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Fetal and animal research in Sweden: The construction of viable lives in regulatory policy debates, 1970–1980

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ABSTRACT

Following demands to regulate biomedicine in the post-war period, Sweden saw several political debates about research ethics in the 1970s. Many of the debates centered on fetal research and animal experiments. At stake were questions of moral permissibility, public transparency, and scientific freedom. However, these debates did not only reveal ethical disagreement—they also contributed to constructing new boundaries between life-forms. Taking a post-Marxist approach to discursive policy analysis, we argue that the meaning of both the "human" and the "animal" in these debates was shaped by a need to manage a legitimacy crisis for medical science. By analyzing Swedish government bills, motions, parliamentary debates, and committee memorials from the 1970s, we map out how fetal and animal research were constituted as policy problems. We place particular emphasis on the problematization of fetal and animal vulnerability. By comparing the debates, we trace out how a particular vision of the ideal life defined the human-animal distinction.

1. Introduction

Recent decades have seen a growing interest in the emergence of modern medical ethics, including the various state policies introduced to regulate scientific research. One topical interest in this literature concerns how research-ethical problems are constructed *as such* in biopolitical processes. For example, Hobson-West and Davies (2018) have studied how public attitudes toward laboratory animal suffering shape how researchers perceive the ethical problem of animal research. Similarly, Åm (2018) has charted how researchers facing ethical dilemmas align themselves with socially constructed "concern menus" that define the proper course of action to take. Taking a cognate approach, Druglitrø (2018) has argued that the perception of animal experimentation as a "good science" depends on certain "ethical choreographies" that draw the line between problematic and non-problematic animal treatment. These studies indicate that participants in research ethics debates do not simply deal with objectively given concerns—they also *produce* the "problems" their actions and policies claim to solve. This article follows this research avenue by treating ethical regulation controversies as matters of *political problematization* (Bacchi, 2009; Bacchi & Goodwin, 2016). More concretely, our study traces how animal and fetal experiments were represented as particular types of problems in political debates over ethical regulation in Sweden in the 1970s.

These controversies have been studied before—most notably by Forsman (1983, 1992), Alexius Borgström (2009a, 2009b), Jülich (2018), and Jülich & Tinnerholm Ljungberg (2019). Curiously, however, the two policy areas have never been reviewed side by side. This article brings the debates about fetal and animal experiments together to examine them as constituent elements of a transitional period that brought new regulatory standards to the biomedical field in Sweden. In this way, we aim to enrich the historical account by outlining the hopes and fears that animated both controversies.

Beyond this contribution to Swedish political and medical history, this article's main analytical interest lies in the construction of certain life-forms as objects available for experimentation. This links our study to a central concern in science and technology studies (STS), namely how "life is made, valued, and ordered in science and how certain values and positions of valuation come to count as imperative, and others not, in specific empirical and historical settings" (Druglitrø, 2018, p. 651; see also Dussauge, Helgesson, Lee, & Woolgar, 2015). As the analysis will reveal, the problem representations in the debates both transformed and reaffirmed the status of most nonhuman animals and some human fetuses as resources available for experimentation. We argue that the

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experimentability accorded to these entities drew on an unpronounced yet ever-present vision of an ideal form of life figuring in the background. Implicitly patterned on the adult human's experience, this notion of the ideal life excluded animals from full moral consideration and positioned fetuses in a kind of moral halfway house between the animal and the human.

In this regard, this article demonstrates the value of directing analytical attention not only to political disagreements over given issues but to the construction of the political problems themselves (Bacchi, 2009; Bacchi & Goodwin, 2016). Furthermore, it empirically illustrates a concern often raised within bioethics and critical animal studies—namely that ethical considerations are often susceptible to ideological power (Nibert, 2002). By indicating how the problem representations in the debates often sidestepped serious ethical issues, our analysis highlights the need for greater critical awareness in future policymaking processes.

The studied material consists of all government law proposals, parliamentary debates, motions from politicians, and parliamentary committee memorials that dealt with regulating fetal research and animal experiments from 1970 through 1979. To capture the problem representations that governed these debates in the Swedish parliament—the *Riksdag*—we take a discourse theoretical approach guided by the following questions:

- How were the "problems" of fetal research and animal experimentation represented in the period?
- What assumptions or presuppositions (particularly about the role of science and the value of human fetuses and nonhuman animals) did these problem representations rest upon?
- What productive effects did these problem representations have in constituting fetuses and animals as either experimentable or non-experimentable?

Of course, answering these questions will not tell the whole story about the period's political dynamics. Nor do we claim to capture the general Swedish discourse on bioethics. Nonetheless, we believe that the problem representations documented in the parliamentary archives offer a fair indication of what could pass as respectable political or public speech at the time. To what extent the broader debate would map onto the discursive coordinates identified in this study is a question for future inquiries.

The article is structured as follows. In the upcoming section, we discuss our approach to the topic, elaborate on the study's methodological and theoretical basis, and present our empirical material. In the third section, we review previous research on animal and fetal experimentation in Sweden. This is followed in sections four and five by our empirical examination of the debates about fetal and animal research, respectively. In section six, we compare the problem representations and discuss their productive effects. In the conclusions, we summarize our findings and what they imply.

2. Theoretical and methodological considerations

Many controversies over research ethics have been about the treatment of vulnerable groups. Activists and reformers have often pointed to the risks run by children, disabled people, minorities, animals, and other marginalized categories of being exploited by a powerful biomedical apparatus (Banchoff, 2011; Dyck & Stewart, 2016; Guerrini, 2003; Stark, 2012). The literature on animal rights and critical animal studies, in particular, has shown how the subordination of nonhuman animals has relied on the construction of other species as resources for humans to use (Nibert, 2002; Singer, 2002). In similar ways, feminist theorists and STS scholars have highlighted how the scientific interest in manipulating biological reproduction has left women—and female non-humans—particularly vulnerable to transgressions (Adams & Donovan, 1995; Birke, 1994; Franklin, 2002). The medical professions have typically responded to these accusations of power abuse by rejecting them as unfounded—or by bidding for renewed legitimacy via the adoption of certain professional standards or by submitting to ethical review (Forsman, 1992; Hedgecoe, 2017; Jacobs, 2018).

Keeping this antagonism in mind, we contend that the appropriate starting point for analysis is in the middle of the controversy itself. Thus, we approach the issue of ethical regulation as an ideological battlefield upon which competing interests and ideologies vie for hegemony, and where the struggle ultimately concerns the mandate of science: What can legitimately be done to living (and future) beings in the name of knowledge and progress?

Different ethical doctrines offer different answers to this question. However, debates about research regulation have never been solely about ethics. First and foremost, they have been *political* controversies concerned with managing crises of legitimacy and mobilizing support for particular systems of governance. Such processes require negotiation and compromise, but they also involve the exercise of ideological power, whereby different social forces seek to commandeer the rules of the debate itself by framing the problem in a way conducive to their own agendas.

When we frame our approach like this, we take our cues from post-Marxist discourse theory and STS. From the former tradition, we pick up the notion of social structure as a contingent network of discursive practices that constitute the identities of objects and subjects (Howarth & Stavrakakis, 2000; Smith, 1998; Torfing, 2005). From STS, we appropriate the notion of "co-production" between the social and the natural, i.e., the assumption that "we gain explanatory power by thinking of natural and social orders as being produced together" (Jasanoff, 2004, p. 2). Thus, while this is a documentary study restricted to textual analysis, we do not regard the discourses we trace out as purely linguistic or ideational. Instead, we take "discourse" to denote a level of structuration that precedes the distinction between the linguistic and the extra-linguistic (Laclau & Mouffe, 1987). More akin to Wittgenstein's, "language-games", discourses combine material things and practices as well as language use in structured totalities that provide the grammar for social intelligibility and action (Wittgenstein, 2009).

Later, we will draw on previous research to suggest that the Swedish debates were occasioned in part by a "dislocation"— i.e., the destabilization of a previously hegemonic discourse (Smith, 1998, pp. 77–78; Torfing, 2005, p. 16)—brought by technological change. This does not mean that we take a deterministic view in which technology makes the call and culture simply responds. The point is rather that the new technologies introduced a measure of incertitude into the established order of things, including the meaning of the new technologies themselves and the identity of the researcher. Our argument is that the new technological capacities to manipulate life could not be domesticated within the old discourse of professional self-regulation. In this sense, technological advancement provided a disruption that opened a space for reformers to articulate regulatory demands that would previously have been unthinkable. The defenders of the *status quo* also had to reinvent their positions to overcome the disturbance and make room for the technologies that the researchers wanted access to. To navigate this dislocated terrain and pursue their goals, all actors involved had to draw on existing discourses *and* perform co-productive work by assembling new meanings, identities, categories, and relationships from previously dislodged elements.

At the core of our approach lies the notion of *problematization* (Glynos & Howarth, 2007). Co-producing social issues and natural phenomena, we hold, involves framing their relationship as specific problems prompting specific political responses. In other words, policymakers and stakeholders do not so much react to pre-existing problems as they produce these problems (and their concomitant solutions) by co-articulating social, natural, and normative elements to make up certain worldviews. This leads to a politico-ideological contestation between different social forces struggling to install their own ontology as society's hegemonic outlook (Bacchi, 2009; Bacchi & Goodwin, 2016; Howarth & Stavrakakis, 2000).

Every governance system must seek legitimacy in a shared perception of the issue it is designed to deal with. It follows that the power to define the problem is at the heart of all policymaking. Practices like animal and fetal experiments do not automatically demand political regulation (Jülich & Tinnerholm Ljungberg, 2019; Svärd, 2015). Rather, they have to be constituted *as* problematic through the "articulation" (Laclau & Mouffe, 1987) or "co-production" (Hurlbut, Jasanoff, & Saha, 2020; Jasanoff, 2004) of specific knowledge regimes through which they *emerge* as issues prompting political action.

Problem representations become particularly important in public policymaking where they result in regulations aiming to govern both human conduct and technology use. As Hurlbut et al. (2020) underscore, bioethical regulations figure at the nexus of "law, science, and constitutions of life" (p. 1). One way to drill to the core of this nexus, we suggest, is to operationalize it as a set of interlocking problem representations conditioned by their position in the discursive totality. To borrow Latour's (2004) bold phrase: "Give me one matter of concern and I will show you the whole earth and heavens that have to be gathered to hold it firmly in place" (p. 246). The analytical task is to unpack these representations and identify what went into the problem and what was represented as non-problematic. In debates over research ethics, this kind of "boundary-work" (Hobson-West, 2012; Wainwright, Williams, Michael, Farsides, & Cribb, 2006) involves categorizing different life-forms as more or less vulnerable to moral violation (Campbell & Stark, 2015; Svärd, 2015). We bring to the forefront how two such life-forms—human fetuses and nonhuman animals—were constituted as either experimentable or non-experimentable in the debates about research regulation in Sweden in the 1970s.

This study's empirical material was collected via the digital archives of the Swedish parliament—the *Riksdag*. The archives contain searchable copies of all government bills, motions from MP's, chamber debate protocols, and committee memorials from the period. The data collection yielded a corpus of 4 government law proposals, 39 motions from parliament members, 35 chamber debate protocols, and 10 parliamentary committee memorials (including review comments from stakeholders) dealing with animal and fetal experimentation. All translations from Swedish are our own.

The files were imported into the knowledge management software Citavi and read with attention to the problems and concerns expressed by the involved politicians, officials, and stakeholders. Both debates were read in parallel, and the problems and proposed solutions were labeled according to the kind of problem they expressed. In a second step, the labeled segments were organized into thematic clusters. In the final step, these representations were analyzed with particular attention to their conditions (i.e., their underlying assumptions or presuppositions) and their productive effects (i.e., the meaning and value attributed to fetuses and animals).

Next, we briefly review relevant existing literature before proceeding to the empirical analysis.

3. Previous research

The 1970s was a transition period toward modern modes of regulating research in Sweden. The period saw a shift from professional self-regulation to formalized ethical review by research ethics committees (Alexius Borgström, 2009b; Forsman, 1992; Jülich & Tinnerholm Ljungberg, 2019; Lynöe, 1999). This transition involved contentious topics like the limits of scientific freedom, the definition of human life, and the treatment of research animals. The changes were epochal in the sense that they renegotiated the relationship between the biomedical profession and the state and produced new regulatory institutions that would govern research practices for decades to follow.

It has been suggested that the growing demand for ethical regulation in this period was partly a reaction to medical scandals (e.g., the Thalidomide disaster, the transgressions of Nazi doctors, the Tuskegee experiments), and partly an expression of the period's radicalism and distrust in authorities (Dixon-Woods, Yeung, & Bosk, 2011; Lynöe, 1999; Rothman, 1991). From this perspective, the urge to institutionalize research ethics may be interpreted as an effort to domesticate biomedicine and prevent science from overstepping its mandate.

However, it has also been argued that the new modes of regulation reaffirmed the power of science by offering researchers an ethical "stamp of approval" (Alexius Borgström, 2009b; Forsman, 1992; Svärd, 2017; Wilson, 2014). From this perspective, the reforms in the 1960s and 1970s would instead resemble so many attempts to restore legitimacy for the scientific community after the century's disruptive experiences.

Generalizations are difficult to make since policy development took different paths in different countries. While there are some general trends, like the wide-spread adoption of research ethics committees in many countries, it is also clear that local conditions varied considerably. For this reason, several scholars have highlighted the need for more contextualized case-study work (see, e.g., Hedgecoe, 2009; Jacobs, 2018; Jasanoff, 2005; Stark, 2012). We attempt to heed this call by focusing this article on Swedish politics in the 1970s.

Previous research on the Swedish situation has tended to spotlight either fetal research or animal research. The emergence of a formalized ethical review system for animal experiments in Sweden in the late 1970s has been studied by Forsman (1992). She contends that the main political struggle in the period was a confrontation between "autonomist" proponents of scientific freedom and "heteronomist" critics who wanted to see scientific ambitions tempered by other values. From a legal perspective, Alexius Borgström (2009a, 2009b) has identified a growing acceptance of regulatory values in the period's legislative efforts. However, both authors conclude that the animal ethics committees introduced in 1979 did little to undercut the biomedical professions' power. They also emphasize that the creation of officially sanctioned ethical committees marginalized the emerging discourse of animal rights. Research on the later development of institutionalized ethical review in Sweden has reached similar conclusions about the continued favoring of the researchers' interests (see, e.g., Ideland, 2009; Poort, Holmberg, & Ideland, 2013; Röcklinsberg, 2015; Svärd, 2017).

Jülich (2018) has examined how the meaning of fetal research was articulated in the period. Her study focuses on a scandal that flared up in the 1960s after the revelation that Swedish doctors had been using fetuses in so-called "perfusion" experiments. The experiments involved placing aborted second-trimester fetuses in "artificial wombs" where blood circulation was artificially induced so that the distribution of hormones in the body could be tracked. In the Swedish press, the experiments were depicted as conducted on still living fetuses. This provoked public outrage and prompted some politicians to call for a ban on the practice (Carlshamre, 1974; Petersson, 1971, p. 31) . Jülich emphasizes the productive effects of how this scandal was managed. By employing "selective transparency" (Holmberg & Ideland, 2012) in the management of information, the researchers could position themselves as the real "experts." This curtailed the debate by the mid-1970s when the scandal was written off as if "nothing had happened" (Jülich, 2018, p. 42). In related work, Jülich & Tinnerholm Ljungberg (2019) have argued that multiple Swedish laws—on abortion, transplantation, and population registration—converged to define aborted fetuses as biological "waste" akin to removed tumors or amputated limbs. This "waste regime," the authors contend, facilitated the researchers' access to fetal material for several decades.

The extant research already hints at the role of problem representations and their productive outcomes. However, these problem representations have not been compared before. This gap is curious, given that the issues tend to evoke similar ethical questions (see, e.g., Brown, Faulkner, Kent, & Michael, 2006; Dombrowski, 1997; Singer, 2002; Svendsen, Navne, Gjødsbøl, & Dam, 2018). The following analysis aims to bridge parts of this gap by attending to the construction of certain human and animal lives as worth—or not worth—living.

4. Fetal research

4.1. How was fetal research problematized?

In the 1960s and 1970s, fetal research met increased criticism in Sweden. The drama was partly occasioned by a die-hard rumor that experiments on living fetuses were carried out in secret. There were also rumors that doctors encouraged abortion-seeking women to have late abortions to create access to more mature fetuses. For example, in April 1970, a newspaper article sporting the headline "Fetuses 'kept' for experiments" ("Foster 'sparas' för experiment," 1970) reported about a complaint to the Parliamentary Ombudsman that Swedish doctors had used thousands of living fetuses in experiments. While the Ombudsman rebutted these suspicions, the allegations catapulted the issue into the mass media and onto the political agenda (Jülich, 2018). The debates about fetal research were also informed by other contemporary events, like the liberalization of the abortion law in Sweden in 1975 and the new transplantation law from the same year. These changes, too, drew attention to unborn humans' moral status and formed a backdrop to the debates about research ethics (Jülich & Tinnerholm Ljungberg, 2019).

We suggest that the fetal research debates emerged in response to the destabilization of a previously dominant discourse in which the researchers' right to self-regulation stood unquestioned. This dislocation was wrought by a confluence of processes, some international in scope. First, new technologies for studying and manipulating life gave rise to new ethical dilemmas (Tinnerholm Ljungberg, 2015). Second, the disgrace that some doctors and scientists had brought on themselves during the war loomed in the background as a source of distrust (Forsman, 1992; Guerrini, 2003; Hazelgrove, 2002). Third, medical science's reputation had recently been damaged by several scandals (most significantly, the Thalidomide disaster in the early 1960s) (Yllner, 2017). Finally, the political turmoil of the period meant that a series of social issues were increasingly politicized. The new social movements for women's liberation, civil rights, animal rights, and the environment all challenged the scientific establishment's right to make biopolitical decisions about life, health, and populations (Della Porta & Diani, 2006; Hebert & Jacobsson, 1999). These concerns intersected in the parliamentary debates in the 1970s. In the following sections, we offer illustrations of some of the most salient problem representations in this arena.

4.2. Scientific transgressions

As we have seen, the issue of fetal research first blew up with the circulation of certain rumors about doctors abusing their authority. These rumors were soon repeated in the Swedish parliament. As liberal MP Hans Pettersson expressed it in one of the first debates in the period:

> [Reports in the press claim] that fetuses are kept alive by letting their blood circulate while it is studied how they are affected, for example, by hormones. Suspicions are raised about the conscious postponement of abortive procedures to procure as large research-fetuses as possible. The public, and in particular women who have had abortions, feel distressed and indignant and find it difficult to gauge the utility of this kind of research. (Petersson, 1971, p. 31)

Even though these rumors were denied by the authorities and the researchers' organizations, the suspicions remained. As late as 1974, conservative MP Nils Carlshamre maintained that research on fully developed, living fetuses was conducted in Sweden:

> All indications suggest that these rumors are not unfounded. It thus seems fairly certain that research is carried out in Sweden on aborted, full-term fetuses and that such Swedish research is paid for from the USA, where the medical authorities have prohibited such activities. There are many reasons to find this research, insofar as it is not prompted by highly specific motives like determining the cause of a defect, reprehensible. Ethical, religious, and secular humanitarian arguments of every kind could be cited here. Moreover, it is difficult to avoid the suspicion that abortions are consciously postponed under these circumstances, adding an even more sinister dimension to the issue. I contend that research on living, aborted fetuses should, in principle, be prohibited pending final legislation on the issue of abortion. (Carlshamre, 1974, p. 1)

These representations evinced a suspicious attitude toward researchers, who were depicted as susceptible to moral corruption if left unchecked. Doubts about the researchers' moral fiber were particularly stressed concerning practices like fertilization *in vitro*, embryo implantation, and genetic manipulation—technologies that presaged profound changes in human reproduction and were said to call for prudent ethical judgment.

Sometimes, these technologies seemed to blur the human-animal boundary and invoke images of terrifying hybridity. As liberal MP Kerstin Anér put it in a 1972 motion about technoscience and individual integrity:

> In a more distant future, we can glimpse even more uncanny prospects: bastards between humans and animals are not unthinkable. Living tissues that contain genes from both men and mice have already been produced several years ago. Experiments have been carried out to have eggs and sperm from humans and apes, respectively, fertilize each other *in vitro*—so far with uncertain results. These and other attempts to grow humans or human-like creatures outside of a human womb will sooner or later find the researcher facing a failed half-human that breathes, lives, eats, feels, maybe even thinks—but does not meet the experimenter's expectations, or becomes too costly in terms of machinery costs, and is therefore thrown down the garbage chute like any other aborted fetus. Alternatively, it could be cut into pieces as the basis for new tissue experiments. (Anér, 1972, p. 4)

Anér depicted biotechnology as charging into the future, leaving society behind to deal with the hazardous fallout:

> Recent developments in research and technology will, in a few years, force us to face much more far-reaching and even more complicated problems than the one about whether a pregnant woman should have the right to decide over the life of her fetus. New and refined methods to manipulate the lives, personalities, and potentials of the born and the unborn already exist or will soon exist. It is high time for legislative and governing bodies to prepare to decide how and if these methods may be used, as well as by whom, when, and on whom (Anér, 1972, p. 1).

The critics' main target was the research community's right to self-regulation. It was found unsatisfying that issues of profound ethical and societal importance were left to the consciences of individual researchers. Biotechnological transformations had to be subject to democratic deliberation and be monitored to prevent transgressions. As Anér put it: "What we need is societal control, by the authorities or by the researchers' organizations, if science is to remain human." (Anér, 1974, p. 10) To achieve this, the critics often adopted an "isomorphic" strategy (DiMaggio & Powell, 1983) and pointed to existing regulations of human medicine or drew on developments abroad to bolster its claims. For example, the British Peel Advisory Group's recommendations on fetal research from 1972 were cited as a model, as were the international psychiatric associations' recent attempts to establish their own ethical codes (Anér, 1974, p. 13).

In making these arguments, the critics explicitly or implicitly alluded to the medical corps' previous moral failures. Their stance, however, was never "anti-science." The natural scientists' search for truth was always represented as honorable. The critics merely insisted that noble intentions could quickly lapse into Promethean hubris. To avoid that, the critics tended to promote (1) more public deliberation about the use of new technologies; (2) governmental inquiries into the need for more regulation; and (3) stricter guidelines for fetal research.

In defense of fetal research, it was held that it was indispensable to medical progress. Against the rumors about secret experiments and manipulated women, the responsible authorities and the universities' medical faculties maintained that the accusations were unfounded and insulting. Moreover, the defenders of fetal research emphasized that there was already a well-functioning, collegial monitoring system in place and that more regulation would only undermine scientific freedom (Committee on Education, 1974).

4.3. Fetal vulnerability

The debates about the moral status of aborted fetuses were never about abortion as such. Social attitudes had been softened throughout the 1960s, and a liberal mindset prevailed in the studied material. The controversies were of a different kind. To begin with, there was some contention over who held the disposal rights. Could it be assumed, as some doctors argued, that aborted fetuses constituted surgical "waste" and that the woman had relinquished her say in its use by having an abortion to begin with? Or did researchers have to secure the woman's consent to their experiments? (Jülich, 2018; Jülich & Tinnerholm Ljungberg, 2019).

More important for our objectives here was the controversy over how to distinguish "experimentable" fetuses from "non-experimentable" ones. There was broad agreement that there *was* such a boundary, yet considerable disagreement about its definition. While the critics raged against research on "living aborted fetuses" because of the risk of suffering, this risk was unanimously rejected by the universities' medical faculties. The controversy over "living fetuses," the latter held, stemmed from a misunderstanding of scientific language. When scientists talked about using "vital" fetal tissue in experiments, they only meant that fresh organs had to be used. The artificial circulation that kept aborted fetuses "vital" did not mean that they were "alive" in the everyday sense. On the contrary, it was assumed that lack of oxygen quickly rendered the fetuses brain dead. In other words, the experiments could not harm them because they were no longer sentient (if they had ever been) (Committee on Education, 1974, pp. 11–12).

However, brain death was not the only yardstick for fetal experimentability. The Swedish Medical Research Council (*Statens medicinska forskningsråd*), for example, argued that reviewers from all Swedish medical faculties agreed that only fetuses younger than 20 weeks could be used in experiments. This was because the weight of a 20-week-old fetus never exceeded 250 g (i.e., well below the 600-g weight of the youngest child that, at the time, had survived after birth). The Council concluded that fetuses weighing less than 250 g could "under no circumstances" survive independently and had to be defined as "pre-viable." When removed from the womb, the fetuses might momentarily exhibit a heartbeat, but they could not breathe and would be brain dead before the experiments commenced (Committee on Education, 1974, p. 14).

The faculty of the medical university Karolinska Institutet added that Swedish researchers adhered to the WHO's definition of what it meant to be born "alive," namely that the fetus, regardless of size or level of development, exhibited breathing, a heartbeat, pulsations in the umbilical cord, or active movement. Experiments were only performed on fetuses bereft of any of these traits. Such fetuses were considered "dead as individuals," but they could still be useful in research because they possessed "some organs and tissues that can function in an appropriate environment and for a limited time" (p. 13).

The Riksdag's Committee on Education, for their part, drew on Swedish abortion law and its 18-week clause in its memorial. The 18-week limit was founded on the assumption that fetuses were not "viable" (*livsdugliga*)—i.e., could not survive extraction from the womb—until around the 22nd week. The limit of free abortion up to the end of week 18 had been set to minimize the risk of aborting "viable" fetuses (p. 4).

These problem representations all circled the notion of "viability" and were built around a concrete set of indicators. Unlike sentience, features like separation from the womb, weight, age, breathing, heartbeat, and movement were empirically observable. Defining "viability" in these positivist terms did not only mean that fetuses younger than 18 weeks were rendered "pre-viable" by definition—it also meant that all fetal experiments in Sweden could be defined (retroactively, as it were) as conducted on "either organs or organ parts from dead fetuses or from fetuses that survived the abortion procedure but which are not viable" (Committee on Education, 1974, p. 5).

There were thus two definitions of fetal vulnerability in play. The first stressed that only fetuses of a certain level of neurological complexity could experience suffering. The other definition measured the fetus's "viability" by a series of physical indicators. The line between "non-experimentable" and "experimentable" fetuses was drawn to reflect the presence or absence of these capacities.

It could be argued, though, that both definitions failed to rebut the objections raised in the motions. The critique had targeted the suffering fetuses might endure after extraction from the womb. If the arrival of brain death shortened this period, the problem might be less serious, but it would hardly eliminate the concern as such.

The other line of defense for fetal experiments was that it was possible to differentiate between fetuses that were "viable" and fetuses that were not. But this was not really a distinction between organisms that could survive on their own and organisms that could not. What *was* defined was one category of fetuses that could be saved by advanced medical care and one that could not. But that distinction is far from a knock-down argument in defense of fetal research.

First, it is not at all clear that being "viable"—here meaning "may live on after a long period of intensive care"—should qualify a creature for better treatment *in the present* than someone who is deemed "unviable" according to the same criteria. It could, of course, be argued that "viable" creatures have longer lives ahead of them than "unviable" ones (implying that if we were forced to choose between saving an "unviable" and a "viable" creature, we ought, *ceteris paribus*, to save the "viable" one). But accepting the latter argument does not bind us to the conclusion that routine experiments on "unviable" creatures are justified.

Second, we find it arbitrary to condition a creature's moral standing on its "viability" if the latter is a function of high-tech medical care. Does this not suggest that many more fetuses would count as "unviable" in a world without incubators and modern drugs? Would this not force the conclusion that experiments on fetuses could have been performed on a much larger scale in, say, the 19th century than in the 1970s? Moreover, if experimentability was a function of the fetus's "viability," but this viability was not inherent to the fetus *itself* but rather a feature of the fetal–technological hybrid constructed by physician-scientists to sustain early human life—what would this imply for the "viability" of other humans dependent on others' care? For example, human children are dependent on adults for many years, but no one takes this to mean that children without dedicated caretakers are not "viable" and therefore "experimentable."

These paradoxes and problems stand out in retrospect, but they were not further explored in the debates studied here. Which brings us to a crucial question: From what standpoint was this notion of "viability" constructed and what solutions did it favor? To us, it lies close at hand to interpret these articulations as (successful) attempts to "ontologize" the fetal researchers' interest in retaining a category of "experimentable" fetuses.

We would also like to highlight how the idea of "viability" was constructed around a particular image of a separate and self-sufficient individual, independent of other bodies, breathing, and moving on its own. In this sense, the "viable" fetus was modeled—albeit in a stripped-down sense—on a set of features characteristic of the autonomous human adult unencumbered by dependency on others. The invocation of these capacities, in our view, was instrumental in producing a moral difference between two types of fetuses: one type like us and one type different from us.

This account has brought up some previously unexplored presuppositions and consequences in the debates on research regulation. The most important of these, we contend, is that the ethical problem was constricted to the use of "viable" fetuses in experiments. This move sidestepped the objections against the practice and ignored the fact that even "viable" fetuses could not survive on their own. Nonetheless, this representation exploited a symbolic link between the "viable" fetus and the autonomous adult that opened a conduit for extending the latter's rights to the former. We will maintain this focus on the conditions and effects of the problem representations as we now turn to the debate about animal research.

5. Animal experimentation

5.1. How was animal experimentation problematized?

The parliamentary debates about animal experimentation were more extensive than those on fetal research. One reason for this was probably the increased media attention that the former practice got in the 1960s and early 1970s. Another was probably the intensified propaganda efforts of the animal advocacy movements of the time (Carlsson, 2007). This heightened tension soon made its mark in the political arena, where reform-minded politicians quickly picked up on the controversy.

Interestingly, the debates about animal experimentation were also prompted by scandalous rumors, this time about the kidnapping of pets by shady firms supplying vivisectors with animals. As three conservative MP's complained in a 1972 motion about the regulation of animal experiments:

> The press often reports that dogs and cats are stolen and delivered to suppliers who stock the departments with lab animals. There is no reason to doubt this. In many cases, the journals of purchases and experiments are incomplete, making it difficult for robbed animal owners to track down their animal in the seven days after the date of purchase. If the state could offer specially authorized animal suppliers, this business would come under better control.
>
> A clean-up of this often directly shady trade in defenseless life is urgently needed. (Werner, Komstedt, & Clarkson, 1972, p. 3)

To our knowledge, these allegations have not been substantiated. While newspaper reports and accounts from the animal rights organizations indicate that some firms were involved in suspicious business (see Carlsson, 2007), we cannot determine whether the rumors were true. Still, it is clear that the urban legend of organized pet kidnapping helped secure a place for the issue on the political agenda.

When animal experiments were criticized, the problem representations tended to cluster in a few distinct areas, including but not limited to the theft of pets. Among the complaints were the lack of transparency, monitoring, and documentation of animal experiments; the dubious results of animal research and the underutilization of alternatives; the obsoleteness of Sweden's Animal Protection Act from 1944 in the face of new technologies and the increasing number of laboratory animals. Some of these issues have already been examined by Forsman (1992) and Alexius Borgström (2009a, 2009b). Our discussion here will be limited to the themes that were most relevant to the moral status of nonhuman animals, and that reveal the most important similarities and differences when compared with the fetal research debate.

5.2. Distrust in researchers

Just as with fetal research, the politicians who criticized animal experiments tried to throw doubt over the researchers' morality, often by referencing recent media reports about painful experiments on animals. In a 1971 motion, the skeptical attitude was expressed like this:

> They, who labor in the workshop of science with living lives as their material, undoubtedly have a great responsibility. Surely, a doctoral degree alone does not vouch for the nobility of the heart and mind. The attitude towards laboratory animal suffering that has been expressed by authoritative scientists, for example, on television last fall, offers a frightening example of the relativist ethical principle that sometimes is used in painful experiments. The prohibition [in the 1944 Animal Protection Act] of causing "inappropriate" suffering to animals is applied so that a limitation of the animals' suffering is made dependent on the human gain that the experiment represents. Such a view must, in practice, mean no limit at all. To this, we may add that no one, as a rule, ought to be capable of assessing the degree of suffering or the value of the experiment before it is carried out. (Werner, Sjöholm, Clarkson, & Ljungberg, 1971, p. 15)

Here, the research community was depicted as unfit to handle their power. As quoted above, "a doctoral degree alone" was no longer enough to "vouch for the nobility of the heart and mind." On the contrary, habituation to cruelty could be expected to lead to brutalization: "It is morally unacceptable to torment other living beings who can feel pain. But it is also dangerous to us because, in a way, we teach ourselves to torment. If we can torment chimpanzees, we will probably also find it easier to torment and torture humans." (Author P.C. Jersild, quoted in Anér, Hörberg, & Henmark, 1974) Moreover, the secrecy surrounding animal experiments had opened "a confidence gap, regarding what *might* be going in inside the walls of the research facilities" (Möller & Anér, 1972, p. 4).

To restore trust in biomedical research, the critics insisted society had to intervene. This desire was often expressed in a demand for ethical review procedures open to other views than those of the researchers themselves:

> The researchers-physicians should not be the only ones who get to decide and get access when it comes to animal experiments. In many sectors of social life, we let non-experts or representatives of organizations with different interests participate in decision-making or at least be heard in advisory, mandatory committees. Similarly, laymen should be allowed insight into the scientific departments' experimental activities with animals. (Möller & Anér, 1972, p. 4)
>
> We cannot let these issues be determined by individual researchers and physicians' private consciences—that would be to place too significant a burden on them. Neither can they be determined by the collected medical expertise in each country. What is needed is partly a collaboration between knowledgeable people from different disciplines, including psychology, social science, and theology, and partly international cooperation. (Anér, 1974, p. 14)

The government agreed. A memorandum from the National Board of Agriculture from 1978, warned about the "risk that every professional becomes blind to the daily problems and that this can constitute a danger from the standpoint of animal protection." Therefore, the "gentlemen's agreement" that had governed researchers' conduct ought to be replaced by an ethical review system that included layman perspectives (Ministry of Agriculture, 1978, p. 44). The era of professional self-regulation in ethical matters had come to an end.

What ultimately caused this regime-change cannot be determined from the material studied here. We can only lend limited support to two arguments made in other research. First, it seems likely that the public attention that animal experimentation got caused something of a legitimacy crisis for the practice. In this regard, the Swedish debates conform to the expectation that public scandals prompt reform efforts (see, e.g., Dixon-Woods et al., 2011). Second, regarding the vector of the change, this study hints at a pattern of isomorphism (DiMaggio & Powell, 1983; Hedgecoe, 2017) in the attempts to restore legitimacy by mimicking policies from abroad or from the field of human medicine.

5.3. Animal vulnerability

The reform efforts, however, were limited in scope. Animal experimentation, *as such*, was never attacked head-on. Overall, the critics remained faithful to the dominant scientific paradigm and accepted that animals were useful as causal–analog models for human bodies (see, e.g., LaFollette & Shanks, 2016). In normative terms, too, the debates took place within a utilitarian universe eminently compatible with scientific instrumentalism. While the critics complained that animal well-being was neglected, they accepted that animal interests could be sacrificed for the greater good. The ethical problem was about pain and suffering—but always *offsetable* pain and suffering. As the government bill about ethical review committees in 1978 put it:

> A realistic animal protection effort must be based in a reasonable balancing between the need to use animals on the one hand and our responsibility to the animals on the other. (Ministry of Agriculture, 1978, p. 15)

> There are two aspects that need to be weighed together: the degree of suffering that will be inflicted on the animals and the advances in diagnostics or therapy or other values that the experiments are expected to yield (p. 44).

Rather than demanding an end to animal experiments, the critics typically accepted this reasoning and argued for reduction and stricter controls. Centre Party MP Sven-Erik Nordin captured the typical attitude in 1978: "We have to tolerate that animal experiments must be done. We must make sure they are limited. We must make sure the laws become tougher. We have to hope that alternative methods produce results in time." (Nordin, 1978, p. 101)

The scientistic discourse's resilience also shone through in the way regulations were framed as beneficial to the researchers, notably by offering the research community renewed legitimacy in exchange for their submission to external review. The outcome was a number of animal ethics committees tasked with reviewing all animal experiments before they commenced (Alexius Borgström, 2009b; Forsman, 1992). By this move, the research community's legitimacy was partly restored by state regulation, albeit in a way that reconfigured the relations between the parties and introduced new institutions. The new state sanctions rehabilitated the researchers, but also displaced professional self-regulation. Researchers were offered an official "seal of approval," but at the price of adapting to a new regulatory system.

6. Discussion

Different concrete events and concerns prompted the debates about fetal research and animal experimentation in Sweden in the 1970s. Nonetheless, both debates tied into a set of common themes suggestive of a broader discursive dislocation. Among these themes, the distrust in researchers and the fear of unchecked technology stand out. It could also be argued that both debates were "scandal-driven" (Dixon-Woods et al., 2011) in the sense that public outrage against alleged researcher misconduct put the controversies on the national political agenda. In this context, the previously hegemonic discourse (where ethical conduct was assumed to follow from a "gentleman's agreement" among researchers) could no longer smoothly reproduce itself.

However, what destabilized the old paradigm also opened a space for contestation and re-articulation. The problem representations had *productive* effects in re-shaping the categories of "fetuses" and "animals" in ways that renegotiated the boundaries between "experimentable" and "non-experimentable" organisms.

In the case of human fetuses, the limit of their "experimentability" was determined by their "viability." This viability could be identified by indicators like separation from the mother's body, heartbeat, breathing, movement, or a particular weight. Fetuses who met these criteria were defined as "viable" and excluded from research. Notably, these indicators of a "viable," non-experimentable life pointed to the adult, autonomous human as the fetus's teleological end-goal. Separation, breathing, heartbeat, movement, and sentience are all qualities that seem immediately present, even essential, to the adult human experience. The construction of the viable fetus, we suggest, resembled a kind of reverse-engineering of the "minimally human"—seen from the typical adult's standpoint and achieved by stripping away qualities inessential to its pure being. The exerimentable fetus, on the other hand, was defined as a "viable" human life *minus* one or more of these characteristics. This metaphysic of presence allowed human life to be represented as a continuum from the primitive to the perfected. At the same time, some capacities were installed as threshold features of an intrinsically valuable life. This produced a kind of "stage" theory of human life with a boundary drawn between experimentable and non-experimentable humans.

These two realms were governed by different ethical codes. For the unviable human, a strictly utilitarian logic was applicable. However, once the fetus met the criteria for "viability," it a more comprehensive set of rights (to life, physical integrity, etc.) was activated. Fetuses were thus represented as entities in motion, teleologically *en route* from the utilitarian domain of the "pre-viable" to the rights-governed kingdom of "viable" ends-in-themselves.

For animals, on the other hand, *only* the utilitarian logic applied. While the animal advocates among the politicians complained about unnecessary animal suffering, the representations stayed firmly within a utility-oriented "humane treatment" paradigm. When animal suffering was discussed, it was always represented as tradable against other gains. If we add that the killing of animals never registered as a moral concern, we see that the problematization of animal suffering was very restricted in scope. Unlike fetuses, animals were constructed as perpetually available for experimentation. In principle, this meant that unlimited suffering could be inflicted on individual animals. (In fact, as Swedish animal advocates have pointed out for decades, there is still no legal limit on lab animal suffering in the country. See, e.g., Svärd, 2017.)

To some extent, animals were placed in the same "experimentable" category as "pre-viable" fetuses. Unlike human fetuses, however, animals could not become "viable" and cross over into the realm of rights. This points to a paradox often noted in the animal ethics literature: that creatures with similar traits and capacities are often treated according to different moral standards (Dombrowski, 1997). In the Swedish debates, it was simply assumed that "viable" fetuses were entitled to more moral concern than, say, an adult mouse or dog—even though these animals were likely to outperform the fetus in any test of cognition or personhood. Note, for example, how Kerstin Anér's concern for the "failed half-human" that researchers could *hypothetically* create, never translated into an argument for full consideration of the many quite *real* animals used in experiments.

From a critical animal rights perspective, this is an example of *speciesism*—i.e., the disregard of morally relevant interests based on an individual's species alone (see, e.g., Regan 2004; Singer, 2002). Such speciesist presuppositions were ubiquitous in the debates studied here. Animals were represented as lacking full moral standing even when they met the criteria (sentience, separation, heartbeat, breathing, movement) supposed to grant rights to fetuses. While fetuses were located in a moral halfway house and set on a teleological track toward full humanity from the very beginning, no such escape was in sight for nonhumans.

The seemingly sharp dividing line between humans and animals, however, always seemed to blur at closer inspection. As we have seen, the defenders of fetal experiments had to struggle to produce a boundary between the "human" and the "nonhuman" that allowed research to continue without offending popular morality or inadvertently upsetting the hierarchy of species. Interestingly, the marker they settled on to trace this insuperable line—i.e., "viability"—manifested itself materially as a

techno-fetal hybrid devised by scientist-doctors. Co-produced at the intersection of science, politics, and culture, this artifact performed crucial ideological work by hypostatizing some fetuses' *potential* capacities as *actual* capacities. In a sense, this device afforded the "viable" fetus the peculiar power to "time travel" to collect the rights belonging to its future self. As this analysis has indicated, however, powering this machine up required the elision of some serious ethical issues along with a tacit reliance on speciesist norms.

7. Conclusions

This article has traced the contours of the central problem representations articulated in the Swedish political debates about animal and fetal research regulation in the 1970s. By reviewing the debates side by side, we have argued that they shared features like being prompted by scandals that undermined the previous regime of professional self-regulation. In interpreting the debates as ideological struggles, we have analyzed the various bids for a new hegemony in terms of their problem representations. Among these, we have foregrounded how the demands for more regulation represented the researchers as unfit to shoulder their ethical responsibilities. We have also highlighted how technological advancement was problematized as a threat to animal protection, individual integrity, and democratic deliberation.

We have argued that the dominant problem representations evinced both differences and similarities regarding the construction of fetuses and animals. Fetuses were designated as possible objects for experiments depending on whether they were "viable" or not. This "viability," in turn, was defined by their sentience or, more commonly, by a series of positive indicators like separation from the womb, heartbeat, breathing, movement, or weight. We have argued that these indicators drew on a minimal definition of the autonomous "human" and that the "viable" fetus's connection to this anthropocentric ideal allowed it to tap into a more comprehensive set of human rights. The "unviable" fetus was attributed the same *telos*, but it remained "experimentable" and trapped in a world of utilitarian instrumentalism until it fulfilled the minimal criteria for humanhood.

Animals, on the other hand, were granted no escape from the utilitarian logic. While animal pain and suffering mattered, their experiences could always be offset by a (purported) greater good. While experimental fetuses were represented as *contingently* lacking full moral status, animals were represented as *permanently* lacking—even though their actual capacities met the criteria for ascribing rights to fetuses. However, the argumentative lacunas and paradoxes here were passed over in silence. In the end, even the most ardent advocates for regulatory reform tended to adopt a speciesist outlook and downplay nonhuman interests.

The debates about animal and fetal research that inaugurated a new era of research regulation in Sweden tarnished the research community's image. Nevertheless, the outcome bore the mark of their continued dominance. A deep reverence for science always tempered the critique, and the reforms allowed most experiments to continue—only now with formal "ethical approval." Indeed, an important takeaway from our analysis is that ethical judgment cannot be thought outside the fields of power that shape the problems under deliberation. Considering the perennial risk that "the great discoveries of applied science are paid for with an increasing diminution of theoretical awareness" (Horkheimer & Adorno, 1989, p. 11), future policy development needs to be guided by a more critical disposition than were at hand when we entered the present regulatory paradigm.

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References

Adams, C. J., & Donovan, J. (Eds.). (1995). *Animals and women: Feminist theoretical explorations*. Durham: Duke University Press.
Alexius Borgström, K. (2009a). Animal experiment regulations as part of public law. *European Public Law, 15*(2), 197–205.
Alexius Borgström, K. (2009b). *Djuren, läkarna och lagen: En rättslig studie om djurförsöksetik*. Uppsala: Iustus förlag.
Åm, H. (2018). Ethics as ritual: Smoothing over moments of dislocation in biomedicine. *Sociology of Health & Illness, 41*(3), 1–15. https://doi.org/10.1111/1467-9566.12818
Anér, K. (1972). Motion 1972:24 av fru Anér angående individens okränkbarhet. https://www.riksdagen.se/sv/dokument-lagar/dokument/motion/angaende-individens-okrankbarhet_FV0224
Anér, K. (1974). Motion 1974:30 av fru Anér angående individens okränkbarhet. https://www.riksdagen.se/sv/dokument-lagar/dokument/motion/angaende-individens-okrankbarhet_FX0230
Anér, K., Hörberg, N., & Henmark, M. (1974). Motion 1974:234 av fru Anér m. fl. angående användningen av försöksdjur vid vetenskapliga experiment. https://www.riksdagen.se/sv/dokument-lagar/dokument/motion/angaende-anvandningen-av-forsoksdjur-vid_FX02234
Bacchi, C. (2009). *Analysing policy: What's the problem represented to be?*. Frenchs Forest, NSW: Pearson.
Bacchi, C., & Goodwin, S. (2016). *Poststructural policy analysis*. New York: Palgrave Macmillan.
Banchoff, T. F. (2011). *Embryo politics: Ethics and policy in Atlantic democracies*. Ithaca, NY: Cornell University Press.
Birke, L. (1994). *Feminism, animals, science: The naming of the shrew*. Buckingham: Open University Press.
Brown, N., Faulkner, A., Kent, J., & Michael, M. (2006). Regulating hybrids: 'making a mess' and 'cleaning up' in tissue engineering and transpecies transplantation. *Social Theory & Health, 4*(1), 1–24. https://doi.org/10.1057/palgrave.sth.8700062
Campbell, N. D., & Stark, L. (2015). Making up 'vulnerable' people: Human subjects and the subjective experience of medical experiment. *Social History of Medicine, 28*(4), 825–848. https://doi.org/10.1093/shm/hkv031
Carlshamre, N. (1974). Motion 1974:1364 av herr Carlshamre angående nyttjandet av levande abortfoster inom forskningen. https://riksdagen.se/sv/dokument-lagar/dokument/motion/angaende-nyttjandet-av-levande-abortfoster-inom_FX021364
Carlsson, B. (2007). *Djurens rätt 125 år: En framgångsrik agitator för djuren*. Stockholm: Djurens rätt.
Committee on Education (1974). Utbildningsutskottets betänkande UbU 1974:35 med anledning av motioner angående medicinsk forskning på abortfoster. https://www.riksdagen.se/sv/dokument-lagar/dokument/_FX01UbU35
Della Porta, D., & Diani, M. (2006). *Social movements: An introduction* (2nd ed.). Malden, MA: Blackwell Publishing.
DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147–160. https://doi.org/10.2307/2095101
Dixon-Woods, M., Yeung, K., & Bosk, C. L. (2011). Why is U.K. Medicine no longer a self-regulating profession? The role of scandals involving "bad apple" doctors. *Social Science & Medicine, 73*(10), 1452–1459. https://doi.org/10.1016/j.socscimed.2011.08.031
Dombrowski, D. A. (1997). *Babies and beasts: The argument from marginal cases*. Urbana: University of Illinois Press.
Druglitrø, T. (2018). "Skilled care" and the making of good science. *Science, Technology & Human Values, 43*(4), 649–670. https://doi.org/10.1177/0162243916688093
Dussauge, I., Helgesson, C.-F., Lee, F., & Woolgar, S. (2015). On the omnipresence, diversity, and elusiveness of values in the life sciences and medicine. In I. Dussauge, C.-F. Helgesson, & F. Lee (Eds.), *Value practices in the life sciences and medicine* (pp. 1–28). Oxford: Oxford University Press.
Dyck, E., & Stewart, L. (Eds.). (2016). *The uses of humans in experiment: Perspectives from the 17th to the 20th century*. Leiden: Brill.
Forsman, B. (1983). *Hur påverkar etisk förhandsprövning av djurförsök den biomedicinska forskningen? Rapport nr 139*. Gothenburg: Gothenburg University.
Forsman, B. (1992). *Djurförsök: Forskningsetik, politik, epistemologi: En vetenskapsteoretisk kontextualisering. (Doctoral thesis)*. Gothenburg: Gothenburg University.
Foster 'sparas' för experiment. (1970, April 4). *Svenska Dagbladet*.
Franklin, S. (2002). Dolly's body: Gender, genetics and the new genetic capital. *Filozofski Vestnik, 23*(2), 119–136.
Glynos, J., & Howarth, D. R. (2007). *Logics of critical explanation in social and political theory*. London: Routledge.
Guerrini, A. (2003). *Experimenting with humans and animals: From Galen to animal rights*. Baltimore: The Johns Hopkins University Press.
Hazelgrove, J. (2002). The old faith and the new science: The Nuremberg code and human experimentation ethics in Britain, 1946–73. *Social History of Medicine, 15*(1), 109–135. https://doi.org/10.1093/shm/15.1.109
Hebert, N., & Jacobsson, K. (1999), *Demokratiutredningen: 27. Olydiga medborgare? Om flyktinggömmare och djurrättsaktivister*. Stockholm: Fakta info direkt.
Hedgecoe, A. (2009). "A form of practical machinery": The origins of research ethics committees in the UK, 1967–1972. *Medical History, 53*(3), 331–350. https://doi.org/10.1017/S0025727300000211
Hedgecoe, A. (2017). Scandals, ethics, and regulatory change in biomedical research. *Science, Technology & Human Values, 42*(4), 577–599. https://doi.org/10.1177/0162243916677834
Hobson-West, P. (2012). Ethical boundary-work in the animal research laboratory. *Sociology, 46*(4), 649–663. https://doi.org/10.1177/0038038511435058

Hobson-West, P., & Davies, A. (2018). Societal sentience: Constructions of the public in animal research policy and practice. *Science, Technology & Human Values, 43*(4), 671–693. https://doi.org/10.1177/0162243917736138

Holmberg, T., & Ideland, M. (2012). Secrets and lies: "Selective openness" in the apparatus of animal experimentation. *Public Understanding of Science, 21*(3), 354–368. https://doi.org/10.1177/0963662510372584

Horkheimer, M., & Adorno, T. W. (1989). *Dialectic of enlightenment*. New York: Continuum (Original work published 1944).

Howarth, D. R., & Stavrakakis, Y. (2000). Introducing discourse theory and political analysis. In D. R. Howarth, A. J. Norval, & Y. Stavrakakis (Eds.), *Discourse theory and political analysis: Identities, hegemonies and social change* (pp. 1–23). Manchester: Manchester University Press.

Hurlbut, J. B., Jasanoff, S., & Saha, K. (2020). Constitutionalism at the nexus of life and law. *Science, Technology & Human Values, 45*(6), 979–1000. https://doi.org/10.1177/0162243920921236

Ideland, M. (2009). Different views on ethics: How animal ethics is situated in a committee culture. *Journal of Medical Ethics, 35*(4), 258–261. https://doi.org/10.1136/jme.2008.026989

Jacobs, N. (2018). *Ethics by committee: Governing human experimentation in The Netherlands, 1945–2000. (Doctoral thesis)*. Maastricht: Maastricht University. https://doi.org/10.26481/dis.20180620jn

Jasanoff, S. (2004). The idiom of co-production. In S. Jasanoff (Ed.), *States of knowledge: The co-production of science and the social order* (pp. 1–12). London: Routledge.

Jasanoff, S. (2005). *Designs on nature: Science and democracy in Europe and the United States*. Princeton: Princeton University Press.

Jülich, S. (2018). Fosterexperimentens produktiva hemlighet: Medicinsk forskning och vita lögner i 1960- och 1970-talets Sverige. *Lychnos. Årsbok för idé- & lärdomshistoria* (pp. 10–49). Lärdomshistoriska samfundet. Retrieved from https://tidskriftenlychnos.se/article/view/21304/19200.

Jülich, S., & Tinnerholm Ljungberg, H. (2019). Från medicinskt avfall till rättighetsinnehavare: Framväxten av värdekonflikter kring aborterade foster i Sverige. *Tidskrift för Genusvetenskap, 40*(3–4), 35–54.

Laclau, E., & Mouffe, C. (1987). Post-Marxism without apologies. *New Left Review, 1/166*, 79–106.

LaFollette, Hugh, & Shanks, Niall (2016). *Brute science: Dilemmas of animal experimentation*. London: Routledge.

Latour, B. (2004). Why has critique run out of steam? From matters of fact to matters of concern. *Critical Inquiry, 30*(2), 225–248. https://doi.org/10.1086/421123

Lynöe, N. (1999). *Mellan cowboyetik och scoutmoral: Medicinsk forskningsetik i praktiken*. Stockholm: Liber.

Ministry of Agriculture (1978). Regeringens proposition 1978/79:13 om ändringar i lagen (1944: 219) om djurskydd, m. m. https://www.riksdagen.se/sv/dokument-lagar/dokument/proposition/om-andringar-i-iagen-1944219-om-djurskydd-mm_G20313

Möller, B. & Anér, K. (1972). Motion 1972:1271 av herr Möller i Göteborg och fru Anér om tillsättande av etiska kommittéer för bedömning av djurförsök vid forskningsanstalter. https://www.riksdagen.se/sv/dokument-lagar/dokument/motion/om-tillsattande-av-etiska-komitteer-for-bedomning_FV021271.

Nibert, D. A. (2002). *Animal rights: Entanglements of oppression and liberation*. Lanham, MD: Rowman & Littlefield.

Nordin, S.-E. (1978). § 13 Djurskydd, anf. 3. Riksdagens protokoll 1978/79:38.

Petersson, H. (1971). § 15 Interpellation nr 177 ang. användningen av abortfoster vid medicinsk forskning. Riksdagens protokoll 1971:111.

Poort, L., Holmberg, T., & Ideland, M. (2013). Bringing in the controversy: Re-politicizing the de-politicized strategy of ethics committees. *Life Sciences, Society and Policy, 9*(1). https://doi.org/10.1186/2195-7819-9-11

Regan, T. (2004). *The case for animal rights* (Updated ed.). Berkeley, CA: University of California Press (Original work published 1983).

Röcklinsberg, H. (2015). Lay persons involvement and public interest: Ethical assessment in animal ethics committees in Sweden. The Swedish transition process of the EU directive 2010/63/EU with regard to harm-benefit analysis in animal ethics committees. *ALTEX Proceedings, 4*(1), 45–48.

Rothman, D. J. (1991). *Strangers at the bedside: A history of how law and bioethics transformed medical decision making*. New York: Basic Books.

Singer, P. (2002). *Animal liberation* (2nd ed.). New York: Ecco (Original work published 1975).

Smith, A. M. (1998). *Laclau and Mouffe: The radical democratic imaginary*. London: Routledge.

Stark, L. (2012). *Behind closed doors: IRBs and the making of ethical research.*. Chicago: University of Chicago Press.

Svärd, P.-A. (2015). *Problem animals: A critical genealogy of animal cruelty and animal welfare in Swedish politics 1844 –1944. (Doctoral thesis)*. Stockholm: Stockholm University. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:su:diva-121356.

Svärd, P.-A. (2017). Normative dilemmas in Sweden's ethical review policy for animal experiments. *Global Journal of Animal Law, 5*(2), 102–134. Retrieved from https://ojs.abo.fi/ojs/index.php/gjal/article/view/1515.

Svendsen, M. N., Navne, L. E., Gjødsbøl, I. M., & Dam, M. S. (2018). A life worth living: Temporality, care, and personhood in the Danish welfare state. *American Ethnologist, 45*(1), 20–33.

Tinnerholm Ljungberg, H. (2015). *Omöjliga familjen: Ideologi och fantasi i svensk reproduktionspolitik. (Doctoral thesis)*. Stockholm: Stockholm University.

Torfing, J. (2005). Discourse theory: Achievements, arguments, and challenges. In D. R. Howarth, & J. Torfing (Eds.), *Discourse theory in European politics: Identity, policy and governance* (pp. 1–32). Basingstoke: Palgrave Macmillan.

Wainwright, S. P., Williams, C., Michael, M., Farsides, B., & Cribb, A. (2006). Ethical boundary-work in the embryonic stem cell laboratory. *Sociology of Health & Illness, 28*(6), 732–748.

Werner, M., Komstedt, W., & Clarkson, R. (1972). Motion 1972:750 av herr Werner i Malmö m. fl. angående användandet av djur för vetenskapligt ändamål.

Werner, M., Sjöholm, S., Clarkson, R., & Ljungberg, B. (1971). Motion 1971:101 av herr Werner i Malmö m. fl. om åtgärder för att effektivisera djurskyddstillsynen. https://www.riksdagen.se/sv/dokument-lagar/dokument/motion/om-atgarder-for-att-effektivisera_FU02101

Wilson, D. (2014). *The making of British bioethics*. Manchester: Manchester University Press.

Wittgenstein, L. (2009). *Philosophical investigations* (4th ed.). Chichester: Wiley-Blackwell (Original work published 1953).

Yllner, N. (2017). *Bara en liten vit sömntablett*. Borås: Recito.