Chapter 1

Thinking About Things Differently (from Things to Flows)

As I drove along Interstate 880 on my way to Oakland airport in the East Bay I watched the car in front of me. It appeared to be always the same car, but it was always changing. The gas was being used up, the tires were being worn down and the car changed its appearance to me as I watched it in different lights and thought about it in different ways. Was it always the same car? Was it a stable thing or lots of different things in sequence? It was rather like the conundrum of Theseus's wooden ship. Heraclitus asked, whether if you changed all the planks and sails gradually, one by one, it would still be the same ship? And did the answer to the question really matter?

What Is a Thing?

This book is about the ways in which humans get caught up in things. So we need at the start to define what a thing is, and to distinguish it from other terms such as object. I take the view that everything is a thing – there is nothing (no thing) that is not a thing. We can use the word to refer to a great variety of entities, but most discussions of things tend to use the examples of simple everyday things like a jug, a hammer, a basket, a blind person's white stick and so on. One colloquial use of the word 'thing' is that we often say 'that thing' when its name has momentarily escaped us and it merely exists for us as something. Or we talk of someone whose name we cannot remember as 'thingy' or 'thingummyjig'. Indeed we also talk of people as things – as when we say 'poor old thing'.

Bergson (1911 [1998]) argued that we tend to think of the world in terms of solids, and through much of this book I will use the term 'thing' to refer to simple entities that have substance and surface and exist in a medium such as air or water (Gibson 1986 [1979]). But we also need to consider whether more abstract ideas are also things. It is difficult to separate the material from the immaterial or intangible. 'Intangible

Entangled: A New Archaeology of the Relationships between Humans and Things, Second Edition. Ian Hodder.

heritage' has proved to be very tangible, in the form of words, dances, song and so on. It is difficult to separate the word 'nation' from a place, image, experience. Today the largest single machine in the world is the Hadron Collider. This massive machine that was built by the work of over ten thousand scientists and engineers from over 100 countries was the result of pursuing an idea about subatomic particles.

I am not sure there are any words or ideas that do not instantly conjure up images, feelings, material aggregations of some sort. Even abstract words like 'justice', 'honor', 'theoretical', 'sublime' are tagged in my mind with some image, maybe an inadequate representation of the concept (as a set of scales to indicate justice), but somehow I need these concrete aide-memoires. And of course more generally words are material things, whether spoken or written, and it is unclear to me whether a concept or feeling can exist without some word or association attached to it.

So I have come to see all ideas and concepts as to some degree material, even without making the argument that they are all related to material firings of synapses in the brain. The distinction between idea and material, thought and practice is thus unhelpful, and we can return to the viewpoint that the word 'thing' can be applied to everything. Certainly there are simple things like pots and pans and there are complex things like institutions and global supply crises. There are solid things like stone tools and hammers, but there are also liquid and gaseous things. Things can include actions as well as thoughts and intuitions. The word 'thing' thus has a very broad remit.

How can we distinguish the term 'thing' from other similar words such as 'object'? The term 'object' is very tied up in a long history that opposes subject and object, mind and matter, self and other. It connotes an objectifying approach in which matter is analyzed, codified and caught in disciplinary discourse. In terms of etymology, the word refers to being thrown in the way. An object 'stands against'. In this way it is different from the word 'thing' which in terms of etymology is all about gathering and connecting. Things pull together flows and relations into various configurations, whether the things are molecules and atoms, or whether they are books and computers, or whether they are institutions like schools and societies. For a period of time matter, energy and information are brought together into a heterogeneous bundle. Things assemble.

In a series of papers published in English in a 1971 volume, Martin Heidegger deals directly with objectness and thingness. In a chapter called 'The thing' he considers a jug. Heidegger notes that the jug has been produced from the earth so that the material it has been made from 'has been brought to a stand' (1971: 167). Since the jug stands up against us it can be described as an object. So an object is something we contemplate as distant from us and set up against us. We shall see in Chapter 2 that Heidegger talks of this type of object as present-at-hand. Particularly when objects break down, we come to notice them and have to deal with them, fix them. When a scientist explores a jug to see what it is made of and what it was used for, it becomes an object of study, something distanced and particular.

But for Heidegger there is an aspect of the jug that is not captured by describing it as an entity or an object. The jug takes what is poured into it, and then pours the liquid out. The water and wine come from a rock spring or from rain or from the grape growing in the earth. The pouring out can quench thirst for humans or be a libation to the gods. So the jug connects humans, gods, earth and sky. It is this 'gathering' that

makes the jug a thing. Heidegger refers to Old High German in which a thing means a gathering to deliberate on a matter under discussion. The jug, as thing, gathers together for a moment humans, gods, earth and sky.

Elsewhere in the same book, Heidegger provides other examples of things. Thus a bridge can be seen as gathering the two banks of a stream in relation to each other, and it gathers people that cross the bridge, it gathers people and carts into town or workers into the fields (1971: 151–2). The bridge as thing can be explored in terms of its usefulness, its functionality in bringing different components together. In this book I will focus on how things involve humans and non-humans being together in heterogeneous mixes. Sometimes this happens in what the nineteenth-century archaeologist Pitt-Rivers (1874 (1906) and see Chapter 2) called the intellectual or conscious mind, perhaps somewhat equivalent to what Heidegger later called present-at-hand, but sometimes it occurs in what Pitt-Rivers called the automaton mind, that is, in the taken-for-granted bodily relations with things, similar to what Heidegger called ready-to-hand.

So things bring people and other things together. A good example is what happens when two people buy a house together. Perhaps each owns a share of the house. The two people may or may not be married to each other, but by buying a house together they are brought together with each other and with the house itself, and the house and its maintenance are caught up (in a way that I shall describe as entanglement) with them. Thus if the house springs a leak in the roof, the two have to fix it in order to maintain the house as livable, and to protect their financial investment. They put their money, their savings into the house and they borrow money from other people to buy the house – so if the property loses value through leaks and bad maintenance they may have to pay money back to the lender. So they are in a relation of debt to the lender. And they are tied to each other through the house – it becomes more difficult to separate or divorce, and the other person's behavior becomes of great interest and weight – will she or he behave in such a way as to undermine the value of the house, or in such a way as to put a strain on the relationship so that the house might have to be sold and so on. So the house ties people together.

We often talk of doing science 'objectively', when we reduce bias and explore the object in a distanced and disinterested way. To do this we have to separate the jug, measure it, categorize it, break it up into its components. It becomes an object of study, isolated and compared. Such analysis is a stage in the exploration of things. But such a stage of study needs to be situated within a broader approach that connects objects, that explores their existence as things. In this latter sense the focus is on the complex ways in which a thing such as a house gathers humans and non-humans, links together for a moment matter, energy and information in useful ways.

Things-in-Themselves?

There is a long-standing debate about whether there is such as thing as a thing-in-itself, that is, a thing outside its relations. I started this book with Heraclitus, but I am not a philosopher, and I do not want this book to be about philosophy. Yet I want to argue that there are important implications of what might seem a rather esoteric debate.

Many archaeological theorists today take a relational view which would be in sympathy with the rejection of the idea of a thing-in-itself (e.g. Harris and Cipolla 2017). Others take the view that there is indeed something in things outside relations, something withdrawn from us (Harman 2018, Olsen 2010, Witmore 2007). Such authors argue that objects are not sufficiently defined by their relations with humans or other objects. In my view this is fundamentally wrong. I take the strong view that there is no such thing as a thing-in-itself.

Let me explain why I take this view. It clearly is the case that we tend to see things as solids that extend in space and time. It seems that we need to hold on to the apparent stability of things. We like to think of the world in terms of solids (Bergson 1911 [1998]) and most anthropologists and archaeologists have fallen for what I take to be an illusion (e.g. Serres, Olsen, Latour and Preda – for references and discussion see Chapter 4) that societies are stabilized by things. Most of the debate about things fixates on simple things like hammers or pots or baskets in which the self-sufficient stability seems evident. But once we start to think of complex things like the weather or the internet or intangible things like smell, sound or corruption, the self-sufficient stability starts to break down. And what about things like dance that are ephemeral and fleeting? If we take these as our model rather than pots and pans, we see that things are always changing.

So this is one of the reasons I do not accept that there are things-in-themselves – complex or intangible things do not seem stable or easy to define. The weather is always changing at every instant. But this is also true of simple things. As my students sit with me in a seminar room discussing things we often use the example of the table around which we sit. Surely this is a stable thing we say as we slap the surface? But after a bit of thought we see that the table is not stable at all, it changes instant by instant. For example, if the table was put for sale on Craig's List its value would keep changing, and as the stock market changes the table goes up and down in price, and as the table ages it loses or gains value. And as we look at the table that was relatively invisible to us when we came into the room, ready to hand, we start to see it in a new light and be conscious of it, present at hand. The table comes out of ready to hand to present at hand as we discuss it.

Of course the temptation is to argue that while the perception of things and their meanings change, the thing-in-itself stays stable. But can we separate a thing from its attributes, its meanings and qualities? We only recognize a hammer as a hammer because we have seen previous hammers and we know that it has the quality of hammering in nails. To take this further we only recognize anything because we have come to perceive the world through learning and experience. Defining something as a thing at all is an intervention in the world – to cut it up in a certain way. The very fact that we identify a thing in the continua of sensory experiences around us shows that we bring a history to everything. That we see a shape or a sherd as a pot, that we see a microwave in a kitchen, that we separate a laptop from the lap and from the electricity and wireless messages that make it function, all depend on knowledge that we bring to the world around us. That we separate the desktop screen from keyboard results from the different ways we interact with them. The textile in a museum is there because of the environmental controls that manage temperature and humidity – without these it would decay and disintegrate. So everything depends on everything else in changing contexts, whether perceptual or practical.

One of the clearest ways in which the notion of things-in-themselves can be countered is by focusing on the link between thing and method of observation. I would like to give an example from excavations undertaken at Çatalhöyük. It may seem perverse to give an archaeological example at this point, given the general nature of my argument. Why give an archaeology example rather than one from our lives in the present? I have used the word 'archaeology' in the subtitle of this book for several reasons including its association with uncovering, discovery and tracing origins. But I have also used the word in the subtitle because the long-term perspective provided by archaeology allows us to see the flow of things more clearly than most histories, ethnographies or sociologies. The long-term view shows most clearly that apparent stabilities are underlain by continual change.

This is certainly true of the 1,500-year sequence at Çatalhöyük (see Box on page 61). The excavated houses seem obvious and stable when you visit the site. One looks at the houses and thinks 'they have been there 9,000 years – surely this is an example of stability?' But in fact the house walls are today held together by grouts, consolidants and a lot of hard work by conservationists every year. The stability of the house-in-itself is actually an illusion. Surely one might counter that the house existed as an independent entity in the Neolithic. Surely it was a self-evident thing when lived in. Perhaps it held that perception at any one moment in the life of the house, but as an archaeologist we see that it is in fact very difficult to say when and where the house begins and ends. The houses occur in long columns – houses built on the abandoned walls of previous houses, on exactly the same footprint. Houses are abandoned by filling in the lower part of the house with dismantled mudbrick. Often it seems that the filling already anticipates the floor plan of the new house above. So, when is the start of a new house? Figure 1.1 shows the different ways the house can be defined from the total column of a series of houses down to the detail of monthly or even weekly replasterings of floors, ovens and platforms, each time subtly changing the house. At different scales we use different techniques like micromorphology to explore the continual flow. We cut it up in different ways depending on the resolution of our analyses, on the questions we ask, the assumptions we make. In actuality there is just flow; there is no house-in-itself.

As archaeologists we call a pot a pot, but as they got broken down into smaller and smaller sherds they become particles that mix into other particles – where does the pot end? That partly depends on our scientific technologies. Using petrographic and chemical analysis we might be able to say that small particles of clayey material come from pots. So the existence of a pot depends on measurement – it is relative to the measurements we use. The recovery of potsherds of different sizes also depends on the type of sieve and sieving method that are used. The existence of a sherd in our database depends on excavation techniques and observation methods.

So I take the view that there is no such thing as a thing-in-itself. This view relates to another unconventional view that there is no such thing as the present, There is no present, just the past flowing into the future. As with the existence of things, we need to believe in the present in our attempts to construct stable lives and make sense of the world. So we construct presents all the time as part of our daily lives but I have several reasons for seeing this as a self-serving illusion.

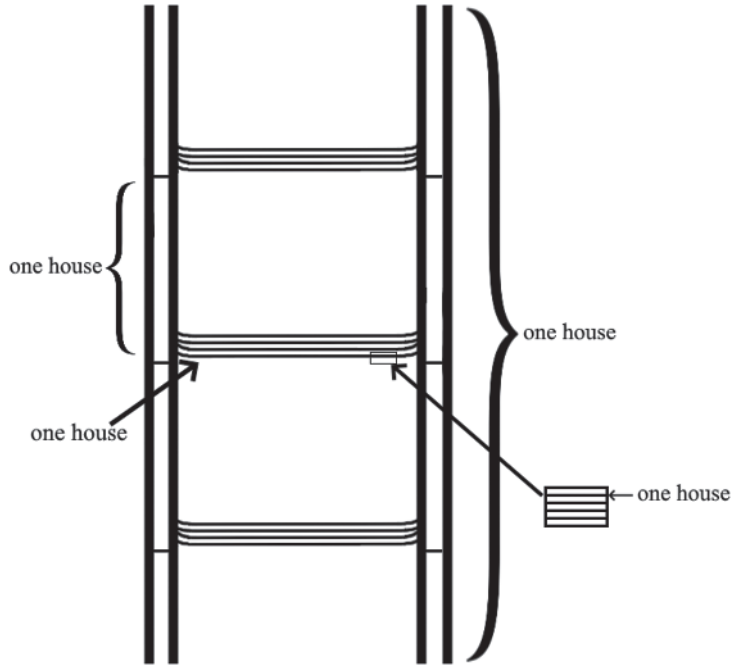

Figure 1.1 What is the Çatalhöyük house thing? (Source: Ian Hodder and Alper Bıçakcı).

The first is that in my own experience I cannot find the present. I know that people (especially of my generation) are supposed to try to 'live in the present', 'ride the moment', and I very much agree with the sentiment. But in daily life I never seem to be able to catch the moment. Even hammering in a nail, my perception is always of something just passed. I try to hold the moment when the hammer hits the nail but it always slips away. Everything I perceive is always just past. Every thought I seem to have is always just past; it has always just passed by and through my consciousness. Of course I can anticipate the swing of the hammer. And I prepare my thought in advance and anticipate it. So there is a past and a future but the former seems to flow straight into the latter. I can never catch the present and stop the flow. In the continuous Çatalhöyük house in Figure 1.1 there were daily activities involving preparing, cooking and eating food, making tools and textiles, sweeping floors and so on. In this continual flow the house was always changing. In the flow and in the becoming there is no stopping moment we can call the present.

We can say that although the flow never stops we can carve out a slice of time, bracket a set of adjacent activities and call that the present. But my other reason for rejecting the notion of the present is that there seems no basis for deciding how the present can be defined. Does it last 1 second or 100 or 1,000 years? I accept that we need to make some arbitrary lumping of time so that we can talk of systems, organizations, beliefs, categories without them shifting all the time. But our need to construct a present does not mean that it exists.

I will discuss the stability of things and the notion of the present further in Chapter 10, but for the moment (there you see an example of the need to create a present moment as I write) I want to argue that there is just flow from past to future. Thus there can never be a thing-in-itself because every thing is always changing, 'One can never step into the same river twice', said Heraclitus. Of course an alternative view is that there is only a moving present and that the past and future are just figments. I do not take this view but the important point is that even under this alternative conception there is just flow and movement.

Even what we call inanimate things have charges, weights. They are attracted to each other or repulse each other. They have force and velocity, heat and viscosity. They fall down, rise up. They form into clouds and then disappear into thin air. They dry out, get wet, change appearance and consistency. Of course this is true of gases and liquids. Water takes new forms as it flows over my moving hands beneath the tap. Solids too transform. Organic solids breathe, eat, create energy, defecate. They rot and decay. Even the hardest of inorganic solids change – rocks erode into sands that are sorted and carried in water down to the seas. Archaeologists know that even obsidian is not inert – its surface hydrates at a steady rate. At different scales, matter can be said to have a vibrant vitality (Bennett 2010).

So there are only flows of matter, energy and information driven by bio-socio-material forces such as various combinations of gravity and electro-magnetism in the physical field, the will to life and death in the biological field, and various forms of desire in the social field (Deleuze and Guattari 2004: 377, Ingold 2010). The table around which I and my students sit in the seminar room does not just fall apart into dust on the floor. This is because of electromagnetic forces at the subatomic level and because of gravitational forces that hold it onto the floor, but also because of organic bonds in the wood and because of an institutional system that desires to keep the table clean and varnished and stable in order to protect its value. In the most complex processes such as the flying of a plane, all of the different forces are at play in bundles of heterogeneous force fields.

I have focused here on the temporal instability of things so that they gather differently from instant to instant. Much the same can be said of spatial connections and gatherings. Later in this volume I will argue for spacetime rather than space and time as separate dimensions of things. But for the moment I want to point to the ways in which things are not in-themselves because of spatial continua. In the example of the Çatalhöyük house there is a debate about whether the term 'house' refers to a separate building or to groups of buildings within a larger 'house' (as in the House of Windsor in modern times) (Kuijt 2018). Houses are also linked at Çatalhöyük to open spaces and activity areas. Where the boundary of a house is drawn depends on research agendas and questions. As another example, a modern car appears to us as a car-in-itself. We are taken in by the fact that the car appears to have a perceptual boundary we can see or feel. It appears isolated, an object that is stable. But the term 'car' is used for many things that do not look like the car in front of me on the freeway (the term can be used for a train compartment, part of an elevator, a horse-drawn vehicle, etc.). The car blurs into vans and mobile homes. And beyond these perceptual issues, a car is dependent on

other things that are part of its 'carness'. For example we make the assumption that a car has a road. There is a whole network of roads and road management systems that make the car possible. An American car is connected to mines in northern Minnesota from where the iron ore to make the steel frame of the car was obtained (Ryan and Durning 1997). It is connected to the Detroit assembly plant where it was painted by robots and workers. It is connected to oil fields in Iraq over which Western and Middle East powers have fought for the last century. But we forget all these spatial connections that make the car a car. They become invisible to us, at least until the Gulf States raise the price of oil so that we have to pay more at the pumps.

When I look at the things around me on my desk, then it seems clear that they are all objectively distinct entities. I can pick them up, handle them, move them around. I perceive them as distinct and they have each their own life histories. And yet, looking more closely I see that the lamp is plugged into the wall. The phone has two cables attached to it. The computer is plugged into electric circuits and broad-band cables as well as wireless energy and information that hums around me. I look on the floor and there is a mass of wiring and plugs that leads off into the wall. We shall return to the 'front-back' aspect of things – that things often appear neat and distinct when you look at them from in front, but behind the scenes there are pipes, ducts, cables, refuse bins, coal bunkers, oil tanks hidden away at the back, or beneath the ground, or in the roof. All the connections of things are often hidden away.

I have tried to establish so far that things gather. Many of the authors who participate in a 'new materialism' or the 'ontological turn' focus on the gatherings of things in assemblages. The emphasis is placed on the heterogeneous nature of these assemblages, the networks that connect the nodes, the emergent properties that result (e.g. Harris 2017). While this focus on relationality is important, I will argue in Chapter 10 that such research often lacks explanatory power because of the focus on assemblages rather than on entanglement, entrapment and dependency.

Changing Definitions of Entanglement

My use of the term 'entanglement' is a good example of the flow of things. The affordances of the term only gradually became apparent to me, and so my definitions have gradually broadened and transformed. My notion of entanglement is not something that has remained stable. In particular the emphasis on flows or forces within entanglements only gradually emerged.

I initially defined entanglement (Hodder 2012) as the sum of four types of relationships between humans and things: humans depend on things (HT), things depend on other things (TT), things depend on humans (TH), humans depend on humans (HH). Thus Entanglement = (HT) + (TT) + (TH) + (HH). In this definition it is accepted that humans can be defined as things (as in slavery) and things can be defined as humans (as in some forms of Perspectivism – De Castro 1998) or at least as having some form of human agency. Thus humans and things are defined in relation to each other in varying ways in different contexts. Humans and things are relationally produced. But the focus

on dependence rather than simply on relationality draws attention to the ways in which humans get entrapped in their relations with things. Humans (however defined) get caught in a double bind, depending on things (however defined) that depend on humans.

It is helpful to distinguish two forms of dependence. The first and more general focus on dependence recognizes that the human use of things is enabling. Human use of things allows humans to be, live, socialize, eat, think. I use the term 'dependence' in the sense of 'reliance on'. But dependence also often leads to a second focus: dependency involves some form of constraint, as is seen in various dependency and co-dependency theories from World Systems Theory to psychology (Rice 1998, Wallerstein 1976). Humans become involved in various dependencies that limit their abilities to develop, as societies or as individuals.

Dependence and dependency create a dialectical struggle within entanglement. On the one hand, humans depend on or rely on things to achieve goals (dependence). This is the enabling part of the human use of tools and symbols in order to form the subject, society and adaptation to environments. As stated by Elizabeth Grosz (2001: 168), 'it is matter, the thing, that produces life'. On the other hand, dependency and co-dependency occur when humans and things cannot manage without each other and, in this dependency on each other, they constrain and limit what each can do. The thing has been associated with a malevolent 'biological materiality that is or may be the result of our unknowing (usually atomic or nuclear) intervention into nature, the revenge of the blob … which imperils man' (ibid.: 167). These two components of dependence and dependency, positive and negative, produce and constrain human action and lead humans into entanglements from which it becomes difficult to be detached. Because humans rely on things that have to be maintained so that they can be relied on, humans are caught in the lives and temporalities of things, their uncertain vicissitudes and their insatiable needs. Things appear as hydra-like, requiring Herculean skill to stop them multiplying and entrapping, and yet the entrapment is enticing and productive.

Entanglement can thus be redefined as the dialectic of dependence and dependency between humans and things. The term 'entanglement' seeks to capture the ways in which humans and things entrap each other. But it also seeks to recognize the ways in which a continual and exponentially increasing dynamism lies at the heart of the human experience. From the first moment when as *Homo faber* we invested in stone axes, we found we could do more and yet we found ourselves entrapped in the needs and demands of things and their limits and instabilities.

But there remain problems with the definition of entanglement as a dialectic between humans and things. In Chapter 5 I will argue that it is essential to retain a distinction between humans and things. It is in my view wrong and unethical to say that all humans and things are on the same level, all actants within networks. But yet it is clear that it is very difficult to define boundaries between humans and things. Our bodies are complex assemblages of organisms – we depend for example on the biota living in our guts, and in many societies selfhood extends into the world around us (Strathern 1988). There has been much discussion of the extended mind (see Chapter 2) and the distributed self. In most societies inanimate things are often seen as animate (e.g. Kopenawa and Albert 2013). So the ways in which humans and things are differentiated vary from context to context. We cannot take the distinction between humans and things for granted.

So today I would define entanglement as a metaphor that tries to capture the contradictory messiness of the flows and counter-flows that produce, enchain and encompass entities (humans, animals, things, ideas, social institutions). This definition recognizes that the ways in which humans and things are produced, and the ways in which they act, vary. It also recognizes continual change or flow. As we saw in the case of the Çatalhöyük house there is just a continual flow of 'houseness' in spacetime. The house is always becoming, generated by forces such as the need to provide food, the need for prestige and shelter, and the force of gravity (see further Chapter 10). But from moment to moment there are complex and contradictory flows and counter-flows that involve dependence and dependency. People depend on the walls and roofs, but the unfired mudbrick dissolves in the rain and demands repair, leading to a dependency. I will show later in this book how Çatalhöyük entities such as humans, animals, things, ideas and social institutions emerge from within these types of practical forces and flows. But however they are produced they involve messy contradictions

A good example of the contradictory messiness of entanglements is provided by the expanding use of pottery at Çatalhöyük. Pottery containers are largely absent from the earliest levels at Çatalhöyük, and the recorded densities (Tarkan 2021) show a very slow start to pottery use through the Early and Middle phases. The earliest pots are small, thick walled, locally made and organic tempered and do not seem to have been used for cooking. Presumably they fulfilled a range of containment functions. In these earliest levels cooking was achieved by heating clay balls and then either placing them in basket containers to cook food or placing food directly on the heated balls. This is a very efficient way of cooking, but it needs the cook to be present in order to reheat and replace the balls (Atalay 2005, 2013). Grit tempered, thin walled cooking pots in the form of hole-mouthed jars become common by Level South M at the start of the Middle phase (Tarkan 2021, Yalman *et al.* 2000), and as they increase in frequency, the numbers of clay balls decline (Mazzucato 2013). The advantage of these cooking pots over clay balls is that they can be placed on or hung above hearths so that the cook does not have to be so present – to some degree the pot acts as a delegate of the human cook. As the number of functions taking place in the houses increased, there may have been a premium on technologies that saved time and energy.

As shown in Figure 1.2 the entanglements of pottery were very limited in the Early phase, but they increased when used for cooking in the Middle phase. Residue analysis of the cooking pots reveals that they were used for processing meats, fats and grease, and also for milk (Pitter *et al.* 2013). As a result the entanglements of pottery increased; the pots were involved in a wider range of functions. It is as if the affordances of pottery were only gradually made use of, first as simple containers, and later as cooking pots. As social and economic systems transformed and more activities took place in the house, so the affordances of pottery containers were taken advantage of. The cooking pots enhanced the flows of food and energy through the house.

A wider range of fabrics were used in the Late period with more evidence of non-local procurement and exchange (Doherty 2013); there are also new forms that emerge in the Late and Final phases, including decorated forms. Elaborately painted pottery emerges in the early sixth millennium on the West Mound, and this may suggest an increased use of pottery in social exchange and consumption; but there are also larger

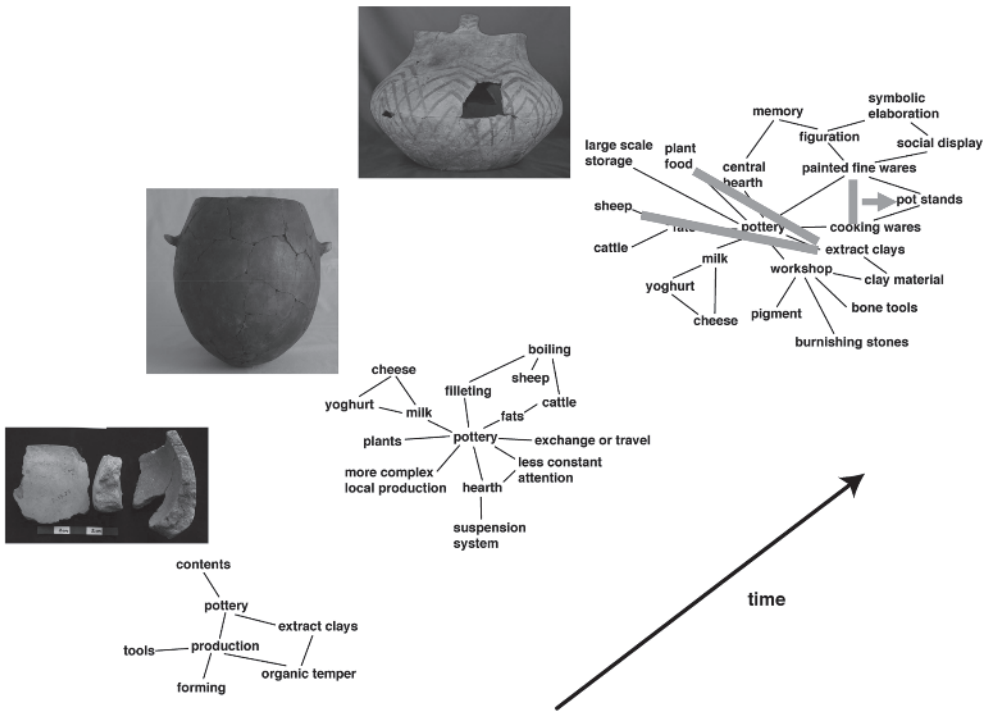

Figure 1.2 The entanglements of pottery through time at Çatalhöyük. Cross-cutting contradictions that emerged are also indicated.

vessels that emerge through time suggestive of pottery being used in larger-scale storage. The entanglements and uses of pottery containers gradually increased at Çatalhöyük, but it was a long slow process. The initial use of pots as part of a suite of different types of container then led to the use of pots in cooking and then in storage and social display.

As the entanglements of pottery proliferated, contradictions emerged in the messy, heterogeneous sets of associations. For example, clays and sands for increased and higher-quality pottery manufacture were obtained locally, adding to the pitting into the landscape immediately by the site (Doherty 2013). This was also the area where, at least in certain times of the year, some sheep were grazed (Henton 2013). The expanded use of pottery clays would have come into conflict with other uses of the local landscape, including sheep grazing. The cutting back of the reed Phragmites (Ryan 2013) may have been part of the solution. This reed increases markedly in the upper levels at Çatalhöyük and may have been part of an effort at local environment management. As another example, the intricate painting of sixth millennium BC pottery would have been in contradiction with the cooking of pots on the fire which often produced smoke smutting. And so to resolve this problem cooking and serving vessels came to be distinguished, and a new form emerged – the pot stand that separated the pots from the fire or ground and made the decoration more visible. In these cases contradictions emerged that needed resolving, leading to further entanglements.

It is probably often the case that as entanglements expand in what is frequently an unruly and contingent manner, so contradictions emerge (for other examples see Hodder 2016), But still in this example we have fixed entities in static tanglegrams that shift from one period to another. What happens if we try to shift from things as stable entities to things as flows?

From Things to Strings

When I first published a version of Figure 1.3 as an example of the entanglements of clay use at Çatalhöyük, I had not focused on the fact that there were several threads or strings that constituted the connections. There was a temporality whereby different entangled processes had to wait for each other. I explored these intersections between

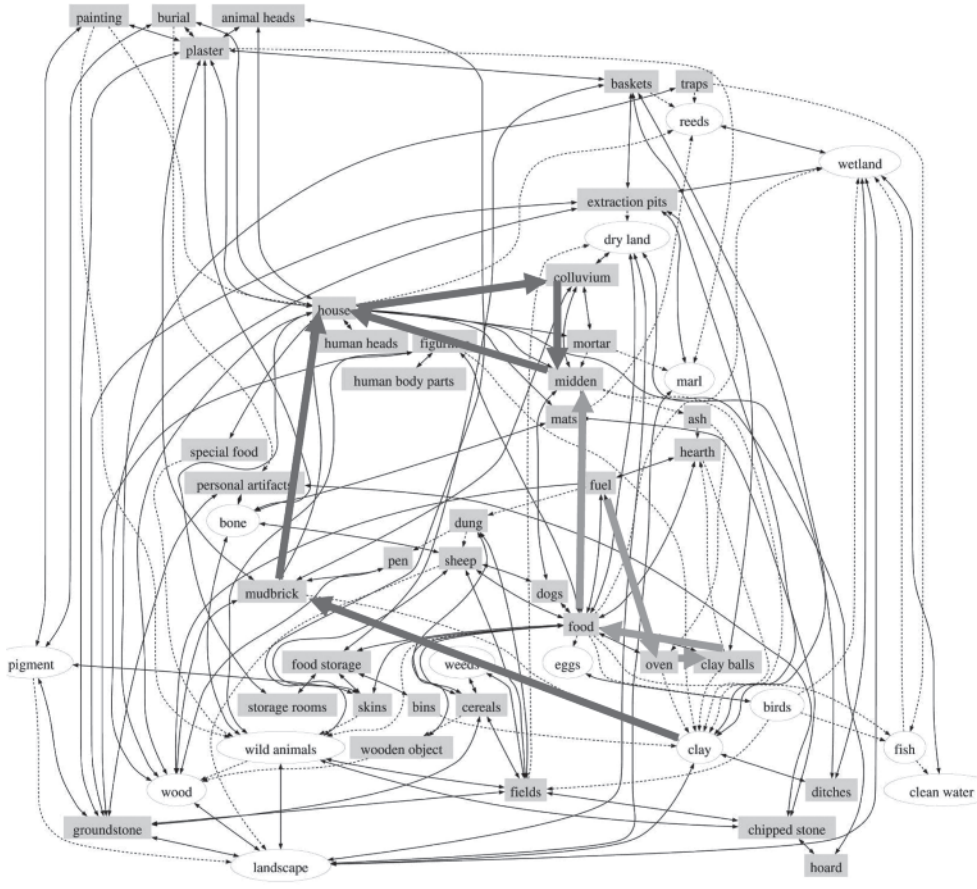

Figure 1.3 Clay entanglements in the first part of the sequence of occupation at Çatalhöyük. For the conventions used in this diagram and for further discussion see Chapter 9. (Source: Ian Hodder and Chris Doherty).

different operational sequences later in the cases of clay balls and pottery at Çatalhöyük (Hodder 2016: 117 and see Chapter 10 this volume). In the case of clay use there are several strands or strings that I have added to the original tanglegram in Figure 1.3. Thus fuel, ovens, clay balls, food and middens are not just connected in a network or assemblage, but they are part of an operational sequence or flow of energy by which fuel is used to heat ovens in which are clay balls that cook food the residues of which are placed in middens. Similarly, clay, mud brick, houses, colluvium and midden are not just nodes in a network, but they are part of a string by which clay is used to make mud brick which is used to build houses which erode adding material to colluvial deposits around the mound (Doherty 2008, 2012, 2017) which is then mixed with midden material to make new houses.

Some insight into the complexity of these interlocked strings can be gleaned from Figure 1.4 which shows some of the operational sequences or flows of energy at Çatalhöyük and how they change through time in frequency or in their character. For example the herding of sheep increases in the upper levels, and we have seen how pottery use changes from container to cooking to storage and social display. The vertical cross-cutting lines in the figure indicate some of the documented connections between these changing strings. In Chapter 10 I will explore the impact of all these cross-cutting connections between strings or flows, focusing in particular on the link between clay

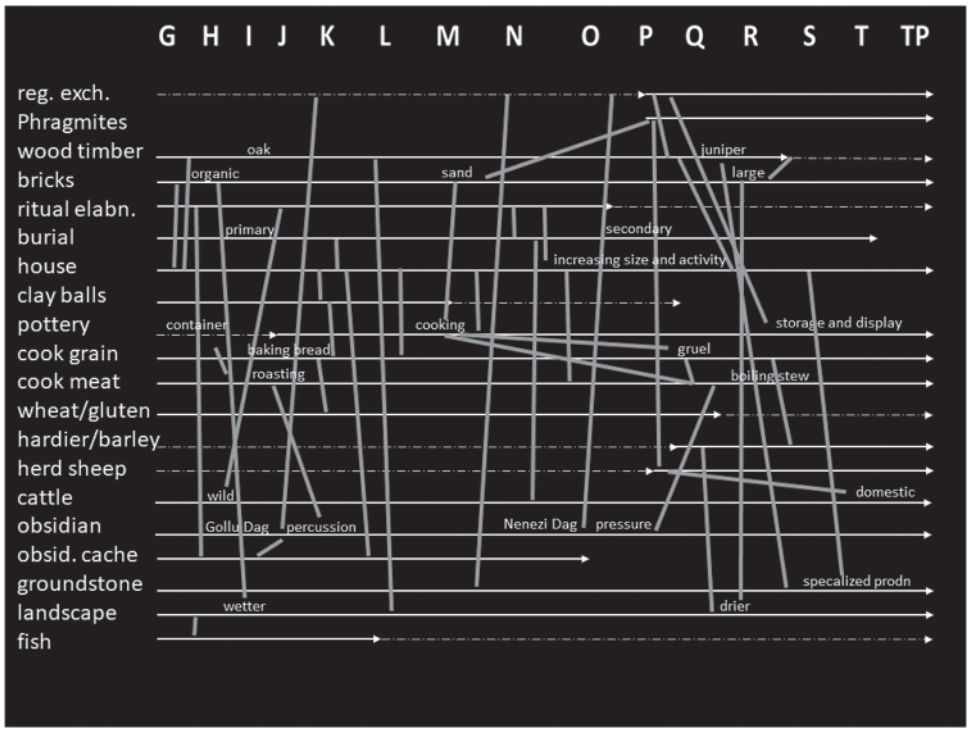

Figure 1.4 Some of the documented sequences through time at Çatalhöyük. (Source: Hodder 2020/John Wiley & Sons).

ball cooking and the introduction of cooking pottery. For the moment the aim of producing this figure is to provide a glimpse into the enormous complexity of interactions.

One of the definitions of entanglement given above refers to messiness. Rather than seeing societies as systems of well-calibrated wholes, or as a set of interacting social groups, entanglement approaches would join those that point to the messy contradictions in societies, to the compromises and tensions. It would point to the ways in which our dependence on each other and on each other's ideas and practices often leads into having to accept other ideas and practices with which they are entangled. As an example, we vote for a party that does one thing for us (e.g. protects abortion rights) while it also does things we disagree with (like allows increased immigration). Our lives are steeped in these bargains and contradictions. It all ends up an entangled mess. The messiness is why there are so many unintended consequences of actions, and those unintended consequences add to the often far-flung entanglements. Short-term solutions often end up causing long-term problems.

So, rather than a network or even a meshwork (Ingold 2010, Latour 2005) there is what might be termed a mashwork, rather like felt in which the individual strings do not make up a weave or lattice but are simply overlain on each other. We see this in our daily lives, dealing with the contradictions between these different strings. We do the shopping, drive to work, give a presentation in an interview, worry about how to get promotion, take the kids to pre-school, help out at the church, drop into vote for a promising candidate, pick up the apple juice on the way home, stop to get gas on the way. We live and narrate these little stories that we have to mash together to get through the day. And these little stories or threads are often part of larger narratives, all loosely held together like strands in felt. Entanglement is the process of being caught up in these threads, in their contradictions and messiness. At a larger scale we know that we have to get this gas so that we can go to an interview that might get us a better paid job so that we can buy what we really want – a house in the country where we can fulfil our dream of a rural idyll. But once we have gone down the path of seeking a country cottage we have closed off many other options that we could have gone for, such as traveling extensively or buying a yacht. As we go through life the options may decrease – we have become path-dependent down particular narratives or strands. At a larger scale still we may have aspirations to contribute to the fight against global warming, which means that we should stop buying gas … but we still have to get to that interview today!

Weaker and Stronger Entanglements

An important aspect of entanglements is that they both provide opportunity for change and transformation, they allow the concentration and flow of energy, matter, information, desire, but they also constrain. There is a caught-upness to entanglement that differs from network and assemblage approaches and provides greater explanatory power. In particular it allows us to understand why humans get stuck down particular pathways in a process described in Chapter 6 as path dependence.

Given examples such as seen in Figure 1.3, and given the shift from things to strings or flows, it seems possible to talk of two forms of entangled entrapment or caught-upness. In the weaker form the entanglement just results from the messy complex interlinking so that it is difficult to change one thing without changing many others. Somewhere between an organized lattice and a fibrous mass, the strings and narratives that run through and define humans and things (differently in different contexts) lead to a caught-up-ness. The tautness of the entanglements and the ways in which the strings have to wait for each other (I have to buy the gas before I can go to the interview) create constraints. Equally we got caught up in ideas that relate to each other in often contradictory and confusing ways (I have the idea that I need to buy gas but I believe in fighting global warming). This weaker form of entanglement could be said to be like a set of habits that we get stuck in because we internalize them and take them for granted – what Bourdieu called *habitus*. But entanglement is different in that it argues that we get stuck down particular pathways not from habit and convention but because we feel we cannot do otherwise, given the varied strings that bind us.

A stronger form of entanglement occurs when we shift from examining the crossed strings that produce and encompass us to consider the nature of the binding – that is we shift to explore the dependence and dependency between strings. Here the focus is on the double bind of depending on things that depend on us. As a result we are drawn into harder work or we become dependent on strings that constrain or limit us and force us into directions that are not to our benefit.

Conclusion – (a) Why Process Matters

So does the millennia-long philosophical debate about Theseus's ship really matter? In my view the answer to the question of whether the ship remains the same ship however much we change the components is easy to answer – of course it is not the same ship. And the same is true of all things, including hammers and nails, ideas and philosophies. They are all changing instant by instant as has been argued by process philosophers such as Bergson and Whitehead and in archaeology by, for example, Bogaard *et al.* (2021).

So the question is really, 'why do we think there are things-in-themselves' – 'why do we construct that illusion?' 'Why do we focus on things as stable entities rather than on things gathering flows, always changing'. Within archaeology and anthropology there has been a long tendency to assume that things stay the same, interrupted by change. The assumption is often that stability is the norm and that explanation needs to focus on the moments of change, for example from hunter-gatherers to farmers or from cities to states. There are, of course, exceptions such as some versions of a dialectical Marxism, where the notion that 'all that is stable melts into air' is a revolutionary maxim. But we see emphases on the need to explain stability rather than change in a number of approaches (e.g. in social evolutionary approaches and in homeostatic systems thinking). Things are assumed to stay the same until something changes them. Why do we do this?

The idea (illusion in my view) of a stable present in which things stay the same, the idea that we can see the world in terms of solid entities, the idea that things don't change very much all conspire to create the image of a stable society, past and present. However much change may be going on, however much there may be a need to address injustice and inequality in the present, we can hold on to the stability of things. The end result can be pernicious as when we recognize the fact that climate is changing but we are unable to do enough to redress the damage to the environment. We need to keep things as they are. The entanglements are so complex and far-reaching that it is difficult to see how to make real change. Or we believe in the long-term success of capitalism and its ability to level-up, even when there is increasing inequality and decreasing upward mobility.

The notion of a thing-in-itself suggests that if we can just fix that thing we can solve problems as they arise. Thus new technologies are touted as solving economic and social and environmental problems. But a technological intervention such as a dam is not just a dam. It has numerous changing entanglements as will be discussed in Chapter 11. The flows of water can be managed, but they have tendencies to bring down mud and silt that clog lakes and rivers. The concrete dam construction may start to leak. The dammed water may submerge historic landscapes that need to be salvaged. The problem here is thinking that the dam is a thing-in-itself when in fact it is a gathering of various flows that intersect in complex, contradictory ways.

So yes, the debate about Theseus's ship or the car on Interstate 880 does matter. The notion of things-in-themselves may blind us to the complex inter-dependencies of the world. We may not see the implications of what we do, be inured to the unintended consequences. On the whole it is in the interests of dominant groups in society to claim stability and to tout the need to keep things as they are, to keep them stable and independent of their connections. Just buy a new smartphone, don't worry about the conditions in which they are put together (see Chapter 11). Archaeologists and anthropologists who make the claim that the stability of things holds society together are complicit in these arguments. In contrast, authors such as Deleuze and Guattari (2004) focus on the role of flows, nomad science and rhizomatic undercurrents as emancipatory. For them too there are not stable things-in-themselves.

Conclusion – (b) Are We at One with Things?

Much recent literature under the banner of new materialism or the ontological turn focuses on how humans experience being and becoming in the world. This work is important because it affects how entanglement happens. Ontologies impact the way humans behave in relation to things. But often lacking in such work is the flip side of the coin – that entanglements impact the way we are in the world. It is undoubtedly the case that new technologies impact how we relate to the world and to each other, as Childe long ago recognized in relation to the wheel, but which we have seen so clearly with the new digital media. We will see more of this in Chapter 10. But for the moment it is enough to say that ontologies and ways of being with things are an integral part of entanglements.

However, much recent discussion of materiality and ontology explores how humans and things are both agentful. For example, Ingold (2007a, 2007b, 2010) describes the relationships between humans and things, such as the baskets they are making, in terms of a co-respondence – a dual process in which humans and baskets both contribute. Malafouris (2008a) and Knappett (2005, Knappett and Malafouris 2008) describe the ways in which the potter responds to the clay as a pot is drawn up on the wheel. In Material Engagement Theory (see further discussion in Chapter 10), there is discussion of the blind man's white stick as an extension of his arm, of his being. There have been ethnographic and archaeological accounts of the extended mind or the dispersed or distributed self (see discussion in Chapter 10).

This work is important for discussions of entanglements in that it contributes to an understanding of the definition of humans and things and of their relationships, at least in terms of dependence. What this type of work does not do so well is focus on dependency, constraint and limitation. In my view, humans (however defined) are always already alienated from things (however defined). I will discuss our ambivalent relationship with things more fully in Chapter 2, but here I want to note that the contradictory messiness of entanglements includes alienation. The flows that produce and animate things and humans are often productive of each other, but they are also often or always in contradiction to each other. This was brought home to me recently when I had another injury to my lower back and had to use a stick to help me walk. Certainly the stick was an extension of my arm, and my body depended on it, but I never felt at one with the stick. It tended to get stuck in chair legs or doors, or fall over if left leaning against a wall, and its presence continually reminded me of my ailment. It was a symbol of my inability to walk normally. I felt thoroughly alienated from it.

I do not argue that blind persons may have similar experiences with sticks, but I do object to the assumption that the stick is an enabling extension of self. Even if I think of objects that I have had a longer and more productive relationship with – such as the oar or skiff when I rowed for many years, or the pens or laptops with which I have written all my life, or even my spectacles on which I rely completely in all my waking moments – there is always a dependence tinged with alienation and frustration. The lives of my spectacles and me have closely entwined life histories, but they never become one in a productive co-respondence. There is always an alienation, a being constrained. I may say that my spectacles are part of me, part of my self. I say that too about my lower back. My lower back is certainly part of my being and becoming, but I also feel very alienated by it, constrained by it, angry at it. The debate about whether material things can be part of and one with human selves needs to be distinguished from the debate about alienation and entanglement.

Our always already alienation from things is the reason I do not accept the distinction made by Heidegger (and before him by Pitt-Rivers) between ready-to-hand and present-at-hand. The former refers to our non-discursive bodily engagement with things as when we take for granted the hammer that we pick up to use. The latter refers to our conscious focus on the hammer when it fails to work. Much of the new materiality and ontology literature seems suffused with the same idea – that a distinction can be made between a ready-to-hand and present-at-hand relationship with things. These ideas seem to me to be tinged with an almost romantic nostalgia for craft, for an immediate relationship

between humans and things prior to mass production of the factory made good. In my view we are always alienated from the hammer. It never quite works the way we want it to, and it has the habit of never being there when I reach for it. And the hammer that I happen to have bought does not have the fork at the reverse of the head so I cannot use it to pull out nails, so I have to use a pair of plyers, but the one set I have has got rusted shut so I cannot open it, so I have to go to the hardware store and so on. My use of the hammer is always run through with constraint, limitation, expenditure. There is always this messy set of contradictions between my dependence on the hammer itself and all the consequences of using the hammer.

As noted above, entanglement theory, as defined here, tries to capture this contradictory messiness. It focuses on the flows and counter-flows that produce productive dependence between humans and things but also explores dependency in which there is constraint and entrapment, resulting in path dependency. These ideas will be explored further in the chapters that follow. In particular there will be a return to outlining entanglement theory in Chapters 6–11 and exploring the similarities and differences with other approaches. First, however, in Chapters 2–5 I want to pick apart the dependence and dependency of humans (however defined) on things (however defined), things on things, things on humans and humans on humans.