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Encountering nonhuman charisma: caring for research pigs

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ABSTRACT

In this paper, I examine the pig as a research animal and consider how a species-specific focus adds complexity to the inextricability of care and harm in the laboratory. Laboratory animal science is an ethically charged space where care and killing are inseparable, yet little attention has been paid to how this paradox is complicated by the particular identities and relational qualities of different species. Drawing on ethnographic research and interviews with animal technicians (ATs) in two UK facilities, I trace the ways in which pig charisma is actively engineered and mobilised across their lives in research. Distributed practices position charisma as a tool for shaping the 'ideal laboratory pig' while further entangling care with harm. At the same time, the same traits that engender close interspecies intimacies with pigs and ATs also make their deaths ethically and emotionally fraught. By following charisma across breeding, laboratory care, and potential afterlives beyond the laboratory, I extend debates on cultures of care and more-than-human ethics, while prompting reflection on the porous boundaries between laboratory subject, farmed animal, and companion species.

1. Introduction

In this paper, I examine the pig as research animal and consider how a species-specific framing adds a layer of complexity to the irreducibility of harm, killing, and care in the laboratory.

Laboratory animal science is an ethically complex and emotionally charged space where care and harm are inseparable. Relationships between animals and the animal technicians (ATs) who provide their daily care can contribute to the positive wellbeing of both the humans and animals involved (Bayne, 2002), with compassion and sensitivity towards research animals arguably a crucial aspect of doing the job of an AT well (Druglitrø, 2018; Roe and Greenhough, 2023). Yet, care that is practised alongside the inherent othering of laboratory animals (Sharp, 2019) and their deliberate harm and killing, creates an ethically contentious landscape (Levina, 2018; Roe and Greenhough, 2023). In this paper, I extend well established debates around the inextricability of care and harm in animal research (Greenhough and Roe, 2019; Holmberg, 2011; Roe and Greenhough, 2023; Davies, 2012; Friese, 2019; Giraud and Hollin, 2016), to question how a focus on a singular species may complicate these understandings.

Focusing on the pig as a research animal, I reflect upon the moral complexities involved in animal research care with a species that occupies a somewhat ambiguous space in relation to the human. For pigs in the laboratory, this ambiguity emerges from their ubiquitous use globally as food-producing animals, yet also as highly charismatic animals that exhibit high intelligence and complex social behaviours, as well as close physiological similarity to humans. Despite this, their use as research animals is often morally and ethically justified through discourse that hierarchically positions species based on their assumed personhood and capacity to suffer. For instance, pigs are often positioned lower on scales of moral concern than dogs (Caviola et al., 2019) and primates (Carr, 2022).

I engage with Lorimer's (2007) 'nonhuman charisma' as a lens to understand the relational capacities of nonhuman animals that shape how they may be perceived and engaged with by humans. As this paper will demonstrate, pig charisma is not incidental in the space of the laboratory, rather, it is actively engineered and mobilised. I draw on ethnographic research and interviews conducted with ten ATs at two UK animal research facilities to trace where and how pig charisma becomes important in care, from breeding for certain behavioural and temperamental characteristics, to leveraging the responsiveness of pigs during their daily care. I then consider how pig charisma might further be negotiated in the possibilities for rehoming research pigs that open up novel imagined care futures that extend beyond the laboratory.

I argue that a focus on animal charisma intensifies the inseparability of care and harm in animal research. For pigs, the same traits that make pigs lovable also make their deaths ethically and emotionally fraught for the humans who provide their care. Yet, these traits also open

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possibilities for reimagining care that challenge entrenched species hierarchies.

2. Care in animal research

Welfare for both animals and humans involved in animal research is underpinned by the 3Rs, an ethical framework including principles of reduction (of the numbers of animals used), refinement (of lasting harm, pain, and stress) and replacement (of research animals). Beyond the 3Rs, 'cultures of care' has been used to draw a distinction between welfare and care, that "goes beyond adhering to legal requirements. It refers to an organisational culture that supports and values caring and respectful behaviour towards animals and co-workers" (Robinson et al., 2020, p., 422). This emphasis on practices of relational care resonates with Davies et al. (2016) calls for a 'collaborative agenda' between social sciences and animal welfare science, noting the strengths of the social sciences in getting at questions of care such as "how do the emotional, embodied and affective relations between animals and people shape animal research and care practices?" (p.6).

A growing body of research from geography and the broader social sciences has begun to address this question, highlighting the role of tacit, embodied practices between ATs and research animals in developing care practices (Friese and Latimer, 2019; Giraud and Hollin, 2016; Greenhough and Roe, 2019; Roe and Greenhough, 2023). Nevertheless, care sits uncomfortably alongside the harm and killing in the context of animal research, which often work together as spatially co-constituted practices (Roe and Greenhough, 2023). Attunement to individual animals through embodied practices of care is utilised to further the control of animals as they are manipulated into compliant subjects to fulfil predetermined aims of scientific research (Giraud and Hollin, 2016). As such, tacit care practised through personal, embodied interactions has the potential to improve the lives of animals in research yet simultaneously emerges through a backdrop of 'mortal love' within a context of inextricable killing and care in the laboratory (Holmberg, 2011).

3. Pig charisma in the laboratory

Pigs are particularly useful as models for human research, bridging the difference between traditional rodent models and humans, owing to their physiological, anatomical, and genetic similarity with humans (Almond, 1996; Douglas, 1972). Their biological similarity to humans, in conjunction with the widespread availability of pigs as food-producing animals, their large litter sizes, ability to be housed in large groups, and early sexual maturity are a few of the advantages of the continued use of pigs in research on both human and animal health (Meurens et al., 2012).

To understand how pigs complicate practices of care in the laboratory, I here turn to nonhuman charisma as a lens to understand the relational capacities of nonhuman animals that shape how they may be perceived and engaged with by humans (Lorimer, 2007). Lorimer identifies three forms of charisma. First, aesthetic charisma refers to appearances or behaviours of species that evoke emotional responses in humans when encountered. Second, ecological charisma reflects biological traits and geographic properties that influence human attitudes towards a species. Third, corporeal charisma emphasises the affective responses emerging from bodily interactions across species. Perceived 'charismatic' animal species may be afforded greater significance from humans, (re)inforcing species hierarchies (Hovorka, 2019).

I argue that both corporeal and aesthetic forms of pig charisma become important in shaping human-pig relations in the laboratory. Research on pig intelligence has documented their varied capabilities and capacities, including individual and consistent personality traits as well as proficiency in using spatial information and memory (Marino and Colvin, 2015). Pigs also exhibit emotional regulation abilities and can influence the emotions of other pen-mates to resolve social conflicts, indicating sophisticated social and emotional awareness (Cordoni et al., 2023). They also often demonstrate a desire to seek out human contact (Tallet and Brajon, 2024; Truong et al., 2024). Despite these qualities, negative connotations and stereotypes of pigs permeate in language (Driscoll, 1995; Stibbe, 2003). For instance, connotations such as 'lazy' and 'dirty' are frequently attached to pigs in everyday language, propping up adverse attitudes towards them and justifying their lower moral status in human society, compared to companion animal species (Te Velde et al., 2002)

These hierarchical categorisations of species influence public attitudes towards their use in animal research. It is suggested that pigs as research animals provoke less ethical concern among populations who consider pigs as food-producing animals (Bradley et al., 2020) whereas other species such as dogs hold a perceived higher moral standing, despite their similar cognitive abilities. Hobson-West and Davies (2018) describe this as the 'core paradox' of animal research, where animal models are considered appropriate owing to biological similarities to humans and their ability to feel, whilst simultaneously their assumed lack of ethical capacities permits their use.

These species distinctions also matter to ATs, as the complexities of caring for research animals are often amplified when the animals might be considered 'big like us', such as nonhuman primates (Coleman, 2011) and dogs (Giraud and Hollin, 2016; Palmer et al., 2023). The close emotional relationships that ATs may develop with these species, often characterised by sociability and intelligence, become increasingly complex as they navigate the procedural requirements of animal research. As Sharp (2019, p. 124) writes, piglets in the laboratory shift from "living, vulnerable creatures, to a work object or research partner, to a data point" (Sharp, 2019, p.124). Dam et al. (2020) describe how the instability of these identities frequently results in a "ghosting [of] piglet lives and unknowingly fleshy details about them" (p.7). Building on this ethnographic work in Denmark, Svendsen (2022) discusses how humans in the laboratory become bonded to piglets that are treated as vulnerable patients, where work must be done to keep them alive for long enough to ensure they can become valuable to the research that will be beneficial to human infants. Their nonhumanness nevertheless delineates them as killable, highlighting the inherent tension between the caring relationships formed between humans and piglets in the laboratory and the parallel commitment to providing long-term care for human infants.

Considering pigs as 'near human', referring to their physiological similarities to humans and associated value as biomedical models (Svendsen, 2022), yet also as a farmed animal species, in this paper I explore how ATs negotiate pig care within shifting ontological identities. While the lives of laboratory pigs are vastly different from their conspecifics in industrial pork production, in both of these spaces of encounter, care is practiced within systems fundamentally requiring animal harm. Blanchette's (2020) ethnography of US industrial pig farming shows how acts of care for piglets can paradoxically sustain their systematic exploitation. Similarly, in the laboratory, care for pigs is shaped by scientific aims that often require animal harm and killing. These ambivalent forms of care, especially as they relate to pigs' shifting status within and beyond animal research, call for a closer consideration of the relations that co-constitute how pigs come to matter in the laboratory.

4. Methods

This research draws upon ethnographic work conducted in 2022 at two UK animal research facilities, including interviews with ten ATs. By working closely with ATs and observing their daily interactions with pigs, I foreground the tacit knowledges at work in human-animal relationships in animal research (Davies et al., 2020). Following Greenhough and Roe (2019), I consider the experiences of ATs, as retold by them, as integral to understanding the embodied and affective nature of their ongoing attunements to laboratory animals. I argue that bringing a species-specific focus allows for a nuanced understanding of the

contested nature of care in animal research that is further complicated by nonhuman charisma and species categorisations that are frequently associated with the moral value of animals.

The first visit was conducted over five consecutive days at a facility housing pigs used in animal disease research (referred to as Facility A). This involved shadowing ATs during their day-to-day roles and observing regulated procedures such as blood sampling and culling. The second visit took place over one day at a facility housing pigs primarily for translational biomedical research (referred to as Facility B). This involved shadowing ATs during their interactions with pigs but did not involve observation of regulated procedures. Across both facilities, ATs were interviewed either at their place of work or via video call when in-person interviews were not possible. The interviews explored the interviewees' experiences of caring for pigs, including their daily routines and the challenges they face. Participants were also asked to reflect on the emotional and ethical dimensions of pig care, as well as how their relationships with the pigs in their care evolved over time. Interviews were transcribed verbatim, and each assigned a pseudonym to protect anonymity.

5. Encountering pig charisma

> *I am invited to accompany Kimberly on a tour to meet the pigs. We go into the pens through the large metal door, and I see three pigs leap up onto their gate with their front legs. Kimberly greets them with an upward inflection in her voice, which seems to evoke an enthusiastic response from the trio, who begin to make short grunting noises. I am told this means they are happy to see us. Kimberly introduces the pigs as Penelope, Nora, and Macy.*
> **Fieldnotes, 5th July 2022, Facility B**

The above excerpt is taken from fieldnotes describing my first encounter with pigs at Facility B. Kimberly is one of a small team of experienced ATs who named the pigs and provide their daily care, through which they become known as individuals. In both facilities visited for this research, pig agencies were impossible for ATs to ignore, and many developed 'favourites' based on the personalities of particular pigs. Frequently ATs expressed a preference for working with pigs over other species, including rodents and other farmed animals such as sheep, due to their individual demonstrations of sociability, and eagerness to engage with humans.

> *"[it surprised me] how friendly they are really. You don't really realise that unless you work with them."*
> **Interview with Luke, Facility A**

> *"Originally you think 'it's a pig, what can a pig do?' but actually they are quite affectionate animals… the more you work with them the more you know them. You know the animals, and they are quite affectionate. You know they've got their own characters; some are playful, some are a bit more laid back."*
> **Interview with Nicola, Facility B**

Noticing these qualities of individual pigs compared to other species may be made easier by the comparatively low numbers of pigs used in research compared to other mammals. Similar close, emotional relationships often occur with other species used in small numbers such as nonhuman primates (Coleman, 2011). However, for ATs, the relationships they were able to develop with pigs were somewhat unexpected, as noted in Nicola's questioning, "what can a pig do?". This sentiment reflects how encountering charisma unsettles societal understandings of pigs that often ascribe them a low moral status due to their use as food-producing animals (Krings et al., 2021; Leite et al., 2019). ATs were often surprised to be able to engage in a process of 'getting-to-know' the individual pigs in their care. Whilst most ATs interviewed had no previous experience with pigs prior to their current role, entering into new relations of proximate care and responding to corporeal charisma in these embodied encounters opened up new ways of thinking about pigs. The process of pigs and humans getting-to-know one another begins shortly after pigs arrive at the facility, as ATs spend time in the pens to accustom the new arrivals to frequent handling through petting and playing. In Facility A, I sat with Clara and a group of piglets who would be used in a Foot and Mouth Disease (FMD) vaccine trial.

> *Our presence excites the pigs and the bolder ones in the group instantly swarm us. The others hang back cautiously before coming over to investigate us. Zack, the AT who has been caring for these piglets since their arrival a few weeks ago, peers over the door to tell us '78 loves a good belly scratch by the way'. I scanned the ear tags for the number and identified 78, who was already rolling onto her side in anticipation.*
> **Fieldnotes, 14th March 2022, Facility A**

It was difficult to ignore the more inquisitive pigs like number 78, who seemed eager to receive human contact. While many ATs felt that having emotional bonds with the animals in their care may be discouraged to reduce the emotional toll or compassion fatigue that ATs face (Newsome et al., 2019), the charisma of the pig was difficult to dismiss. The embodied relations with pigs in the laboratory forced ATs to confront and navigate the tensions of 'mortal love' that emerges from the inextricability of killing, harm and care in the laboratory (Holmberg, 2011). The willingness of pigs to engage with and respond to human caretakers added a layer of complexity to this care, opening up new sensibilities and feelings of care towards the pig.

> *"[I have] my own little ways of loving them, not a lot of people probably cuddle them and sit with them as much as I do, but I like to do that because the more they like me, the more they're not sad. So, when they see me, they think 'friend' and not 'someone who is going to hurt me'."*
> **Interview with Helen, Facility A**

In spending time with the pigs in her care, Helen attempts to construct a relationship of trust, hoping that the pigs subsequently experience less fear throughout their experience in the laboratory. Whilst this is common in caring for research animals, the willingness of pigs to engage with humans becomes prominent here. Developing a friendship with research pigs here is as much driven by human agencies, as they are pig agencies. The 'pet-like' relations ATs may have with animals in their care might commonly be associated with companion animal species, who also provoke high levels of public anxiety about their use in research, alongside nonhuman primates (Sandgren et al., 2020). The pig, however, often does not incite the same level of public concern (Bradley et al., 2020). These unexpected moments of friendship further point to the moral ambiguities of laboratory care, where relations of care not only coexist with practices of control and harm, but also within broader societal perceptions of pigs.

In this space, ATs are opened up to relating to pigs differently through creating cross-species bonds, and even friendships. In moving from farm to laboratory, ATs often viewed pigs as decoupled from their potential as food, where they became individuals with distinct personalities and behaviours.

> *"I don't call them sausages because that's not very nice! My friend goes 'Oh they're little sausages!' and I say, 'They're not sausages!'"*
> **Interview with Helen, AT – Facility A**

I found this comment intriguing, as Helen had previously told me she ate meat, including pork. The pigs she cared for in the laboratory were Landrace pigs, a commercial breed purchased from a farm that also supplied leading UK supermarkets. Nevertheless, the individual pigs she cared for were viewed through an entirely different lens. Helen confesses to me that she spends more time with the pigs than other ATs, often giving them pet names and calling them her "piggy children", despite feeling that colleagues may judge her for building close relationships with research animals. Her reluctance to think of these pigs as meat, and instead viewing them as pet-like figures in her life highlights the complexities of care and blurring of species identities in the laboratory that

become possible through encountering pig charisma. Through interspecies friendships, Helen re-categorises these pigs based on their personhood and emotional capacities, rather than their utility as food. This reclassification of pig identity mirrors broader tensions in how pigs are imagined and encountered as farmed animals. As Blanchette (2020) shows in an ethnography of industrial pig farming, even in spaces where pigs are bred for slaughter, there are moments when they are treated as more-than-meat. Yet, these moments of recognition do not fully unsettle their commodity status. Across both farm and laboratory, pig identities are multiple, and shaped by the institutional frameworks in which they are embedded. Helen's comment illustrates not only a personal discomfort but also the broader ambiguity of the pig's ontological status, suspended awkwardly between pet, patient, model, and meat.

The following section argues that these close emotional relationships between ATs and pigs are essential in the cultivation of what can be considered an 'ideal' laboratory pig, and are embedded within a wider collaborative and spatially distributed process that utilise pig charisma within practices of care.

6. The ideal laboratory pig

The idea that good care leads to good science in animal research is a central pillar of the 3Rs (Davies et al., 2018). In this context, relations of trust and care between ATs and pigs intend to create a low-stress environment that is, ultimately, conducive to the achievement of study objectives. The overlapping aims of care and science strive to create the 'ideal' laboratory pig – one that is manageable, cooperative, and conducive to data collection, minimising challenges for staff. What is less acknowledged, however, is how achieving this ideal relies on engineering and leveraging pigs' charismatic qualities, both as pigs and ATs develop their relationships, but also before pigs enter the laboratory.

The intention to create the ideal lab pig begins prior to the pigs' arrival at an establishment through decisions on exactly which kind of pigs will become lab pigs. Several of the pigs housed at Facility A were commercial breeds from a local farmer who often 'reserves' pigs with a calm disposition to become research pigs. Here, the construction of the ideal laboratory pig begins with an informal selection process, informed in part by the nonhuman charisma of the pig that becomes visible through demonstrations of docility and sociability. The pigs that are selected for their calm dispositions are thought to cope better when faced with commonplace stressors in the laboratory, including frequent handling, injections and blood sampling.

At Facility B, the Göttingen Minipigs are purchased from a breeder in Denmark where similar considerations are made. The breed was intentionally created for biomedical research purposes by crossbreeding three breeds; the Vietnamese Potbelly, the Minnesota Minipig, and the German Landrace (Bollen and Ellegaard, 1997). To improve traits in the breeding population, estimated breeding values (EBVs) are calculated for each individual pig that predicts the likelihood that they will pass on desirable traits, such as litter size and body weight. The temperament of pigs is also considered, and behaviour scores are given to individuals based on their responses to situations such as handling. This intends to produce pigs that will be less anxious in laboratory settings (Simianer and Köhn, 2010).

As Giraud and Hollin (2016) argue using the case of laboratory beagles, whilst animal agency plays a role in the co-construction of knowledge, this agency is carefully sculpted to ensure animals would suit the research agenda and complete their expected participation. Rather than a leveraging of charisma, the decisions of which pigs become research pigs, informed here by behaviour scores and a farmer attuned to pig personalities, may be understood as practices of anticipatory care.

Once pigs entered the laboratory, ATs recognised that the ideal pig was a shared achievement, shaped by their own efforts and the pigs' agency.

> *"if an animal is left to its own natural ways, it will be a very flighty animal, hard to catch. So that's why when I'm in there, I am always talking. I'm talking to them. I'm not expecting an answer from them, but I'm keeping them familiar with my voice and interactions with people so it's not a fear factor when someone comes in the room and interacts with them."*
>
> **Interview with Zack, Facility A**

For Zack, an AT with many years of experience, gaining familiarity with the pigs was crucial to allow for a smooth study where animals cooperated with their handlers. I joined him one morning to feed the FMD study pigs.

> *Zack rinses out the feed troughs and refills them from a bucket of pig nuts. The piglets line up perfectly at the trough and begin eating. Zack goes behind them one by one and pats gently around their tails. He explains that they will have to have their temperature taken rectally at intervals throughout the study, so it's important that they are used to a person coming up behind them. If they are used to it, the process will be less stressful for the pigs and easier for the ATs. Most pigs did not react to Zack's touch.*
>
> **Excerpt from fieldnotes, 15th March 2022, Facility A**

ATs were aware that socialising the pigs and allowing them to become familiar with staff would create a smoother study. Building this trust involved spending time in the pen playing and providing tactile interaction with pigs, which can be enjoyable, particularly for younger pigs (Brajon et al., 2015). ATs frequently spoke positively about the social nature of pigs, noting their responsiveness as conducive to building trust. Such expressions of charisma fostered cooperative relationships between pigs and ATs and allowed the leveraging of pig agency to create the 'ideal' lab pig, reflecting that care and control are not just co-existing in the laboratory but are co-constitutive (Roe and Greenhough, 2023; Giraud and Hollin, 2016).

Whilst discussions around cultures of care are broadly situated at the establishment-level, here, considerations of pig temperament and anticipated implications for pig welfare within the laboratory extend the remits of a culture of care beyond the bounds of the individual establishment into a spatially distributed network of breeders who become pivotal in co-producing the 'ideal lab pig'. This framing demonstrates that efforts to secure 'a good life' for pigs in the lab hinge upon shaping which kind of pigs will enter it.

With this framing, the ideal lab pig is a collaborative process shaped by the intersecting priorities and relations of ATs, breeders, and pigs. For ATs, this is an ongoing building of trust and familiarity with pigs to reduce stress and facilitate care. For breeders, it meant selecting and engineering pigs over generations for temperament and physiological suitability. These distributed practices of care rely on and reproduce pigs as 'near human' (Svendsen, 2022), and are necessarily intertwined with the control of animal bodies to create a compliant research subject. Amidst the messiness of care and control in the laboratory, in the following section, I draw attention to the reciprocal communication between pigs and ATs that facilitates control over pigs, but, paradoxically, is also constrained by control.

7. Knowing pigs differently

ATs who provide daily care for pigs understand them as individuals with visible personalities, with whom they can build meaningful relationships. This intimate knowing of the pig is not always shared by researchers who are detached from the tacit, daily practices of care (Dam and Svendsen, 2018; Svendsen, 2022). At times, this created a lingering discomfort among ATs with the lack of value ascribed to pig life, despite killing and harm being understood as part of the job, necessary to create good science (Arluke and Sanders, 1996).

> *"There have been some instances where people who … do the research have said things like 'oh, it's just a pig', or maybe just not treating it like*

we would, and things have been said. This is an animal at the end of the day, and it is losing its life for something, so it's not to be treated as if it's nothing."

Interview with Gina, Facility B

Gina's reflections indicate that pig charisma is not encountered and valued uniformly across the laboratory. In an interview with Zack, we discussed the pressures of making quick decisions in high-stress situations where the often-conflicting priorities of ATs and scientists come to the fore, such as obtaining blood samples. Here, pigs are restrained using a rope around the neck whilst a blood sample is taken.

"Let's say I'm holding a pig and bleeding is going well, but the pig has turned purple. We need to get this pig off the rope. She's obviously having breathing issues and isn't getting enough oxygen. If the bleeder hasn't got enough [blood]… they say 'Hang on hang on, let me finish, just hold on'. It's like, is a couple of seconds more so bad? But in the animal's eyes, those few seconds are the seconds it needs… Pathology don't understand what we've gone through to get that sample, to them it's just a sheet of paper. It would be an idea to get them here, to watch how the samples go."

Zack's experiences reflect a concern that research staff are disconnected from the plight of the pig that ATs are forced to confront in their daily acts of care, a theme apparent across several AT interviews. During the observation of a study procedure involving the inoculation and blood sampling of a group of pigs, the embodied attunements of the ATs to the pigs became evident, as one AT expressed concern over the stress levels of an individual pig.

The anaesthesia causes the pigs to lose their balance quickly. An AT places them onto the straw, building it up around their bodies to keep them warm and comfortable. Some pig bodies are twitching as they are taken one by one and placed in the immobilisation trough, where they are given an intra-tracheal inoculation and have a blood sample taken. After a few pigs have been successfully inoculated, the remaining pigs seem to be slowly waking up. Pig 77 is in the trough; his legs begin to twitch as the vet prepares the equipment. The inoculation is completed, and blood sampling starts, though it appears the pig is beginning to regain consciousness. An AT observing points out that his skin is beginning to turn a brighter pink, and blotches are appearing on his stomach. She gestures to the vet who immediately calls for the sampler to stop.

Excerpt from fieldnotes, 16th March 2022, Facility A

Before visual signs of stress appeared, inoculating and blood sampling was a fairly simple process for the anesthetised pigs. The sudden changes in the colour of pig 77 brought attention to the liveliness of the animal, causing the samples required for the study to become a secondary matter of concern for ATs. The importance of skilful attunements to animals in moments such as this underscores the importance of a positive culture of care where ATs are given opportunities and are empowered to speak on behalf of animals, to dismantle the 'them and us' mentality between ATs and researchers (Gorman and Davies, 2023).

A greater acknowledgement of the expertise and intimate knowledge of animal care provided by ATs in research design and decision-making processes can contribute to creating a research culture that prioritises both technician wellbeing and animal welfare, while still making meaningful contributions to scientific knowledge. In Facility A, Peter recalls a presentation made by researchers to ATs to explain how a study would be run, where cartoon 'angel' pigs with angel wings and halos were used to depict the planned culling of pigs once they had fulfilled study requirements. This representation of the pigs' deaths was perceived as insensitive by the ATs, who argued that the role of the pig was trivialised. In response to this, Peter invited researchers to spend a day with the ATs to gain firsthand experience of caring for the pigs.

"They were really taken aback on how lovely the pigs were… It was nice to see their reaction and after that, we got constant emails… like 'how are my pigs doing? Can you send me some photos?'. All of a sudden, they were their pigs, they weren't blood samples anymore."

Interview with Peter, Facility A

By immersing themselves in the daily care of the pigs and engaging with pig charisma, the researchers' attitudes towards the pigs shifted, having wider implications for the research as care for the pigs became an increasing matter of concern beyond the team of ATs.

8. Killing, death and memorialisation

I join two ATs, Rob and Hannah. Together, they pick up one pig and lay him on a steel table. The pig has already been given an anaesthetic and his body flops as they inspect the ear for a vein. They say 5 ml is probably enough to cause a fatal overdose, but they are told to use 10 ml to make sure they are dead. The ears are thin, and I see the blueish colour of the veins slowly lighten as the lethal drugs infiltrate his bloodstream. The pig is moved into the adjoining room where two large metal tables are lined with plastic sheets for the post-mortem. Petri dishes are laid out that will soon contain his tissue samples.

Excerpt from fieldnotes, March 18th 2022, Facility A

Death is the endpoint of animal lives in the research process. However, for researchers, death often signals the beginning of their work. The pig has multiple identities that coexist in the laboratory, both a being that ATs have a duty to care for and a scientific object that must be studied. In the previous section, I laid out how pig charisma is not encountered uniformly ATs and researchers. Here, I turn to consider how this also translates into different ways of understanding pig death.

End of study culling is understood as 'part of the job' and necessary to create good science (Arluke and Sanders, 1996). Nevertheless, it is important to acknowledge the impact of witnessing and playing a role in animal death on technicians, who often face compassion fatigue due to the continuous overturn of animals (Randall et al., 2021).

"Sometimes with the little pigs, it's … like a revolving door … It's like three-week rolling studies… You're driving them to the post-mortem and you're waiting for the gates to open… you just look in the mirror and see into the trailer with a load of little pig faces just looking at you… you think 'what am I doing?'."

Interview with Peter, Facility A

The transient identities of the research pig can create a significant emotional burden for technicians, who must reconcile these multiple identities to do their jobs effectively.

Despite the multitude of pigs culled, it was not uncommon for ATs to reminisce about individual pigs they had previously cared for. Nicola recalls the day that three pigs she had cared for over a six-month period were culled.

"Everybody had such a bond with them. On the day they went, no one spoke. It was a case of just getting in, getting it done, and getting out."

Interview with Nicola, Facility B

The positive experience staff had with these pigs are memorialised in pictures of the trio hung on the staff room wall. Whilst ATs felt a sense of loss for these pigs, the majority of pigs used in research are not memorialised in this way. Conversely, it is common for photos of deceased companion animals to be displayed by their human owners. These animals become grievable as owners attach meaning to individual personalities and traits (Redmalm, 2015). Nicola described these pigs as having "funny little characters", suggesting meanings associated with individual pig personalities in the laboratory may work in a similar way that mirror the emotional bonds often formed with companion animals.

Many ATs emphasised the social reciprocity of pigs, distinguishing them from other commonly used research animals such as sheep, mice, and cows. The distinct charisma of pigs contributed to intimate ways of knowing animals, and reciprocal relationships between pigs and ATS. However, this reciprocity does not readily map onto symmetrical relations of power, and also complicated ethical discussions surrounding the intersections of care, control, and death in the laboratory. The

recognition of pigs as socially engaged, charismatic beings further underscores the tension between the agency of pigs and the constraints imposed by research protocols. In light of these complexities, the next section will explore how ATs' intimate knowledge of pigs can contribute to reimagining care within the laboratory.

9. Charisma in reimagining care futures

ATs hold a valuable role in advocating for research animal welfare (Greenhough and Roe, 2018). In this final section, I discuss how this is being done with pigs, then turns to discuss the possibilities of extending this advocacy into the rehoming of research pigs, an under-explored practice in animal research.

In Facility A, a small group of pigs were kept for ongoing blood sampling rather than short-term studies. Unlike other pigs at the site, they had access to a large outdoor field. Outdoor access is normally prohibited for research animals due to strict biosecurity measures imposed by research protocols. For this group of pigs, their outdoor access was secured through the advocacy of ATs.

> *"I got to know each of these pigs… I just got really into trying to improve their welfare. So, I just think I found it quite rewarding because these pigs… weren't allowed outside or anything like that. So, I worked on making that happen … I spoke to a vet who was here, he kind of said that there's no reason why they can't go out in the field, and I didn't realise. I think I just thought, well, they're inside… they're here for research… but he opened my eyes a bit and said, actually they can. Then I was like, well… If they can have that, then they absolutely should have that."*
> **Interview with Zoe, Facility A**

This illustrates how getting to know pigs' can motivate ATs to push against institutional norms, extending care beyond accepted practices. While such advocacy does not undo harm, it signals attempts to reconfigure care within the constraints of research. Although most research pigs are not permitted outdoor access due to potential contamination that could interfere with research, being able to contribute to improving welfare for a small group of pigs had a positive impact on AT wellbeing. Zoe's sense of achievement as a result of advocating for the pigs is indicative of the potential of utilising AT perspectives on animal care to inform welfare changes. Recognising that human and animal welfare in the laboratory are interlinked (Ferrara et al., 2022), supporting animal care personnel to provide increased enrichment to animals has been noted as a potential opportunity for building a stronger culture of care (Ferrara et al., 2022; LaFollette et al., 2020). The impacts of these opportunities for improving animal welfare on AT wellbeing warrant further exploration that is outside the scope of this paper.

Even as ATs strive to extend and reimagine care, they must also confront moments where they often had minimal input in decision-making, such as instances where pigs were culled outside of study requirements. This may happen for several reasons, such as lameness or injury that required frequent painkiller use, as this could interfere with their blood samples. Continuing their life often becomes a financial decision in these cases. However, these situations also highlight the potential impacts on wellbeing from ATs' involvement in decision-making processes.

> *"Obviously scientifically if they've been infected by something [rehoming is] not possible, and I get that. Often, they want tissues which they can only get if the pig is dead … I'd like to think if they could be [rehomed] it would be beneficial for my mental health and would be nice for the pigs to live out however long they had left."*
> **Interview with Sam, Facility A**

Pigs, unlike primates or dogs, occupy an ambiguous moral space as a farmed animal species bred for human consumption, yet responsive, intelligent, and socially engaging in ways that resonate with ATs. This ambiguity unsettles species boundaries and raises questions about how these charismatic qualities might be recognised in reimaging pig lives beyond the laboratory.

Greenan et al. (2025) point out that in rehoming rats from research establishments, there is an underpinning assumption that rats make good pets due to their sociability and intelligence. This assumption suggests a tension that recognising the qualities that render rats desirable as pets complicates their positioning as experimental subjects. In this paper, I have shown how similar traits become important in creating the ideal lab pig, both prior to and during the pigs' time within the laboratory itself. Theorised as a practice of care, engineering these characteristics inadvertently emphasise in pigs the same qualities that are valued in common companion species.

For pet pig owners, these relational qualities, such as the sociability and responsiveness of pigs to humans, unsettle entrenched distinctions between farmed and companion species, repositioning pigs as morally considerable subjects welcome in the space of the home (Goldie and Roe, 2025). As I have shown here, pigs are often viewed as pet-like figures in the laboratory for similar reasons. This blurring of species categories between research animal, pet, and farmed animal further pose further questions about how pig charisma might be recognised, and reconciled with, in practices of rehoming.

However, rehoming research animals is more commonly practiced with familiar companion animal species (Palmer et al 2023; Skidmore and Roe, 2020). Whilst not always possible due to the nature of the research, in certain scenarios rehoming may be a viable avenue for pigs. Rehoming reflects a culture of care that respects animals' inherent value (Palmer et al., 2023) and eases the discomfort that many ATs feel surrounding culling in these cases (Scotney et al., 2015). The National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) state that "careful consideration should be given at the project planning stage to the fate of the animals at the end of the programme of work (e.g., euthanasia, rehoming, release)" (NC3Rs, 2017).

Between 2015 and 2017, at least five pigs were rehomed from animal research facilities (Skidmore and Roe, 2020). Despite a number of challenges in the rehoming of research pigs, including potential disease transmission and difficulties in finding suitable housing and willing owners for long-term care, directing funding towards providing sanctuary for research animals can create alternative afterlives for research animals. Careful planning and communication between researchers, caregivers, and animal welfare organisations are crucial for addressing concerns and challenges around rehoming. In the context of rehoming laboratory primates, Fleury (2017) argues for research grant proposals to consider primate retirement funding, as early financial planning can ensure the continued care of primates in their life after the laboratory. Similar consideration must be given to pigs in cases where their participation in research does not compromise their long-term welfare. The rehoming of laboratory animals can contribute to strengthening a culture of care that extends into considerations of the lives of animals after the laboratory. This carries benefits for ATs who often view rehoming as rewarding (Van Loo and Janssens, 2023), and can ease public concerns around animal research (Skidmore and Roe, 2020).

These possibilities invite a broader rethinking of how cultures of care might extend beyond the laboratory, as well as how the identities of different research animal species are valued and experienced both during and after their involvement in animal research.

10. Conclusions

In this paper, I have argued that pig charisma is not incidental but is intentionally engineered and leveraged across their lives as research animals. By tracing charisma through distributed practices of care both within and beyond the laboratory, I have positioned charisma as a tool in shaping the ideal laboratory pig, further complicating the inextricability of care and harm in animal research. Unlike other species, such as dogs or primates, pigs rarely provoke public anxiety about their use in research and are infrequently rehomed, despite having comparable

capacities for emotional and social connection with more morally valued species. I have argued that these contradictions are amplified by pig charisma, and unsettle the boundaries of species identities, inviting unique and unexpected emotional relations between pigs and ATs.

Yet, this charisma is frequently engineered and leveraged throughout the course of pig lives to mould a compliant research subject. I have demonstrated that this is achieved through various practices of anticipatory and skilled care that are spatially distributed across breeders and ATs. As pigs move through the laboratory, they become known differently by researchers and ATs, often creating tensions in the way that pigs are valued and understood. I have suggested that species-specific, relational approaches to laboratory animal care, such as involving ATs in welfare decision-making or exploring the rehoming of research pigs, offer potential to reimagine care in ways that value the meaningful relationships that ATs can develop with pigs. I have discussed the rehoming of research pigs as an avenue to enact this, as well as to strengthen a culture of care that extends consideration to the lives animals may have outside of the laboratory.

While this paper has focused on pigs and their charismatic traits, this focus is not intended to suggest that charisma renders some animals more deserving of care than others. Rather, it has intended to highlight how relational qualities shape ethical possibilities in the laboratory. Future work should remain attentive to how nonhuman charisma may shape multispecies encounters within spaces of simultaneous care and harm for animals. This work should consider how the presence or invisibility of nonhuman charisma might become entangled with established care practices.

The arguments I have presented here contribute to debates on nonhuman charisma and care, while advocating for a more reflexive engagement with questions around how the identities and capacities of animals shape the ethical terrain of laboratory research. More broadly, the paper prompts geographical reflection on the porous and unstable boundaries between human-imposed animal categories such as pet, laboratory subject, and farmed animal.

CRediT authorship contribution statement

Kate Goldie: Writing – review & editing, Writing – original draft, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

Data will be made available on request.

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