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Marx, Johannes; Tiefensee, Christine

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Of Animals, Robots and Men

Johannes Marx & Christine Tiefensee[*]

Abstract: *»Von Tieren, Robotern und Menschen«*. Domesticated animals need to be treated as fellow citizens: Only if we conceive of domesticated animals as full members of our political communities can we do justice to their moral standing – or so Sue Donaldson and Will Kymlicka argue in their widely discussed book *Zoopolis*. In this contribution, we pursue two objectives. Firstly, we will reject Donaldson and Kymlicka's appeal for animal citizenship. We will do so by submitting that far from paying due heed to their moral status, regarding animals as citizens misinterprets their moral qualities and thus risks treating them unjustly. Secondly, we will suggest that Donaldson and Kymlicka's reinforced focus on membership should draw our attention to the moral standing of a further 'species' living in our midst, namely robots. Developments within artificial intelligence have advanced rapidly in recent years. With robots gaining ever greater capacities and abilities, we need to ask urgent questions about the moral ramifications of these technical advances.

Keywords: Animal Politics, animal rights, robots, moral agency, citizenship.

1.   Introduction

In their widely discussed book *Zoopolis* (2011), Sue Donaldson and Will Kymlicka put forward a passionate case for the extension of citizenship so as to include domesticated animals. Simply assigning rights to animals, they explain, is not sufficient to account for their moral status. Rather, only if we conceive of domesticated animals as fellow citizens, i.e. as full members of our political communities, can we do justice to their moral standing.

   In this contribution, we pursue two objectives. Firstly, we will reject Donaldson and Kymlicka's appeal for animal citizenship. We will do so despite agreeing on the main constituents of citizenship, which is characterised by an intricate interplay between requirements of membership, rights and duties. *Pace* Donaldson and Kymlicka, though, we will argue that extending citizenship to animals does not amount to an appreciation of animals' moral status, but rather misinterprets their moral qualities and thus risks treating them un-

*   Johannes Marx, Department of Political Science, Otto-Friedrich University of Bamberg, Feldkirchenstraße 21, 96052 Bamberg, Germany; johannes.marx@uni-bamberg.de.
    Christine Tiefensee, Department of Legal Studies and Ethics, Frankfurt School of Finance & Management, Sonnemannstraße 9-11, 60314 Frankfurt a. M., Germany; c.tiefensee@fs.de.

justly. Secondly, we will suggest that Donaldson and Kymlicka's reinforced focus on the moral implications of membership should also draw our attention to the moral status of a further 'species' with which we share our living space, namely robots. Developments within artificial intelligence have advanced rapidly in recent years. The cognitive capacities of robots already surpass those of animals and are likely to overtake human performance soon. At the same time, the role and use of sophisticated robots in our daily lives will not only change, but also increase. Hotels are already planned to be staffed by humanoid robots. There are test runs of robots being employed within healthcare and astronautic operations, and robots are expected to perform regular household tasks in the near future. Consequently, with robots gaining ever greater abilities and becoming a more integral part of our lives, we need to ask urgent questions about the moral ramifications of these technical advances.

To this end, we start with some basic explanations about the conditions that need to be met in order to assign rights, duties and citizenship to individuals, which will be fleshed out in greater detail as the paper progresses. As a second step, these criteria will be applied to animals. Their application to humans will be considered only insofar as it concerns controversial cases, most prominently with regard to children and the disabled. We close with some speculative remarks about the moral status of robots.

2. Rights, Duties and Citizenship

2.1 Rights

The 'currency' of rights would not be of much value if rights did not impose any constraints on the actions of others. Rather, for rights to be effective they must be linked with correlated duties:

Right/Duty A has a right to X if and only if B has a duty towards A to act in a way that does not hinder A from attaining X or that promotes A's attaining X.[1]

Accordingly, rights are comprised of three components. Firstly, they concern a *subject*, i.e. the bearer of the right (A). Secondly, they identify an *object*, namely the person against whom the right is held (B). Thirdly, they have a *content*, spelling out the action that is or is not to be performed for the right to be observed (see Sumner 2000).

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[1] Although rights are correlated with duties, the reverse does not hold. For instance, even if I have the moral duty to help out a friend if he is in financial trouble, this does not imply that my friend has a right to financial aid (see Raz 1986, ch. 7). For an in-depth analysis of the structure of rights, see Hohfeld (1919).

Although these general remarks specify the internal structure of rights, they do not as yet determine which individuals are eligible right-holders. Two competing answers to this question dominate the literature (see Kramer, Simmonds and Steiner 1998). According to advocates of the Will or Choice Theory, only those individuals qualify as right-holders who have the ability to exercise a right. That is, only a person who can choose either to impose or waive the constraints that her right places on others' conduct can be seen to have rights (Hart 1982). Such an exercise of choice is no necessary condition within the Interest or Benefit Theory. Rather, interest theorists maintain that individuals are capable of having rights if they possess certain interests, the value of which provides reason to impose duties on others (Steiner 1994).

In this paper, we will side with Donaldson and Kymlicka (2011) and adopt the Interest Theory of rights. Accordingly, we will assume that rights are assigned on the basis of valuable interests which are to be safeguarded by rights:

Right A has a right to X if and only if X is a valuable interest of A (a part of A's well-being that is a sufficient reason for holding B to be under a duty.[2]

Which concerns fall into this category of valuable interests is a further, thorny question. For the sake of argument, we will again follow Donaldson and Kymlicka (2011, 24, 36) in holding that only individuals that are sentient beings with a "distinctive experience of their own lives and the world" can have interests. More precisely, any being will qualify as a right-holder that is a creature which can feel pleasure and pain and for which it is important that its life is going well rather than badly.

2.2   Duties

Although rights are correlated with duties, the eligibility criteria for being a right-holder are not the same as those for being a duty-bearer. To see why, it is helpful to distinguish between conditions for agency on the one hand and conditions for moral agency on the other:

Agency   Individuals qualify as agents if and only if they are capable of intentional action. An action qualifies as intentional if the individual chooses appropriate means so as to attain a specific end, given the individual's beliefs.

Moral Agency Individuals qualify as moral agents if and only if they can be held morally responsible for their actions. They can be held morally responsible if and only if they (a) are able to evaluate reasons for action and (b) can exercise control over their actions so as to align their conduct with reasons.

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[2] This is a slight adaptation of Raz's (1986, 166) definition.

Based on this distinction, the eligibility criterion for being a bearer of duties can be specified as follows:

Duty   Individuals qualify as bearers of duty only if and only if they are moral agents.

Consequently, the bar for being a duty-bearer, and thus an object of a right, is raised considerably higher than that for being a right-holder. In order to qualify as a bearer of duties, an individual must not only be an agent with valuable interests, but also a moral agent. The reason why is relatively straightforward: As the fulfilment of duties demands that a certain action be performed or not performed, only those individuals who can direct their actions accordingly can reasonably be said to have duties. For instance, a person can be held to be under the obligation not to kick others only if he has the ability to suppress kicking actions. If such control is lacking – say because he suffers from spasms – no duty can be ascribed, nor would it be appropriate to hold him morally responsible if he happened to kick anyone. For, *ought* does, after all, imply *can*: If an individual *can*not align his actions with certain rules of conduct, it cannot be the case that he *ought* to act as prescribed by these rules.

In short, whereas possession of valuable interests delimits the class of right-holders, moral agency marks out the class of duty-bearers. And since there is no reason to believe that a being with valuable interests is automatically a moral agent, there is no reason to believe that the class of right-holders is co-extensive with the class of duty-bearers (see also Sumner 2000).

2.3 Citizenship

A citizen, Leydet (2014) suggests as the most general definition, is "a member of a political community who enjoys the rights and assumes the duties of membership." This definition nestles in well with Rawls' (1999 [1971], 4) concept of society as a "cooperative venture for mutual advantage" which is designed to advance the good of its members by distributing fairly the fruits and burdens of cooperation. Even at this most general level, these few remarks indicate that citizenship is a multi-faceted concept comprising various interlinking ideas. We have already encountered two of its basic building-blocks – rights and duties – above. Supplemented with the condition of membership, in the context of citizenship they pan out as follows:[3]

Membership   Only individuals who are members of a certain political community are eligible for citizenship. Following Donaldson and Kymlicka (2011), membership obtains if residency and

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[3] Compare also Janoski (1998, 9): "Citizenship is passive and active membership of individuals in a nation-state with certain universalistic rights and obligations at a specified level of equality."

	interdependence intertwine: An individual must share the same living space with a group of others whose lives are characterised by a high degree of interdependence.
Rights	The aim of the societal cooperative venture is to further the interests of its members. Rights function as the protection of these interests. Citizenship rights go beyond universal rights in two ways. Firstly, citizens have the right to have their interests taken into collective consideration: Their interests must find entry into the political decision-making process which weighs different concerns and converts them into politically binding decisions. Secondly, citizenship rights are distinctively active rights of political participation: Citizens have the right to partake actively in the design of social norms and political institutions.
Duties	Social cooperation generates both fruits and burdens. Membership of this cooperative venture does, therefore, not only imply the enjoyment of rights, but also generates duties. We need not go so far as to suggest that members of the political community have a duty to participate in decision-making processes, or take on an active role within society. Rather, the basic duty associated with citizenship is to respect and obey fair rules of cooperation: It amounts to sharing the costs of the cooperative venture and to observing others' rights.

Consequently, an individual qualifies as a citizen if the following holds:

Citizenship	A citizen is a member of a political community who joins in the cooperative venture by enjoying rights of political participation whilst fulfilling his duty to adhere to the joint rules of conduct and respect others' rights.

3.   Animals – Rights, No Citizenship

With these preliminary remarks in place, we can now turn to the main questions of our study: Do animals have rights? Are they the bearers of duties? Should they be granted citizenship? Since, in line with Donaldson and Kymlicka, we will answer the first of these questions in the positive, we will present only a very terse discussion of animal rights here. In contrast to Donaldson and Kymlicka's position, though, the remaining two questions will receive a negative response. It is these bones of contention in the guise of animal duties and animal citizenship which will form our main focus.

3.1 Animal Rights

Animals, it is now widely acknowledged, are sentient beings: They feel pain and pleasure, they have desires and representational states of their environment.[4] In Donaldson and Kymlicka's (2011, 24) words, they have an individual, subjective perception of their own lives and the world. We also agree with Donaldson and Kymlicka that animals' interests are valuable, and thus that they need to be protected by rights. Which rights these are and with which duties they are correlated – for instance, if they imply that no pain must be inflicted on animals, or that animals must not be killed – cannot be our concern here.

3.2 Animal Duties?

A right-holder, we have explained above, is not necessarily a duty-bearer. Animals are one example where these two classes come apart. The reason is that although animals are arguably intentional agents – they have representational mental states which depict their environment as well as desires that guide their actions – they are not moral agents. In order to qualify as moral agents, animals would have to be able to align their actions with reasons for action on the basis of knowledge about these reasons. Neither, though, is the case. For, although animals have valuable interests and thus qualify as right-holders, this does not imply that they have abstract cognitive abilities that would enable them to reflect about their experiential states and entertain abstract thoughts. Put differently, animals have valuable desires, but no higher-order desires or reflective capacities.

Despite this lack of abstract cognitive abilities, empirical studies show that animals can obey social rules within their own peer group. For instance, the alpha male of a group will not be challenged by other males, chimps engage in mutual delousing sessions, tigers do not bite hard when frolicking around, etc. This behaviour should certainly be treated as the following of certain social rules of conduct. Arguably, this rule-following behaviour can also be extended to human-animal relationships. For instance, the family dog refrains from jumping up on the fragile grandfather. This ability to follow certain rules and grasp the social status of their direct peers, though, does not suffice to establish full moral agency. Somewhat ironically, the discourse about animal rights provides a rather good case in point. For example, assume that moral reflection led to the conclusion that mice have the right to live. After all, mice are sentient beings: They feel pleasure as well as pain and care about having a good rather than a bad life. Consequently, mice must not be harmed. It would, of course, be absurd to claim that cats have the cognitive capacities to carry out this line of

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[4] This may not hold true for all animals. Any reference to animals should, therefore, be read so as to include sentient animals only.

reasoning. As such, they do not meet the first condition for moral agency: Cats are not able to evaluate moral reasons for action. Nor do they meet the second criterion: They cannot exercise control over their actions so as to align them with reason, as they are unable to influence first-order desires on grounds of second-order reflections.[5] Consequently, since a cat *can*not understand that a mouse has the right to live, it cannot be under an *obligation* to treat a mouse with respect. Although animals thus count as intentional agents, their actions are not liable to moral judgement: Animals are not to be held responsible for their behaviour. They bear no moral duties.[6]

Although Donaldson and Kymlicka are not as explicit on animal duties as they are on animal rights, it is clear that they disagree. This disagreement does not stem from differing assessments of animals' cognitive abilities – they (2011, 20) too submit that animals should not be ascribed higher cognitive abilities, such as the capacity of moral reflection.[7] Rather, the disagreement concerns the correct account of moral duty. For, as Donaldson and Kymlicka would certainly be quick to point out, our stance on moral agency belongs to exactly that traditional, rationalist approach against which they campaign: It submits that it is "not enough to regulate your behaviour in ways that foster cooperation, you are supposed to do this for the right reasons" (Donaldson and Kymlicka 2011, 116). Once we distance ourselves from this mistaken account by decoupling being a duty-bearer from abstract cognitive capacities, their argument continues, we can see that animals too are subject to obligations. Consequently, justice "also requires that domesticated animals, like all citizens, respect the basic liberties of all" and "have the responsibility to exercise their

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[5] Since it is an empirical question whether or not animals possess the competencies that are required for moral agency, this conclusion inevitably reflects current empirical findings. Importantly, the moral conceptions suggested here are not speciesist. If at least some animals evolved in such a way that they would reach higher cognitive abilities, they would also qualify as duty-bearers.

[6] It might be argued that this conclusion is too strong. For, although animals may not have any impartial moral duties as they are incapable of grasping universal moral reasons, it might be thought that animals still have relational or particularised duties to those social peers with whom they regularly interact. For the reasons provided above, we are sceptical about such a position. However, even if one felt drawn towards a position that combined a rationalist account of universal moral duties with a non-rationalist account of particularised moral duties, this would not suffice to establish animal citizenship. For, as we will argue later, citizenship requires a moral perspective that goes beyond that of one's closest peers. We thank an anonymous referee for pressing us on this point.

[7] Despite denying that animals have abstract cognitive abilities, at times Donaldson and Kymlicka's formulations come perilously close to attributing evaluations that are based on higher-order reflections to animals. To give but one example, they (2011, 120) declare that dogs generally respond to their holders' requests and ignore them "only when they have reasonable grounds for doing so." It is clear that such an evaluation of reasonableness is *ours*, not that of dogs, so we must be careful not to blur this line.

rights in ways that do not impose unfair or unreasonable costs on others" (Donaldson and Kymlicka 2011, 150, 146).

Indeed, a non-rationalist account of moral duty dovetails well with Donaldson and Kymlicka's (2011, 30) general rejection of rationalist, cognitive conceptions of selfhood and agency. Alas, whereas they provide their interest-based account of selfhood as a competing, and in their eyes preferable, position to the rationalist approach, their alternative non-rationalist account of moral duty remains unhelpfully vague. But no matter what the precise details of their position might be, we believe that any account which holds creatures morally responsible for their actions despite their lack of cognitive abilities *wrongs* these beings exactly because it does not pay due heed to their morally relevant cognitive limitations.

To elaborate, let us start with the observation that assigning moral duties is not a theoretical exercise – it has practical consequences. At the very least, someone who violates his duty against his better judgement is blameworthy; at worst, such dereliction of duty is even punishable. To adopt Strawson's (1962) well-known framework of moral responsibility,[8] let us say that violations of duties induce negative reactive attitudes in us, such as resentment, anger, blame and rejection. These reactions are closely associated with the importance that we attribute to the attitudes and intentions which others entertain towards us, and the expectation that these intentions be ones of good will, respect and benevolence, rather than ill will, disrespect and malevolence. Hence, let us assume that an action which we believe to be based on ill will generally entices resentment.[9]

Importantly for our purposes, though, such feelings of resentment are not always appropriate. The first set of circumstances which call for a suspension of reactive attitudes is one where the agent wronged us, but not on grounds of ill will – he did not mean to hurt us or did not know, he was pushed, etc. In cases such as these, the agent is one towards whom reactive attitudes generally apply – he is a fully responsible agent – but feelings of resentment are inappropriate with regard to a specific action. In contrast, in the second set of circumstances reactive attitudes need to be suspended not towards a specific action, but towards the agent himself. Maybe, the agent is seriously mentally ill or someone with a brain disorder, or indeed a child. Agents with limited cognitive or emotional capabilities stand, in an important way, outside of our moral

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[8]   Despite also referring to the appropriateness of reactive attitudes, Strawson's remarks often take on a descriptive hue. Here, we are interested specifically in in the appropriateness of reactive attitudes.

[9]   Strawson's emphasis on reactive attitudes such as resentment, anger or rejection shows a certain proximity to expressivist, emotivist or sentimentalist metaethical accounts. Although we employ Strawson's approach here, we wish to remain neutral on the correct metaethical interpretation of moral judgements and believe that the arguments presented in this paper are compatible with differing metaethical views. Compare also Footnote 20.

community. Consequently, reactive attitudes must be withheld and replaced by an objective stance:

> To adopt the objective attitude to [an individual] is to see him, perhaps, as an object of social policy; […] as something certainly to be taken account, perhaps precautionary account, of; to be managed or handled or cured or trained […] The objective attitude may be emotionally toned in many ways, but not in all ways: it may include repulsion or fear, it may include pity or even love, though not all kinds of love. But it cannot include the range of reactive feelings and attitudes which belong to involvement or participation with others in inter-personal human relationships; it cannot include resentment, gratitude, forgiveness, anger (Strawson 1962, 66).

We suggest that animals fall into this second category of agents that are exempt from participant reactive attitudes such as resentment, anger and blame although we might still form very close and loving relationships with them. Importantly, this is so even if we grant, in line with Donaldson and Kymlicka (2011, 119, 123-6), that animals cannot only be conditioned, but socialised to observe rules of mixed-species relationships.

To see why, let us return to our cat that likes eating mice, or a dog which enjoys hunting squirrels. It might well be the case that dogs can be taught to refrain from hunting squirrels, and some similar training might even be applicable to cats (although this might turn out to be considerably more difficult). However, we must be cautious when interpreting the dog's actions. For, just as a dog's not chasing after squirrels cannot be interpreted as the manifestation of its benevolence and respect for squirrels' rights, its hunting squirrels cannot be read as an expression of its malevolence and disrespect for these rights. A dog does not hunt squirrels because it does not like them, nor do cats kill mice because they believe that mice do not have the right to live. Exactly because of their lack of cognitive capabilities and their inability to grasp the moral status of other creatures, dogs and cats are not the kind of agents towards whom moral expectations should be harboured.[10] Consequently, since they are not responsible moral agents of whom we could rightfully demand that they respect other beings' moral status, resenting, blaming or even punishing the cat or dog for their actions would treat them unfairly: It would inflict negative consequences on them on grounds of unfair expectations. *Excluding* animals from the class of duty-bearers, then, does not amount to disregarding their moral status. Rather, it is the *inclusion* of animals in this class that treats them immorally.

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[10] Again, it might be thought that this conclusion is too strong. For, even if we may not feel anger towards our dog chasing squirrels, we might very well blame it for violating one of our 'house rules' by chewing shoes, say. If so, blameworthiness, just as the attribution of moral duties, might be thought to be a gradual, not be a binary phenomenon. To this, we repeat our response of footnote 6: Whilst we are not convinced by this objection, we would like to point out that even if it were accepted, it would not suffice for animal citizenship. We thank an anonymous referee for this objection.

Hence, adoption of a cognitively demanding approach to moral duty should not be understood as the attempt to cling on to a rationalist, let alone speciesist, account of moral agency which aims to exclude animals from the class of moral agents. Nor does it amount to a sterile exercise in identifying eligibility criteria that animals do or do not fulfil.[11] Rather, coupling moral duty with cognitive capacities pays heed to the varying relationships in which we stand to each other and protects individuals with limited cognitive capacities from unfair expectations, blame and possibly even punishment. Fairness demands, then, that we should not regard animals as moral agents that are morally responsible for their actions and subject to moral obligations.

Of course, concluding that cats do not have the duty to respect mice's rights does not rule out that humans might have the duty to stop cats from killing mice. Quite tellingly, this subtle switch from alleged animal duties to the duties of humans can be observed regularly in Donaldson and Kymlicka's book. For instance, just one sentence further on from their remark about the duties of *animal* citizens, Donaldson and Kymlicka ask how "*we* could fulfill our duty to feed our cats without violating the rights of other animals not to be killed" (2011, 150, our emphasis). However, we should not be misled into thinking that since we might have the duty to respect mice's rights, so do cats. Alleged animal duties and human duties must be kept strictly apart.

3.3 Animal Citizenship?

The idea of citizenship, we have explained, is composed of several different elements. Although we have already discussed how two of them – rights and duties – might or might not apply to animals, it is still worthwhile examining some of the specific ideas associated with animal citizenship in some detail. Here, we will focus on two lines of argument only, namely the alleged political agency of animals and their supposed full membership in our political community (see Alhaus and Niesen 2015, in this HSR Forum). We will start with the former.

Donaldson and Kymlicka (2011, 103) agree that citizenship is "an active role, in which individuals are contributing agents and not simply passive recipients of benefits." They concur further that this active role requires citizens to possess important capacities, such as the capacity to have and communicate one's own subjective good, the ability to comply with social norms and the capacity of political participation. At the same time, they are adamant that these requirements do not rule out domesticated animals as candidates for citizenship. For, according to them, animals possess these qualities of political agency – at least if correctly interpreted. We find their case less than convincing.

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[11] Compare Donaldson and Kymlicka's (2011, 60) remarks on the difference between approaching citizenship as a property of individuals and as a feature that inheres in a relationship amongst individuals.

Donaldson and Kymlicka's main argument for the political agency of animals is that by their sheer presence, animals can influence political decisions: "The dogs themselves, *by their presence*, are agents of change. They are not deliberate agents. But they are agents – leading their lives, doing the things they do – and because this agency is exercised in the public realm, it serves as a catalyst for political deliberation" (Donaldson and Kymlicka 2011, 113-4, our emphasis). It is obvious that this argument cannot establish political agency. If dogs were to qualify as political agents because of the influence that their presence exerts on political decisions, then polluted air, the presence of which also influences environmental policy, would also have to count as a political agent. The same holds true for the argument that animals often function as 'ice-breakers,' and thus that "companion animals actively foster contact, trust, and reciprocity within communities" (Donaldson and Kymlicka 2011, 115). Again, if carrying a funny toy was an ice-breaker, this toy would also have to be seen as a political agent that actively fosters contact.[12]

Of course, lack of active political agency does not imply that considerations about animals' subjective good should not enter political deliberation, no matter whether Donaldson and Kymlicka's model of dependent agency is adopted or not. However, we must exercise caution when examining the basis on which animal rights are grounded. Three such bases are conceivable: Firstly, animal rights could be associated with animals' universal moral status; secondly, they might arise from the special relationship between animals and their owners; finally, they could be based on their alleged full membership in our political community.[13] *Pace* Donaldson and Kymlicka, we do not believe that membership in a mixed human-animal society can fulfil this function. Rather, our duties to animals are grounded either on their universal moral status or on special, private relationships between humans and animals.

As Donaldson and Kymlicka stress, and we are willing to agree, domesticated animals differ from liminal and wild animals both with regard to shared living space and dependence relations.[14] However, even if so, this does not

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[12] As an anonymous referee pointed out, this might not be quite fair, as air – in contrast to dogs – is not eligible for agency. This is true. However, Donaldson and Kymlicka's arguments discussed here crucially rely on the mere presence of dogs, rather than their agency. Our examples are to highlight that this reliance on the presence of some being or object does not suffice in establishing political participation.

[13] As an aside, Donaldson and Kymlicka (2011, 132) themselves point out that several implications of animal citizenship that they sketch are not actually due to citizenship. We believe that this holds true of most, if not all, consequences they mention.

[14] Donaldson and Kymlicka use these three categories to distinguish between animals which are candidates for citizenship and those which are not. In order to make sense of citizenship, though, we also need to determine what differentiates citizens from non-citizens within the category of domesticated animals. This is where membership comes in. However, it is not entirely clear that this criterion can usefully be applied to the animal case. To elaborate, we need to ask ourselves, not just how the rights between domesticated and wild an-

establish that domesticated animals are members of our political community. To elaborate, it might well be the case that domesticated animals are often perceived as members of their respective 'families': They are much loved by their companions, a sense of loyalty and belonging obtains, a joint way of life is established, etc. Importantly, though, this joint life is distinctly *private*. Quite tellingly, many of the anecdotes that Donaldson and Kymlicka present as examples for the cooperation between animals and humans concern arrangements such as joint walks, or understandings as to when animals want to be left alone or be touched by their owners. They are not examples of public or political cooperation. We believe that this focus on private anecdotes is not coincidental. For, it remains unclear to us how a dog or a cat, say, can be seen to be a member of the distinctly *public*, cooperative venture of society that seeks to further its members' interests through the provision of public goods. To see why, imagine that there were no public or social cooperation. Imagine, that is, that we deal with some non-cooperative state of nature where every man fights for himself. In a situation like this, as philosophers such as Hobbes, Locke or Nozick never tire of telling us, the interests of our lone fighters would be badly served, as they could either not be realised at all, or could not be realised as well as within a cooperative community. Imagine next that our lone fighter also had a dog in this state of nature. Would its interests be adversely affected by the lack of political cooperation? As long as its lone human companion cares for the dog, we cannot see why they should be. For, the realisation of domesticated animals' interests does not rely on the provision of public goods in the same way that human interests are dependent on public cooperation.[15] Consequently, although the private, special relationship to their owners might be of paramount importance at least to certain domesticated animals, they have no stake in the public, cooperative venture. Domesticated animals, therefore, may be members of private families, but they are not members of a public, political community. Domesticated animals, then, are not co-citizens.

imals differ, but also how, when in Germany, the rights of an English dog differ from the rights of a German dog, say. Would the English dog's mobility be more restricted? Would its interests not be reflected in public policy? How, if at all, would an English dog's interests differ from the German dog's concerns? Would it not have to be protected from other animals, and if so would that be due to its non-citizen status or because its English owner would have the duty to protect it? Whilst Donaldson and Kymlicka pay much attention to the distinction between domesticated, liminal and wild animals, the difference between citizen and non-citizen domesticated animals remains underexposed.

[15] Put somewhat more precisely, if the dog's interests were negatively affected, they would be so vicariously through the interests of his lone owner.

3.4   Humans

It is uncontroversial that adult human beings with fully developed cognitive abilities are right-holders, the bearers of duty and citizens of a political community. However, humans who do not possess these abilities or have not as yet developed them, might be thought to spell trouble for our negative conclusion about animal citizenship. For, if animals are denied citizen status on grounds of their cognitive limitations, human beings who share these limitations – most prominently young children and the mentally disabled – must also be excluded from the class of citizens. Donaldson and Kymlicka (2011, 104) use this argument as a *reductio ad absurdum*: Since any such exclusion would be unacceptable, any conception of citizenship which entails that children and the disabled are not co-citizens must be rejected. We agree that most arguments which we put forward in the context of animals also apply to children and the disabled. However, we disagree that such an application amounts to a *reductio*.

To see why, let us concentrate on the case of young children only. Young children clearly have valuable interests which need to be protected by rights. For instance, they have the right not to be harmed, the right to be educated, the right to have their interests counted within political deliberation, etc. However, they are not responsible moral agents for exactly the same reasons as animals cannot be understood as moral agents: Since young children cannot as yet understand the demands of morality, it would be unfair to hold them responsible, let alone blame and punish them, when they violate moral requirements.[16] In light of their limited cognitive abilities, young children also do not qualify as full members of our political community. Although their interests are to be considered within political deliberation, children do not have the right to vote or stand for office, say, because they are unable to grasp and take decisions within the political arena. The same holds true for the mentally disabled. It is correct, then, that our conception of moral duty and citizenship entails that children and the mentally disabled are neither the bearers of duty nor full citizens. But this, we suggest, is just as it should be.

In Donaldson and Kymlicka's (2011, 57) eyes, though, a conception of citizenship such as ours falls into the trap of reducing citizenship to political agency whilst neglecting other crucial dimensions thereof. This renders it unable to account for the fact that children and the mentally disabled differ in crucial

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[16] Of course, young children are told off when they act wrongly. Still, this should be regarded as an educational measure, not as a case of blaming on grounds of attributions of moral responsibility. Blaming enters the picture only when children have reached the stage when they can *know*, or could have known, that what they did was wrong. At which point this stage is reached is, of course, an empirical question. Once children have developed certain cognitive abilities, though, we see a marked difference in our treatment of them: Not only are they now eligible for blame (certainly within certain constraints), but they are also given more participatory rights, as for instance in the form of pupil representation.

respects from refugees or tourists, in that they have the right to live in and return to a certain territory of the state and to have their interests counted within political deliberation. Any plausible account of citizenship, therefore, must regard children and the disabled as citizens in some sense of the word 'citizen.' Indeed, we agree. As the careful reader may have noted, in the previous paragraph we have not denied that children and the mentally disabled are citizens, but that they are *full* citizens. How can we uphold this distinction between citizens and full citizens? Moreover, how can we maintain this distinction without having to attribute some citizen status to domesticated animals? The key is again found in our remarks about membership. The reason why children and the disabled are members of our community is that children and the disabled have a real stake in the cooperative venture: Their interests would be adversely affected if there were no public cooperation. Accordingly, although there is a parallel between children, the mentally disabled and animals with regard to cognitive limitations, there is also an important dissimilarity concerning membership. Hence, whilst children and the mentally disabled are citizens, albeit not full citizens, domesticated animals are not. The alleged counterexamples of children and the mentally disabled do not undermine our result that animals are right-holders, but neither the bearer of duties nor our co-citizens.

4.   Robots

The moral status of animals has concerned philosophers for some time. Although this debate has lost none of its urgency, we will argue next that it should be expanded so as to include enquiries into the moral standing of a further 'species,' namely robots. For, if we take seriously Donaldson and Kymlicka's invitation to look more closely at the interests and rights of those with whom we share our living space, we must realise that current developments in artificial intelligence (AI) point to the fact that in future, we will share our homes not only with domesticated animals, but also with highly intelligent robots. If so, we must ask what we might morally owe to these robots – and what they might morally owe to us.

Still, this expansion might seem surprising, maybe even misguided at first. Contrary to humans and animals, it might be thought, robots are nothing more than machines, or tools, that were designed to fulfil a specific function. These machines have no interests or desires; they do not make choices or pursue life plans; they do not interpret, interact with and learn about the world. Rather than engaging in autonomous decision-making on the basis of self-developed objectives and interpretations of their surroundings, all they do is execute a pre-installed programme. In short, robots are inanimate automatons, not autonomous agents. As such, they are not even the kind of object which could have a moral status – questions about rights, duties and citizenship simply do not arise

with regard to man-made machines. Such an assessment certainly holds true of robots of the first generation, such as industrial robots used in car manufacturing, vacuum cleaners or even chess computers. However, recent advances within the field of AI show that such a conclusion would be premature with regard to more sophisticated robots.

To give but one example for the increased autonomy of robots, meet robot Myon, which has been developed by scientists of the Humboldt University in Berlin (Hild et al. 2012). Myon has just started its stage career by joining an opera project with the *Komische Oper Berlin* with the aim of starring in one of its productions during the summer of 2015. However, dance moves and acting performances have not been written into Myon's programme. All that Myon has been equipped with by its designers are very basic algorithms that allow it to perceive its surroundings and learn from its interactions with its environment. It does so by employing a camera, computing acoustic signals and measuring the use of energy by its own engines. In this way, Myon can tell when it loses its balance because it has been nudged, enabling it to figure out how to move more efficiently and how to avoid situations in which pushes are likely to occur. Accordingly, Myon not only reacts to external stimuli, but also computes such stimuli on a higher level by evaluating the functionality of actions and features of situations for long-term, more important objectives. Based on these rudimentary capabilities, it is currently learning how to move along with music simply by interacting with other actors and interpreting the gestures of the director. How Myon will behave and move by the end of the season remains to be seen: it depends solely on how its learning processes advance.

Myon is no isolated case. Rather, robots of the newest generation are no longer fitted out with a fixed stock of pre-determined actions, but are designed in a way that enables them to acquire new modes of behaviour (Berthold and Hafner 2014; Kajic et al. 2014; Noor 2015). Endowed with just a few capabilities and objectives, including the possession of sensors that allow them to perceive their environment, robots can thus embark on their own learning processes which include not only the acquisition of new beliefs, but also modifications of their objectives (Schillaci et al. 2011; Oudeyer et al. 2007).

Consequently, the abilities of future robots will by far exceed those of ordinary machines. As such, what we can currently observe within the field of AI is a trend away from so called weak AI, according to which the prospects of artificial intelligence are very limited, towards strong AI, which submits that robots of the future will not just *simulate* conscious decision processes but will *have* such processes (Dennett 1997; Sun 2001).[17] Hence, although considerations about sophisticated robots may sound like material for science-fiction

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[17] Dennett (1997, 27), for instance, predicts that at some point, the phenomenology of robots will be so complex that we cannot read its experiential states off its hard disc, but need to ask the robot to give a self-report about its experiences and goals.

novels, there are suggestions that replicating human performance through artificial brains might be feasible within the next 50 years (Sandberg and Bostrom 2008; Price and Tallinn 2012). The question, therefore, does not seem to be if, but when sophisticated robots will become a reality. Accordingly, if robots developed ever larger degrees of autonomy, including the development of their own objectives and the acquisition of new beliefs, they would become strikingly similar to humans and animals. If so, the categorisation of robots as agents might become inevitable. And once we regard them as agents, we need to enquire what moral status robots have.

Since it cannot be foreseen whether or not advocates of strong AI will be proven right, studies about the moral status of sophisticated robots must inevitably be speculative. Nonetheless, some fundamental observations about the potential moral implications of strong AI are possible.

4.1   Rights and Robots

If we are to follow advocates of strong AI, it is very likely that future robots will closely resemble humans and animals in that they will qualify as agents which choose appropriate means in order to attain a self-chosen end. However, robots will also differ from animals and humans in important respects, so that the agency of robots need not entail that they are also right holders. In order to be regarded as the holder of rights, robots would have to be sentient beings with an idea of a subjective good and important interests that are worthy of protection. Do robots have such important interests? Are they sentient beings that care whether their lives go better or worse?[18]

It is clear that robots are not sentient in the common sense of the word, i.e. they do not feel pain or pleasure in the way that humans or animals would do. If a robot falls over, this may cause damage, but not pain. Similarly, if it achieves an objective, it will not feel exhilaration, nor will it feel frustration when it fails to do so. Hence, robots do not experience pain, pleasure or emotions in the way that humans or animals do. However, robots such as Myon show reactions which are functionally similar: Myon assesses the impact of its environment on its body by use of its sensors and aims to avoid situations which lead to negatively evaluated sensory impressions. Hence, it seems not totally implausible to submit that even now, robots can be attributed a naïve or rudimentary idea of their subjective good. Accordingly, although robots do not have the same qualitative experiential states as humans and animals, they might still have functionally equivalent states. Unless it can be argued that these qualitative dissimilarities between human and robot sensations are *morally*

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[18] Interestingly, the current debate about robots focuses on the question of whether or not robots are the bearers of duties (for example, see Powers 2011; Sullins 2006), not whether they have rights.

relevant – that is, that it makes a moral difference whether frustration or pain is felt the human or the robot way – robots' interests might be valuable and worthy of protection. Robots might be right-holders.

Any such conclusion would have considerable consequences. Pressing an emergency kill button of a sophisticated robot, as planned with regard to the MIT robot Coq, would no longer be a morally neutral option: Pressing this button would not simply amount to switching off a machine, but to the violation of Coq's rights. Similarly, intelligent robots could not simply be employed as minesweepers, nor forced into other kinds of labour. The increased autonomy of future robots may thus have a major impact on how we treat and employ them.

4.2   Robots' Duties

Might robots of the future not only be agents, but also moral agents? That is, might they be the bearer of duties whose actions are subject to moral requirements? If it were correct that future robots will not only be capable of autonomous decision-making but also be protected by rights, questions about their moral duties would become just the more pressing. For, robots' greater autonomy and capability implies less human control. Less human control, in turn, entails an increased risk for humans to be harmed by robots. If, in addition, robots were also right-holders, switching them off or destroying them in order to protect us would become a morally vexed issue. Consequently, the more autonomous and powerful robots become, the more important it is for us that robots can be moral agents who adhere to moral rules and respect our rights.

So, is it conceivable that robots will be able to understand moral reasons and adjust their actions accordingly? Imagine that a robot stepped on your foot and caused you some real pain. Should we regard this robot as a fully responsible agent who should be blamed for its wrongdoings? Of course, our answer must depend on the qualities of the robot. First, assume that the robot was programmed in such a way that its software requires it to follow moral desires – for instance, it cannot have the goal to harm anyone – and to regulate its actions accordingly. Most of the time, it performs this function flawlessly, but every so often the software freezes and something goes wrong.[19] It is clear that in a case such as this,

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[19] The case of robots executing pre-installed utility functions raises interesting questions about the moral duty of programmers to design only 'moral' robots, i.e. robots that pursue only moral objectives (Tamburrini 2009). Since we focus on the moral status of robots, not the moral duties of their designers or owners, we will not follow this question here. See Hughes (2012) for a discussion of robots which have been programmed in such a way that they have moral objectives and can regulate their desires accordingly as well as Hevelke and Nida-Rümelin (2014) for a study into the normative consequences of autonomous vehicles. Compare also Asimov's (1984) rules which prescribe (1) that a robot may not harm human beings or allow them to be harmed; (2) that a robot must obey a human's order unless this order would violate the first requirement, and (3) that a robot must protect its own existence, unless this violates the first two requirements.

the robot cannot be held morally responsible for stepping on someone's foot. Since this robot is nothing more than a machine running programmes, it is not an appropriate object for moral assessment and reactive attitudes.

Imagine next that we were dealing with a sophisticated, more autonomous robot, i.e. a robot that can learn about its environment and develop its own goals. It also has higher-order cognitive capacities, being able to reflect about and modify its goals on grounds of higher-order objectives. If so, the robot's stepping on your foot could not necessarily be put down to the malfunction of some software. Yet, nor could it automatically be interpreted as the intentional violation of moral demands or an expression of malevolence. The robot might be a psychopath with high cognitive capacities, but severe moral deficiencies: very intelligent, but unable to understand the requirements of morality and to assume attitudes such as benevolence and malevolence.[20] If so, the robot may once more fall into that category of agents towards which reactive attitudes would be inappropriate because it does not possess the whole spectrum of qualities required for moral agency. Consequently, future robots could be interpreted as moral agents, and thus the bearers of duty, only if they could grasp and deliberately breach moral demands. Is it conceivable that robots will ever develop these competencies? If robots could, on grounds of observations and interactions, learn about general regularities, it might also be the case that they will be able to pick up moral rules. However, whether or not this suffices for moral responsibility and, importantly, whether or not robots would indeed adopt these rules as their own, remains open.

4.3 Robot Citizenship

Finally, we can address the question of robot citizenship. It is quite likely that future robots will be agents. It might also be the case that in light of their increased autonomy, sophisticated robots will have to be regarded as right-holders and, possibly more doubtfully, duty bearers. For citizenship, they would additionally need to be regarded as members of our cooperative venture, sharing the same living space with us and standing in interdependent relations with other individuals.

Starting with the requirement of residency, we take it that at least initially robots will live together with us. As robots are currently employed within our

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[20] As mentioned in footnote 9, we would like to remain neutral on the specific metaethical interpretation of these claims. If a purely cognitivist, rationalist metaethical position were adopted, it could be argued that this robot has high cognitive abilities, but still lacks the faculty of reason that would be required for moral understanding. If, in turn, a sentimentalists or expressivists account were assumed, it could be submitted that the robot is highly intelligent, but lacks the emotional repertoire necessary for moral judgement. Accordingly, our argument is compatible with differing metaethical positions, although its precise formulation would need to be adapted depending on this metaethical choice.

daily lives, there is no reason to believe that their sophisticated descendants would not start out in our midst. With regard to interdependency and cooperation, different scenarios are conceivable. According to the first, it is possible that robots will be able to achieve their goals only through cooperation, that is by joining our cooperative venture which furthers the interests of its members. Since future robots will be more and more 'man-like,' choosing their own objectives and reflecting about their goals, it is likely that they too will have interests which can be realised or promoted only if they work together with the wider, public community. In contrast to domesticated animals, then, robots might have to be regarded as full members of our society, and thus our co-citizens. The second scenario is less rosy. Following Vernor Vinge (1993), we have to realise that if machines ever were as intelligent as humans, they would be so only briefly. For, if robots ever reached our level of intelligence, there is no reason to believe that their cognitive abilities would stop there. Rather, they will quickly overtake human intelligence and will, indeed, be better than we are at designing even more intelligent machines. With this 'intelligence explosion' (Chalmers 2010) in full flow, we simply would not know how robots would behave. Would they still appreciate human cooperation and even share our values? Or would there be no need for them to join our community and cooperate with us, possibly being utterly indifferent to our well-being? In the worst-case scenario, then, thinking about extending citizenship to include robots might be the least of our worries.

Rapid developments within AI thus confront us with pressing moral questions. Given the great uncertainty of these advancements, two general ways of approaching intelligent machines are conceivable. More optimistically, designers could try to influence robots' development so as to nudge them towards morally responsible behaviour. More pessimistically, we would have to stop the development of AI before it spins out of control.

5.   Conclusion

By devising their vision of *Zoopolis*, Sue Donaldson and Will Kymlicka have given the debate about animal rights a strong new impulse. Nevertheless, in this article we have rejected their case for animal citizenship. Whilst animals' valuable interests demand that they be protected by rights, moral considerations about moral responsibility and *ought implies can* show that they should not be regarded as the bearers of duties. Severe doubts about domesticated animals' membership of our political community, rather than private families, speak against granting citizenship to domesticated animals. Hence, although domesticated animals have rights, they can be regarded neither as the bearers of duties nor our co-citizens.

However, we have argued that there is a new 'species' growing in our midst, co-habiting and standing in some interdependent relations with us, which provides a further, possibly even harder test case for Donaldson and Kymlicka's

ideas on citizenship. These are sophisticated, autonomous robots, which will not only share the qualities of agency with humans and animals, but also exceed animals' and probably human cognitive abilities. Given the many possibilities that open up through new advances within AI, this is the time to start considering the moral implications of these developments.

Hence, although Donaldson and Kymlicka's arguments for animal citizenship fail, our discussion of robots' moral status shows that their reflections should not be taken as being limited to animals only. Given the collapse of their specific case for animal citizenship, though, we would like to close with a speculative remark about the interpretation of *Zoopolis.* As Donaldson and Kymlicka repeatedly stress, in their eyes the animal rights movement has somewhat ground to a halt, failing to elicit the political reactions that would be required for the successful protection of animal rights. This backdrop might suggest interpreting their case for animal citizenship as an attempt to provide a further kick-start for this political debate, with animal citizenship being an instrument for the realisation of animal rights, not an end in itself. Possibly, then, Donaldson and Kymlicka's thoughts on citizenship should not be understood as being exclusively philosophically motivated; they might also be read as being part of a politically driven campaign.

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