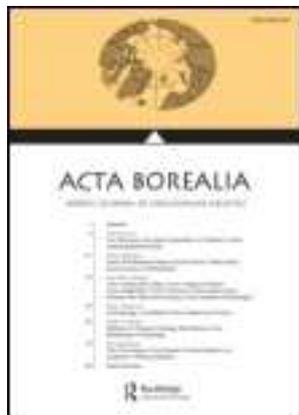


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Knives for the Slaughter – Notes on the Reform and Governance of Indigenous Reindeer Slaughter in Norway

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ABSTRACT *Drawing on historical records and ethnographic fieldwork, the present article examines the history of the so-called curved knife, or krumkniv, as a window on the governance and regulation of indigenous Sámi reindeer slaughter in Norway. Originally developed by scientific activists in the 1920s, in the context of a series of experimental field trials held at a farmstead in Roros, the knives were designed to combine efficiency and ease of use with the elimination of visible animal pain, thus bringing indigenous slaughter in line with the shifting aesthetic and moral concerns of the time. The innovation was highly successful, and the knives rapidly adopted as essential tools of the herding trade – to the point where today, most users disregard their origins. Moving forward to the early 21st century, the situation had shifted almost entirely: animal welfare activists now decried the same knives as a barbaric anachronism, while herders defended them as part of their cultural heritage. Historical narratives of moral progress articulated with other discourses to produce a homogeneous present moment of the state, a moment that threatened to exclude herders from participation in the ongoing nation-building project – constituting them instead as objects of intervention and reform, targeting the successes of previous reform. Herders, meanwhile, challenged such negative constructions by defining the knife as an indigenous tradition, invoking the international commitments of the state to preserve their cultural heritage. Comparing these two historical moments, the article draws out how the technical minutiae of slaughtering practice could operate both as an instrument of social engineering, and as an arena within which complex, large-scale issues – to do with matters such as social inclusion and participation, the value of history, the function and obligations of the state – could be settled, contested and redrawn.*

KEY WORDS: Animal welfare and welfare reform, Animal ethics, Slaughter, Reindeer management

1. Introduction

In recent years, both the daily press and the organs of the animal protection cause have on repeated occasions printed articles and notices about reindeer slaughter. The methods most in use so far have been characterised – and often in the strongest

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terms – as brutal. Demands for the humanisation of reindeer slaughtering have therefore been put forward (Nissen, 1924: 76).¹

The quote above is the opening statement from a Norwegian article on the reform of “Lapp” reindeer slaughtering techniques, penned in 1924 by then reindeer inspector Kristian Nissen. In a curiously circular accident of history – a testament, perhaps, to the persistent nature of the problem he points to – his words might as well have been written a few years ago.

At the time of his writing, public outcries over reindeer slaughter focused on the lack of appropriate stunning – Sámi reindeer were bled directly, without first being rendered unconscious, and thus remained aware (and suffering) through the process of death. Today, preliminary stunning is required by law, and prohibitions are monitored by inspecting veterinarians, charged with reporting transgression to the authorities. Welfare controversies instead center on the relative efficacy of stunning methods: in particular, activists decry the Sámi use of a curved knife, known as *krumkniv*. Ironically perhaps, in their time these knives were themselves developed and introduced to reindeer herding by animal welfare activists – as part of an ambitious and highly successful program of slaughtering reform, led by Nissen himself and his peers, to “humanize” the slaughter of reindeer and, through this, the slaughterers.

The present text explores the history of these curiously shaped knives and some of the controversies associated with them. The argument is divided into three main sections: the first part offers a very brief historical sketch of Sámi reindeer-killing methods; the second part presents an account – based on first-hand reports, published by participants – of the initial field trials for the very first curved knife prototypes, held near Røros in December 1922; finally, moving forward in time to the early 2000s, the third part examines some of the more recent controversies that surround continued use of the knives. In conclusion, the article discusses some of the broader implications of the material presented by the argument.

2. Reindeer hearts (and minds)

As in most other European countries, current Norwegian law dictates that a reindeer be killed in two stages (LMD, 2008). First, the animal is stunned, or rendered unconscious. In commercial slaughterhouses, this is generally achieved using so-called captive-bolt pistols, which drive a high-speed steel bolt through the braincase of the reindeer and into the soft tissues of the head. The combination of concussive impact and skull penetration disrupts the brain, rendering the animal insensitive while maintaining heart function during the subsequent bleeding. Once stunned, the inert body is placed on a suitable surface and – after a short span of time – the throat is slit, killing the animal by exsanguination. After another span of time, sufficient for death to occur, further operations on the body are then undertaken. In theory, all forms of reindeer slaughter in Norway are bound by this two-part structure: the rule is that the slaughtered animal must be unconscious at

the moment of its death. Although personal slaughter is much less strictly monitored than commercial operations, the obligation to stun is still generally observed – at the very least for practical reasons, as a properly stunned animal is immobilized and the slaughter can then proceed much more simply and rapidly.

Historically, in reindeer slaughter as elsewhere, this disaggregation of death into two separate moments is a relatively recent phenomenon (Vialles, 1994). For a long time, the dominant reindeer-killing technique among Sámi herders was the so-called heart-piercing – *hjertestikk* in Norwegian, *giettadit* in Northern Sámi. This method involves driving a knife directly into the heart of the reindeer, inserting it between the ribs, and letting the blood of the dying animal accumulate in the chest cavity. At a time when reindeer blood was still utilized for human and dog food, this minimized spillage and allowed the blood to be conveniently gathered for later use. Reindeer stomachs were often used to store this blood in a frozen state. This technique was widespread, both in northern Norway and across Scandinavia, and it goes back a long way. The scholar Knud Leem describes the practice in his 1767 treatise, *Beskrivelse over Finnmarkens Lapper*:

When a Lapp wishes to slaughter a reindeer, he ties it by a rope to a rooted tree-stump, so that the animal is at a few fathoms' distance from the root, whereupon he steps forward, and with a lunge . . . drives [the knife] right into the heart, pulling the knife back in the same instant. When the animal has been stuck it runs around a few times, then falls over with its legs in the air. In this condition he lets around half an hour pass, or somewhat more, and thereafter he flays it. Not a drop of blood comes out from the wound but it all remains inside the animal, and upon opening it is found among the entrails, whence the slaughterer takes it out and fills it in the stomach of the animal. (Leem, 1767: 152–153)

The Sámi scribe Johan Turi also gives an account of the practice, in his seminal 1910 work *Muitalus Samiid Birra*:

The slaughter of reindeer belongs to the men. When the Lapp takes a reindeer from the herd, he leads it behind the tent and ties it to a tree. He then returns to the tent to sharpen his knife, so that it should be very sharp and clean, to kill the reindeer quickly. If the knife is dirty it will not kill the reindeer swiftly, the reindeer will suffer for a long time before it dies. And some knives also kill less easily; if it is hard steel it kills well, but soft steel is very bad. And when the Lapp has finished everything, he comes out and takes a comrade with him, if there is one to hand. And then they turn the reindeer over and stab it in the breast, and let it loose with its rope; and if it is a good knife, it can not even rise and stand, but that it falls over again immediately. And if it is a poor dirty knife, the reindeer lives for a long time, and if it is let loose, still a long time passes before it dies. (Turi, 1910: 138, cited in Nissen, 1924)

In the early parts of the twentieth century, as Nissen noted, this practice began to attract negative attention from media and the general public. Activists, scholars and reformers from the nascent animal welfare movement got involved. The Swedish scholar and activist Hjalmar Dahlström, who later came to play an important role in the development of the curved knife, gave a detailed description of the aftermath of a heart-piercing, based on his field

observations in Övre Soppero in 1913. The text is worth reproducing in its entirety:

During the first minute after the knife has been inserted into its heart the animal runs around, chased by the others, or remains standing on the spot. The gaze becomes rigid and fearful, the jaw drops. During the second minute it begins to walk unsteadily and stumble, or else stands with legs far apart. After two minutes the animal usually falls over. It always falls forward, that is onto its front part, on the breastbone, onto the knife that is stuck in its breast. Nevertheless, it takes another minute before the blood loss becomes so great that the animal falls over on its side from exhaustion. Breathing becomes more laboured, so the reindeer has difficulty taking in air. The eyes acquire a pleading expression, but the reindeer remains fully conscious. To the attentive observer, the entire countenance of the animal demonstrates the suffering it must endure before death finally comes to free it from pain. After four and a half minutes, one can usually hear a wheezing or rasping sound. Only after five and a half minutes have elapsed do the so-called “last gasps” begin, but it takes another minute and a half for breathing to cease entirely. After eight minutes the animal finally appears to have fought its last. (Dahlström, 1924: 47–49)

Dahlström noted that this was an average timeframe for death using the heart-piercing method. Sometimes the process was over as quickly as in 5 minutes, sometimes it took “a minute or two” longer. He also noted, however, that for death to occur too quickly “was not considered desirable” – his herder informants explained that a swift death left too much blood in the carcass, something to be avoided insofar as the principal aim of “traditional reindeer slaughter” was “preserving the blood of the slaughtered animal”, ensuring the meat itself was “as bloodless as possible” (1924: 49). As we shall see in the next section, the technique later pioneered by Dahlström and his peers was designed to provide an elegant and practical solution to this particular problem – by transforming the knife into an instrument capable of destroying consciousness without stopping the heart, permitting blood to pump out without suffering on the part of the animal.

In Norway the practice of reindeer heart-piercing was technically made illegal in 1929, when a general law was passed that made stunning compulsory in all forms of slaughter – “[i]n the slaughter of animals and domestic reindeer, the animal shall be stunned immediately prior to the letting of blood” (Lov om avliving av husdyr og tamrein, 1929: §1). Norway was an early adopter of compulsory stunning legislation, among the very first in Europe: at the time, the subject was closely associated with the regulation of Jewish religious practices (Brantz, 2002). The general law of 1929 remained in force until replaced by the new Law on Animal Protection of 1974 (Lov om dyrevern, 1974), which extended the prohibition. The practice of heart-piercing itself nonetheless remained widespread at least until after World War II, and there are indications that it is still fairly common today: in a 2008 court case from Inner Finnmark, the herder defendant argued that heart-piercing with a straight knife was the standard method for personal field slaughter in his area (Norges Høyesterett, 2008; see also, Indre Finnmark Tingrett, 2008; Hålogaland Lagmannsrett, 2008).

Other killing methods were also experimented with in the early years of the twentieth century, including shooting with firearms. Our friend Nissen, for example, wrote with some disdain of the killing techniques that were practiced in the Varanger area in the 1920s:

In some of the northern Lapp districts [heart-piercing] has given way, to a greater or lesser degree, to shooting with rifles (or salon rifles). This applies for example to Varanger in Finnmark. But the change is not due to any effort at humanising the slaughter of reindeer, it merely indicates to what degree the reindeer, through poor herding, have become so wild that it is only with difficulty that they can be gathered and slaughtered in the usual manner. (1924: 86)

Most of these methods were impractical and remained unusual: none of them displaced heart-piercing as a favored technique. By the middle of the century, however, things appeared to be changing. Writing from the Varanger area only a couple of decades after Nissen, the humanist and Sámi advocate Ørnulv Vorren could state with some satisfaction that heart-piercing had been successfully supplanted:

[the] humanization of slaughter has had more success [than castration reform]. Because reindeer are not so tame and accustomed to the presence of humans and because of the large untidy antlers, it has been difficult to find a way of stunning them. The northern and older method, that is piercing the heart without stunning, has now been improved with a stunning stab in the neck first. This is performed with an experimentally designed knife. (Vorren, 1951: 31)

The experimentally designed knife that Vorren refers to was the so-called *krumkniv*, the curved knife.

3. The arsenal of reform

In appearance, a typical knife of this sort is somewhat strange-looking – resembling a deformed screwdriver, with a long three-sided blade that tapers to a curved point. Its distinctive shape and curvature are tailored to the proportions of the reindeer skull (Figure 1). During a curved-knife stunning the animal is held by the antlers, with the head pushed down and facing the stunner. The thin knife-blade is then inserted, in a downward motion towards the stunner, through the opening at the base of the skull where the spinal cord enters the brain cavity. The blade penetrates the brain, sliding along the internal base of the braincase until it reaches the forebrain. Correctly performed, the procedure causes swift cerebral trauma and disrupts brain functioning, producing complete and irreversible loss of consciousness. The animal collapses immediately, and the corneal reflex becomes inactive – that is to say, the eye does not contract or close when touched.

The procedure is effective but demands skill and practice. In the cramped spaces of the stunning pen, faced with powerful bucking animals, even an experienced welder may miss the correct point of entry. Calves and young

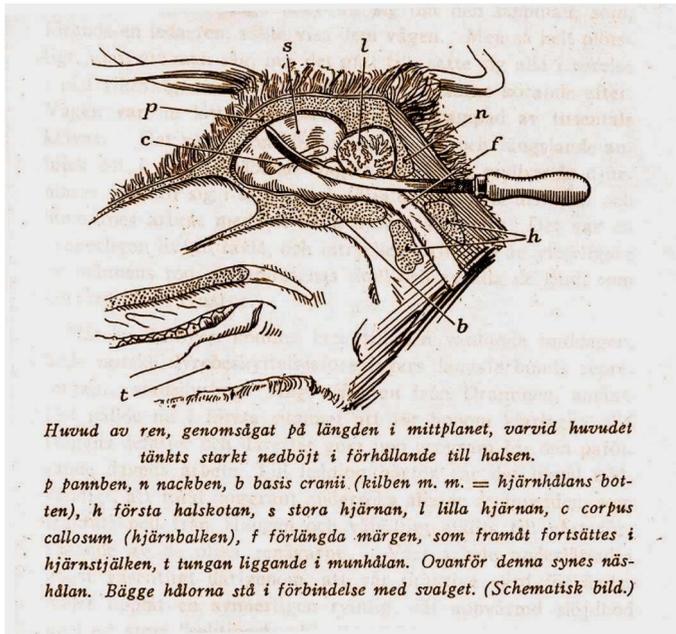


Figure 1. Diagram of curved knife passing through reindeer head (Dahlström, 1924).

animals are relatively easy to handle, but with large animals two people are usually required: one stunner, armed with the knife, and one or more assistants to hold the animal still. Applied incorrectly, the knife may sever or damage the spinal cord but leave brain function intact – superficially mimicking unconsciousness, while in fact leaving the animal paralysed but aware throughout the subsequent bleeding. Substituting a conventional straight-bladed knife for the curved knife produces the same effect.

The curious, highly specialized design of the knife originated in the early 1920s, as part of a slaughter reform program driven by activists and part-funded by the Norwegian state, acting through the Department of Agriculture (Dahlström, 1924; Fridrichsen, 1924; Nissen, 1924). The very first trials in Scandinavia took place in December 1922, at Brynhildsvold, a farmstead in the mid-country district of Røros. They were conducted by a handful of Swedish and Norwegian scholars and reform activists, along with a local veterinarian and a number of herders from the area, who had volunteered their animals for experimental stunning. The trials thus constituted a point of encounter between the mostly urban Norwegian and Swedish reformers and the Sámi, or “Lappish”, herders (Figure 2). The views of the herders on the scholars are not recorded: published reports from the trials do, however, speak volumes on the scholars’ views of the herders.

Several of the reformers had years of experience working in Sámi areas, and their views were generally nuanced and positive, if rather paternalistic – Kristian Nissen, the leading Norwegian delegate, stated that while reindeer herders in general “still possess a primitive level of culture”, “the Lapps from



På Aursundsjön. Stadsdyrläge Hanson omgiven av lappmän. T. Holm, t. h. Kant med körren.

Figure 2. Participants at the Brynhildsvold trials (Dahlström, 1924).

the Kola peninsula in the northeast to Trøndelag in Norway . . . are no longer at the tribal stage [*naturfolk*]” (Nissen, 1924: 77). In particular, the reformers were optimistic about the pragmatism and technical rationality of the Lapps: the local herders were “reasonable men through and through, certain to view such experiments with favour and likely to voluntarily make use of a practical stunning method, should such a method be invented” (Dahlström, 1924: 73). This optimism regarding the technical rationality of the herders was to play a deciding role in the outcome of the trials.

At the heart of the proceedings was a large collection of slaughtering tools and small arms, transported by train across the border from Sweden by Professor Dahlström (1924: 76–77). The equipment included conventional and specially designed knives, a range of salon rifles and automatic pistols of varying caliber, Browning guns, an army-issue German Mauser and a selection of slaughtering masks – a sizable armoury, by most standards, and Dahlström himself noted that his “principal fear” at the time of the planned train journey was being “mistaken for a dangerous anarchist” and arrested. To prevent this, he had secured special dispensation from the Department of Agriculture to carry “all the arms and ammunition” he required (Dahlström, 1924: 76). Over the course of the trials, which lasted for four days, the various killing tools were meticulously tested and their effects compared. High hopes were vested particularly in firearms, which were tested extensively and were, in the end, considered the most efficient in technical terms. Fridrichsen, for example, the local district veterinarian from Røros, was of the opinion that “the swiftest method of stunning a reindeer . . . is to

employ a revolver or handgun” (1924: 152). His report transcribes the various firearm experiments in meticulous, sometimes graphic detail:

Experiment 5: Automatic pistol (Ortgies caliber 7.65). Reindeer stands held by the antlers. Shot left side, 2 cm behind the ear opening. Reindeer completely stunned. Bullet dislodged *os petrosus*, passed through the brain and exited under the skin just to the left of midline in the fissure between *os frontale* and *os nasale*. Strong nasal bleeding and vomiting. (Fridrichsen, 1924: 149)

In the end, however, despite their evident efficacy, firearms were not the preferred choice. Why not?

For one, they were unsafe and potentially dangerous. During the animals’ struggle to break free, shots could easily be fired in the wrong direction, or bullets might pass completely through thin sections of the animal’s braincase and accidentally wound other animals or bystanders. Firearm wounds also caused excessive blood loss compared to other techniques – an undesirable effect, as the blood was used for cooking. Stunning at gunpoint further induced vomiting, which “polluted” the nose and mouth cavity, spoiling valuable parts such as the tongue: Fridrichsen notes that stunning with firearms “in most cases causes both vomiting and nasal bleeding, which the Lapps find anything but pleasing”. Bullet holes disfigured the skin of the head, which was used to make footwear – something to which the assembled herders “ascribed no little weight” (Fridrichsen, 1924: 152). Furthermore, firearms were an expensive acquisition and required a constant supply of expensive cartridges: a key problem when attempting to reform a population that still operated, to a significant extent, outside the cash market, often far from supply centres (Nissen, 1924: 140). Invoking racial stereotypes of the Sámi as unreliable and violent, Fridrichsen also indicated that “handing guns or pistols to Lapps may in a number of cases also be a less than fortunate course of action” (1924: 152). Most importantly, however, the principal argument against firearms was that it would be “difficult to make the Lapps adopt the method” (Fridrichsen, 1924: 152). Instead, the victor of the trials was the so-called curved knife – specifically, the prototype that reformers had labelled 1A (Figure 3).

The curved knife prototypes were only manufactured at the last moment. The original idea for the design came from a recently published report to the US Department of Agriculture, entitled *Reindeer in Alaska* and based on the ongoing work of researchers at the Alaskan reindeer research station (Hadwen & Palmer, 1922). The report unfavourably compared the heart-piercing practices of the recently immigrated Sámi population with those of local Eskimos, who killed the animals at a distance with firearms: a more desirable method, according to the authors. For manual stunning, based on their investigations, the Alaskan scientist team recommended that “pithing” be aimed at the neck, and directed in a diagonal forward motion so as to not only sever the spinal cord but also penetrate the brain thoroughly (Hadwen & Palmer, 1922: 12–13). During a visit to Oslo in September 1922, Hadwen had described this technique to Nissen, who was persuaded of its efficacy

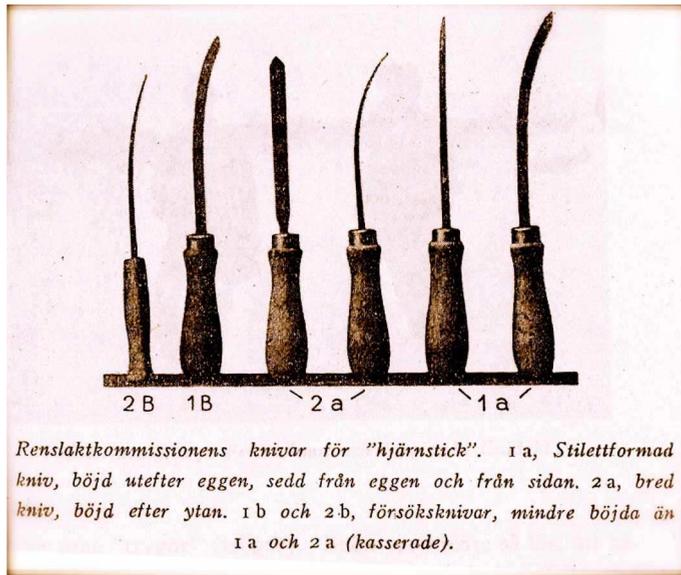


Figure 3. Curved knife prototypes (Dahlström, 1924).

and went on to become an energetic advocate of the method (Nissen, 1924: 104–105). Not all the reformers who assembled at Røros were of a mind to try this, however. Professor Dahlström, for example, had developed his own “apparatus” for reindeer slaughtering: a kind of modified slaughtering mask, applied to the head of the animal, that used firearm cartridges to drive a piston into the skull and “desensitize” the animal. Development of this device was stalled by the onset of World War I, with the ensuing shortage of ammunition, and the apparatus never came into widespread use (Dahlström, 1924).

Despite differences of opinion, and following “lively discussions” in Røros over the weekend before the trials were to begin, the reformers decided to have a set of such knives manufactured, on the basis of a rather sketchy idea of their design: “[a]s we assumed that the knife which had been employed in the reindeer slaughtering experiments in Alaska must have been curved, we bade prepare two curved ‘sticking-knives’ of different shape” (Fridrichsen, 1924: 146). The next morning, “as soon as the little community opened for business” and 2 hours before the party was to depart for the farmstead, Dahlström and a “Norwegian colleague” went out into Røros to procure materials for the knives. They had little luck initially, managing to secure only some common “thin-bladed cobbler knives” that were too soft for sturdy reindeer skulls (Dahlström, 1924: 82–84). Eventually, however, they located a blacksmith who was willing to make the knives on the spot, resulting in a set of four knives – labelled 1A, 2A, 1B and 2B – that were swiftly incorporated into the arsenal of the trials (Figure 3). 1A was long and “stiletto-shaped”, 19 cm long along the outside edge and 18 on the inside, 9 mm thick at the base and tapering to 5 mm at the tip. 2A was shorter, only

16 cm, and broader: 12 mm across, 5 mm thick. 1B and 2B were experimental knives with lesser curvature, subsequently discarded (Dahlström, 1924: 82–84). In the technical–anatomical register of the reports, this curvature enabled the new knife:

without being hindered by the *basis cran* ... [to] be led all the way in until it internally impacts *os. front.* at the height of the eyes, somewhere in the vicinity of which the animal's centre of consciousness should be located. When the knife is here given a few twists to the side, this part of the brain is transformed into a porridge-like mass. (Fridrichsen, 1924: 150)

In other words, the knife was shaped to target the anatomy of the reindeer brain, based on a localization of its presumed “centre of consciousness”. The shape of the knife, its ability to glide through the brain disrupting its functioning, served to minimize the well-known problems of neck-sticking with straight blades of the “traditional Sámi type” – which constituted, in Fridrichsen’s words, “an intervention that paralyses the musculature of the body, respiratory activity and parts of the cardiovascular system” (1924: 149), leading to a slow but fully conscious death by suffocation and inflicting (presumably) great suffering on the animal.

In the practical trials, the curved knife measured up well against the other tools being tested. As the reformers had predicted, the assembled herders were very interested in the new tools. According to Fridrichsen, “the enthusiasm with which it was tested should indicate that in the knife we may have a stunning device that the Lapps could be made to adopt at major slaughtering events without too much effort” (1924: 152). This was a key concern for the reformers, who were in more or less unanimous agreement that the new devices must be taken up voluntarily, without enforcement. In his 1923 report to the Ministry of Agriculture on the trials, which he witnessed, Lapp inspector Guldahl reminded his readers in the urban south that:

concerning the introduction of a more humane method of reindeer slaughtering, I will permit myself to suggest that I consider it contrary to our purposes that this be sought by imperative or force, as enforcement – in this case – will reveal itself to be both difficult and expensive. Certainly one might be able to maintain control at certain major slaughtering events, but it must also be taken into account that a large number of reindeer are slaughtered in the wild where, as can be seen, any enforcement will be nearly impossible. (Guldahl, 1923; cited in Nissen, 1924: 141)

In the view of the reformers, the geographical and administrative marginality of the herders made them too elusive to be effectively regulated by force. As a population, herders were simply incompletely subject to the coordinates of state power. If pressed, they could just retreat out of reach, physically and figuratively, into the remote spaces of the tundra and the forest – spaces that were, in practice, beyond the reach (and jurisdiction) of the state. Compliance could thus not be forced and reform must operate on the basis of an appeal to the judgement, technical rationality and experimental curiosity

of the herders – prompted, but not directed, by state authority. This pragmatic rationality of the herders would overcome the “tradition-bound” inertia of the herders. As Nissen phrased it, somewhat self-contradictorily:

[i]t has been said that the conservatism of the Sámi would prevent the implementation of a humane method of reindeer slaughtering. The Sámi are certainly a conservative people that finds it difficult to surrender what is ancient and customary, but from my knowledge of them I have no reason to doubt that when they see something new which they find beneficial, they will try it with interest and thereafter make use of it. (Nissen, 1924: 141–142)

Given that the restructuring of slaughtering practice must be voluntary, the calculus of voluntary adoption dictated that the new technique be affordable, safe, convenient, simple and suited to conditions in the field. It must be similar enough to existing practices to insert itself seamlessly and advantageously into the toolbox of herders, yet simultaneously also offer visible technical improvements. Firearms worked rapidly and with certainty: in terms of maximizing welfare by minimizing pain, they were slightly superior even to the knives. On the other hand, they were also expensive, impractical and potentially dangerous; they ruined important parts of the reindeer, and – as we have seen – there were certain reservations about entrusting firearms to “the Lapps”. On their part, the herders voted with their hands: for the curved knives, more specifically for model 1A. Following the trials, on the recommendation of the reformers, the decision was made to adopt and disseminate the knife as standard stunning equipment in the slaughter of reindeer. The knives were mass produced and distributed throughout the 1930s by the Department of Agriculture, and herders who had been present at the initial trials were subsequently employed as itinerant trainers, traveling the country to disseminate knowledge of the knife (Pareli, 2004).

In retrospective, certainly by the standards of Norwegian intervention into Sámi practices, the reform program must be considered unusually successful. The curved knife has become an important and valued tool of herding, and many herders defend it as a traditional instrument – in the words of one elderly herder woman, “curved knives have been in use since time immemorial, and for so long that I don’t know the beginning” (Pareli, 2003: 44). Its success relies in no small part on the efficiency of its design, and on the careful considerations of the reformers who introduced it to a population that would not permit itself to be forcibly regulated. Its structure re-scripted existing practice and reorganized the moment of death, so to speak from the inside: the shape of the knife dictated posture, angle of insertion and a path of least resistance through the skull of the reindeer, affording an efficient economy of action that paralyzed the animal rapidly and at an early stage of the kill, minimizing – at least, according to contemporary scientific understandings of the reindeer brain – the self-awareness of the animal as it died. In this way, the knife reconciled a number of concerns: those of largely urban populations scandalized by open displays of “brutality”; of welfare activists intent on eliminating the animals’ experience of being killed; and of herders, interested in swift, efficient and

labor-saving killing techniques. Since their introduction, the physical structure of the curved knife has remained largely unchanged – the parameters that led to their design, however, have shifted quite dramatically.

4. Redrawing the lines

The reports of the reformers from the Brynhildsvold trials were, primarily, documents of scientific advocacy. To persuade their intended audience, mostly lawmakers and legislators, of state institutions in the south, they relied on verbal arguments and evidence, in the form of diagrams, tabulated data, illustrations and photographs. In particular, one series of photographs and illustrations showed the passage of curved and straight blades through the bisected heads of slaughtered reindeer (Figure 1). Some three-quarters of a century later, a series of nearly identical images of bisected reindeer heads appeared in an internal report submitted to the Department of Agriculture by an interdisciplinary expert committee on curved-knife stunning, set up by the Legal Council for Veterinary Medicine. The aim of the report was assessing “whether it is defensible from an animal welfare perspective to stun reindeer with curved knives” (Ekspertkomite for evaluering av fortsatt bruk av krumkniv til bedøvelse av tamrein, 2000: 1).

The need for such a formal evaluation arose in 1995, when the 1973 directive that regulated the stunning and slaughter of domesticated reindeer [*tamrein*] was voided by a new general directive that addressed the slaughter of all animals in slaughterhouses (Mattilsynet, 2008). Unlike its older counterpart, this new directive did not specifically discuss the curved knife, which had passed into nearly universal use in the decades following the Røros experiments. Following up this lacuna, the mandate of the committee was to ascertain whether “use of curved knives is scientifically defensible in terms of animal welfare”, and whether when reindeer were stunned using this method, “unconsciousness occurred instantaneously upon penetration of the brain by the knife”. Additionally, they were to assess whether “a training period should be required for use of the knife” and whether there was need for “specific regulations concerning the use of curved knives ... including production specifications” (Ekspertkomite ..., 2000: 2–3). In the committee’s view, disruption of consciousness could be established in one of two ways: either by “registering brain activity and reflexes in connection with curved-knife stunning”, or by “assessing relevant brain damage after killing” (Ekspertkomite ..., 2000: 4). For “practical reasons”, the latter approach was adopted. Three heads of animals that had been stunned using curved knives were subjected to detailed anatomical analysis.

In principle, the knife had a number of points to recommend it over captive-bolt pistols, the only realistic alternative considered by the committee. For one, the knife was an affordable one-off investment with no moving parts, requiring minimal maintenance and functioning well under all weather conditions. Captive-bolt pistols, by comparison, became more difficult to operate in extreme cold, as the bolts were clogged down by frozen blood, brain matter and fur. The knife also caused less cramps and little or no

vomiting, making it easier to sever the major blood vessels during the subsequent bleeding. It was silent, reducing stress for nearby animals, and – unlike firearms – posed no physical threat to nearby humans or reindeer. Based on their own experience, all members of the committee agreed that it was a fast and efficient stunning method: animals collapsed immediately, and the corneal reflex failed to trigger when their eyes were touched directly.

As in the trials at Brynhildsvold, firearms were still considered fractionally more efficient, but the advantages of the knife outweighed this (2000: 8). Their principal disadvantage lay in the potential for improper technique and application. The committee linked this to a decline in appropriate training, mostly as a result of current prohibitions: “where the knife is in common use, the necessary competence has also been maintained” (2000: 2). The difficulty of obtaining the knives also contributed to this. At the time of the report, appropriate curved knives could only be purchased in Karasjok, in Eastern Finnmark, and were unavailable in the western parts of the region (2000: 3). Finally, the committee also considered whether legitimizing the curved knife might lead to an increase in the use of straight-bladed knives, considered unsuitable for stunning. Like improper technique, they concluded, this problem resulted primarily from scarcity: increased manufacture and dissemination of the appropriate curve knives would likely solve the problem.

With minor reservations, the committee thus concluded unanimously in favor of the curved knife:

[i]n terms of animal welfare, brain piercing with curved knife is an acceptable stunning method for the slaughter of reindeer. The practical advantages in the outtake of animals for personal use are so significant that the method should remain permitted. It is presupposed that the technique is employed by a competent party, and in most cases it will be required that he or she have an assistant to keep the animal still. Competence with the curved knife exists within the industry today, but probably not within all herding units. In today's situation, there appears to be a need for accessible informational materials to ensure that training and transmission of competence concerning correct use of the curved knife can be implemented. (2000: 8)

The report thus confirmed the state in its role as the agent for the production of appropriately trained and disciplined herder-users. The knife should remain permitted, but its use should also be marshaled and controlled, with appropriate technique ensured through training and the distribution of informational materials. Parameters of expectation and control had changed since 1922: on their own, the structure and design of the knives no longer provided sufficient certainty or guarantee.

In practice, the recommendations of the Committee had no effect. Before they could be implemented, the question was shifted to the supra-national level through the “discovery” that the practice had been technically prohibited since the 1990s, under the terms of an EU directive known as 93/119/EC, “on the protection of animals at the time of slaughter or killing” (Council of the European Union, 1993). After a period of enforced prohibition, during which the practice remained in widespread use, but was effectively forced underground, legal controversies over the knife reached a

climax and temporary ceasefire in late 2004. In September of that year, at a meeting with then Minister of Food and Agriculture Lars Sponheim, a group of Sámi politicians requested urgent clarification of the regulatory status of the knife. In November, Sponheim replied in a letter to the Sámi Parliament that “[o]ur regulations . . . govern only the slaughter of animals in abattoirs. The use of the curved knife to slaughter animals outside abattoirs is not regulated by current Norwegian legislation and is therefore not prohibited”. The minister also added that “it is a requirement that curved-knife stunning of reindeer be conducted by a skilled person with sufficient training and experience in the use of the knife” (Sponheim, 2004).

This more permissive interpretation provoked animal activists, including the Norwegian Animal Protection Alliance [Dyrevernalliansen], who filed a complaint against the Department of Agriculture to the EFTA Surveillance Authority (Berg, 2007) and continued to decry the knife as an inhumane, cruel and – perhaps most importantly – *unpredictable* technique. Interviewed on national television a few months after the letter from Sponheim, a legal advisor to the Animal Protection Alliance called the curved knife “an uncertain and barbaric method of killing”. She added that “it is not sufficient that the curved knife functions acceptably when used correctly, if there is a significant risk of misuse” (“Sponheim is barbaric”, *Dagsrevyen* 25.01.05, NRK). Deploying negatively charged terms such as “barbaric” or “primitive”, activists rendered curved-knife stunning unacceptable *by moving it in time*, into the past, to exclude it from the ethical present of the nation, the state or the collective. Drawing on a linear, progressive conception of history, such interventions could link the issue of reindeer welfare to broader discourses that articulated the identity of the Norwegian nation-state in terms of scientific progress and increasing moral responsibility.

Somewhat ironically, these broader discourses had been articulated fairly recently, and explicitly, by Sponheim himself – now the very advocate of “barbarism”. Addressing Parliament in 2002, in a speech entitled “Animals should live well”, Sponheim had formulated his ambition that Norway should “remain among the best in the world on animal welfare”. Citing Gandhi, he stated that animal welfare was “a measure of [Norway’s] cultural state and . . . development as a nation”: the country needed to remain internationally competitive, by strengthening “national centres of competence” and “informing the public”, disseminating the growing body of knowledge about “animals and their requirements” (Sponheim, 2002). His speech closely linked the moral state of the nation to scientific progress: disciplines such as ethology and animal welfare science had contributed to an increased understanding of animals, which in turn compelled a moral reassessment of practices previously considered acceptable – with the aim of bringing Norway “to the forefront” among the countries of the emergent global order. As he said, “knowledge entails obligation”. Against this backdrop, the question of reindeer welfare could be articulated simultaneously along two axes of the national: one, the progressive growth of scientific knowledge, and two, the ongoing project of building the nation – morally, culturally and in relation to other nation-states within a competitive

world order. Crucially, both of these axes articulate temporally, through an unfolding in time.

As deployed by animal activists, the narrative of rising ethical standards thus meshed with powerful state discourses of progress, modernization and progressive integration into the nation-state project. From this perspective, it made no difference whether the curved knife was indigenous or foreign, archaic or recently introduced: either way, it belonged to a past that must be eliminated, replaced or improved upon. Over time, through processes of ongoing improvement, practices that were once acceptable had become intolerable. Mapping social difference onto time, this powerful *allochronic* strategy (Fabian, 1983) rendered curved-knife stunning as ethically unacceptable, by locating it in a primitive and savage past – a past that somehow continued to exist in the present, threatening to disrupt the fragile achievements of the animal welfare movement. Negative social differentiation could then be produced, not by colonial imaginaries of racial difference or human animality, but rather *temporally* – by the exclusion of herders from the ethical present of the state and, through this, from the very modernity of society and the national collective as it moved forward into the future. This is a well-known and well-documented problematic, in the Sámi context – for centuries, the need to integrate and incorporate the “primitive” indigenous margin has informed and structured official Norwegian policies towards the Sámi population. Considered in the light of this, the question of appropriate slaughtering technique came to involve what one might perhaps call a form of *temporal citizenship* – that is to say, it brought into question the terms on which equal participation in the present moment of the nation should be possible, or achieved, or accepted.

At the time of my own doctoral fieldwork, from 2004 to 2005 (Reinert, 2008), the herders I worked with seemed to treat the ebb and flow of prohibitions with cool detachment. The shifting legal status of the knife elicited a blend of resignation and amusement, with prohibitions classed merely as yet another “absurd” or “misguided” intervention by ill-informed bureaucrats and “busybodies”. During my first slaughtering season, in 2004, the status of curved-knife stunning for personal use had not yet been settled, and the knives was still technically understood to be illegal. Nevertheless, the atmosphere was relaxed, and the corral resounded with shouts of “Anyone have a knife?” Even the inspecting veterinarians, at the corral to monitor the operation of the mobile slaughterhouse, enforced the prohibition with ambivalence. One herder told me how a veterinarian had instructed her “go ahead and keep using the [curved] knives, just do it behind a car or something so we don’t see it. If we see it we have to report it”. Of course, when I later asked the same veterinarian about the practice, she insisted strongly that it was unacceptable and must be eliminated.

Insofar as they did engage with the public debates, herders defended the knives not only as rational, efficient and uniquely suited to conditions on the tundra, but also as traditional, as part of the indigenous Sámi cultural heritage. Of course, such claims were vulnerable: a 2006 informational broadsheet from the Norwegian Animal Protection Alliance proclaimed that

“[t]he curved knife is used to kill the reindeer, and is not a traditional instrument of reindeer herding. It was distributed to reindeer herders by the Department of Agriculture in the 1930s” (Dyrevernalliansen, 2006). Primordial or not, however, the knife had still been in use at least for several generations and had become an integral instrument of practice: herders could, with some reason, claim it as part of a herding heritage that the Norwegian state was committed to protect, both under the terms of its own constitution – the frequently invoked paragraph 110a, added in 1988, concerning the rights of the Sámi people – and by various international treaties to which it was a signatory, including ILO Convention 169 on Indigenous and Tribal Peoples. While activists thus sought to define the knife as backwards and therefore undesirable, herders drew on legal and discursive resources to define it as traditional, and therefore worth preserving. Between them, the two positions highlighted two distinct and contradictory constructions of the past and its relationship the present – and through this, two equally distinct and contradictory versions of the state, each with different obligations and responsibilities. Activists invoked the state to safeguard and enforce the present as a contingent ethical moment, a progressive achievement threatened by barbaric anachronism, constantly at risk of retrogression. Herders, on the other hand, summoned up the state as the guarantor of that same past, bound by its own treaties and commitments to protect and conserve it.

Over the last few years, on balance, it seems like the role of the state may have been shifting towards the latter position. When I spoke to one of the members of the “Expert committee for the evaluation of the continued use of curved knives in the stunning of domesticated reindeer” in late 2004, while the knives still theoretically banned, he was scornful of the state position on the matter. The “discovery” of the EU directive that prohibited curved knives was an excuse, he suggested, and a convenient way for state officials to shift responsibility elsewhere – exemption could easily have been negotiated, given the cultural aspects of the practice. By late 2006, on the other hand, the Director of Food Politics at the Department of Agriculture argued in the national media that as a “cultural event”, the use of curved knives *did* qualify for exemption from EU directives on slaughtering – while a spokesman for the Animal Protection Alliance stated that they “did not consider use of the curved knife a significant element of Sámi culture” and that:

[t]here are far better and more humane ways to kill reindeer. If the government now decides to permit the use of curved knives, this is a cowardly and facile choice they have taken, rather than furthering animal welfare. (Utsi & Horn, 2006)

Despite protests from Norwegian animal protection organizations, the Department continued to develop its argument along these lines – stipulating that as a “cultural or sportive event” akin to Spanish bull-fighting, curved-knife reindeer slaughter was permissible as an exception to the EU directive.

Following a public hearing, a new directive on curved-knife stunning was introduced on 30 July 2008 (LMD, 2008). According to the opening

paragraph, its aim is to “open for the ... defensible use of curved knife as a stunning method outside slaughterhouses ... and thereby preserve opportunities for traditional reindeer slaughter in the exercise of Sámi culture” (§ 1). The text specifies very precisely the proportions of the suitable knife (§ 4) as well as the required technique (§ 5) and the necessary qualifications of the wielder (§ 7). Versions in Northern and Southern Sámi were added in March 2009. Whether this move has been sufficient to settle the status of the knives once and for all, however, remains to be seen: organizations such as NOAH and the Norwegian Society for Protection of Animals have expressed their dissatisfaction with the new directive (Nybøe, 2009), and continue to protest against the use of curved knives in reindeer stunning.

5. Conclusion

In closing, there are two points I want to draw out and develop more clearly from the material I have presented so far. The first concerns how the shifting role of the knives reflects the shifting parameters of coercive state agency over time. The very tone of the reports from Brynhildsvold, their emphasis on a calculus of voluntary adoption, places them in an age where the reach of the state was limited and evasion was not only possible but likely. Unable to force compliance on an elusive and highly marginal population, this circumscribed state must proceed by conforming existing practice indirectly, to standards that were impossible to enforce directly. The design of the knife thus arose from (and materialized) a particular relationship between the state and the herder population – a relationship within which the knife must serve as a sort of agent, an “immutable mobile” (Latour, 1987) that traveled where the state itself could not go, introducing itself into the moment of slaughter, reorganizing bodies and practices through its sheer simplicity and ease of use. The knife achieved its objectives – so to speak – from the inside. Mediated through the Department of Agriculture, the role of this version of the state was simply to support the design process and facilitate adoption, by producing and disseminating the new knives.

Over the course of the twentieth century, however, the material and symbolic capacity of the state to regulate and intervene into herder life and practices increased dramatically. Herders became more and more dependent on and incorporated into various cartographies and mechanisms of state power: by the turn of the century, the limited parameters that held at Brynhildsvold had given way to a state whose ability to enforce its own directives was safely beyond question. Both as a population and as an object of state power – the two can be difficult to separate – herders had shifted from a position of spatial, social and administrative exteriority, or marginality, to one located safely inside the agentive parameters of the state. Within a vastly expanded spatial, social and legal jurisdiction, herders were now visible in new ways to the administrative optic – and, consequently, subject in new ways to power. Subsidy programs, licensing and registration regimes, policing, territorial management systems and planned production targets

had progressively drawn herders into the networks of state power – as increasingly accessible, known and manageable subjects. Simultaneously, the narrative construction of state power had also shifted, displacing the appearance of contingency and limitation in its operation. Voluntary adoption was no longer the issue, nor was the power of the knives themselves to destroy consciousness necessarily sufficient – a (supposedly) higher degree of precision had become possible, and therefore necessary. The spatial and figurative limits that shaped the strategy of the Brynhildsvold reformers had disappeared, supplanted by the question of how – and in what capacity – the state should exercise its powers. From a necessary reform, the curved knife had now become something like an allowance: a concession, on the part of the state, to the wishes of herders. Presently, further attention to this power operating in a mode of generosity – and the historical preconditions for its exercise – may be both helpful and warranted.

The second point I want to develop concerns the political dimensions of scientific expertise, and specifically scientific understandings of animal welfare, in the context of the governance and regulation of indigenous reindeer pastoralism. For all their relative obscurity, the Brynhildsvold trials represented a significant point in the trajectory of reindeer as scientifically known animals – certainly in the Scandinavian context. The reformers were guided by scientific principles, experimentation and meticulous recording aimed at producing sound and persuasive evidence: capable (and worthy) of being circulated to academic audiences. The reindeer were to be scientifically observed, both in the moment of death and subsequently, as their bodies were opened up to the dissecting gaze of trained experts. As Dahlström's detailed description of a heart-piercing showed, the suffering of reindeer could be observed while they were still alive, inferred from visible indicators such as labored breathing, posture and evident pain, and also reconstructed posthumously, through inferences that parted from their dead bodies – for example, through the comparative analysis of disruptions in brain structure. Anatomical diagrams that illustrated the smooth, physiologically effective passage of the knife through the reindeer brain (e.g. Figure 1) were produced and circulated through a wider network of scientists, professionals and policy-makers.

Both modes of observation, posthumous and *in vivo*, were underpinned by the notion that reindeer suffering was knowable through certain kinds of indicators, by certain people and in certain ways: as a matter of structured observation, physiological knowledge and anatomical insight. This scientific version of reindeer welfare was not politically neutral: for one, its redistributions of expertise and authority were charged with potent racial overtones. This was specialized knowledge, the domain of experts – and crucially, despite being perhaps the closest observers of their own reindeer, the herders themselves were mostly excluded from it. District veterinarian Fridrichsen recommended keeping firearms from the unruly Lapps – he also made no mention, in his report, of the herders who were present at the trials. Reading his account, one might well assume that no herders had been there at all: their presence is entirely erased, and the text itself is hard at work preserving

the core narrative of a handful of learned and scholarly white men, scientifically assessing the merits of different killing techniques, on behalf of nameless and anonymous “primitives” who lack the means to do it themselves. His omission is remarkable not only in retrospective, but also when compared to the reports of other participants – who do refer to the lively presence of the herders, and acknowledge their positive interest in the knives as a crucial element of the reform effort. In hindsight, it becomes fairly clear how his report reproduced a racially structured and exclusive model of scientific authority and agency and, along with this, the hierarchy of colonial superiority and governance that was vested in it.

This particular problem – of the exclusion of herders from scientific knowledge of their own animals – remains pertinent today. Following a joint reindeer herding “fact-finding expedition” to Finnmark a few years ago, conducted by a Norwegian and a German animal welfare group, an activist from the Norwegian Animal Protection Alliance commented in an interview that herders “use fear as a ‘tool’ to manage reindeer. This would not be necessary *if the reindeer herders knew more about reindeer behavior*” (Berg, 2006: 20, emphasis added). As became apparent over the interview, the knowledge she referred to – which she possessed, and the herders did not – concerned the behavior of the reindeer as “herd animals”. While openly professing her own ignorance of reindeer and herding practice, she could thus make a self-assured claim to superior, scientific knowledge of reindeer – knowledge that the herders supposedly lacked, despite living their lives in close proximity to the animals. Her claim to epistemological superiority enabled her to re-brand the experience, traditions and knowledge of herders as ignorance – ignorance, that is, of the very animals they herded. In an age where public debates over pastoralism and reindeer appear to be dominated (again) by scientific experts, this is an issue worth keeping in mind.

To sum up, my argument here has situated the simple physical structure of the curved knife within a complex matrix of redrawn boundaries and changing standards, by exploring the juxtaposition of two distinct moments in the history of indigenous slaughter reform in Norway. Since the initial introduction of the knives, parameters of public concern and state agency have significantly altered, as has their narrative framing – for herders, the knives have become a tradition; for activists, successors of the very people who introduced them, a barbaric anachronism. Control over these narratives is closely linked to control over the performative parameters of herder identity in the public sphere – and through this, to the power of defining the particular inclusions and exclusions that are operated, in the governance of reindeer pastoralism, by broader categories such as citizenship and humanity. Perhaps, in rendering accessible some lesser-known aspects of this early history, and offering an analysis of recent developments, the present text can in some small way make a constructive contribution to the ongoing debates that surround the ethics and welfare dimensions of reindeer slaughter in Norway.

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Note

¹ Throughout the article, all translations from Scandinavian languages are my own.

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