‘attend’ versus ‘contend’, ‘attribute’
versus ‘contribute’, and ‘aggregate’ versus ‘congregate’. Underlying all
these contrasts is a fundamental distinction between at-ness and with-
ness, perhaps even between space and time. Things that are at hand, for
example, are up there with you, at this particular moment, in such spatial
or contextual proximity that you can reach for them, and they for you.
While everything has its story, its particular temporal trajectory, ‘at’ cuts
transversally across them: it marks, in the felicitous phrase of geographer
Doreen Massey, ‘a simultaneity of stories-so-far’ (Massey 2005, 9). But
with ‘con’ we join with things in their passage through time, going along
together with them, working with them, and suffering with them. That’s
how connection, to give another example, differs from annexation, and
indeed the compendium from the addendum.

‘Con’, in short, is not transverse but longitudinal. It is about enter-
ing the grain of things and going along with them. Thus adherence is
instantaneous, coherence endures; admission lets in, but a commission is
carried out; application puts things situationally to use, compliance fits in
with established usage; attraction entices, the contract binds; attention
stretches towards things, but in contention we have to deal with them;
attributes are assigned, but to contribute is to join in the assignment; in
aggregate people form a crowd, but in the congregation they are gath-
ered in the public enactment of a service. The operative word, here, is
gathering. For what makes a gathering more than the mere juxtaposition
of elements is the drawing together of the pathways along which its con-
stituents have come into being, and the nascent anticipation of the ways
they will tend to go. In the gathering, things are not severed, as they are
in the assemblage, from the lines of movement, growth and becoming that have brought them to where they are. When people are gathered in a congregation, each trails his or her life-story, and carries it on in the ensuing proceedings. When animals are gathered in a herd, they do not cease to move but rather move in concert, leaving braid-like tracks in the landscape. Crops gathered at harvest still betoken the earth from which they grew and the labour of the harvesters, and anticipate their milling and eventual transformation into bread. And cornstalks, whether gathered in a sheaf or as thatch on a roof, are laid in parallel and bound in the middle (Ingold 1993, 168–9).

And so it is, too, with stones gathered in the wall. Were we to imagine the wall only as an assemblage, it would be as if the stones were already next to one another: they could abut and adjoin, but not intermingle. But to imagine the wall as a gathering is to join with the story of each stone as it arrives and settles. In principle, as we have seen, these stories could be extended indefinitely, both back and forward in time. You could begin in the quarry, with the violence of separation in which the stone was hewn from its matrix; you could continue with its haulage to the site, its selection by the builder and eventual heaving into place. And you could ask, even after the wall is built, what is going on between those stones? For their settlement surely endures: it is not an instant affair, and will doubtless shift over time in response to weather conditions and the movements of earth and bedrock. In the wall’s walling, in its carrying on, stones play host to lichens and mosses, the cracks and crevices between them allow plants to take root and insects to hide. In the experience of larger animals, the wall is not just a barrier to movement; it also offers shade from the sun and shelter from the wind. Thus lichens, moss, plants and animals both large and small – all are folded together, or complicated, in the gathering, becoming part of each other’s stories. That’s why you cannot put plus signs between them. Since no story can carry on save by entering into the stories of others, they are not adjointed so much as conjoined.

**Correspondence**

When archaeologist Gavin Lucas insists on ‘the proper meaning of assemblage as a gathering or assembling of things’ (2012, 198, emphasis added), I venture to demur. My thesis, to the contrary, is that gathering and assembling are fundamentally different, just as complication differs from addition. This is not to say that they are mutually exclusive: quite to the contrary, there can be no gathering without assembling, just as there
can be no shadow without that which casts it. On the dark side, however, things do not attach themselves from without, but are rather differentiated from within. Gathering, thus conceived, is a process of what I have elsewhere called ‘interstitial differentiation’ (Ingold 2017, 13). It is about splitting things from the inside, along the grain of their movement or becoming. Or to borrow a phrase from feminist theorist and philosopher of science Karen Barad, it is a ‘cutting together-apart’. As Barad intimates, splitting apart and mingling together are two sides of the same coin: ‘entanglings entail differentiatings, differentiatings entail entanglings’ (Barad 2014, 176). Thus concealed behind the overt meaning of agencement as exterior arrangement or assembly lies another, more covert sense of interior differentiation. This might be rendered in English, albeit awkwardly, as ‘agencing’ (Ingold 2017, 17–18). This is not the same as acting. To act is to impart a certain direction to things from the outset and to follow it through. But with agencing one is always already inside what is going on, discovering from within the way in which things are going, and bending it to one’s purpose (Ingold 2011, 211).

For the philosopher Erin Manning, who chooses quite explicitly to use agencement in this latter sense, it is specifically about the incipient directionality that opens up from within what she calls the ‘cleave of the event’, its internal schism, giving a particular twist or inflection to its unfolding (Manning 2016, 6). Here, it is every inflection, rather than every element, that counts as a singularity. To count things, then, is not to add them up but to join with them, to align one’s attention to their ongoing, rhythmic movement. As in counting breaths or heartbeats, or bars of music, it is to mark time, not to measure space. This is the minor sense of agencement, as interstitial differentiation, concealed behind the major sense of assembly. What makes the idea of agencement so potent is precisely its capacity to effect a switch of perspective from major to minor, from the positive idea of the assemblage to its negative, of the gathering. This is not a negative, be it noted, in the sense of a photographic plate, or the mirror writing of type in the galley, before its imprinting on the page. What is entailed is rather a ninety-degree shift, from across to along, comparable to that between connecting points and bundling lines, in the case of the exercise with which I began. Hence, the relations constitutive of the gathering are not diametrically opposed, but rather orthogonal, to the relations that make up the assemblage. I shall now show that while relations of the latter kind are of articulation, those of the former kind are of correspondence.

Perhaps I could begin with a vignette from the architectural design theorist Lars Spuybroek. He tells of how, as he walks through a field,
his attention is drawn to a few stones lying next to one another. Nestled between them, a tiny plant has found root and flourishes. He likes what he sees. But then he wonders, ‘what is that liking?’

Clearly the stones are lying there in a certain correspondence, if not accordance, because the wind and water have moved them, rolled them over the ground and made them find an impression, create a little group, a little nest where a plant could start growing and be protected – but where does my liking fit in? Is it merely in me, subjectively enjoying the sight, or is it … an extended correspondence? I am with the stones and plant immediately, fitting in with them.

(Spuybroek 2016, 112)

There are three points to note here. Firstly, what Spuybroek describes is far more than an ‘ad hoc grouping of diverse elements’ – to return once again to Bennett’s characterisation of the assemblage. For in the shadow of the assemblage lie the actions of wind and flood in rolling the stones, as well as the seeding and subsequent germination of the plant, now protected by the stones from the very forces that brought them there. What is described is also a gathering. Secondly, Spuybroek immediately finds himself a participant. He joins the gathering, and for a moment at least, it is woven into the story of his own life – enough for him to be able to retell it later on. And thirdly, ‘liking’, in this context, is another word for this joining or fitting with. It is not a subjective state of mind, reflecting upon physical reality, nor is it an objective sensation that is merely thrown into the mix. It is rather what he calls a correspondence.

Literally, correspondence is a process in which things answer to one another. This implies nothing about intentionality or subjectivity; it simply means that in their growth, movement and formation – that is, in their gathering – things have a certain elasticity. They stretch and give way, expand and contract, tear and are torn, scrape and are scraped. In so doing, and so undergoing, they take into themselves something of the characters of the others to which they respond. The stones, in Spuybroek’s account, are corresponding with one another in this sense, and he is corresponding with them. What flows in and out in this relation, he reports, is feeling. Not only does he feel the stones, but the stones, in their correspondence, feel each other. ‘All relations’, Spuybroek asserts, ‘are felt relations’ (2016, 112, original emphasis). He calls them relations of sympathy. This has nothing to do with personal psychology. It is not about the attribution, to ourselves or others, of such sentiments as warmth or compassion. Nor does Spuybroek’s liking for the little group of stones,
with the nestled plant, imply any outpouring of affection towards them, or even any judgement of taste. It simply denotes an accord – a bringing into likeness – that comes from correspondence. The wall-builder doubtless feels the same, despite the backbreaking and possibly painful nature of his work. Sympathy is what happens when things enter into the processes of their mutual formation, or, in Spuybroek’s words, ‘what things feel when they shape each other’ (2016, 109).

From this follows a point of capital importance for my argument. It is that in the sympathy of correspondence, in their feeling for one another, in their complication or folding together, things do not meet on the outside but enter into the formative process from within. Correspondent relations, in short, are relations of interiority. And in this regard, they are absolutely opposed to the articulatory relations of the assemblage in which, as we have seen, things remain ever outside each other. In a nutshell, whereas the constitutive relations of the assemblage are of exteriority, those of the gathering are of interiority. Now for a philosopher like DeLanda, interiority can only mean one thing: the loss of autonomy of parts as their identity is swallowed up by that of the whole (DeLanda 2006, 9). For him, and for the new materialists who have followed in his footsteps, the idea that things can retain their singularity, while yet joining with one another on the inside, is simply inconceivable. Interiorisation, in their philosophy, implies hierarchisation, the inclusion of pieces within a higher order of relations. And conversely, to flatten the hierarchy, to bring everything down to the level of the pieces themselves, means allowing them to come out from under the pressures that have forced them into amalgamation, whereupon they regain their singularity as elements that stand radically outside one another. The assemblage, by definition, is flat, it eschews hierarchy, and for this reason its relations are of exteriority. It is the non-totalisable sum of its heterogeneous elements.

But the gathering, as we have seen, is not produced through any process of summation. It is not that the addition of elements can never yield a total; rather – in the gathering – the elements are not addable in the first place. They are not addable because they are not yet formed but ever in the process of formation. And in this process, they enter into relations with one another on their own level, such that for each, these relations are enfolded in its own constitution. This is to say that they comprise an order that – to borrow a distinction from the physicist David Bohm (2002) – is implicate rather than explicate. In the explicate order, everything is outside everything else, and things make contact only at their exterior surfaces, leaving their inner natures unaffected. This is the order of the assemblage, and for new materialists it is the only order...
there can be. In the implicate order, by contrast, every part continually arises as an enfolding of the entire field of relations of which it is the momentary manifestation. Enfolded structures, as Bohm puts it, rather than occupying their particular region of space and moment of time, interweave and intermingle throughout all of space and time, so that, ultimately, ‘everything is enfolded into everything’ (2002, 225). To our senses the world may appear ‘chunked’ into things that are solid, tangible and visibly stable, yet they are but the manifest envelopes of the underlying ‘holomovement’ wherein everything is formed. In the implicate order, the surfaces of things do not separate their ‘insides’ from their ‘outsides’. Rather, every surface is itself a crease or pleat in the fabric of the world, where inside and outside are folded into one another.

To characterise the order of the gathering, however, I would like to go one step further. It is an order, as I have already intimated, that is not so much implicate as complicate. Whereas implication connotes a folding inward, as if from side to side, complication carries the sense of folding forward – that is, of things convoluting longitudinally, braiding or plaiting along the lines of their own growth and movement. This is an idea that would have come naturally to the Roman author Titus Lucretius Carus, in whose poem, \textit{On the Nature of Things}, the world is depicted as a torrent of falling particles which, swerving ever so slightly from their vertical course, set up a cascade of eddies. This same image lies behind Deleuze’s depiction of matter in \textit{The Fold} – his study of Leibniz and the Baroque – as a maelstrom of vortices within vortices, yielding an ‘infinitely porous, spongy or cavernous texture … caverns endlessly contained in other caverns’ (Deleuze 1993, 5). This is matter folding on itself as it goes along. As it does so it endlessly overflows any formal envelopes within which it may appear to our senses to have been temporarily pulled aside or detained. There is no limit, not because things will never add up, nor because they can be retotalled in ever-varying permutations and combinations, but because their materials slip through the cracks in the very work of addition. Thus, in the shadow of the material world, with its contingently assembled things, there lies a \textit{world of materials} that is not so much created as perpetually in creation, forever surpassing itself through the correspondence of its particulars. In a word coined by the philosopher Alfred North Whitehead, it is ‘concrescent’ (Whitehead 1929, 410). Addition, though it may create novel arrangements, or what Bennett calls an ‘ever changing array of effects’, can bring forth nothing that was not already there. But concrescence continually brings forth a world, and only because it does so are there entities to be added.
**Concrecence**

If the assemblage, then, forms by the accretion of material from without, the gathering is formed through its *concrecence* from within. The first imagines a discontinuous material world – a world of chunks – in which increase can only be by way of the addition of extraneous matter; the second, running orthogonally to the first, imagines a world of continuous flux, in which things both grow and decay, take shape and dissolve, by way of the inner turbulence of their constituent materials. Now for an archaeologist like Bjørnar Olsen (2010, 158), the chunkiness of matter is self-evident; it is the way things are. ‘Things’, writes Olsen, ‘are concrete and offer stability’. Not so, however, in a world of concrescence, where things are neither chunky nor stable but convoluted and prone to buckling, distortion and collapse (Ingold 2013, 102–3). It would be tempting to regard these worlds as, respectively, solid and fluid. Convention has it, however, that solidity and fluidity, along with volatility, refer to alternative states of matter rather than to the underlying condition of all matter. Indeed, mainstream physical science assumes matter by default to be particulate, and distinguishes solid, liquid and gaseous states by the relative tightness or looseness of articulations at the molecular level. By flux, however, I refer to an understanding of the condition of matter *alternative* to the particulate. For a world of flux is matter-full, not full of matter; it is a plenum, not a suspension in a vacuum. Its heterogeneities arise not from the multiple compounding of its particulate elements into ever more diverse and complex configurations, but from the folding and creasing of its sponge-like substance. In such a world, the conventional distinction between solidity and fluidity dissolves. Everything, in effect, is ‘solid-fluid’ (Simonetti and Ingold 2018).

Ironically, no material better illustrates this solid-fluid condition than that which latterly – in the nineteenth century, and in the Anglosphere – assumed the name of *concrete*. For as liquid-turned-solid, concrete holds the seeds of its own dissolution. The very binding reactions that cause it to harden also generate, as a by-product, a moisture-absorbing gel that, if left unchecked, eventually leads the material to seep and crumble from within. Indeed as Lucas (2013) explains, concrete is not really a fixed substance at all so much as a process: ‘it is … a material which changes its nature over time’. In short, *concrete is concrescence*. Consider its ingredients: water, aggregate and cement. The order of the aggregate, as its name suggests, is explicate: it is, according to its dictionary definition, ‘a body formed by the union of numerous units or particles; *an assemblage*’. In concrete, the aggregate generally comprises a mix of sand and
gravel. But it is the cement that – when mixed with water – works as a binding agent, a kind of glue, which slips through the cracks between the particles of aggregate, so as to form a continuous and complicate weave. Whereas the aggregate is formed as an assemblage, it is the cement that performs the gathering. United in concrete is both the thing and its shadow, the assemblage and the gathering. Indeed the ‘shadow-life’ of concrete is even marked etymologically, in its designation in German as Beton (French béton), a word that links it with another binding agent of organic derivation – namely bitumen, or pitch.

Hiding in the shadow of the chunk, as Spuybroek (2016, 113) suggests, is the bag, a volume into the folds or cavities of which are brought together the innumerable threads that percolate the substance of matter and lend it coherence. A lump of concrete, then, is both chunky and baggy. And while the lump may be finite, the thread-lines bundled therein may extend indefinitely beyond it, flowing in and out, their loose ends tangling or knotting with other threads to form a continuous weave or mesh. All matter, in this sense, is at once chunked and woven, both mosaic and fabric. The chunks give substance; the weave gives coherence. Consider, for example, an ordinary brick wall. Using a trowel, the builder applies a layer of mortar to each brick, both beneath and to one side, before pressing it into place and scraping off any surplus so as to leave an even seam of mortar between every brick and its neighbours, both above and below, and on either side. Adding brick upon brick, the builder works as a go-between, and the mortar – in its binding function – takes over from where the builder leaves off. What his work leaves behind is not just the assemblage of bricks but a continuous and intricately folded fabric of mortar, a gathering that fills the seams and makes it so that not only adjacent bricks adhere but also the wall as a whole holds together.

Should we think of the wall, then, as an assemblage of bricks, with mortar as the bonding agent, or as a gathering of mortar, interspersed by bricks? Does mortar fill the gaps between bricks, or do bricks fill the gaps of the mortar (Ingold 2015, 30)? Or suppose, to offer another example, that you are constructing a model from a set of parts, which are to be joined by gluing them together. Is the model an assemblage or a gathering? If it is to be regarded as an assemblage, then it is not obvious where the glue belongs. It cannot be just another part. Initially formless and fluid, yet solidifying on exposure to air, glue infiltrates the cracks and crevices where things don’t quite fit, weaving a web of its own – a negative of the assemblage. Moreover, the way glue works is to seep into the surfaces with which it comes into contact. Material that looks solid and chunky to our eyes is not so to the glue which, at the molecular level,
encounters a surface of sponge-like porosity. Regular adhesives contain long protein chains which penetrate the material through its pores and bond with its molecules. In effect, what glue does is to join materials on the inside, so as to turn an otherwise explicate order into a complicate one. It converts exterior surfaces into interior folds, chunks into bags. Thanks to this, the construction coheres.

But what if there is no binding agent? It is time to revert to the dry-stone wall. In one of his later essays, Deleuze returns to the example of the wall to illustrate the idea of the world as a patchwork, an *agencement* of ill-fitting elements – ‘Not even a puzzle, whose pieces when fitted together would constitute a whole, but rather a wall of loose, uncemented stones, where every element has a value in itself but also in relation to others: isolated and floating relations, islands and straits, immobile points and sinuous lines – for Truth always has “jagged edges”’ (Deleuze 1998, 86). How can such a thing of shreds and patches ever stand firm against the winds of time? To what does it owe its strength and resilience? Not, surely, to the solidity of the stones, for a poorly built wall will fall at the slightest provocation, however hard the material. Its strength lies, rather, in what is going on between the stones. Place one stone of irregular shape upon another and it will come to rest at a minimum of three points. The pressure of stone on stone, concentrated at the points of contact, is diffused throughout their mass. In the compression of the material, each stone takes into itself its relations with the others. It is in the resultant complication of the stones’ feeling for one another – their sympathy and correspondence – that the strength of the wall resides. In effect, the wall is self-binding.

In his disquisition on the assemblage, DeLanda (2006, 10–11) distinguishes between *properties* and *capacities*. The parts of an assemblage, he argues, have properties in themselves but capacities only in relation to the parts with which they may happen to interact. Raise a stone from the ground and place it in the wall: it is the same stone, with the same properties, but in the wall, in association with the other stones, it partakes of the capacity – for example – to hinder movement or afford shelter. Properties are given, capacities emergent. This might be easy to say, but it leaves unanswered the question of where the capacities have emerged from. All too often, in the writings of theorists, ‘emergence’ serves as a cover-up, a way of evading the question through a circular logic that reads into emergent effects the very agentive causes deemed to have given rise to them. Thus the stones become the causes of their own effects. ‘Look’, exclaims the new materialist, observing the wall and its manifest effects on the surroundings, ‘how the wall testifies to the collective, non-human
agency of stones!’ (Ingold 2014a, 235). But what has happened to the builders? Does the wall not stand, rather, as testimony to their hard and relentless labour? After all, the stones can weigh upon one another only because the builders have put them there. It was they who hauled the stones from the quarry and heaved them into place. As they did so, their correspondence with the stones would progressively have given way to the stones’ correspondence with one another. Thus the emergent heft of the wall has its source in the effortful heave of its builders. If the wall is an agencement, then heft is to heave as one side is to the other, assemblage to gathering. So next time you stop to admire a wall, spare a thought for the labours of those who made it, and whose ghostly presence still lurks in the interstices, amidst the deepening shadows of the stones.

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**Notes**

1. This tenet has been condensed into a maxim by Ian Bogost: ‘All things equally exist, yet they do not exist equally’ (Bogost 2012, 11, original emphasis).
2. If much the same, the semantic resonances of ‘assemblage’ in English and French are not identical. In French the elements of the assemblage have a somewhat tighter connection, coming closer to what in English might be called an assembly (Simon Peres, personal communication).
4. Rodney Harrison (2011, 155–6) distinguishes thus between the ‘first’ and ‘second’ meanings of assemblage, while Gavin Lucas (2012, 193–4) tries to bring the two together under what he considers to be the proper meaning of the word: ‘an assembling or gathering together of things’. Christopher Witmore (2014, 207) merely notes that with the new materialism, the notion of assemblage carries a ‘different valence from normative definitions ... within archaeology’.
5. One possible answer, of course, is that *assemblage*, in French, implies an organic integration of parts, whereas their connection in the *agencement* is looser and more contingent. Thus the distinction between *agencement* and *assemblage*, in French, maps onto that between ‘assemblage’ and ‘assembly’, in English. In neither language, however, is the distinction stable. The terms are notoriously slippery in use, and as we shall see, there is more to *agencement* than assemblage.

6. ‘So what counts as things?’ asks Witmore (2014, 206). His answer: ‘Air and soil, rain and sea, wooden doors and stone orthostats, nitrogen-fixing bacteria and clovers, psycho-political commitments to Rome and Hadrian’s Wall, Corinthian perfume jars and dead Etruscans, mycorrhizae and maple trees, hoplites and the Athenian assembly, minke whales and lemmings, the Hudson River and steamboats, the god Apollo and the Pythia ….’

7. This may be true in arithmetic, but not in chemistry. Arguably, in the formula for a chemical reaction, the plus sign has a very different meaning, more analytic than synthetic. An excursion into chemistry is beyond the scope of this essay, but potentially it could offer a next step in thinking about materials that would take us beyond the problematic of the join to the metamorphoses of materials themselves.


9. Coming from a rather different angle, cultural anthropologist Anna Tsing also glosses over the difference. ‘Assemblages’, she writes, ‘are open-ended gatherings.… They show us potential histories in the making’. They are ‘lifeways – and non-living ways of being as well – coming together’ (Tsing 2015, 22–3). In her terms, the parts gathered in the assemblage are comparable to melodic lines in a madrigal or a fugue. All this is entirely consistent with the idea of gathering, as elaborated above. Yet the consistency is blown apart by the question that assemblage thinking, Tsing says, provokes her to ask: ‘How do gatherings sometimes become “happenings”, that is, greater than the sum of their parts?’ (2015, 23, my emphasis). We are brought abruptly back to the logic of summation, which is entirely inappropriate for musical counterpoint (Ingold 2017, 14).

10. This is also Bohm’s term.

11. Bohm’s *Wholeness and the Implicate Order* was first published in 1980.

12. For a wonderful reflection on the poem of Lucretius, which has profoundly influenced my own thinking, see Serres (2000).

13. On the distinction between the material world and the world of materials, see Ingold (2007, 14).

14. See Bennett (2010, 130 fn. 12). In this regard, addition is equivalent to what Bergson (1911, 48) called fabrication: ‘even when it invents, it proceeds, or imagines itself to proceed, by a new arrangement of elements already known’. As with every shake of a kaleidoscope, you end up with no less or more than you started with. To this Bergson contrasted the creativity born of duration – a creativity that continually brings forth a world, leading to ‘incommensurability between what goes before and what follows’ (1911, 30 fn. 2). Astonishingly, Bennett contrives to cite these latter words of Bergson, by which he characterises the ‘indivisible process’ of creative evolution, to corroborate her view of the assemblage as a ‘non-totalizable’ fabrication made up of discrete parts.


16. See Spuybroek (2016, 114). Elsewhere, I have phrased this in terms of the combination of *blobs* and *lines*. Blobs have insides and outsides, but they also ‘put out lines or swell from them, or are embedded in a linear matrix. It is by their lines that they can live, move and hold on to one another’ (Ingold 2015, 16).

17. This circularity is endemic in new materialist writing on the agency of things. Of course, things have effects, thanks to their present existence. The situation would be different if they weren’t there. But to say that things have agency, of which these effects are the results, is merely a roundabout way of saying they exist. For a critique, see Ingold (2013, 95–7; 2014b, 520).

References
