The Rise of Critical Animal Studies
From the margins to the centre

Edited by Nik Taylor and Richard Twine
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Rethinking the role of lab animals in clinical trials

Jonathan L. Clark

In The Professional Guinea Pig, an account of an anarchist community in Philadelphia whose members support themselves by participating in clinical trials, Roberto Abadie (2010) argues that human subjects enrolled in phase one trials should be classified as workers. A phase one trial is designed to test the safety, as opposed to the efficacy, of an experimental drug; its main objectives are to discover any side effects and to better understand how the body metabolizes the drug. Unlike participants in later phases, who typically stand to benefit from the drug, participants in phase one trials do it mainly for the money, often because they have few other options, their involvement constituting not so much an instance of altruistic volunteering as an “economic draft” (Weinstein 2010: 122; see also Elliott 2010; 2008; Elliott and Abadie 2008). Drawing on Marx’s critique of the legal fiction of the labour contract, which presumes that workers with nothing left to sell but their labour-power choose freely to part with it, Kaushik Sunder Rajan (2007: 83) reminds us that the very purpose of the informed consent form that human subjects typically sign is to establish, as a legal matter, that they are not “coerced guinea-pigs”, even if, as Melinda Cooper (2008: 88) puts it, they have “nothing left to sell but exposure itself”. Increasingly, the pharmaceutical industry is outsourcing clinical trials to such places as China, India, and Eastern Europe, where there is a surplus of economically desperate people whose bodies are said to have the added advantage, from the perspective of the industry, of being relatively free of other drugs that might interact with the experimental drug, an advantage that presumably stems, in many cases at least, from their inability to afford such drugs (Cooper 2008; Petryna 2009; Prasad 2009; Rajan 2007). In the United States and countries with similar laws, participation in clinical trials is not classified as work, at least not insofar as labour laws are concerned. In response to this lack of labour rights, several scholars have argued that participating in phase one trials should be regarded as a form of “experimental or clinical labour” (Cooper 2008: 73; see also Abadie 2010: 165–166; Carney 2011: 180; Elliott 2008; Rajan 2007; Waldby and Cooper 2010, 2008).

“Guinea-pigging”, as it is often called, is a peculiar kind of work; instead of doing things it mainly entails having things done to you (Elliott 2008: 41; see also Abadie 2010: 2; Carney 2011: 180). With a few notable exceptions, such as
the long history of physicians experimenting on themselves (but also on family members), human experimentation has been a more-or-less coercive relationship involving slaves, prisoners (both in penal institutions and, most infamously, in the Nazi concentration camps), soldiers, the poor, the mentally ill, racial minorities, children, women, and other vulnerable groups (see, e.g. Guerrini 2003; Lederer 1995; Washington 2006). And as the term “human guinea pig” suggests, this is a vulnerability that human subjects share, at least in some respects, with their nonhuman counterparts. “[W]hat generates our moral response to animals and their treatment”, Cary Wolfe (2008: 11) writes, “is our sense of the mortality and vulnerability that we share with them, of which the brute subjection of the body – in the treatment of animals as mere research tools, say – is perhaps the most poignant testament” (see also Acampora 2006: 130). Whether this subject is achieved through economic coercion, as in the case of many human subjects in phase one trials, or, as in the case of the nonhuman animals on whom drugs are tested, through physical confinement and restraint, it is the reduction of the body to a mere object of labour that strikes such a powerful ethical chord (Acampora 2006: 97–103; Greenhough and Roe 2011). Indeed, it was the recognition of this shared vulnerability that helped give rise to the movement against human experimentation in the United States (Lederer 1995). In the early twentieth century, Susan Lederer explains, it was the antivivisection movement, a movement concerned primarily with the plight of nonhuman animals, that led the charge against what it called “[h]uman vivisection”, or non-therapeutic experimentation on vulnerable human groups (Lederer 1995: xiv, italics omitted). “That investigators would treat human subjects like laboratory animals was precisely what antivivisectionists feared”, Lederer (1995: 123) writes.

In the US, the UK and countries with similar laws, before a drug may legally be tested on humans in phase one trials, it must first be tested for toxicity on nonhuman animals in what is called the pre-clinical phase. The purpose of pre-clinical toxicity testing is to reduce the risk to which human subjects in phase one trials are subjected. The connection between human and nonhuman subjects raises an intriguing question: if human guinea pigs are engaged in clinical labour, what about actual guinea pigs? To date, scholars working on the concept of clinical labour have had little to say about nonhuman lab animals, and most of the scholars who have written about these animals have classified them as part of the means of production, or “living laboratory equipment”, not as labourers (Birke 2003: 213; see also Cetina 1999: 138–158; Kohler 1994: 6–8). Yet a close reading of some of these accounts reveals another way of thinking about lab animals, one that affords them greater agency. For example, in his history of the fruit fly as a model organism, Robert Kohler describes the flies most often as lab tools; occasionally, however, they figure as the scientists’ “co-worker[s]” in the lab, though Kohler does not develop this theme in any depth (Kohler 1994: 1, see also 23; for other examples, see Pemberton 2004; Russell 2004). Picking up on this theme, this chapter examines the question of whether it makes sense, both analytically and politically, to regard the participation of nonhuman animals in pre-clinical toxicity testing as a form of clinical labour.
One of the hallmarks of Critical Animal Studies (CAS) is its engagement with Marxist categories such as labour (Best 2009a; Best and Gigliotti 2007; for early examples of such work, see Benton 1993; Noske 1997; Tapper 1988). Yet much of Marx’s thought is firmly anchored in a paradigm of human exceptionalism that is inconsistent with what we are now learning about the lives of other animals (Bekoff 2011; Best 2009b). Given that one of the main goals of CAS is to critique human exceptionalism in all its various forms (Best 2009b; Gruen 2011: 1–43), what is needed is not simply an extension of Marx’s categories to include nonhuman animals; what is needed is a reconstruction of those categories from the ground up in posthumanist terms (Haraway 2008: 46, 67, 73; Potts and Haraway 2010). We need a “more-than-human” Marxism (Whatmore 2006), a “posthumanist political economy” (Raulerson 2010: 152). Exploring the possibility that humans may not be the only lab animals engaged in clinical labour is as good a place to start as any.

Indeed, Donna Haraway (2008) has already begun to explore this possibility in her work. “The posthumanist whispering in my ear reminds me that animals work in labs”, she writes, “but not under conditions of their own design, and that Marxist humanism is no more help for thinking about this for either people or other animals than other kinds of humanist formulae” (Haraway 2008: 73). Using the concept of labour to describe what human subjects do – and, more importantly, have done to them – already stretches Marx’s categories; arguing that nonhuman lab animals labour, too, bends them beyond the breaking point. That’s because using the concept to classify what nonhuman animals do – let alone what they have done to them – runs up against the “human exceptionalism” that undergirds Marx’s analysis of the labour process (Haraway 2008: 46). My goal in this chapter is to interrogate Marx’s human exceptionalism through an exploration of the concept of clinical labour. The chapter is a first step towards the development of a posthumanist understanding of the labour process.

### Human exceptionalism

For Haraway, human exceptionalism is “the premise that humanity alone is not a spatial and temporal web of interspecies dependencies” (Haraway 2008: 11; see also Pickering 2008; Tsing 2012). This definition has much in common with what Riley Dunlap and William Catton called “[h]uman [e]xemptionalism” (Dunlap and Catton 1979: 250; see also Catton and Dunlap 1978). In two pioneering articles that helped launch the field of environmental sociology, Dunlap and Catton challenged what they described as sociology’s then reigning “Human Exemptionalism Paradigm”, which they had originally called the “‘Human Exceptionalism Paradigm’” but quickly renamed in order to clarify that they were not denying the exceptional nature of human beings (Dunlap and Catton 1979: 250, italics and footnote omitted). “[W]hat environmental sociologists deny,” they wrote, “is not that *Homo sapiens* is an ‘exceptional’ species but that the exceptional characteristics of our species (culture, technology, language, elaborate social organization) somehow exempt humans from ecological
principles and from environmental principles and constraints” (Dunlap and Catton 1979: 250). Dunlap and Catton called for a “‘New Ecological Paradigm’” that would acknowledge our dependence on the more-than-human world (Dunlap and Catton 1979: 250, italics omitted). The influence of their critique of human exceptionalism in sociology cannot be overstated. Yet looking back now, some three decades later, from the perspective of CAS, one is struck by their defense of human exceptionalism (for a similar critique, see Tovey 2003). If environmental sociology emerged as a challenge to human exceptionalism, the field of CAS has emerged as a challenge to the paradigm of human exceptionalism that pervades not just sociology but much of the academy.

Humans are, of course, unique, if by this we mean “having certain capabilities that all other [species] lack” (Ingold 1988b: 97). “The same goes for every species,” Tim Ingold (ibid.) reminds us, “each of which is unique in its own particular way”. “Uniqueness”, in other words, “is not unique” (Garrard 2012: 149, italics omitted). But being unique is not the same as being exceptional, which means better than, not just different from, all the rest (Gruen 2011: 4–25). As Lori Gruen (ibid.: 2) explains, the ideology of human exceptionalism suggests not just that “[w]e engage in uniquely human activities” – which, of course, we do, just as pigs engage in activities that are uniquely porcine and cows engage in uniquely bovine activities – but that our uniqueness “elevate[s] us above animals”. Gruen unpacks the logic of human exceptionalism, revealing its two implicit claims:

The first is that humans are unique, humans are the only beings that do or have X (where X is some activity or capacity); and the second is that humans, by virtue of doing or having X, are superior to those that don’t do or have X. The first claim raises largely empirical questions – what is this X that only we do or have, and are we really the only beings that do or have it? The second claim raises an evaluative or normative question – if we do discover the capacity that all and only humans share, does that make humans better, or more deserving of care and concern, than others from an ethical point of view? Why does doing or having X entitle humans to exclusive moral attention?

(Ibid.: 4–5)

With respect to the empirical issue, mistaken claims that some trait is unique to humans often take the form of denials of evolutionary continuity (Bekoff 2011). “The anti-Darwinian view that humans are different in kind rather than in degree from other animals is a powerful conceit”, James Gould and Carol Grant Gould (2007: 272) write, “but it does not stand up to scrutiny”. Yet even if one manages to avoid this empirical error, one would still be engaging in human exceptionalism if one used differences in degree to elevate human beings above all other animals.

With human exceptionalism’s two implicit claims in mind, we can now evaluate Marx’s understanding of the labour process. Scholars have criticized
Marx on both grounds. They have criticized him for positing an exclusively human form of labour that is not, in fact, exclusive to humans, and for elevating human labour above that of all other animals. Before examining these critiques, however, we must first turn to Marx’s analysis.

**Marx’s “exclusively human” form of labour**

Before one can argue, as Jason Hribal does, that nonhuman animals “have laboured, and continue to labour, under the same capitalist system as humans”, one must first make the case that what these animals are doing and having done to them in the capitalist labour process is in fact a form of labour (Hribal 2003: 436, footnote omitted). That a nonhuman animal is subsumed within the capitalist labour process does not necessarily mean that it is the animal’s labour that is being exploited. The same goes for humans, who, besides being exploited as labourers, can also be exploited as instruments or objects of labour, to use Marx’s terms (Guthman 2011). We need to start, then, with a definition of labour.

Marx (1990) defines labour in a key section of the first volume of *Capital*. Before analysing the capitalist labour process, he first analyses the labour process itself, regardless of how it is organized socially (Harvey 2010: 111–119; Marx 1990: 283–291). Understood in this universal sense, the labour process is, for Marx, part of our species’ inescapable metabolic relation with the rest of nature. It is, as he puts it, “purposeful activity aimed at the production of use-values. It is an appropriation of what exists in nature for the requirements of man. It is the universal condition for the metabolic interaction [*Stoffwechsel*] between man and nature, the everlasting nature-imposed condition of human existence, and it is therefore independent of every form of that existence, or rather is common to all forms of society in which human beings live” (Marx 1990: 290, see also p. 133).

Just to go on living, we must labour, transforming nature to meet our needs. Although this passage suggests that humans interact with nature, understood as a separate realm, it is clear that Marx regarded us as parts of nature, a point he made in another key description of the labour process:

Labour is, first of all, a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature. He confronts the materials of nature as a force of nature. He sets in motion the natural forces which belong to his own body, his arms, legs, head and hands, in order to appropriate the materials of nature in a form adapted to his own needs. Through this movement he acts upon external nature and changes it, and in this way he simultaneously changes his own nature. He develops the potentialities slumbering within nature, and subjects the play of its forces to his own sovereign power.

(Ibid.: 283)
As this passage makes clear, Marx is not describing a metabolic relation between human beings and nature; he’s describing a relation within nature, between different parts of it. The goal of the labour process, as Marx describes it here, is to transform external nature, understood as some part of nature that lies outside the labourer’s own body. In the process of transforming this external nature, the labourer’s “internal nature”, including his or her own body, is also transformed (Dickens 2004: 258), but the labourer’s body is not the object of his or her labour. This point will become important below, when we turn to the concept of clinical labour.

Marx divides the labour process into three main elements: “(1) purposeful activity, that is work itself, (2) the object on which that work is performed, and (3) the instruments of that work” (ibid.: 284). “In the labour process”, he explains,

man’s activity, via the instruments of labour, effects an alteration in the object of labour which was intended from the outset. . . . The product of the process is a use-value, a piece of natural material adapted to human needs by means of a change in its form.

(Marx 1990: 287)

Taken together, the instruments and objects of labour constitute the means of production (ibid.). Marx does not define an object of labour, but he does define an instrument of labour as “a thing, or a complex of things, which the worker interposes between himself and the object of his labour and which serves as a conductor, directing his activity onto that object” (ibid.: 285). The instruments of labour also include “all the objective conditions necessary for carrying on the labour process” (ibid.: 286). “These do not enter directly into the process”, Marx explains, “but without them it is either impossible for it to take place, or possible only to a partial extent” (ibid.). Roads and canals are two examples he cites.

For Marx, whether something is classified as an instrument, an object, or both is determined not by its nature but by “its specific function in the labour process” (ibid.: 289). And this function is determined by the labourer’s purpose, which forms the “intentional structure” that guides the process (Benton 1989: 66, italics omitted). Some of the things that (or who) become instruments or objects of labour are themselves products of past labour, whereas others are “provided directly by nature and do not represent any combination of natural substances with human labour” (Marx 1990: 290). For example, Marx (ibid.: 284) classifies uncaught fish as “objects of labour spontaneously provided by nature” because, unlike in the case of fish who are farmed in aquaculture, human labour plays no part in their creation – or at least not intentionally, as opposed to unintentionally, as in human-induced changes to aquatic ecosystems that affect fish populations. Marx does not mean to suggest that wild fish are, by their very nature, objects of labour, that nature created them to be eaten by human beings (cf. Helmreich 2008: 474). It is only when they are being pursued by anglers wielding nets, lines and other instruments of labour that they become objects of labour.
Marx uses nonhuman animals as examples to illustrate the exclusively human form of labour. As already mentioned, he classifies uncaught fish as objects of labour (Marx 1990: 284, 287 n.7), and he classifies other nonhuman animals, most notably domesticated animals, as instruments of labour. “In the earliest period of human history”, he writes,

domesticated animals, i.e. animals that have undergone modification by means of labour, that have been bred specially, play the chief part as instruments of labour along with stones, wood, bones and shells, which have also had work done on them.

(Ibid.: 285–286, footnote omitted)

And in some labour processes, Marx explains, the very same animal is used as both an instrument and an object of labour. Take cattle feeding, in which, according to Marx, cattle are both objects of labour in the production of meat and instruments of labour in the production of manure (ibid.: 288). Why they are not instruments for producing both of these products of digestion is not entirely clear. In any event, what is most notable about Marx’s examples is that nonhuman animals are always classified as part of the means of production; they are never labourers who work alongside human beings.

This brings us to the first element: purposeful activity. We are not the only organisms who transform external nature and are who themselves transformed in the process. “[A]nts do it, beavers do it, all kinds of organisms do it”, David Harvey (2010: 112) reminds us (see also Lewontin and Levins 2007: 31–34). What Marx is primarily interested in, however, is what he describes as the “exclusively human” form of labour (Marx 1990: 284). What makes this type of labour exclusive to humans, and what elevates it above what Marx describes as “those first instinctive forms of labour which remain on the animal level”, is that, unlike nonhuman labourers, human labourers are able to transform nature according to a mental blueprint or plan (ibid.: 283). Marx makes this crucial distinction by contrasting the architect with the bee:

A spider conducts operations which resemble those of the weaver, and a bee would put many a human architect to shame by the construction of its honeycomb cells. But what distinguishes the worst architect from the best of bees is that the architect builds the cell in his mind before he constructs it in wax. At the end of every labour process, a result emerges which had already been conceived by the worker at the beginning, hence already existed ideally. Man not only effects a change of form in the materials of nature; he also realizes [verwirklicht] his own purpose in those materials…

(Ibid.: 284)

It is here, in his discussion of this form of labour that, he claims, distinguishes humans from all other organisms, that Marx exhibits the human exceptionalism that has drawn so much criticism from scholars in the field of CAS (Nimmo 2011).
Critiques of Marx

Recall that, for Marx, it is not labour that sets humans apart. He acknowledges that at least some other animals labour, too. But they do so instinctively, he argues, and only humans are able to transform nature according to a plan. When engaged in this exclusively human form of labour, the labourer first creates a mental blueprint of the use-value that the labourer wants to create, and then the labourer sets out, wielding one or more instruments, to attempt to transform some external object into that use-value. It’s the planning that allegedly makes this form of labour unique to humans. Richard Levins and Richard Lewontin (1985: 255) offer a useful summary of Marx’s understanding of the uniquely human form of labour:

it transforms the world of nature into a world of artifacts that serve human beings; this transformation is carried out socially rather than individually; and it is done by the producer first conceiving mentally the end to be achieved and the varied means of its achievement, thus action is teleological.

Given that some nonhuman animals transform nature into artefacts (e.g. birds’ nests), and others (e.g. ants) transform nature socially, they explain, “[w]hat seems to be unique to humans”, at least in Marx’s view, “is the conscious planning, the imagining of the result before it is brought into existence by deliberate teleological action” (ibid.). “This last element is what marks off human labour from the activities of mere animals”, they write, implying with the word mere that human superiority, not just difference, lies at the heart of Marx’s description of the labour process (ibid., italics added).

Anthropologist Tim Ingold has offered the most sustained critique of how nonhuman animals figure in Marx’s analysis of the labour process (see, e.g. Ingold 2011; 2000; 1988b; 1987; 1986; 1983; 1980). Yet despite this cogent critique, Ingold seems ultimately to agree with Marx that only humans can transform nature according to a mental blueprint. As we will see, this puts Ingold’s views, like those of Marx, at odds with the views of at least some students of animal cognition and consciousness.

In his critique of Marx, Ingold takes issue with Marx’s use of domesticated animals as examples of instruments of labour (Ingold 2000: 307–308; 1980: 88). Ingold writes:

[I]n Capital, domestic animals are classified alongside primitive tools as instruments of labour…. This, however, is to relegate animals to the status of mindless machines. In truth, the domestic animal is no more the physical conductor of its master’s activity than is the slave: both constitute labour itself rather than its instruments, and are therefore bound by social relations of production…

(Ingold 1980: 88)
For Marx, you’ll recall, an instrument of labour conducts the labourer’s activity.\(^3\) According to Ingold, classifying animals as conductors of human activity denies their agency. “[T]o regard the animal as a mere tool”, Ingold writes, “is to deny its capacity for autonomous movement…; tools cannot ‘act back’ or literally interact with their users, they only conduct the users’ action on the environment …” (Ingold 2000: 307 citations omitted; see also Murray 2011). Yet later in *Capital*, as Ingold (2000: 308) acknowledges, Marx notes a fundamental difference between animals and inanimate tools. One of the problems with horsepower, Marx (1990: 497) writes, is that “a horse has a head of its own”. So by suggesting that animals can be used as instruments of labour, Marx is not necessarily denying that they are capable of resisting their use as such.

Nor, for that matter, does Ingold deny that humans and other animals can become part of the means of production. Through the use of various “instruments of coercion”, he explains, they can in fact be “virtually reduced to a machine existence through the systematic repression of their powers of autonomous action” (Ingold 2000: 307–308; see also Jones 2003). But, he goes on to explain,

> the essential difference between the human mastery over animals and over machines is that although both … ‘can be compelled to do work’, the machine is compelled by the very nature of its construction whereas the animal is compelled by the external imposition of coercive force.

(Ingold 2000: 308, citation omitted)\(^4\)

That animals can be either labourers or means of production (or, perhaps, both simultaneously) reminds us that the role an animal plays in a particular labour process depends upon the intentional structure of that process. So when Ingold (2000: 307) says that “animals constitute labour itself rather than its instruments”, or when Haraway (2008: 80) says that “animals are working subjects, not just worked objects” or the instruments with which that work is done, they are not saying that animals are inherently labourers, or even that it is only in their capacity as labourers that they are ever enrolled in the labour process. Rather, they are reminding us that, just like humans, other animals can be enrolled in the labour process not just as part of the means of production but also as labourers. In the end, then, Ingold’s critique of Marx is that, in illustrating the exclusively human form of labour, Marx classifies other animals only as instruments or objects of labour (or both), ignoring the fact that they can also be fellow labourers, albeit labourers who are not engaged in the exclusively human form of labour.

Ingold also takes issue with Marx’s description of nonhuman labour as instinctive. By characterizing it this way, Ingold (1983: 12) argues, Marx denies the capacity of at least some nonhuman animals to engage in “purposive labour”. By purposive Ingold does not mean purposeful, at least not in Marx’s sense of following a mental blueprint. He means that, in the process of transforming nature, the labourer is conscious of what he or she is doing. When it comes to
planning, however, Ingold agrees with Marx. “Man is not uniquely purposive”, Ingold writes, “but he is unique to the extent that he carries a conscious, symbolic representation of the procedures by which his purpose is to be executed” (ibid., italics in original). For Ingold, this unique capacity is grounded in another: the capacity for language. He writes:

While accepting the Cartesian premise that thinking in the sense of the construction of prior intentions, being dependent upon language, is a uniquely human capacity, [I] reject the view that such planning is a condition for the intentionality of action. Thus, “the question of animal consciousness … must be separated from that of animal thinking.” The animal that does not premeditate and plan is not therefore an automaton, but a conscious agent and patient who acts, feels and suffers, just as we do. Like us, it is responsible for its actions, having caused them to happen, even though it lacks our human ability to render an account of its performance, whether beforehand as a plan or retrospectively as a report.

(Ingold 1988a: 8–9, italics in original)

Lacking language, Ingold argues, animals cannot think, in the sense of “[a]ttending to concepts” (Ingold 1988b: 94). And without the ability to think, they cannot plan the transformation of nature. For all his disagreement with Marx, then, Ingold ultimately seems to agree that Marx’s architect is engaged in an exclusively human form of labour. By distinguishing the architect’s finished product from that of the bee, both Ingold and Marx imply that only the architect’s qualifies as an artefact (Ingold 1988b). Ingold defines an artifact as “any object that results from the imposition of prior conceptual form upon material substance” (ibid.: 85). Given this definition, only Marx’s exclusively human form of labour is capable of creating artefacts. Take, for example, the beaver lodge:

Unlike the human house, the beaver lodge cannot be regarded as an artifact or work, since it is not the realization of a prior conception in the mind of the builder, any more than is the shell of a snail. But we have no reason whatsoever to deny that the beaver is acting intentionally, for … the existence of a plan is not a necessary condition for the intentionality of action.

(Ingold 1986: 315)

Beavers labour purposively, as Ingold defines it, because they experience building their lodges as something they do (Ingold 1988b: 95–96; 1986: 313). To distinguish the exclusively human form of labour from the purposive labour in which at least some other animals engage, Ingold borrows a distinction between “prior intentions” and “intentions in action” (Ingold 1988b: 96, citation and italics omitted; 1986: 312). “A prior intention is an imaginative representation of a future state that it is desired to bring about. …[,]” whereas “intention in action … corresponds to the experience of actually doing…” (Ingold 1986: 312).
“Conduct that is spontaneous, carried out without previous thought or reflection, but which we nevertheless experience as issuing from ourselves as agents, rather than being purely involuntary, carries intention, but is not motivated by prior intention”, he explains (Ingold 1988b: 96). To be defined as labour, the transformation of nature must be accompanied by intention in action, but it need not involve prior intention (Ingold 1986: 321). What this means is that only organisms that are capable of intention in action can be said to labour. And among these purposive labourers, only humans are capable of prior intention (Ingold 1988b: 97). Ingold seems therefore to agree with Marx that human labour is different in kind, not just in degree, from that of all other animals (ibid.).

Yet for Ingold, the exclusively human form of labour is not the only (or even the main) type of labour in which humans engage. That we’re the only ones who do it doesn’t mean that it’s all we do. Indeed, humans rarely plan things out, he argues, “except intermittently, on those occasions when a novel situation demands a response that cannot be met from the existing stock-in-trade of habitual behaviour patterns” (ibid.). Most of the time we are engaged in a form of labour that “does not differ all that substantially from the conduct of non-human animals” (ibid.: 85).

In his most recent work on the labour process, Ingold (2011) elevates the importance of intention in action and downplays the importance of prior intention:

Perhaps … the essence of production lies as much or more in the attentional quality of the action – that is, in its attunement and responsiveness to the task as it unfolds – and in its developmental effects on the producer, as in any images or representations of ends to be achieved that may be held up before it. … Conceived as the attentive movement of a conscious being, bent upon the tasks of life, the productive process is not confined within the finalities of any particular project. It does not start with an image and finish with an object but carries on through, without beginning or end, punctuated – rather than initiated or terminated – by the forms, whether mental or [material], that it sequentially brings into being.

(Ibid.: 6; see also 1986: 321–324)

Yet even in this recent work, Ingold (2011) still seems to believe that it is only humans whose ongoing actions are ever punctuated by a mental blueprint of what is to be produced. Nevertheless, by elevating the importance of intention in action and downplaying the importance of prior intention, Ingold rejects the notion that what he apparently still takes to be our uniqueness elevates us above all other animals. As he puts it,

… once we dispense with the prior representation of an end to be achieved as a necessary condition for production, and focus instead on the purposive will or intentionality that inheres in the action itself – in its capacity literally to pro-duce, to draw out or bring forth potentials in the person of the
To summarize Ingold’s view, then, at least as I understand it, Marx was not wrong to suggest that only human beings are able to plan the transformation of nature, but he was wrong to ignore the purposive labour of at least some other animals. Ingold also seems to want us to focus not on what makes our labour unique, but on what it has in common with that of other purposive agents.

But is it even true that Marx’s exclusively human form of labour is exclusive to humans? “Until comparatively recently”, Gould and Gould (2007: 4–5) explain in Animal Architects, “only the most unreserved romantics conceived of a role for planning and thought in any brain but ours”. But thanks to recent research in cognitive ethology and related fields, our views of other animals are starting to change. Often described as an ecosystem engineer, the beaver is a prime candidate for challenging Marx’s views (Cheng 2006). One of Marx’s contemporaries, Lewis H. Morgan, was convinced that beavers were akin to human architects. “When a beaver stands for a moment and looks upon his work”, Morgan (1986: 256) wrote, “evidently to see whether it is right, and whether anything else is needed, he shows himself capable of holding his thoughts before his beaver mind; in other words, he is conscious of his own mental processes”. Ingold (1988b) rejected Morgan’s notion that beavers – or any other nonhuman animals, for that matter – are capable of planning, but others are not so sure (see, e.g. Gould 2007; Gould and Gould 2007: 251–269, 278–279; Griffin 2001: 99–112). Donald Griffin (ibid.: 103) was puzzled that Ingold could recognize that at least some other animals are conscious of their activities, yet deny “any sort of foresight, even for a short time into the future – denying that animals have any thoughts about the likely results of their own activities”. Describing how beavers excavate their burrows, Gould and Gould (2007: 257) observe that “[i]magination, an ability to plan, and a ready willingness to learn from experience seem the most realistic combination of cognitive faculties to generate this aspect of the beaver’s life”. “And this is just the burrow”, they add. Offering a story about a group of beavers that repaired a dam that human vandals had damaged, Griffin (2001: 111) suggests that beavers are able to develop novel solutions to unexpected and unprecedented problems (see also Gould and Gould 2007: 266–268). “[W]hen an animal can repair unlikely damage to something it has built”, Gould and Gould (2007: 278–279) explain, “the simplest interpretation is that it has some kind of picture of the goal or the structure of the finished product”. Indeed:

[...]

In ability to skip unnecessary steps, to take advantage of or compensate for unusual contingencies, to find alternative solutions to a problem, and to
use novel materials may suggest more than a picture; in these situations [beavers] may have some understanding of the goal, the needs to be met.

(Gould and Gould 2007: 279)

“In some sense”, they continue, “the ability to skip steps in a process, or to repair damage in a flexible way, are acts of extrapolation, of seeing the consequences of actions before performing them . . . [This] is the ability . . . to formulate a plan” (ibid.: 279). Gould and Gould (ibid.: 268) therefore conclude that “[a]lmost everything about the actions of [beavers] suggests that they employ concepts and reasoning to power their behavior, with insight emerging when they encounter especially difficult challenges”.

This and other recent research in cognitive ethology and related fields suggests that what Marx classified as an exclusively human form of labour may not be exclusive to humans after all. Jon Elster may well have been correct, then, when he observed nearly three decades ago that “Marx erred in Capital I when he denied to animals the capacity to work according to a mental plan” (Elster 1985: 65). As Sherryl Vint (2009: 124) puts it, Marx’s “distinction between the imaginative labour of humans and the instinctual, responsive behaviour of animals has not held up…” (see also Levins and Lewontin 1985: 255; Smith 2001: 86). Of course, Marx did not have the benefit of this research when he was developing his understanding of the labour process. But the same cannot be said for the many contemporary Marxists who remain oblivious to this work, and its profoundly unsettling implications for their taken-for-granted human exceptionalism (Best 2009b). Yet given how deeply rooted this ideology is in Western thought, it is by no means clear that empirical evidence will ever settle the issue. As Gruen (2011: 12) observes, the perennial debate about human uniqueness tends to follow a “bar-raising dialectic”. When it is no longer plausible to deny that at least one other species has a trait that was once said to be unique to humans, defenders of human exceptionalism can be expected to put forward another candidate to take its place as the uniquely human trait of the day. So even if it should someday become widely accepted that certain other animals are able to plan the transformation of nature, this new truth may simply be greeted with a claim that human labour is unique (and exceptional) in some other way.

To be clear, I am not denying that human labour is unique, though I leave it for others to say what exactly makes it so. What I am suggesting is that the uniqueness of human labour is likely to be a matter of degree rather than kind.

Interestingly, once one accepts that at least certain other animals labour, it becomes possible to expand the concept of social relations of production to include “human-animal relations of production” (Tapper 1988: 52; see also Ingold 1980: 88). Another crucial implication of taking the labour of nonhuman animals seriously is that it unsettles the assumption that they are only ever enrolled in the labour process by humans (Smith 2001: 90–93). Yet perhaps at least some other animals are capable of initiating the labour process and enrolling human beings into it, either as fellow labourers or as instruments or objects of labour. In such cases, it would be the intentions of the nonhumans that would...
form the intentional structure of the labour process. In other cases, the intentional structure might be better understood as a combination of the intentions of all the purposive agents, whether human or nonhuman, who participate in the process. One of the great strengths of research in cognitive ethology and related fields is that it makes it possible to raise these kinds of possibilities and have them taken seriously (cf. Crist 2002).

Besides being criticized for his claims about the uniqueness of human labour, Marx has also been criticized for elevating human labour above that of all other organisms. Lawrence Wilde (2000) has defended Marx against this charge. Although Marx did regard human labour as unique, Wilde (ibid.) argues, he did not think that it was superior. Wilde questions the translation I quoted above, which has Marx placing the exclusively human form of labour on a higher level than “those first instinctive forms of labour which remain on the animal level” (Marx 1990: 283). Wilde (2000: 47) offers this translation instead: “We are not dealing here with the first forms of labour bounded by instincts as animals are.” In claiming that the exclusively human form of labour is not bounded by instincts, Marx is not elevating it above the instinctive labour of all other animals, Wilde argues; he is just saying that it is different. Wilde also suggests that the contrast Marx draws between the architect and the bee conveys respect for the labour of other animals. “Marx selects the most intricate of animal productions to make his point, and in so doing reveals a respect for their endeavours and their nature” (ibid.). There is, however, a more plausible interpretation of this passage: that, according to Marx, even the worst human labourer has something that the best nonhuman labourer lacks. David Harvey, who has been teaching Capital for more than forty years, acknowledges the human exceptionalism that lies at the heart of Marx’s description of the labour process. “The more we know about bees”, Harvey (2000: 202) writes, “the more the comparison with even the best of human labour (let alone the worst of architects) appears less and less complimentary to our supposedly superior powers”. Like Harvey, Barbara Noske (1997: 73) suggests that, for Marx, the exclusively human form of labour is superior to, not just different from, what he regards as the instinctive labour of all other animals. I think it is reasonably clear that Marx’s analysis of the labour process is based on a foundation of human exceptionalism.

Clinical labour

Recall that in Marx’s description of the labour process, the object of labour is part of the labourer’s external environment, outside his or her own body. This, however, is not always the case. In body-building, for example, the body-builder’s own body is the object (and an instrument) of his or her labour (Wacquant 1995). Using parts of his or her body as instruments, often in conjunction with such instruments as weights, the body-builder sculpts his or her own body, and like Marx’s architect often does so in order to achieve a form that he or she first conceives of mentally (Wacquant 1995). As in body-building, in clinical trials it is the human subject’s own body that is the main object of labour. It is also
defined as “processes in which subjects give clinics and commercial biomedical

For Cooper and her colleagues, guinea-pigging is one type of clinical labour, defined as “processes in which subjects give clinics and commercial biomedical

Hearing guinea-pigging described as labour can be somewhat jarring. What makes it so difficult to think about participation in clinical trials as a form of labour is its passivity, at least as compared to the more active “bodily labour” of, say, the body-builder (Wacquant 1995: 65). “Guinea pigs do not do things[,]” Carl Elliott (2008: 41) writes, “so much as they allow things to be done to them”. One professional guinea pig described the work as follows:

[Y]ou are not asked to produce or to do something anymore, you are being asked to endure something. So, if you are a guinea pig you are enduring something, people are doing things to you and you are just enduring it, you are not actually producing something. I feel that I am a worker but it is not work…

(quoted in Abadie 2010: 2)

In addition to enduring any procedures that are performed on their bodies, human guinea pigs in phase one trials must also endure being exposed to the risk of an adverse reaction to the experimental drug. For Melinda Cooper (2008), exposure to risk is what defines this peculiar form of labour:

An essential component of clinical trial participation is what is referred to as “risk” in technical terms but which might be better rendered by the more suggestive term “exposure”. Human subject experimentation in drug testing can be described as a form of transformative exposure, where the patient is called upon to both experience the sometimes unpredictable metabolic effects of pharmaceutical compounds and perform a number of second-order tasks such as adhering to a strict regime of diet and drug administration, self-monitoring and recording of information. This is a depiction of labour that places it somewhere between passive and active participation, experience and self-experiment. Labour would then be defined as the experience of self-transformation—commodified. If we were to redefine labour in this way, the contribution of the clinical trial participant or tissue donor to the production of bioeconomic value would become more readily comprehensible. The clinical labourer is the person who “consents” to their own self-transformation for a certain return (although this return can be direct or indirect, monetary or in kind)…

(Cooper 2008: 76; see also Waldby 2012)
institutions access to their in vivo and in vitro biology, the biological productivity of living tissues within and outside their bodies” (Mitchell and Waldby 2010: 339; see also Waldby and Cooper 2010, 2008). A particularly “onerous for[m] of clinical labour”, guinea-pigging entails “lending [one’s] bodily metabolism and everyday experience of health and illness to often risky pharmaceutical research…” (Mitchell and Waldby 2010: 339). Some of the second-order tasks that guinea pigs often perform could, in theory, be performed by someone (or something) else. The most essential service, the one that defines this labour process, is the guinea pig’s willingness – if it makes sense to call it that, given the social constraints within which such choices are often made – to endure “risk exposure itself” (Cooper 2008: 88; see also Waldby 2012). For Cooper (2008: 90), “participation in clinical trials is doubtless one of the most extreme forms of contemporary experimental labour, simply because it invalidates any distinction between labour power and the body of the labourer”. To put this in Marx’s terms, the guinea pig’s labour – if that is what we want to call it – consists of participating in the transformation of him- or herself into an object of labour, and then enduring the consequences of being utilized as such, including the risk of an adverse reaction and the consequences of any reaction that does occur.

Some scholars prefer to describe human guinea pigs as objects of labour rather than as labourers (Weinstein 2010). Building on the work of Joe Dumit, Matthew Weinstein (ibid.: 119) suggests that what is extracted from human guinea pigs in the capitalist labour process is not surplus labour but “surplus health”. “Health beyond that needed for basic functionality...can be extracted by the pharmaceutical companies and converted into clinical knowledge”, he writes (ibid.). But although “their work as human scientific objects” may not be work “in a classical Marxist sense of the term” (Weinstein ibid.: 124, 119), it is arguably labour in Ingold’s sense of the term. After all, enduring the process of being worked on involves purposive action. Even so, using the term labour to describe enduring what one professional guinea pig described as “‘the mild torture economy’” is unsettling (quoted in Abadie 2010: 2). Although the capitalist labour process often inflicts pain on the bodies of workers (Fracchia 2008), this is not typically the goal. In clinical trials, by contrast, the whole purpose is to expose subjects to the risk of harm (Cooper 2011). As I explain below, our understandable uneasiness about using the term labour to describe the process of enduring “torture” raises questions about whether making this analytical move is likely to be politically productive.

It’s unclear whether all aspects of guinea-pigging would constitute labour in Waldby and Cooper’s sense of the term. Ingold’s (1983) useful distinction between eating and digesting can help highlight the relevant issue here. Eating is labour because we do it intentionally, Ingold (1983) argues, but the involuntary physiological processes involved in digesting the food are not. While eating, it is I who am labouring, Ingold argues, whereas it is my body, not I, that does the work of digestion (Ingold 1983). By this logic, ingesting a drug is labour, and so is enduring the process by which one’s body metabolizes the drug, including any adverse reactions to it, but the involuntary biochemistry of metabolism itself is
not a form of labour. This is because Ingold’s definition of labour is tied to purposiveness, and “purely involuntary” activities do not count (Ingold 1988b: 96). Although Waldby and Cooper refer to the “biological labour” of the body, and although they seek to overcome the “mind/body split”, their views on the issue of whether labour can be involuntary are not entirely clear (Waldby and Cooper 2008: 59; 2010: 9). One could of course argue that labour need not be purposive, that organisms are constantly labouring simply by being alive, and that anything a living organism does, whether intentionally or unintentionally, constitutes a form of labour. Labour would thus be defined as the dialectical metabolic relation between an organism and its environment. One could even extend the concept of labour to what cells and other biological materials do (see, e.g. Thacker 2005). But if we accept Ingold’s view of labour as an ongoing process, then perhaps we need not break that process down into its constituent pieces and ask which of them are labour and which are not. As Ingold (2011) explains, labour is an ongoing process that is punctuated by different kinds of moments; some may be purposive, others may reflect a degree of planning, and still others may be entirely involuntary. Ingold (2011) does, however, seem to imply that the labour process must involve at least some degree of purposiveness – or, at the very least, that only those beings who are capable of purposive action can be said to ever labour.

Clearly, the human beings, dogs, primates and rodents who are involved in clinical trials typically endure the process as purposive agents. Nonhuman animals experience toxicity testing as something they do – and have done to them. Of course, unlike human subjects, they do not worry about the risks to which they are exposed, though they apparently can anticipate certain experimental procedures (Nuffield Council on Bioethics 2005: 166). But when it comes to the most essential aspect of the labour process – namely, purposively enduring exposure to an experimental drug and its effects – the participation of non-human subjects in pre-clinical trials would seem to be enough like the participation of human subjects in phase one trials that if we are going to call the latter labour we should probably call the former labour, too. Or should we?

What’s in it for the (lab) animals?

Cooper (2008) wants the concept of clinical labour to do political, not just analytical, work. “To formulate human subject experimentation as a form of labour is at once an observation and a provocation”, she writes (Cooper 2008: 76). “Perhaps ‘labour’ is always a critical concept”, she argues, “and one that emerges from a point of view of non-compliance or contestation” (Cooper 2008: 77). “By reformulating human subject experimentation as labour”, she is “hoping to open up the scope of political critique to include a consideration of this liminal, but essential moment in the production of biomedical value” (Cooper 2008: 77). One reason for characterizing guinea-pigging as a form of labour is that doing so might benefit human subjects in some way. Abadie (2010: 165–166) takes this position, urging us “to recognize that volunteers’ participation is labour, even if it
is what they call a ‘weird type of work,’ and provide better working conditions and proper compensation”. Another reason for describing guinea-pigging as labour is that doing so highlights the crucial contributions that these human subjects make to drug innovation. “There is no medical efficacy, no patentable biomedical innovation, and thus no innovation value without the participation of living bodies in clinical trials”, Cooper (2008: 78) reminds us. And this includes the bodies of the nonhuman animals on whom drugs are tested (Birke 2012; Waldby 2012). Indeed, given current scientific practices and legal structures, the profitability of the pharmaceutical industry depends upon the bodily contributions of both types of subjects.

Whether it is politically productive to apply the concept of clinical labour to human guinea pigs is a question I leave for others to address. For scholars in the field of CAS, the question is whether it’s a politically productive move in the case of actual guinea pigs. If one’s main goal is to demonstrate that nonhuman animals are a source of value in the capitalist labour process, then characterizing their contribution as labour makes sense. But it’s hard for me to imagine how developing a posthumanist labour theory of value might help improve the plight of nonhuman lab animals. This is not an argument against developing such a theory, but we are still left with Lynda Birke’s (2009) question, “What’s in it for the animals?” As Birke explains,

to ask “what’s in it for animals?” is partly to plead for greater accountability to the animals we bring into our studies. To think about that question is not only to ponder what they might think about it, but also to consider whether our investigations can help to bring about change – in the ways we think about them and their abilities, in the ways we treat them, in the ways we respect – or not – the places they live. That is, perhaps, not the remit of many academic inquiries. But thinking about politics has always been within the remit of fields like women’s studies, which sought to challenge – and change – the oppressions besetting women throughout the world. In my view, it should remain within the remit of animal studies. Animals may indeed be supremely indifferent to the names we give them: but they are not indifferent to the naming of oppression.

(Ibid.: 7)

So I am left with the question of what, if anything, might be in it for “lab animals” when we reformulate what they do – and have done to them – as a form of labour. Donna Haraway suspects that there may, in fact, be something in it for them:

My suspicion is that we might nurture responsibility with and for other animals better by plumbing the category of labour more than the category of rights, with its inevitable preoccupation with similarity, analogy, calculation, and honorary membership in the expanded abstraction of the Human. Regarding animals as systems of production and as technologies is nothing
new. Taking animals seriously as workers without the comforts of humanist frameworks for people or animals is perhaps new and might help stem the killing machines.

(Haraway 2008: 73, footnote omitted)

Refashioning the category of labour to include nonhuman animals helps challenge the paradigm of human exceptionalism that justifies so much violence against animals. Describing the animals who are subsumed within the capitalist labour process as labourers, instead of as part of the means of production, also helps remind us that they are subjects rather than objects (ibid.: 80). That said, the same point could just as easily be made by suggesting that they are not labourers but rather subjects who are treated as objects of labour.

Zipporah Weisberg (2009) is less optimistic than Haraway about refashioning the category of labour to include lab animals. “In reality”, she writes, “animals in labs are not workers – not even alienated workers – but worked-on objects, *slaves* by any other name” (ibid.: 36). “To call them anything else is to gloss over the brutal reality of the total denial of their ability to act in any meaningful way—namely, as self-determining *subjects*”, Weisberg (2009: 36) writes. This is not the place to examine the use of the slavery analogy, except to note that not all slaves have been reduced to mere objects that are incapable of resistance – a point I return to below, in my discussion of Foucault. What I take from Weisberg is a deeper appreciation of the limitations of thinking about the labour process in abstraction from the “human-animal relations of production” within which it is organized (Tapper 1988: 52). Although focusing my analysis on the labour process itself enabled me to examine the human exceptionalism that lies at the heart of Marx’s concept of labour, doing so also risked obscuring what Weisberg (2009) describes as the relations of domination to which many lab animals are subjected. To understand this domination, we need to turn now to Foucault.

Foucault distinguishes power relations from both “relations of violence” and “states of domination” (Foucault 2000b: 340; 1997: 283). As he explains,

… what defines a relationship of power is that it is a mode of action that does not act directly and immediately on others. Instead, it acts upon their actions: an action upon an action, on possible or actual future or present actions. A relationship of violence acts upon a body or upon things; it forces, it bends, it breaks, it destroys, or it closes off all possibilities. Its opposite pole can only be passivity, and if it comes up against any resistance it has no other option but to try to break it down. A power relationship, on the other hand, can only be articulated on the basis of two elements that are indispensable if it is really to be a power relationship: that “the other” (the one over whom power is exercised) is recognized and maintained to the very end as a subject who acts; and that, faced with a relationship of power, a whole field of responses, reactions, results, and possible inventions may open up.

(Foucault 2000b: 340)
Foucault makes two crucial points here. First, using force against someone’s body is not an exercise of power, for power operates on conduct not the body (see also Lukes 2005: 86–87, 157 n.18). As he puts it, “[a] man who is chained up and beaten is subject to force being exerted over him, not power” (Foucault 2000a: 324). His second point is that “[p]ower is exercised only over free subjects, and only insofar as they are ‘free’” (Foucault 2000b: 342). In other words, “in power relations there is necessarily the possibility of resistance…” (Foucault 1997: 292). Whereas power relations are fluid and reversible, states of domination are frozen and fixed; someone who has no room for manoeuvre, no capacity to resist, is locked in a state of domination. For example, “slavery is not a power relationship when [the slave] is in chains”, Foucault (2000b: 342) writes; it is a power relationship “only when [the slave] has some possible mobility, even a chance of escape”. Similarly, if someone “were completely at [another’s] disposal and became [that person’s] thing, an object on which [that person] could wreak boundless and limitless violence”, Foucault (1997: 292) explains, “there wouldn’t be any relations of power”.

Clare Palmer (2001) has used Foucault’s ideas about power and domination to think about human–animal relations. In the most extreme forms of domination, where there is no realistic chance of resistance, the animal who is being dominated is reduced to a mere thing, Palmer (2001) explains. As she puts it,

... although animals can be thought of as individuals who react in a Foucauldian sense, when they are placed by humans in situations or environments where no reaction or response from them is possible, they are being treated as things – even though they, like the shackled slave, could have been treated as beings who react…. [W]hether a being falls into the category of thing/person on any particular occasion depends not on its “nature,” but rather whether, on that occasion, it behaves as a being which reacts. Where reaction is not permitted, the being is treated in this context as a thing—an object to which things are done – however much one might want to maintain that, in other contexts, the being is not just a “thing”.

(Ibid.: 354)

When the extreme form of domination that Palmer describes occurs in the labour process, it transforms the labourer from someone who does things into something to which, or with which, things are done. To put this in Marx’s terms, the dominated labourer becomes part of the means of production, an object or an instrument of labour.

This kind of domination is common in human–animal relations of production, including those that occur in many labs. Of course, “lab animal” is a nebulous category, the precise contours of which depend upon how one defines “lab” and “animal”. And however one defines these terms, actual lab animals experience a wide range of living conditions and deaths. Thus, to speak about the condition of the lab animal, or even of lab animals in general, is too imprecise to be of much use in analysing power relations. Following Palmer (2001), we need to examine
these relations on a case-by-case basis. This means analysing power relations on a lab-by-lab, or even an animal-by-animal, basis; one should not assume that every lab animal is subjected to the most extreme forms of domination that one can imagine. That said, one should also avoid fixating solely on the particular procedures to which a particular lab animal is subjected, or on the animal’s living conditions, for even if these allow for the possibility of resistance, the animal may, at the very same time, be utterly expendable. For example, we learn from a recent UK report that “[a]ll animals used in toxicity testing are routinely killed immediately at the end of experiments for examination” (Nuffield Council on Bioethics 2005: 165). And as is well known, even perfectly healthy lab animals, including those who have been subjected to no experimental procedures whatsoever, are often “euthanized” when they are no longer needed, tossed out like any other piece of useless laboratory equipment.⁶ So although certain lab animals may over the course of their lifetimes have various opportunities to resist, most lab animals never make it out of the lab alive. That lab animals’ lives are ultimately in the hands of human laboratory workers reveals the overarching structure of domination within which any resistance is ultimately framed (Weisberg 2009; cf. Palmer 2001). Moreover, no matter how much a lab animal may be able to resist, it is also worth remembering that, Rise of the Planet of the Apes notwithstanding, reversing the power relation so that the nonhuman has the upper hand is quite simply impossible (on relations of domination as irreversible, see Palmer 2001). For real guinea pigs, then, “[g]uinea [p]ig [r]esistance”, as Weinstein (2010: 113, italics omitted) calls it, is typically quite limited indeed (Birke 2012; Greenhough and Roe 2011).⁷

**Concluding thoughts**

In this chapter I examined whether it makes sense, both analytically and politically, to use the concept of clinical labour to understand the participation of nonhuman animals in pre-clinical toxicity testing. I started by using recent advances in our understanding of animal cognition and consciousness to challenge the human exceptionalism that undergirds Marx’s analysis of the labour process. Next I made the case that, if human guinea pigs are engaged in a form of clinical labour, it makes a certain amount of sense to say that real guinea pigs are, too. But in thinking about this labour, I argued, drawing on the work of Zipporah Weisberg (2009), we must remain cognizant of the human–animal relations of production within which it is organized. Building on Clare Palmer’s (2001) reading of Foucault, I suggested that many lab animals are subjected to relations of domination that render resistance futile and reduce these animals to part of the means of production, mere instruments or objects of labour. The main lesson that emerges from this analysis is that, in our efforts to develop a posthumanist perspective on the labour process, scholars in the field of CAS must focus not just on the labour process itself, but also on the human–animal relations of production. Otherwise, we risk “occlud[ing] the … state of unfreedom to which [many nonhuman animals] are subjected” (Weisberg 2009: 34).
I’d like to conclude by pointing to a significant limitation of this chapter, one that highlights the conceptual work that remains to be done. Challenging Marx’s human exceptionalism is necessary but not sufficient to develop a posthumanist perspective on the labour process. Given that concepts like labour and rights tend to be based upon a particular, Western conception of what it means to be human, they are typically extended only to those nonhumans who are most like who these humans take themselves to be (Potts and Haraway 2010; Smith 2001: 240 n.33; Wolfe 2003: 21–43). Instead of extending Marx’s humanist concept of labour to (certain) other animals, what we need to do, Haraway (2008: 67) argues, is rethink the concept from the ground up, refashioning it “in non-humanist terms…”. Although I cannot take up this task here, one approach, which I’ve pursued elsewhere (Clark, under review), is to stop thinking of labour as something that is done by individuals, whether human or nonhuman, and start thinking of it as a manifestation of what Jane Bennett (2010: 20–38) describes as the distributive agency of heterogeneous assemblages of human and nonhuman actants. What labours, from this posthumanist perspective on agency, is not any particular actant in the assemblage, but rather the assemblage itself. In the end, then, rethinking the labour process should be understood as part of the broader posthumanist project of rethinking agency, a project that promises to deliver a far humbler understanding of what it means to live in a more-than-human world.

Notes
1 Weinstein (2010: 119) questions the presumption of pharmaceutical naivety, as it is called, noting “the history of India’s and Eastern Europe’s home-grown, patent-evading pharmaceutical industries,” along with “the pharmaceutical ambiguity of local/herbal medication”.
2 As I explain below, others argue that planning is a prerequisite for the production of artefacts.
3 Marx’s other definition of an instrument of labour is not relevant here.
4 In some dystopian visions of biotechnology, animals have been genetically engineered to be completely docile, reducing them to living machines that are compelled by their nature to do work (Warkentin 2006). I should note that the use of words like “reduce” in this context is potentially problematic for at least two reasons: first, it assumes that all inanimate instruments are manageable; and second, it elevates those who labour above those who serve merely as instruments or objects of labour. This is perhaps another form of exceptionalism, one that privileges the “active” over the “passive” elements of the labour process.
6 It should be noted that adoption of former lab animals is becoming more common. I would also venture to guess that it is more difficult, whether legally or in terms of public relations, to dispose of some species than others.
7 For a discussion on nonhuman resistance, see Kowalczyk’s chapter in this volume (Chapter 9).
References


Clark, J. (under review) “A posthumanist perspective on the production of nature thesis”.


