

## 3R for Farmed Animals – A Legal Argument for Consistency

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### 1. Introduction

This article aims to present reasonable arguments for an extension of the 3R principles used in research to the regulation of farm animal welfare. It aspires to expound the level of legal protection in the field of research and to analyze whether these means of protection have contributed to a perceptible amelioration of animal welfare in the respective field. In the same course, it pays attention to exploring the reasons for the emergence of 3R in research. The article then seeks to identify the existing levels of protection in the field of farming. Most notably, it aims at presenting the differences of legal protection for animals in research and for animals in farming and at depicting the reasons for according such different means of protection to the

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animals in question. This analysis shall form the basis of exploring the reasonable possibility of applying the principles in research to the animals used for farming purposes and of establishing a common underlying legal maxim. Finally, it aspires to exemplify specific applications of the principle of 3R to farmed animals.

The article first and foremost engages in legal arguments, and legal consistency arguments more specifically: It argues that *if* we accept legal norm X for reasons Y applicable to one group of animals, then we must – on pain of logical inconsistency – accept legal norm X for another group of animals satisfying preconditions Y, too. The article therefore does not assume or endorse any particular school of thought in moral philosophy or the philosophy of law.

In the first part of this article, the legal regulation of animal welfare is analyzed in the field of research. First, it is identified how the 3R principles emerged and how they are codified and implemented in states' legislations today. Subsequently, the 3R principles, namely refinement, reduction, and replacement, are presented in detail with an examination of their failures and achievements.

In the second part of the article, the prevalent situation of animals in farming is clarified. Legal arguments are appraised in order to examine whether an analogous application is reasonable and feasible, i.e. the extension of 3R in research to the regulation of the majority of all domesticated animals. Thereupon, it is substantiated what refinement in farming specifically encompasses. For these purposes, the existing law in the U.S. is compared with Switzerland's provisions, including normative statements. Second, policy arguments and modalities of reduction in farming are examined. Finally, the third element of 3R, namely replacement, is scrutinized in the field of farming against the background of the internationally ubiquitous legal manifestation of the avoidance of unnecessary animal suffering and the principle of proportionality.

## **2. The regulation of animal welfare in research**

### **2.1. Facts and definitions underlying the 3R principles**

Research is well known for sparking critical debates when it comes to animal welfare. For many people, it is by far the primary example of the flagrant exploitation of animals for human purposes. Animal research is at the center of public discussion on a constant basis, and their exploitation has been questioned since Russell and Burch's (1959) 'The Principles of Humane Experimental Technique'.<sup>2</sup> This publication has played a key role in introducing 3R in research

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<sup>2</sup> Paul Waldau, *Animal Rights, What Everyone Needs to Know* 29 (Oxford University Press 2011) [hereinafter Waldau, *Animal Rights*].

and animals have profited from this attention in such a way that today, research is, globally, one of the most regulated domains with regard to animal welfare.<sup>3</sup>

Hereinafter and throughout this article, the term ‘research’ will be used as a notion referring to both basic and applied scientific research of any kind that either harms animals or entails a reasonable possibility of harming them, if not differentiated explicitly.

## 2.2. An introduction to the 3R principles in research

In 1959, English zoologist and psychologist William M. S. Russell and microbiologist Rex L. Burch published guidelines on how to reduce the suffering of animals used for research by evaluating the degree of humaneness of animal treatment in experiments.<sup>4</sup>

The first guiding principle, refinement, comprehends humanitarian approaches that aspire to decrease incidence and severity of experiments and vivisection.<sup>5</sup> Refinement comprises improvements of accommodation and living conditions, breeding, care, and the diminution of pain, fear, distress, and suffering.<sup>6</sup> Accordingly, refinement primarily includes the use of anesthesia and analgesia.<sup>7</sup> Refinement also calls for less invasive procedures to be employed, e.g. by replacing injection with inhalation.<sup>8</sup> In addition, monitoring equipment is introduced in order to properly assess the animals’ physiological state.<sup>9</sup>

Second, the principle of reduction prompts scientists to use the smallest number of animals while achieving high-quality results.<sup>10</sup> Aside from questioning the necessity of the number of animals used in research, reduction shall be achieved through controlling and reducing variance via inbred strains, as well as by means of better design and analysis of experiments.<sup>11</sup> For

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<sup>3</sup> Tom Regan, *The Case For Animal Rights* 235 (University of California Press 2004) [hereinafter Regan, *The Case for Animal Rights*].

<sup>4</sup> George Dvorsky, Can Technology Help Us Put an End to Animal Experimentation? io9, September 5, 2012, available at <http://io9.com/5940566/can-technology-help-us-put-an-end-to-animal-experimentation> [hereinafter George Dvorsky, Can Technology Help Us Put an End to Animal Experimentation? io9, September 5, 2012].

<sup>5</sup> Ibid.

<sup>6</sup> Chandra Eskes et al., Comparing the Challenges in Developing and Implementing 3R Alternative Methods in Europe and the United States: Industrial and Academic Perspectives, *Altex Proceedings*, 8<sup>th</sup> World Congress, Montreal, 2011, available at [http://www.altex.ch/resources/205209\\_Eskes3.pdf](http://www.altex.ch/resources/205209_Eskes3.pdf); BVA/AVMA/FRAME/RSPCA/UFAW Joint Working Group on Refinement M. Jennings and M.J. Prescott (Eds.), *Refinements in Husbandry, Care and Common Procedures for Non-Human Primates*, 9<sup>th</sup> Report, in: 43 *Laboratory Animals* (April 2009) supp. 1 <http://www.nc3rs.org.uk/downloaddoc.asp?id=863&page=1759&skin=0>.

<sup>7</sup> W.M.S. Russell and R.L. Burch, *The Principles of Humane Experimental Technique* 3-4, 137-139 (Methuen 1959) [hereinafter Russell and Burch, *The Principles of Humane Experimental Technique*].

<sup>8</sup> Bryan D. Odgen, Principles of Animal Research: Replacement, Reduction, Refinement, and Responsibility, 2 *Animal Law* 167, 168 (1996).

<sup>9</sup> Those include tidal carbon dioxide monitors, pulse oximeters, EKG machines, invasive and noninvasive blood pressure machines, and blood gas machines, as applied by the Oregon Health Sciences University (OHSU); See Bryan D. Odgen, Principles of Animal Research: Replacement, Reduction, Refinement, and Responsibility, 2 *Animal Law* 167, 168 (1996).

<sup>10</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, at 64.

<sup>11</sup> Ibid, at 105-133.

instance, in toxicity testing the limit test ousted the heavily criticized LD50 test and hence provided a trustable basis to use fewer animals while attaining more accurate results.<sup>12</sup>

Finally, the principle of replacement challenges the use of animals whenever feasible alternatives are available.<sup>13</sup> Over the course of the last decades it has become apparent that animal experimentation, to a high degree, is unsuitable for human ends. For instance, animal subjects have misled researchers about the mechanisms of infection, surgery replacement of clogged arteries, kidney transplants, hormone replacement therapy, Viagra, anti-inflammatory drugs, and the reproduction of cirrhosis.<sup>14</sup> It is frequently argued that animals and humans lack the essential biological, emotional, and cognitive similarities needed to extrapolate results successfully.<sup>15</sup> Additionally, researchers are increasingly skeptical of the use of animal models for the understanding, treatment and curing of cancer, AIDS, psychological disorders, drug abuse, and genetic diseases, as well as in toxicity tests.<sup>16</sup> On this basis, modern animal research demands the use of non-sentient substitutes where they are readily available.<sup>17</sup> Sample methods of replacement include the use of epidemiology, studies on patients, autopsies and biopsies, as well as post-marketing surveillance.<sup>18</sup> Instead of using a large number of animals in toxicology tests, cellular screening tests now allow for more efficient methods and substantial savings, just as trauma training now is instilled by means of a simulator.<sup>19</sup> Replacement measures also include lab-grown human livers, in vitro 2D human skin tissue, non-invasive brain scanning methods, and computer simulations.<sup>20</sup> In general, scientific papers in different fields generate the knowledge to render the use of animals in research to a large extent inutile.

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<sup>12</sup> Bryan D. Odgen, *Principles of Animal Research: Replacement, Reduction, Refinement, and Responsibility*, 2 *Animal Law* 167, 168 (1996).

<sup>13</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, at 69.

<sup>14</sup> Harry F. Dowling, *Fighting Infection: Conquests of the Twentieth Century* (Harvard University Press 1977); H.J. Parish, *Victory with Vaccines* (E&S Livingstone Ltd. 1968); Rodolfo T. Domingo et al., Peripheral Arterial Reconstruction, Transplantation of Autologous Veins, 9 *Transactions of the American Society of Artificial Internal Organs* 305-317 (1963); D. Hume, Experiences with Renal Homotransplantation in the Human Subject, 34 *Journal of Clinical Investigation* 327-381 (1955); C.C. Ainley, et al., Is Alcohol Hepatotoxic in the Baboon?, 7 *Journal of Hepatology* 85-92 (1988).

<sup>15</sup> Justin R. Goodman, Casey A. Borch, Elizabeth Cherry, Mounting Opposition to Vivisection, on behalf of American Sociological Association (ASA), 11 *Contexts* 68 (2012), May 18, 2012; U.S. Food and Drug Administration Report, Innovation or Stagnation: Challenge and Opportunity on the Critical Path to New Medical Products (2004), 8, available at <http://www.fda.gov/downloads/ScienceResearch/SpecialTopics/CriticalPathInitiative/CriticalPathOpportunitiesReports/ucm113411.pdf>.

<sup>16</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, at 80, showing that work for anti-tumor activity is highly effective on animals but cannot be extrapolated to humans; Medical Research Modernization Committee, A Critical Look at Animal Experimentation, 2006, 3-5, available at [http://www.mrmcmed.org/Critical\\_Look.pdf](http://www.mrmcmed.org/Critical_Look.pdf).

<sup>17</sup> George Dvorsky, Can Technology Help Us Put an End to Animal Experimentation? io9, September 5, 2012, supra note 4.

<sup>18</sup> Medical Research Modernization Committee, A Critical Look at Animal Experimentation, 2006, 15-17, available at [http://www.mrmcmed.org/Critical\\_Look.pdf](http://www.mrmcmed.org/Critical_Look.pdf).

<sup>19</sup> Physicians Committee For Responsible Medicine (PCRM), PCRM Position Paper on Animal Research, July 21, 2010, available at <http://www.pcrm.org/search/?cid=512>.

<sup>20</sup> George Dvorsky, Can Technology Help Us Put an End to Animal Experimentation? io9, September 5, 2012, supra note 4.

## 2.3. Achievements of the 3R principles in research

3R, enjoying acceptance by the broad public, have been adopted and fostered by well-known advocates as well as by prominent organizations. On the international plane, the World Organisation for Animal Health (OIE), which has carried animal welfare as its mandate since 2005, explicitly recognizes the 3Rs.<sup>21</sup> Also the Basel Declaration specially highlights the importance of 3R principles and the need for greater transparency.<sup>22</sup> On a regional level, the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes has implemented the 3R principles,<sup>23</sup> as did Directive 2010/63/EU, stating that ‘animals have an intrinsic value which must be respected’ and ‘should always be treated as sentient creatures’.<sup>24</sup> Moreover, the European Commission set up the European Center for the Validation of Alternative Methods. On the national level, the 3R principles have been given consideration in the U.S. Federal Research Policy.<sup>25</sup> The U.S. National Institutes of Health (NIH) established the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM)<sup>26</sup> and enacted the ‘Guide to the Care and Use of Laboratory Animals’ for refinement measures.<sup>27</sup> Most recently, the NIH decided to significantly reduce the number of chimpanzees for research.<sup>28</sup> Also in Japan, 3R are implemented in major legal documents.<sup>29</sup> The Chinese Ministry of Science drastically improved the protection of laboratory animals by the adoption of the ‘Guiding Opinion on the Humane Treatment of Laboratory Animals’ in 2006 that endorses the 3R.<sup>30</sup> In Australia, each of the eight states and territories has enacted the ‘Code of Practice for the Care and Use of Animals for Scientific Purposes’ that follows the 3R method.<sup>31</sup> The UK has accepted and incorporated the 3R principles,<sup>32</sup> as well as New Zealand,<sup>33</sup> Sweden,<sup>34</sup> Germany,<sup>35</sup>

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<sup>21</sup> Terrestrial Animal Health Code, World Organisation for Animal Health, 21<sup>st</sup> ed., May 2013, section chapter 7.1, article 7.1.2, § 3.

<sup>22</sup> Basel Declaration, November 29, 2010, *available at* [http://www.basel-declaration.org/basel%20declaration%20en/assets/basel\\_declaration\\_en.pdf](http://www.basel-declaration.org/basel%20declaration%20en/assets/basel_declaration_en.pdf).

<sup>23</sup> Council Directive 86/609, 1986 O.J. (L 358) 1 (EEC).

<sup>24</sup> Directive 2010/63/EU, 2010 O.J. (L 276/33).

<sup>25</sup> Policy on Humane Care and Use of Laboratory Animals, Office of Laboratory and Animal Welfare/National Institutes of Health (2002) *available at* <http://grants.nih.gov/grants/OLAW%20references/phspol.htm>; Guide for the Care and Use of Laboratory Animals, National Academy of Sciences (NAS) (1996) 10, *available at* [http://www.nap.edu/openbook.php?record\\_id=5140](http://www.nap.edu/openbook.php?record_id=5140).

<sup>26</sup> ICCVAM Authorization Act of 2000, 42 U.S.C. §§ 2851 – 2851l-5 (2000).

<sup>27</sup> Bernard E. Rollin, The Ethical Imperative to Control Pain and Suffering in Farm Animals, in *The Well-Being of Farm Animals, Challenges and Solutions* 3, 6 (G. John Benson and Bernard E. Rollin (eds.), Blackwell Publishing 2004).

<sup>28</sup> NIH to Reduce Significantly the Use of Chimpanzees in Research, National Institutes of Health, June 26, 2013, <http://www.nih.gov/news/health/jun2013/od-26.htm> (last visited April 20, 2014).

<sup>29</sup> Tsutomu Miki Kurosawa, Japanese Regulation of Laboratory Animal Care with 3Rs, 14 *Alternatives to Animal Testing & Experimentation* 317 (2008).

<sup>30</sup> See Bruce A. Wagman, Matthew Liebman, *A Worldview of Animal Law* 207 (Carolina Academic Press 2011).

<sup>31</sup> Australian Code of Practice for the Care and Use of Animals for Scientific Purposes 8th Edition (2013), Australian Government, National Health and Medical Research Council (NHMRC).

<sup>32</sup> Animals (Scientific Procedures) Act, 1986, c.14 § 2 para. 1 and 4, § 6 para. 6 lit. b., § 7 para. 6, § 10 para. 2 (UK).

<sup>33</sup> Animal Welfare Act 1999, no. 142, art. 80 ff. (N.Z.).

<sup>34</sup> Animal Welfare Act 1988, section 19 (Sweden).

and Switzerland.<sup>36</sup> Furthermore, ethics committees have been established in the UK, Sweden, Croatia, and Switzerland.<sup>37</sup> In addition, most recent documents and declarations relating to research activities show a positive development towards incorporating the principle of proportionality (that will be dealt with later in the article) in addition to 3R for the purposes of guaranteeing a balance of interests.<sup>38</sup>

Despite obstacles concerning its implementation,<sup>39</sup> the legal enshrinement of 3R has obtained perceptible success: in Europe, the use of animals for research has been reduced by 50% since 1970, and in the U.S. by 25% since 1985.<sup>40</sup>

### 3. The regulation of animal welfare in farming

#### 3.1. Facts and definitions underlying animal welfare in farming

The most considerable attributes of factory farming and its concomitant effects on animal welfare will be outlined hereafter. As more and more states strive towards intensifying the businesses pertaining to the agricultural use of animals, the impacts of such enterprises, as representatives of an upcoming quasi international practice, have to be thoroughly detected and assessed. In the United States, the practices are analyzed with a focus on land farm animals such as birds, pigs, and cows. It should be highlighted that other species increasingly are reared in factory systems, such as sheep, rabbits, alligators, and bears.<sup>41</sup> Of equal importance is the awareness that corresponding situations exist in every part of the world where concentrated factory farming, i.e. most intensive forms of farming, prevails.

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<sup>35</sup> Animal Welfare Act, 2006, § 7(1)1; § 7a(2)2. (Germany).

<sup>36</sup> Tierschutzgesetz [TSchG] [Animal Welfare Act] Dec. 16, 2005, SR 455, art. 22 para. 2 (Switz.).

<sup>37</sup> In the UK: Ethic Review Process (ERP); In Sweden: Animal Welfare Act 1988, section 2 (Sweden); in Croatia: Animal Protection Act, 2006, art. 34 (Croatia); in Switzerland: Tierschutzverordnung [TSchV] [Swiss Animal Welfare Ordinance] Apr. 23, 2008, SR 455.1, art. 148 ff. (Switz.).

<sup>38</sup> European Commission, Directorate-General for Research and Innovation, Ethics for Researchers, Facilitating Research Excellence in FP7, 2013, available at <ftp://ftp.cordis.europa.eu/pub/fp7/docs/ethics-for-researchers.pdf>; Basel Declaration, November 29, 2010, available at [http://www.basel-declaration.org/basel%20declaration%20en/assets/basel\\_declaration\\_en.pdf](http://www.basel-declaration.org/basel%20declaration%20en/assets/basel_declaration_en.pdf).

<sup>39</sup> Darian M. Ibrahim, Reduce, Refine, Replace: The Failure of the Three Rs and the Future of Animal Experimentation, Arizona Legal Studies, Discussion Paper No. 06-17 (October 2006), available at <https://www.law.arizona.edu/faculty/FacultyPubs/Documents/Ibrahim/ALS0617.pdf>.

<sup>40</sup> Andrew N. Rowan et al., *The Animal Research Controversy, Protest, Process and Public Policy: An Analysis of Strategic Issues* (Tufts University School of Veterinary Medicine 1995); Waldau, *Animal Rights*, supra note 2, at 29; However, the number is said to have increased again since 2009 due to new emerging fields in research, such as genetic research, research on stem cells, and nanotechnology, see Waldau, *Animal Rights*, supra note 2, at 30; see also Maneesha Deckha, Yunwei Xie, The Stem Cell Debate: Why Should it Matter to Animal Advocates? 1 *Stan. J. Animal L. & Pol'y* 69, 69 (2008).

<sup>41</sup> Jim Mason and Peter Singer, *Animal Factories, Revised and Updated* 14-15 (Harmony Books (Revised 1990) 1980) [hereinafter Mason and Singer, *Animal Factories*].

Today there is a clear worldwide trend towards the disappearance of small farms and the increase of factory farms,<sup>42</sup> where thousands of animals are housed indoors at high densities.<sup>43</sup> By definition, Concentrated Animal Feeding Operations (CAFOs)<sup>44</sup> are designed to deprive animals of the space that enables them to move, even to turn around, and thus to exhibit natural behavior.<sup>45</sup> As a result, farmed animals suffer from numerous chronic and production-related diseases,<sup>46</sup> such as liver abscesses, mastitis, ascites, lameness, and uterine prolapse.<sup>47</sup> Artificial acceleration and hence the resultant reduction of their lifespans give rise to cardiovascular, skeletal, and respiratory diseases, as well as leg deformities.<sup>48</sup> Where workers wear gas masks, animals are forced to endure ammonia, pollutants, and the smell of urine and feces perpetually and hence suffer from pneumonia.<sup>49</sup> Moreover, animals are increasingly victims of mutilation: tails are docked, beaks, teeth and toes are clipped, ears are notched, horns are removed, and castration is undertaken without anesthesia.<sup>50</sup> In addition, farmed animals experience forced molting and generally are no longer fed what they were genetically designed to eat, resulting in serious damage to their digestive systems.<sup>51</sup> Unsurprisingly, the cramped conditions also give rise to animals suffering stereotypic behavior, 'mourning', lethal stress syndrome, aggression, frustration, and thereby physical injury.<sup>52</sup>

Furthermore, producers are under increased pressure to keep up with the growing demand for meat, poultry, eggs, and milk. In a production facility, where minimum input and maximum output are the only determinatives, it is commonplace that illnesses, diseases, and mortality are

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<sup>42</sup> Here and throughout this article the terms factory farm, industrial farm, industrial agriculture, and CAFO (Concentrated Animal Feeding Operation) are used interchangeably.

<sup>43</sup> Gaverick Matheny and Cheryl Leahy, Farm-Animal Welfare, Legislation and Trade, 70 *Law & Contemp. Probs.* 325, 326 (2007); Franklyn B. Garry, Animal Well-Being in the U.S. Dairy Industry, in *The Well-Being of Farm Animals, Challenges and Solutions* 207, 208 (G. John Benson and Bernard E. Rollin (eds.), Blackwell Publishing 2004) [hereinafter Garry, Animal Well-Being in the U.S. Dairy Industry].

<sup>44</sup> Concentrated Animal Feeding Operation consisting of more than 1,000 animal units: Claire Suddath, The Problem with Factory Farms, *TIME Magazine*, April 23, 2010.

<sup>45</sup> Mason and Singer, *Animal Factories*, supra note 41, at 3.

<sup>46</sup> An impressive list on diseases in dairy cattle with explanations is provided by Garry, Animal Well-Being in the U.S. Dairy Industry, supra note 43, at 219 ff.

<sup>47</sup> Gaverick Matheny and Cheryl Leahy, Farm-Animal Welfare, Legislation and Trade, 70 *Law & Contemp. Probs.* 325, 328 (2007).

<sup>48</sup> Humane Society of the U.S., The Welfare of Animals in the Broiler Chicken Industry, HSUS (2005) 1-2, available at [http://www.humanesociety.org/assets/pdfs/farm/welfare\\_broiler.pdf](http://www.humanesociety.org/assets/pdfs/farm/welfare_broiler.pdf).

<sup>49</sup> The Fund for Animals, Animal Agricultural Fact Sheet #1, Ethical Eating: Exploring Vegetarianism, [http://www.fundforanimals.org/pdf/Old\\_Urban\\_Wildlife\\_Page/fs\\_ag1\\_vegetarianism.pdf](http://www.fundforanimals.org/pdf/Old_Urban_Wildlife_Page/fs_ag1_vegetarianism.pdf) (last visited April 20, 2014); Gene Bauston, Battered Birds, Crated Herds: How We Treat the Animals We Eat, 1996, note 1, p. 19.

<sup>50</sup> Pew Commission, Report on Industrial Farm Animal Production, Putting Meat on the Table: Industrial Farm Animal Production in America 33 (2008) [hereinafter Pew Report on Farm Animal Production], available at [http://www.ncifap.org/\\_images/PCIFAPFin.pdf](http://www.ncifap.org/_images/PCIFAPFin.pdf); David N. Cassuto, Bred Meat: The Cultural Foundation of Factory Farm, 70 *Law & Contemp. Probs.* 59, 64-65 (2007).

<sup>51</sup> Claire Suddath, The Problem with Factory Farms, *TIME Magazine*, April 23, 2010; Mason and Singer, *Animal Factories*, supra note 41, at 52.

<sup>52</sup> Jimena Uralde, Congress' Failure to Enact Animal Welfare Legislation for the Rearing of Farm Animals: What Is Truly at Stake? 9 *U. Miami Bus. L. Rev.* 193, 197 (2000-2001); Mason and Singer, *Animal Factories*, supra note 41, at 22.

ignored as long as the output augments.<sup>53</sup> In other words, the goal is to keep animals alive in conditions that would otherwise kill them.<sup>54</sup>

Aside from these grievances, unnecessary violence is often witnessed when visiting slaughterhouses. In one third of American slaughterhouses it is common to find acts of deliberate cruelty.<sup>55</sup> Employees cut off ears, smash heads, drop chute gates, knock animals in the eye, jump on them, drop-kick them like footballs, slam them into walls, rip off their heads, suffocate them by tying latex gloves over their heads, or throw live chickens into giant fans.<sup>56</sup>

Another issue is that the personnel performing slaughter are subject to issues of time pressure. The fact that more animals need to be killed within less time results in sloppy stunning and slaughtering. The number of animals experiencing death in a conscious state of mind is higher than expected.<sup>57</sup> Cows are unsuccessfully bolted and electrocuted, pigs anesthetized by carbon dioxide suffocate whilst others regain consciousness after experiencing electric current, and chickens are rendered immobile but not insensible before being killed.<sup>58</sup> One might even argue that it has become commonplace for animals to be killed while fully conscious.<sup>59</sup> As workers in slaughter facilities say: 'Happens all the time.'<sup>60</sup>

### 3.2. Why should the 3R principles be applied to farmed animals?

Compared with the situation in research, a legal approach towards farm animal welfare maxims is hampered by three main forces. First, many national laws exempt farm practices from applicable animal welfare acts or related regulation.<sup>61</sup> Thus, they can neither be regulated nor reviewed by a legal body. Second, states that possess farm animal welfare legislation regulate the issue to a far lesser extent, as well as with lower levels of specificity and regulatory density compared with research animal welfare. Third, the fact that 3R is employed only for animals used in research

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<sup>53</sup> Gaverick Matheny and Cheryl Leahy, Farm-Animal Welfare, Legislation and Trade, 70 *Law & Contemp. Probs.* 325, 329 (2007); On the increasing mortality see: Communication from the Commission to the Council and the European Parliament on Animal Welfare Legislation on Farmed Animals in Third Countries and the Implications for the EU, COM(2002) 626 final (November 18, 2002).

<sup>54</sup> G. Tom Tabler and A.M. Menedenhall, Broiler Nutrition, Feed Intake and Grower Economics, 5 *Avian Advice* 8, 9 (Winter 2003); An example is the so-called 'cull rate': a percentage of 30-40 of all birds is considered an acceptable amount to die per day in order for the business to remain profitable, see Mason and Singer, *Animal Factories*, supra note 41, at 25.

<sup>55</sup> Temple Grandin, Commentary: Behavior of Slaughter Plant and Auction Employees toward the Animals, I 4 *Anthrozoos* 205 (1988).

<sup>56</sup> Jeff Welty, Humane Slaughter Laws, 70 *Law and Contemp. Probs.* 175, 193 (2007); Donald G. McNeil Jr., KFC Supplier Accused of Animal Cruelty, *NY Times*, July 20, 2004; Peter Singer and Jim Mason, *The Ethics of What We Eat, Why Our Food Choices Matter* 27 (Rodale 2006) [hereinafter Singer and Mason, *The Ethics of What We Eat*].

<sup>57</sup> See generally Jeff Welty, Humane Slaughter Laws, 70 *Law and Contemp. Probs.* 175 (2007).

<sup>58</sup> Jeff Welty, Humane Slaughter Laws, 70 *Law and Contemp. Probs.* 175, 177 (2007); Farm Animal Welfare Council, Report on the Welfare of Farmed Animals at Slaughter or Killing, Part 1: Red Meat Animals, FAWC (June 2003) 29 available at <http://www.fawc.org.uk/reports/pb8347.pdf>.

<sup>59</sup> Tom Regan, *Empty Cages, Facing the Challenge of Animal Rights* 100 (Rowman and Littlefield Publishers 2004).

<sup>60</sup> Gail Eisnitz, *Slaughterhouse: The Shocking Greed, Neglect, and Inhumane Treatment inside the U.S. Meat Industry* (Amherst Prometheus Books 1997).

<sup>61</sup> See 3.3 herein.



creates a situation for farmed animals in which they are discriminated: those animals are not accorded an elaborate and comprehensive body of laws and, as a consequence, there is no thorough analysis of their minimization in number, pain intensity, severity, and their substitutability as there is for research animals. For example, the European Convention for the Protection of Animals kept for Farming Purposes<sup>62</sup> comprises seven provisions followed by implementation articles, while the European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes<sup>63</sup> encompasses a set of 38 articles and an appendix for the accommodation and care of animals. Hence, the level of specificity of the regulation and its regulatory density are *prima facie* much lower than in research. While the latter convention includes a preamble emphasizing the moral obligations of humans to respect all animals and to have due consideration of their capacity for suffering and memory, the former does not offer a similar instrument.<sup>64</sup> This very preamble also sets priorities as it underlines that the use of research animals first of all must be justified, and second it can be justified only if an overall benefit for humans or animals is acquired.<sup>65</sup> In the farm animal convention, the use of these animals does not need to be justified, and there are no specified purposes to kill animals. Furthermore, the need to replace the animals is not reinforced and new alternative measures are not fostered.<sup>66</sup> Farm animals' unnecessary suffering is only mentioned where freedom of movement or food or liquid is affected.<sup>67</sup> Such legal degradation of farm animals compared with those used for research purposes constitutes a perceptible discrimination, clearly existing in national legal orders, too. The situation is particularly serious as the use of animals for food is by far the largest cause for animal abuse.<sup>68</sup> Additionally, the scope of application of the regulatory fields in comparison with their regulatory levels stands in a stark disproportion. For the research industry, an estimated 115 million animals are used annually.<sup>69</sup> Nonetheless, they represent only

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<sup>62</sup> Council of Europe, European Convention for the Protection of Animals Kept for Farming Purposes, March 10, 1976.

<sup>63</sup> Council of Europe, European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes, March 18, 1986.

<sup>64</sup> Council of Europe, European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes, March 18, 1986, preamble.

<sup>65</sup> *Ibid.*

<sup>66</sup> *Ibid.*, preamble and arts. 2, 7, and 9.

<sup>67</sup> Council of Europe, European Convention for the Protection of Animals Kept for Farming Purposes, March 10, 1976, arts. 4 and 6.

<sup>68</sup> Gaverick Matheny, Utilitarianism and Animals, in *In Defense of Animals, The Second Wave* 13, 21 (Peter Singer ed., Blackwell Publishing 2006) [hereinafter Matheny, Utilitarianism and Animals].

<sup>69</sup> Humane Society International, Animal Use Statistics (2012)

[http://www.hsi.org/campaigns/end\\_animal\\_testing/facts/statistics.html](http://www.hsi.org/campaigns/end_animal_testing/facts/statistics.html) (last visited April 20, 2014); Waldau, *Animal Rights*, supra note 2, at 28.

one percent of the animals killed each year for food.<sup>70</sup> Farming affects 98% of all domesticated animals.<sup>71</sup> Dismantled, that equals about six million farm animals killed every hour.<sup>72</sup>

So what is the reason for according animals in research a better, more comprehensive, and justiciable protection? Furthermore, are there well-founded reasons for drawing such an articulative and momentous distinction between the two groups of animals?

Russell and Burch clearly stated that the high number of animals affected and the severity with which they encounter stress is a humanitarian problem, be it animals in research or be it farm animals.<sup>73</sup> From their perspective, human recognition of animal sentience is the main driving force for establishing the 3R in research. Today, the preamble of the European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes embodies and expressly states the underlying rationale of the legal protection: It recognizes ‘that man has a moral obligation to respect all animals and to have due consideration for their capacity for suffering and memory’<sup>74</sup>. § 1 of the German Animal Welfare Act declares that its aim ‘is to protect the lives and well-being of animals, based on the responsibility of human beings for their fellow creatures. No one may cause an animal pain, suffering or harm without good reason’<sup>75</sup>. Also in Austria, no one may kill an animal without a reasonable reason.<sup>76</sup> Art. 4 para. 2 of the Swiss Animal Welfare act states that ‘[n]o one may inflict pain, suffering or harm on an animal, induce anxiety in an animal or disregard its dignity in any other way without justification’<sup>77</sup>.

These recognitions of animal sentience and the closely related, expressly required reasonable justification for harming an animal embody the basic rationale for the protection of animals. Human concern for animal welfare and its resulting legal manifestation are based on the awareness and recognition that animals are sentient beings,<sup>78</sup> as enshrined, notably, in art. 13 of the Treaty on the Functioning of the European Union [TFEU].<sup>79</sup>

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<sup>70</sup> Jeff Welty, *Humane Slaughter Laws*, 70 *Law and Contemp. Probs.* 175, 183 (2007); Determining the exact number of animals slaughtered is almost never a certain thing and inevitably results in a rough estimation; even when it comes to a small country such as Switzerland, not all numbers of animals slaughtered are gathered for the national database, see *Verordnung über den Schlachtvieh- und Fleischmarkt [SV]* [Swiss Ordinance on the Meat Market] Nov. 26, 2003, SR 916.341, art. 2 para. 2 (Switz.).

<sup>71</sup> Matt Ball, *Living and Working in Defense of Animals*, in *In Defense of Animals, The Second Wave* 181, 181 (Peter Singer ed., Blackwell Publishing 2006).

<sup>72</sup> *Ibid.*, at 181; Gaverick Matheny and Cheryl Leahy, *Farm-Animal Welfare, Legislation and Trade*, 70 *Law & Contemp. Probs.* 325, 325 (2007).

<sup>73</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, at 93.

<sup>74</sup> Council of Europe, *European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes*, March 18, 1986, preamble.

<sup>75</sup> *Animal Welfare Act*, 2006, § 1 (Germany).

<sup>76</sup> *Federal Act on the Protection of Animals*, 2005, § 6 (1) (Austria).

<sup>77</sup> *Animal Welfare Act*, Dec. 16, 2005, SR 455, art. 4 para. 2 (Switz.).

<sup>78</sup> In China, for example, 93% and 96% respectively said that animals had emotions, P. J. Li et al., *Animal Welfare Consciousness of Chinese College Students: Findings and Analysis* 67-95 (University of Leiden 2003); the WSPA is seeking the signing of the Universal Declaration of Animal Welfare (UDAW) at the United Nations to secure international commitment.

<sup>79</sup> Hence, paying full regard to animal welfare is an objective of the Union: Consolidated Version of the Treaty on the Functioning of the European Union, October 26, 2012, 2012 O.J. (C 326) 47; Protocol (33) on Protection and

Animal sentience is on a par with their capacity to feel and experience positive and negative emotions.<sup>80</sup> From a neuroscientific perspective, animals are especially vulnerable to unpleasant conditions,<sup>81</sup> since it seems that they experience a greater degree of suffering than humans while being less able to precisely locate the specific pain.<sup>82</sup>

The respective legal documents recognizing animal sentience draw no distinction as to the animals' designated use for humans. Thus, their basic rationale does not differentiate between farm animals and research animals. Rather, the ability to feel pain is inherent in farm animals, as it is in animals used for research. Both groups of animals encounter stress and suffering and, ultimately, experience slaughter and killing. Since the 3R were introduced in research for the primary purpose of reducing animal suffering, there exists no legitimate justification not to apply 3R to farming, since farm animals also experience grave suffering. Therefore, reconsideration is needed, based on the existent acknowledgements of farm and research animals' shared ability to suffer, which mediates a harmonization of the basic and general underlying principles applicable to the animals' use. First, that justification is needed before the decision to harm an animal is made. Second, the 3R, which have proven fruitful for animals used in research,<sup>83</sup> should be extended to farm animals.

But does the shared ability of sense and feeling really constitute a well-founded basis wherefrom a legal duty may be deduced to extend the 3R principles to the regulation of farm animals? In fact, most states already dispose of such a legal axiom that might be argued to make it mandatory to accord farm animals the application of 3R. The European Union, the Council of Europe, Australia, Austria, Canada, France, Germany, India, Israel, Norway, the Philippines, South Africa, Sweden, Switzerland, the United Kingdom, the United States, and others have adopted the principle of the avoidance of unnecessary animal suffering,<sup>84</sup> according to which no animal shall endure unnecessary pain, suffering, or harm. The principle is argued to have such a

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Welfare of Animals (1997) annexed to Consolidated Version of the Treaty Establishing the European Communities, December 24, 2002, 2002 O.J. (C 325) 33; Communication from the Commission to the Council and the European Parliament on Animal Welfare Legislation on Farmed Animals in Third Countries and the Implications for the EU, at 4, COM(2002) 626 final (November 18, 2002).

<sup>80</sup> Ian J. H. Duncan, A Concept of Welfare Based on Feelings, in *The Well-Being of Farm Animals, Challenges and Solutions* 85, 91 (G. John Benson and Bernard E. Rollin (eds.), Blackwell Publishing 2004).

<sup>81</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, chapter II.

<sup>82</sup> G. John Benson, Pain in Farm Animals: Nature, Recognition and Management, in *The Well-Being of Farm Animals, Challenges and Solutions* 61, 65 (G. John Benson and Bernard E. Rollin (eds.), Blackwell Publishing 2004) [hereinafter Benson, Pain in Farm Animals: Nature, Recognition and Management].

<sup>83</sup> See 2.3 herein.

<sup>84</sup> ACT Animal Welfare Act 1992, sec. 8 para. 1 (Austl.); Federal Act on the Protection of Animals, 2005, § 6 (1) (Austria); Criminal Code R.S.C., 1985, c. C-46, 445.1 (1) (Canada); Penal Code, art. 521-1 (France); Animal Welfare Act, 2006, § 1 (Germany); The Prevention of Cruelty to Animals Act, 1960, art. 3 (India); Let the Animal Live v. Hamat Gader Recreation Enterprise, LCA 1684/96, third component (Israeli Supreme Court); Animal Welfare Act, 1974, § 3 (Norway); Animal Welfare Act of 1998, section 6 (Philippines); Animals Protection Act, 1962, art. 2 (South Africa); Animal Welfare Act 1988, section 2 (Sweden); TSchG, supra note 36, art. 4 para. 2 (Switz.); Animal Welfare Act, 2006, c. 45, § 4 (UK); Council Directive 98/58, art. 3, 1998 O.J. (L 221) 23 (EC); Council of Europe, European Convention for the Protection of Animals Kept for Farming Purposes, March 10, 1976, arts. 4, 6, 7; David Favre, Living Property: A New Status for Animals within the Legal System, 93 *Marquette Law Review* 1021, 1029 (2009-2010) [hereinafter Favre, Living Property].

worldwide application that it has become an international policy.<sup>85</sup> Most notably, the principle applies to all species that are subject to painful sensations. The logical *argumentum e contrario* of the avoidance of unnecessary animal suffering demonstrates that states have set the goal to reduce avoidable animal suffering. The enshrinement of the recognition of animal sentience and the inclusion of the goal to reduce their suffering indicate that humans might not only have ethical responsibilities (as due diligence) towards animals,<sup>86</sup> but they might, arguably, have a legal obligation to avoid unnecessary suffering and thus, to extend 3R to farm animals.<sup>87</sup>

It might seem remarkable at this point to observe that the same species, for example cows, dogs, pigs, and horses, are used for research and farming purposes. Against this background, it becomes even more palpable how the future of an animal in either the field of research or farming and their respective protective regulations simply is a lottery. It follows that the prevailing practices of animal protection are, from an animal's perspective, an expression of mere arbitrariness.

In consideration of the aim of research - to save lives - and the aim of animal farming - to create culinary pleasure - it seems as if the application of 3R to farming is even more exigent, also in terms of its inimical ramifications.<sup>88</sup> The rules set forth hereunder propose a catalogue of measures, deduced from the 3R principles in research and in conformity with the states' commitment to avoid unnecessary animal suffering.<sup>89</sup>

### **3.3. A proposal for the application of the principle of refinement in farming**

To a greater degree than all other principles, refinement is primarily used as a regulatory device to ameliorate the prevalent conditions and their severity to animals.<sup>90</sup> Therefore, refinement provisions are characteristic for their detailed scope and density. Thus, in order for rather rudimentary regulation on refinement to be geared to a more developed legislation, in line with the obligation to refine, U.S. and Swiss law thereon are contrasted.

In the U.S., no federal law regulates how animals raised for food are treated on the farm while being reared.<sup>91</sup> Some federal acts nonetheless include provisions pertaining to slaughter, transportation, inspection, and pollution that touch on animal welfare: the U.S. federal government has enacted the Animal Welfare Act [AWA], the Twenty-Eight Hour Law,<sup>92</sup> and the

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<sup>85</sup> Catherine Sykes, *Beasts in the Jungle: Animal Welfare in International Law*, Submitted in partial fulfilment of the requirements for the degree of Master of Laws at Dalhousie University, Halifax, Nova Scotia August 2011, 134.

<sup>86</sup> Benson, *Pain in Farm Animals: Nature, Recognition and Management*, *supra* note 82, at 63.

<sup>87</sup> *Terrestrial Animal Health Code*, World Organisation for Animal Health, 21<sup>st</sup> ed., May 2013, section chapter 7.1, article 7.1.2, § 6; Bob Kerridge, *Does a Commitment to Animal Welfare Require a Declaration of Animal Sentience?* *International Animal-Law* (2009), available at <http://www.animal-law.biz/node/846>; Favre, *Living Property*, *supra* note 84, at 1066.

<sup>88</sup> See Bruce A. Wagman, Matthew Liebman, *A Worldview of Animal Law* 63 (Carolina Academic Press 2011).

<sup>89</sup> For a closer examination see 3.5 herein.

<sup>90</sup> See 2.2 herein.

<sup>91</sup> David J. Wolfson, *Beyond the Law: Agribusiness and the Systemic Abuse of Animals Raised for Food or Food Production*, 2 *Animal Law* 123, 126 (1996).

<sup>92</sup> 49 U.S.C. § 80502 (1995).

Humane Methods of Slaughter Act [HMSA]<sup>93</sup>. However, those acts abound in exemptions: the AWA does not apply to farm animals;<sup>94</sup> the Twenty-Eight Hour Law excludes its application for transport by truck, by air or on water;<sup>95</sup> and the HMSA, which requires farm animals to be rendered insensible to pain prior to being hoisted, shackled, and cut, is not applicable to birds and fishes.<sup>96</sup>

On a state level, animal anti-cruelty statutes are the primary method of regulating their welfare, with respect to farm animals, these statutes have generally exempted farm practices from their application.<sup>97</sup> Additionally, sweeping exceptions exist in state transportation statutes, state humane slaughter laws, regulations of food safety, false advertising standards, concerning libel suits, nuisance claims, certification standards, provisions for retailers, etc.<sup>98</sup> These exceptions have made farmed animals literally invisible within the U.S. legal system.

By contrast, Switzerland's legislation primarily deals with farm animals and their welfare in keeping, transport, and slaughter. The legislation of animal welfare in Switzerland is a duty of the Confederation, according to the Swiss constitution.<sup>99</sup> The enforcement of the provisions, on the other hand, rests with the responsibility of the cantons.<sup>100</sup> The Swiss Animal Welfare Act, enacted by the Swiss parliament, represents a legislative act of an outlining character only, containing 46 articles on its scope of application, its purpose, as well as basic principles. More specific and comprehensive provisions are provided by the respective Animal Welfare Ordinance, issued by the Swiss Federal Council, which complements and concretizes the Animal Welfare Act.<sup>101</sup> Moreover, there are several additional ordinances substantiating the Animal Welfare Ordinance that are issued by the competent departments and agencies.<sup>102</sup>

According to these provisions, animals generally must be kept in a way that does not interfere with their natural behavior.<sup>103</sup> Farmers must provide animals with suitable places to eat, drink, defecate, rest, and retreat.<sup>104</sup> Additionally, housing and enclosures must be spacious enough to allow for 'species-typical' behavior.<sup>105</sup> Pigs, for example, should always have access to straw and roughage in order to engage in proper investigation and manipulation activities.<sup>106</sup>

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<sup>93</sup> 7 U.S.C. § 1901 (2000).

<sup>94</sup> 7 U.S.C. §§ 2131-2156, § 2132(g) (2000).

<sup>95</sup> 49 U.S.C. § 80502(a) (1995).

<sup>96</sup> 7 U.S.C. §§ 1901, 1902(a) (2000); 9 CFR § 301.2 (2006).

<sup>97</sup> David J. Wolfson and Mariann Sullivan, *Foxes in the Hen House, in Animal Rights, Current Debates and New Directions* 205, 212-216 (Cass R. Sunstein and Martha C. Nussbaum (eds.), Oxford University Press 2004).

<sup>98</sup> Pamela D. Frasch, *Animal Law in a Nutshell* 295-310 (Thomson Reuters 2011).

<sup>99</sup> Art. 80 para. 1 of the Federal Constitution of the Swiss Confederation, of April 18, 1999, SR 101.

<sup>100</sup> *Ibid.*, Art. 80 para. 3.

<sup>101</sup> Gieri Bolliger, Antoine F. Goetschel, Michelle Richner, Alexandra Spring, *Tier im Recht Transparent 7* (Schulthess, Zurich, Basel, Genf 2008).

<sup>102</sup> *Ibid.*

<sup>103</sup> Tierschutzverordnung [TSchV] [Swiss Animal Welfare Ordinance] Apr. 23, 2008, SR 455.1, art. 3 para. 1 (Switz.)

<sup>104</sup> Art. 3 para. 2 TSchV, *supra* note 103.

<sup>105</sup> Art. 7 para. 2 TSchV, *supra* note 103.

<sup>106</sup> Art. 44 TSchV, *supra* note 103; Verordnung des BVET über die Haltung von Nutztieren und Haustieren [Swiss Ordinance on the Keeping of Farm Animals and Domestic Animals] Oct. 1, 2008, SR 455.110.1, art. 24 para. 1 (Switz.); Straw-based bedding is known to reduce tail-biting among pigs, David Favre, *Animal Law, Welfare, Interests, and Rights* 277 (Wolters Kluwer Law & Business, 2<sup>nd</sup> ed. 2011).

Farm animals' access to open space must be documented in a register, calves can be fixed at a maximum of 30 minutes a day, all animals must be able to lay down at the same time on bedded grounding, and precise provisions on tie-stalls must exist.<sup>107</sup> Furthermore, animals shall have the opportunity to maintain social relations.<sup>108</sup> In Switzerland, tails cannot be docked, and debeaking, teeth cutting, and branding are illegal.<sup>109</sup> In the dairy industry, farmers are obliged to take Schalm tests once a month and to carry out somatic cell counts to check the cows' udder health.<sup>110</sup> The same regulation lists forbidden kinds of fodder.<sup>111</sup> Moreover, calves have to be fed food containing sufficient iron.<sup>112</sup> Livestock owners must display all pharmaceuticals given to the animals.<sup>113</sup> In addition, the use of antibiotics and hormones is prohibited for stimulating production,<sup>114</sup> including laying hens.<sup>115</sup> Central to refinement is art. 16 of the Swiss Animal Welfare Act, mandating the utilization of anesthesia and analgesia for actions that cause pain to the animal.<sup>116</sup>

Relating to slaughter, the Swiss legislator introduced an article fixing the minimum amount of time for the meat inspection per carcass and ordering the operating business to adapt its slaughtering speed accordingly.<sup>117</sup> Furthermore, the permits that slaughterhouses require are tied to a maximum slaughtering frequency per hour and per day.<sup>118</sup> Most importantly, all mammals need to be rendered insensible before slaughter.<sup>119</sup> This 'privilege' is also granted to birds as the principal subject of slaughter.<sup>120</sup> Finally, only certain ways of killing animals are legitimate, specific to species (the methods of rendering an animal 'insensible' highly depend on the animals' physiology) and only to be carried out by expert personnel.<sup>121</sup>

Nonetheless, the majority of these provisions, despite being well regulated when compared with prevailing standards in other states, lack essential features to ensure animal welfare. Most

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<sup>107</sup> Art. 5 para 1 and 2, art. 8 para. 1, art. 9, art. 12 ff., art. 25 para. 1, and appendix to Swiss Ordinance on the Keeping of Farm Animals and Domestic Animals.

<sup>108</sup> Art. 13 TSchV, supra note 103.

<sup>109</sup> Art. 16-24 TSchV, supra note 103, encompasses all forbidden actions in general and in respect of specific species.

<sup>110</sup> Verordnung des EDI über die Hygiene bei der Milchproduktion [VHyMP] [Swiss Ordinance on Hygiene in Milk Production] Nov. 23, 2005, SR 916.351.021.1, art. 6 para. 1, art. 8 para. 2 lit. a (Switz.).

<sup>111</sup> Appendix 1 to VHyMP, supra note 110.

<sup>112</sup> Art. 37 para. 3 TSchV, supra note 103.

<sup>113</sup> Verordnung über das Schlachten und die Fleischkontrolle [VSFK] [Swiss Ordinance on the Slaughter and Inspection of Meat] Nov. 23, 2005, SR 817.190, art. 22 para. 1 lit. d. (Switz.).

<sup>114</sup> As recommended by Pew Report on Farm Animal Production, supra note 50, at 61.

<sup>115</sup> Verordnung des BLW über die von der Deklarationspflicht befreiten Länder nach landwirtschaftlicher Deklarationsverordnung [Swiss Ordinance on the Exemption of Countries from the Duty of Declaration according to the Ordinance on Farm Declaration] Dec. 2, 2003, SR 916.511, art. 2 and 3 (Switz.).

<sup>116</sup> Tierschutzgesetz [TSchG] [Animal Welfare Act] Dec. 16, 2005, SR 455 (Switz.).

<sup>117</sup> Verordnung des EDI über die Hygiene beim Schlachten [VHyS] [Swiss Ordinance on Hygiene at Slaughter] Nov. 23, 2005, SR 817.190.1, art. 9 para. 1 (Switz.).

<sup>118</sup> Art. 8 para. 3 VSFK, supra note 113.

<sup>119</sup> Art. 21 para. 1 TSchG, supra note 116, and art. 178 para 1 TSchV, supra note 103.

<sup>120</sup> Art. 185 para 4 TSchV, supra note 103: In comparison with the U.S., where birds are exempted from the application of the HMSA: see p. 18 herein.

<sup>121</sup> Art. 21 para. 3 TSchG, supra note 116, art. 177 para 1 and 2 and art. 184 para 1 TSchV, supra note 103.

provisions are formulated in such an open and general manner that nearly every conduct can be justified.<sup>122</sup> Also, should a provision appear unequivocal, there are exceptions to it.<sup>123</sup>

However, the majority of states do not pursue a strict refinement approach as that of Switzerland, exempting essential elements on refinement<sup>124</sup> or lacking legislation on farm animals altogether. This in turn has been motivating organizations to establish their own guidelines.<sup>125</sup> A well-known example is the 1979 report by the Farm Animal Welfare Council of Great Britain, the so-called ‘Five Freedoms’, which include: 1) Freedom from Hunger and Thirst (food and water readily available), 2) Freedom from Discomfort (environment, resting area), 3) Freedom from Pain, Injury or Disease (diagnosis and treatment), 4) Freedom to Express Normal Behavior (space, facilities, company), and 5) Freedom from Fear and Distress (no mental suffering).<sup>126</sup> Many countries that are not equipped with refinement standards refer to the Five Freedoms.<sup>127</sup> According to the OIE, the Five Freedoms are internationally recognized for providing valuable guidance in animal welfare.<sup>128</sup> The potential of the Five Freedoms, however, is limited, and one must not forget that they only help legislators and judges discern what constitutes animal interests in general. They are not designed to act as a counterpart to 3R in research as they do not provide rules on the legitimate uses of animals. Thus, they do not live up to the obligation to duly consider animal suffering and reduce it where avoidable.<sup>129</sup>

### **3.4. The principle of reduction in farming**

#### ***3.4.1. Problems persisting with refinement in farming***

Even if states were to impose a comprehensive implementation of refinement measures, a number of major problems persist, since the demand for animal products is notorious for its constant escalation entailing far-reaching consequences.

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<sup>122</sup> Pet or livestock owners shall check the animal’s condition as often ‘as necessary’: art. 5 para. 1 TSchV, supra note 103.

<sup>123</sup> Art. 3 para. 4 TSchV, supra note 103, states that animals should not permanently be tethered whilst art. 40 para 1 TSchV allows the permanent tethering of cows, while granting them around 90 days of outdoor exercise.

<sup>124</sup> In general, particularly violent forms of animal exploitation should be prohibited, such as the use of gestation crates, farrowing crates, battery cages for hens, the tethering of calves for white veal, as well as keeping them in anemic conditions, forced feeding, tail docking, forced molting, shortened weaning periods, and overbreeding, see Recommendation by Pew Report on Farm Animal Production, supra note 50, at 85-86; Gaverick Matheny and Cheryl Leahy, Farm-Animal Welfare, Legislation and Trade, 70 *Law & Contemp. Probs.* 325, 330-332 (2007).

<sup>125</sup> Pew Report on Farm Animal Production, supra note 50, at 35.

<sup>126</sup> I Pew Report on Farm Animal Production, supra note 50, at 35.

<sup>127</sup> Communication from the Commission to the Council and the European Parliament on Animal Welfare Legislation on Farmed Animals in Third Countries and the Implications for the EU, at 5, COM(2002) 626 final (November 18, 2002).

<sup>128</sup> Terrestrial Animal Health Code, World Organisation for Animal Health, 21<sup>st</sup> ed., May 2013, section chapter 7.1, article 7.1.2, § 2.

<sup>129</sup> See 3.2 herein.

Since 1960, the global population has increased from 3 billion to around 7 billion people.<sup>130</sup> Disproportionately, however, meat production has tripled since 1960 and egg production has increased fourfold.<sup>131</sup> The danger of these high demands and the resultant sinking prices is that the product's market value is way below its cost of production, even more due to substantial federal subsidies.<sup>132</sup> The resultant ever-increasing consumption of animal products, accounting for a huge part of the world's crop production,<sup>133</sup> affects cereal prices as it depletes the grain for direct consumption by people.<sup>134</sup> The Food and Agriculture Organization of the United Nations (FAO) announced that by 2050, the world will need to produce 70% more food for an additional 2.3 billion people.<sup>135</sup> In terms of meat, an additional 50% will have to be manufactured, due to an increase in consumption from 41 to 52 kg per caput (30 to 44 kg in developing countries).<sup>136</sup> By 2050, according to the FAO's report, developing countries will consume 72% of the world's meat production.<sup>137</sup> Concerns about the current use of animals thus are not only an issue for developed countries, but have evolved into a global problem.<sup>138</sup> The crux of this increase is the notorious domination of animal products over global environmental calamity.<sup>139</sup> Animal products comprise 70% of the global freshwater consumption, 38% of the total land use, and 14% of the world's greenhouse gases.<sup>140</sup> Meat and dairy products use more resources, cause higher emissions, and hold a disproportionately larger share of environmental impacts than plant-based alternatives.<sup>141</sup> The high demand for water and protein-rich plants when producing meat easily threatens agriculture and drinking water supplies, for meat-based diets

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- <sup>130</sup> United States Census Bureau, International Database, World Population 1950.2050, <http://www.census.gov/population/international/data/idb/worldpopgraph.php> (last visited April 20, 2014).
- <sup>131</sup> Pew Report on Farm Animal Production, *supra* note 50, at 5.
- <sup>132</sup> *Ibid*, at 6, 47; UN Food and Agriculture Organization, *Livestock's Long Shadow, Environmental Issues and Options, LEAD Livestock, Environment and Development Initiative 277 (2006) available at ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf*.
- <sup>133</sup> Felicity Carus, UN Urges Global Move to Meat and Dairy-Free Diet, *The Guardian*, June 2, 2010.
- <sup>134</sup> Christopher Delgado, et al. (Eds.), *Livestock to 2020, The Next Food Revolution*, International Food Policy Research Institute (IFPRI) 3 (May 1999).
- <sup>135</sup> UN FAO, *How to Feed the World in 2050, High Level Expert Forum, Rome 8 (2009), available at http://www.fao.org/fileadmin/templates/wsfs/docs/expert\_paper/How\_to\_Feed\_the\_World\_in\_2050.pdf*.
- <sup>136</sup> Christopher Delgado, et al. (Eds.), *Livestock to 2020, The Next Food Revolution*, International Food Policy Research Institute (IFPRI) 1 (May 1999); UN Food and Agriculture Organization, *Livestock's Long Shadow, Environmental Issues and Options, LEAD Livestock, Environment and Development Initiative 275 (2006) available at ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf*; UN FAO, *How to Feed the World in 2050, High Level Expert Forum, Rome 11 (2009), available at http://www.fao.org/fileadmin/templates/wsfs/docs/expert\_paper/How\_to\_Feed\_the\_World\_in\_2050.pdf*.
- <sup>137</sup> UN FAO Media Centre, *2050: A Third More Mouths to Feed, Rome (September 23, 2009), available at http://www.fao.org/news/story/en/item/35571/icode/*.
- <sup>138</sup> Communication from the Commission to the Council and the European Parliament on Animal Welfare Legislation on Farmed Animals in Third Countries and the Implications for the EU, at 10, COM(2002) 626 final (November 18, 2002).
- <sup>139</sup> E. Hertwich et al., *Assessing the Environmental Impacts of Consumption and Production, Priority Products and Materials*, UNEP, International Panel For Sustainable Resource Management 29 (2010).
- <sup>140</sup> *Ibid*, at 5; Felicity Carus, UN urges Global Move to Meat and Dairy-free Diet, *The Guardian*, June 2, 2010.
- <sup>141</sup> E. Hertwich et al., *Assessing the Environmental Impacts of Consumption and Production, Priority Products and Materials*, UNEP, International Panel For Sustainable Resource Management 51, 79 (2010).



simply detract more from global food and water supply than they provide.<sup>142</sup> The massive amounts of manure, even more polluting due to the use of antibiotics as feed additives, overwhelm the environment and its natural cleansing.<sup>143</sup> Feed imports render ground application of manure impossible and give rise to the creation of artificial lagoons of manure, which then pollute ground water.<sup>144</sup> Also, livestock currently are responsible for more greenhouse gas emissions than the worldwide transport sector:<sup>145</sup> methane and carbon dioxide are produced while digesting, and nitrous oxide is omitted when manure degrades microbially.<sup>146</sup> The outcome of this is climate change that adversely affects food security, falling disproportionately on the poor: 'Sub-Saharan Africa's share in the global number of hungry people could rise from 24 percent to between 40 and 50 percent'.<sup>147</sup>

Moreover, the widespread abuse of antibiotics, antimicrobials, and hormones to increase performance causes antimicrobial resistance in bacteria.<sup>148</sup> The resulting resistance reservoirs represent a high public health concern and global threat to food security.<sup>149</sup> Those microbial infections also raise the probability of new resistant strains 'jumping' between species and have recently been declared epidemic.<sup>150</sup>

Most importantly, there are serious adverse effects on animal welfare: the cost-effectiveness of CAFOs causes an increase of the feed conversion ratio, i.e. today, a five pound hen is raised within 45 days, whereas in 1950, it took 84 days for it to be fully grown.<sup>151</sup> The pressure to keep up with the demand ultimately rests on the animals.<sup>152</sup> They essentially are bred to be machines in order to keep up with the massive worldwide demand.

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<sup>142</sup> UN Food and Agriculture Organization, *Livestock's Long Shadow, Environmental Issues and Options*, LEAD Livestock, Environment and Development Initiative 270 (2006) *available at* <ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf>; Betsy Tao, *A Stitch in Time: Addressing the Environmental, Health, and Animal Welfare Effects of China's Expanding Meat Industry*, in: 15 *Geo. Int'l Envtl. L. Rev.* 321, 333 (2002-2003).

<sup>143</sup> Mason and Singer, *Animal Factories*, *supra* note 41, at 122; Pew Report on Farm Animal Production, *supra* note 50, at 23.

<sup>144</sup> Pew Report on Farm Animal Production, *supra* note 50, at 23.

<sup>145</sup> UN Food and Agriculture Organization, *Livestock's Long Shadow, Environmental Issues and Options*, LEAD Livestock, Environment and Development Initiative 272 (2006) *available at* <ftp://ftp.fao.org/docrep/fao/010/a0701e/a0701e.pdf>.

<sup>146</sup> Pew Report on Farm Animal Production, *supra* note 50, at 27.

<sup>147</sup> UN FAO, *How to Feed the World in 2050*, High Level Expert Forum, Rome 30 (2009), *available at* [http://www.fao.org/fileadmin/templates/wsfs/docs/expert\\_paper/How\\_to\\_Feed\\_the\\_World\\_in\\_2050.pdf](http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf).

<sup>148</sup> F.M Aarestrup et al., *Effect of Abolishment of the Use of Antimicrobial Agents for Growth Promotion on Occurrence of Antimicrobial Resistance in Fecal Enterococci from Food Animals in Denmark*, 45 *Antimicrob. Agents Chemother* 2054 (2001); L.W. Halber et al., *Evaluation of Antimicrobial Susceptibility Patterns in Campylobacter SPP Isolated from Dairy Cattle and Farms Managed Organically and Conventionally in the Midwestern and Northeastern United States*, 228 *J. Am. Vet. Med. Assoc.* 1074 (2006).

<sup>149</sup> Pew Commission, *Report on Industrial Farm Animal Production, Antimicrobial Resistance and Human Health* 11 (2008), *available at* [http://www.ncifap.org/\\_images/212-2\\_AntbioRprt\\_FIN\\_web%206.7.10%202.pdf](http://www.ncifap.org/_images/212-2_AntbioRprt_FIN_web%206.7.10%202.pdf); Commission on Genetic Resources for UN FAO, *Global Plan of Action for Animal Genetic Resources*, Rome (2007), *available at* <ftp://ftp.fao.org/docrep/fao/010/a1404e/a1404e00.pdf>.

<sup>150</sup> Pew Report on Farm Animal Production, *supra* note 50, at 15; World Health Organization, *Report on Infectious Diseases*, c. 3 (2000) *available at* <http://www.who.int/infectious-disease-report/2000/>.

<sup>151</sup> Pew Report on Farm Animal Production, *supra* note 50, at 5.

<sup>152</sup> See 3.1 herein.

### **3.4.1. A proposal for the application of the principle of reduction in farming**

One way of minimizing major CAFO-related risks is the reduction of animals kept per CAFO unit. The average farm in the U.S. boasts half a million pigs,<sup>153</sup> and hen facilities house more than 150,000 hens.<sup>154</sup> By contrast, in Switzerland the maximum stock level a factory is allowed to run is fixed to 1,500 pigs, 18,000 laying hens or 300 calves.<sup>155</sup> However, fixed stock levels do not necessarily impact the overall number of animals used. Rather, reduction essentially accounts for a more profound measure.

To recap the conclusions from 3R in research: in this area of law it is commonly acknowledged that the numbers of animals should significantly be reduced, as harming the animals is problematic and should be avoided. Based on reduction, science manages to maintain high quality results whilst harming fewer animals. Now if we as consumers can make perfectly well whilst harming significantly fewer animals and simultaneously sparing the environment and reducing world hunger, then we legally (based on the legal recognition of animal sentience and the legal enshrinement of the principle of the avoidance of unnecessary animal suffering)<sup>156</sup> ought to reduce the numbers now, predicated on 3R. This argument is fully in line with our recognition of farm animals' sentience that forecloses any possibility of ignoring their suffering solely for gastronomic pleasure or profit.<sup>157</sup> Eventually, the price we have to pay for the benefits accrued is too high, for the animals directly and also for our health, environment, cohabitants and indirectly in terms of the degradation of our own dignity.<sup>158</sup> Given the substantial arguments that severely put the extent of current farming methods and their ever-increasing number into question, governments might establish new priorities in agricultural research.<sup>159</sup> Accordingly, the UN stated that living meat and dairy-free on a global scale is essential to save the world from hunger, poverty, and adverse effects of climate change.<sup>160</sup>

### **3.5. A proposal for the application of the principle of replacement in farming**

Despite the adoption of necessary refinement and reduction measures, there are massive objections to the use of animals in farming facilities based on a number of principles.

In law, whenever two divergent interests clash, the principle of proportionality will come to application. Many national laws encompass the principle as a directly applicable axiom

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<sup>153</sup> The Pew Charitable Trusts, *A Carnivore's Nation Dilemma*, Trust Magazine, October 1, 2008.

<sup>154</sup> Jim Mason and Mary Finelli, *Brave New Farm?* in *In Defense of Animals, The Second Wave* 104, 107 (Peter Singer (ed.), Blackwell Publishing 2006).

<sup>155</sup> Verordnung über Höchstbestände in der Fleisch- und Eierproduktion [HBV] [Swiss Ordinance on the Maximum Stock Levels in Meat and Egg Production] Nov. 26, 2003, SR 916.344, art. 2 para. 1 (Switz.).

<sup>156</sup> See 3.2 herein.

<sup>157</sup> The Fund for Animals, *Animal Agricultural Fact Sheet #1, Ethical Eating: Exploring Vegetarianism*, [http://www.fundforanimals.org/pdf/Old\\_Urban\\_Wildlife\\_Page/fs\\_ag1\\_vegetarianism.pdf](http://www.fundforanimals.org/pdf/Old_Urban_Wildlife_Page/fs_ag1_vegetarianism.pdf) (last visited April 20, 2014).

<sup>158</sup> HCJ 9232/01 *Noah v. Att'y General* PD 215, 272 [2002-2003] (Isr.), Justice Eliezer Rivlin.

<sup>159</sup> Mason and Singer, *Animal Factories*, supra note 41, at 196.

<sup>160</sup> Felicity Carus, *UN Urges Global Move to Meat and Dairy-Free Diet*, *The Guardian*, June 2, 2010.

throughout their entire legal order, especially European countries.<sup>161</sup> However, also in common law countries the proportionality analysis is well established.<sup>162</sup> The principle of proportionality does not only enjoy application in *foro domestico*, but also on a supranational level and has been applied and established by the European Court of Justice, the European Court of Human Rights, the International Court of Justice, and the World Trade Organization.<sup>163</sup> The principle is a ‘key aspect of contemporary legal thought’ that is marked by a ‘continuity over several centuries’, driving ‘convergence of common law and civil law into a globalized jus commune’, toward ‘uniform global rules’.<sup>164</sup> The concept of proportionality is enjoying a worldwide appearance and representing such elementary considerations of humanity that it qualifies as a general principle of international law.<sup>165</sup> As a general principle of international law, endorsed in art. 38 (1) c of the

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<sup>161</sup> In the European Union, the principle operates in each of the member states’ domestic jurisprudence: Ralph G. Steinhardt, Book Review, *European Administrative Law*, 28 *Geo. Wash. J. Int’l L. & Econ.* 225, 231-232 (1994); Federal Constitution of the Swiss Confederation of April 18, 1999, SR 101, arts. 36 and 5 para. 2 (Switz.); In Israel, as Justice Strasberg-Cohen recognized, ‘[b]alance between interests is part and parcel of our legal system,’ which also applies if animal interests oppose human interests: HCJ 9232/01 *Noah v. Att’y General* PD 215, 272 [2002-2003] (Isr.), Justice Strasberg-Cohen, at 254.

<sup>162</sup> Eric Engle, The History of the General Principle of Proportionality: An Overview, 10 *Dartmouth L. J.* 1, 7 (2012) on the principle in common law countries: The Magna Charta is the legal source of the principle of proportionality in British (*Hodges v. Humkin*, 2 Bulst. 139, 80 Eng. Rep. 1015 (K.B. 1615) and U.S. common law (See The Eighth Amendment, Proportionality and the Changing Meaning Of Punishments, 122 *Harv L. Rev.* 960, 960 (2009); *Harmelin v. Michigan*, 501 U.S. 957, 111 S. Ct. 2680, 115 L. Ed. 2d 836 (1991); Chapter 20 of the Great Charter; See also Margherita Poto, The Principle of Proportionality in Comparative Perspective, 8 *German L. J.* 835 (2007)).

<sup>163</sup> European Court of Justice: Case 265/87 *Schräder HS Kraftführer GmbH & Co KG v Hauptzollamt Gronau* [1989] ECR 2237, at 2269; Case 11/70 *International Handelsgesellschaft GmbH v Einfuhr- und Vorratsstelle für Getreide und Futtermittel* [1970] ECR 1125, at 1146; European Court of Human Rights: ECHR, Case of *Rasmussen v. Denmark*, Application no. 8777/79, Judgment of November 28, 1984, at 38; Case of *Lithgow and others v. United Kingdom*, Application no. 9006/80; 9262/81; 9263/81; 9265/81; 9226/81; 9313/81; 9405/81, Judgment of July 8, 1986, at 120; ECHR, Case of *Gillow v. United Kingdom*, Application no. 9063/80, Judgment of November 24, 1986, at 55, 64; ECHR, Case of *Fayed v. United Kingdom*, Application no. 17101/90, Judgment of September 21, 1990, at 71; ECHR, Case of *Open Door and Dublin Well Woman v. Ireland*, Application no. 14234/88, 14235/88, Judgment of October 29, 1992, at 67; International Court of Justice: *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996, p. 226, para. 41; *Militarv and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America)*, Merits, Judgment, I.C.J. Reports 1986, p. 14, at 237; *Gabcikovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, I.C.J. Reports 1997, p. 7, at 56, 87; *Oil Platforms (Islamic Republic of Iran v. United States of America)*, Judgment, I.C.J. Reports 2003, p. 161, at 74; Art. 51 of the International Law Commissions’ Draft Articles on State Responsibility; World Trade Organization: WTO, *Korea – Measures Affecting Imports of Fresh and Chilled and Frozen Beef*, Report of the Appellate Body, AB-2000-8, of December 11, 2000, WT/DS161/AB/R, WT/DS169/AB/R, at 25; WTO, *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, Report of the Appellate Body, AB-2005-1, of April 7, 2005, WT/DS285/AB/R, at 300 et seq., on the reasonable relationship: WTO, *United States – Standards for Reformulated and Conventional Gasoline*, Report by the Appellate Body, AB-1996-1, of April 29, 1996, WT/DS2/AB/R, p. 18; WTO, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, Report of the Appellate Body, AB-1998-4, of October 12, 1998, WT/DS58/AB/R, at 29.

<sup>164</sup> Eric Engle, The History of the General Principle of Proportionality: An Overview, 10 *Dartmouth L. J.* 1, 2 (2012); See also Margherita Poto, The Principle of Proportionality in Comparative Perspective, 8 *German L. J.* 835 (2007).

<sup>165</sup> Emily Crawford, Proportionality, *The Max Planck Encyclopedia of Public International Law*, 2011, § 1; Eric Engle, The History of the General Principle of Proportionality: An Overview, 10 *Dartmouth L. J.* 1, 1 (2012); Alec Stone Sweet and Jud Mathews, Proportionality Balancing And Global Constitutionalism, 47 *Colum. J. Transnatl L.* 72, 96 (2008): ‘From German origins, proportionality analysis spread across Europe into Commonwealth systems (Canada, New Zealand, South Africa) and Israel, and has also migrated to treaty-based regimes, including the European Union, the European Convention on Human Rights, and the World Trade Organization.’

Statute of the International Court of Justice, the proportionality principle is given a certain normative character by referring to it.<sup>166</sup> Qualifying as a source of international law, the international law norm is implemented in the domestic sphere either by adopting it as a national norm such as in monist legal systems, or transforming it into a dualist states' legal system, in order to bring about a reciprocal relationship of international law and national law.<sup>167</sup> The respective overlapping of the municipal and international law norm of proportionality has become demonstrative of an emergent global constitutionalism, as an over-arching and hence self-perpetuating principle.<sup>168</sup> Therefore, states must act in a rational and reasonable manner towards achieving a permissible goal without unduly encroaching interests.<sup>169</sup>

In fact, it is argued that the existence of the principle of proportionality does not even stand to question.<sup>170</sup> Yet, due to its widespread application in various areas, the ascertainment of its specific content in a given situation is a task that may not be underestimated.<sup>171</sup> Nonetheless, similar concerns shall neither diminish the scope of the principle's application, nor shall they disregard the obligation to apply it in the first place. Therefore, it remains necessary to analyze its precise content and then to employ it to the situation in question.

The principle of proportionality conceptually comprehends three elements: suitability, necessity, and proportionality *strictu sensu*.<sup>172</sup> The criterion of suitability requires the measure in question to be appropriate to achieve the ends desired. Necessity calls for the mildest means, meaning that there is no less onerous way to the objective. This criterion ensures that no excessive effects are imposed on those most affected.<sup>173</sup> Proportionality *strictu sensu* finally incorporates a duty to diligently balance different interests affected by the act at hand.<sup>174</sup>

First, pursuant to suitability, it might be argued that using another sentient being for convenience, convention and amusement is an adequate measure to achieve the aim of being fed, well dressed, and entertained. Yet, relating to necessity, it is maintained that healthy nutrition does not imperatively include meat, poultry, or fish in order to secure the required level of protein.<sup>175</sup> Indeed, the consumption of animals or animal products is increasingly considered detrimental to human health. By contrast, vegan and vegetarian diets are beneficial to the prevention and treatment of certain diseases, are healthy, nutritionally adequate, and appropriate

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<sup>166</sup> Pierre-Marie Dupuy, International Law and Domestic (Municipal) Law, *The Max Planck Encyclopedia of Public International Law*, April 2011, § 31; Permanent Court of International Justice, Payment of Various Serbian Loans Issued in France (Fr. v. Yugo.), 1929 P.C.I.J. (ser. A) No. 20 (July 12), at 242.

<sup>167</sup> Pierre-Marie Dupuy, International Law and Domestic (Municipal) Law, *The Max Planck Encyclopedia of Public International Law*, April 2011, §§ 26-7; Anne Peters, *Völkerrecht: Allgemeiner Teil*, 3<sup>rd</sup> ed. 196-7 (Schulthess, 2012).

<sup>168</sup> Emily Crawford, Proportionality, *The Max Planck Encyclopedia of Public International Law*, 2011, § 26.

<sup>169</sup> *Ibid.*, at § 11.

<sup>170</sup> United Nations, International Criminal Tribunal for the Former Yugoslavia, Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia, June 8, 2000, para. 48.

<sup>171</sup> *Ibid.*

<sup>172</sup> Emily Crawford, Proportionality, *The Max Planck Encyclopedia of Public International Law*, 2011, § 2.

<sup>173</sup> *Ibid.*, at § 1.

<sup>174</sup> *Ibid.*, at § 1.

<sup>175</sup> Matheny, Utilitarianism and Animals, *supra* note 68, at 21.

for all stages of the human life cycle.<sup>176</sup> The benefits encompass high levels of potassium, phytochemicals, folate, Vitamins C and E, low levels of saturated fat, lower body mass index, less heart disease, lower blood cholesterol levels, lower blood pressure and hypertension, less type 2 diabetes, and reduced prostate and colon cancers.<sup>177</sup> Meat can be easily substituted by soy and seitan, for example, since they are perfect resources for protein. Aside from vegan and vegetarian alternatives to the consumption of animal products, research has been remarkably successful in generating in-vitro meat. Scientists have already produced small amounts of muscle tissue in laboratories, i.e. edible meat.<sup>178</sup> The usual lab meat procedure requires stem cells to be isolated, proliferated and coaxed into muscle cells.<sup>179</sup> A major advantage of cultured meat technology is that it offers an alternative production route that detracts a proportion of resources used for conventional meat production. Moreover, its present exorbitant costs are said to decrease quickly with demand, just as when the first computer was introduced.<sup>180</sup> It follows that the necessity of animal-based diets is to be reappraised. Necessity should not be interpreted dependent on society's perception, but in fact should pay deference to the readily available alternatives.<sup>181</sup> Today, we are spoilt with excellent alternatives to eat, to wear, and to be amused by without the need to cause pain and suffering to animals. Thus, the current suffering caused to animals is avoidable. Nevertheless, the demand that humanity ceases to eat meat is *prima facie* deemed drastic, although unlike the actual eating of meat does not require the killing of sentient beings beforehand, which in itself is actually a rather radical demand. At this point, replacement in farming must be compared with the 3R in research: society and the law accept and foster the demand to replace potentially life-saving research, whereas it commonly is deemed radical to replace easily substitutable culinary pleasure, which is actually the weaker demand. Causing unnecessary pain, on the other hand, is the most eccentric of all moral principles.<sup>182</sup> As the High Court of India has stated, 'the Constitution of India does not permit any citizen to claim that it is his fundamental right to take life and kill animals'.<sup>183</sup> Most notably, a crucial difference exists between animals in research and animals used for consumption: in research, many scientists insist on the irreplaceability of animals in particular fields of study, whereas in the sector of food and clothing, no irreplaceability of animal products exists. Hence, overall, 'it is difficult to argue that

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<sup>176</sup> American Dietetic Ass'n & Dietitians of Can., Position of the American Dietetic Association and Dietitians of Canada: Vegetarian Diets, 103 *J. Am. Dietetic Ass'n.* 6, 748 (2003).

<sup>177</sup> *Ibid.*

<sup>178</sup> Henry Fountain, A Lab-Grown Burger Gets a Taste Test, NY Times, August 5, 2013; Singer and Mason, *The Ethics of What We Eat*, supra note 56, at 263.

<sup>179</sup> This paper introduces the available techniques on growing in vitro meat: I. Datar, M. Betti, Possibilities for an In Vitro Meat Production System, 11 *Innovative Food Science and Emerging Technologies* 13-22 (2010).

<sup>180</sup> Singer and Mason, *The Ethics of What We Eat*, supra note 56, at 263.

<sup>181</sup> Andrew N. Rowan, *Of Mice, Models, and Men, A Critical Evaluation of Animal Research* 261 (State University of New York Press 1984).

<sup>182</sup> Gary L. Francione, *Introduction to Animal Rights, Your Child or the Dog?* 17 (Temple University Press (2007 Reprint) 2000).

<sup>183</sup> *Mohd. Habib v. State of Uttar Pradesh*, Civil Misc. Writ Petition No. 38469 of 1994 (Decided on August 1, 1997).

anything we do to farmed animals is more necessary than anything else, since none of it is actually necessary at all.’<sup>184</sup>

The last element of proportionality, namely proportionality *strictu sensu* essentially encompasses a balance of interests, posing a difficult task as the interests of one subject by tradition are deemed higher than those of the opposing subject. However, a balance of interests is *a priori* not a balance if the determining factors are interpreted for the benefit of one party beforehand. Today, virtually every human use of animals is deemed vital enough to trump animal concerns, as long as it produces some human benefit. Already today, some legal orders, such as the German Animal Welfare Act and the Austrian Federal Act on the Protection of Animals, view such an ‘automatic trumping process’ as contrary to law. Instead, it is required to provide a ‘reasonable reason’ that justifies the killing of animals.<sup>185</sup> Thus, a sensible balance of animal and human interests is necessitated, in line with the principle of proportionality *strictu sensu*. Certainly humans’ choice of consumption is restricted by prohibiting them to participate in taking animals’ lives. However, the harm we would endure by not consuming animal products is *prima facie* not comparable with the harm inflicted upon farm animals.<sup>186</sup> Most importantly, the application of the principle of proportionality does not only require a balance of interests in quantitative, but also in qualitative terms. Qualitatively, the interest in remaining alive certainly rates higher than the interest in eating, dressing, and being entertained in a certain, easily remunerable manner.<sup>187</sup> The difference in quality of the interests at stake are so massive that the legal status of the interest holder should not predetermine the outcome, especially in light of the animals’ sentience, as recognized by notable legal orders.<sup>188</sup>

An outstanding example for the application of the principle of proportionality is posed by the HCJ 9232/01 *Noah v. Att’y General* PD (2002-2003) case before the Israeli Supreme Court. The court carefully examined the proportionality when ruling over the ban of foie gras production, despite the fact that this industry was the fourth largest in the world.<sup>189</sup> Justice Strasberg-Cohen explained that ‘[t]he “production of food” will have greater weight the more the food item is necessary for human existence’<sup>190</sup>. She stated that ‘[the regulations] do not establish the means that will minimize the injury, nor do they answer the test of proportionality, which

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<sup>184</sup> Mariann Sullivan and David J. Wolfson, What’s Good for the Goose... The Israeli Supreme Court, Foie Gras, and the Future of Farmed Animals in the United States, 70 *Law & Contemp. Probs.* 139, 141 (2007).

<sup>185</sup> Animal Welfare Act, 2006, § 1 (Germany); Basic Law for the Federal Republic of Germany, as at October 2010, art. 20a; Federal Act on the Protection of Animals, 2005, § 6 (1) (Austria).

<sup>186</sup> Regan, *The Case for Animal Rights*, supra note 3, at 335.

<sup>187</sup> HCJ 9232/01 *Noah v. Att’y General* PD 215, 262 [2002-2003] (Isr.), Justice Tovah Strasberg-Cohen.

<sup>188</sup> 3.2 herein; See Favre, *Living Property*, supra note 84, at 1064.

<sup>189</sup> Justice Asher Grunis took the necessity of suffering and the worthiness of the social value into consideration, HCJ 9232/01 *Noah v. Att’y General* PD 215, 233-235 [2002-2003] (Isr.); Justice Tovah Strasberg-Cohen addressed the mildest means, the legitimacy of the aim and the proportionality among them, HCJ 9232/01 *Noah v. Att’y General* PD 215, 257 [2002-2003] (Isr.); Mariann Sullivan and David J. Wolfson, What’s Good for the Goose... The Israeli Supreme Court, Foie Gras, and the Future of Farmed Animals in the United States, 70 *Law & Contemp. Probs.* 139, 143-144 (2007).

<sup>190</sup> HCJ 9232/01 *Noah v. Att’y General* PD 215, 233-235 [2002-2003] (Isr.) at 268-69 (Justice Strasberg-Cohen).

measures the relation between the benefit and the harm'.<sup>191</sup> Also, Justice Eliezer Rivlin applied a proportionality test when promulgating that gastronomic pleasure cannot justify the 'pain inflicted upon them by physical injury or by violent intrusion into their bodies'.<sup>192</sup> Finally, Justice Grunis approached the proportionality test by questioning an activity that causes avoidable animal suffering, thus assessing its necessity.<sup>193</sup> The Court then declared the regulations on force-feeding geese invalid.

The U.S. Congress assessed a practice's necessity when they banned the slaughter of horses for food.<sup>194</sup> Senator Landrieu said 'The practice of horse slaughter for human consumption is revolting to me as a horse owner, but also as a consumer'.<sup>195</sup> The Illinois Court of Appeals expressed its view with the words: 'A state is permitted, within reason, to express disgust at what people do with the dead, whether dead human beings or dead animals.'<sup>196</sup>

These examples pave the way for other states to apply the principle of proportionality, as a municipal or international law norm, when addressing the legality of the current use of animals. It is self-explanatory that the principle of proportionality does not automatically produce a general outcome of the evaluation of all farm practices. Rather, the principle demands a thorough case-by-case analysis of each of its sub-principles, taking into account the circumstances of a practice, possible implications of a finding, alternatives to prevailing practices, as well as a cross-cultural comparison.

Moreover, replacement must be aspired to on the grounds of another principle. Almost everyone accepts the abstract position that animals ought to be treated humanely and ought not to experience unnecessary suffering. Most states have adopted the principle of unnecessary suffering as a legal standard in their laws (Australia, Austria, Canada, France, Germany, India, Israel, Norway, the Philippines, South Africa, Sweden, Switzerland, the United Kingdom, the U.S., and others), as did the European Union and the Council of Europe, thus representing a global axiom.<sup>197</sup> The European Convention for the Protection of Animals for Slaughter gives a

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<sup>191</sup> Ibid at 268 (Justice Strasberg-Cohen).

<sup>192</sup> Ibid at 272 (Justice Eliezer Rivlin).

<sup>193</sup> Ibid at 233-34, 247 (Justice Grunis).

<sup>194</sup> Publ. No. 109-197, § 794, 119 Stat. 2120, 2164 (2005), which however was lifted as part of the Consolidated and Further Continuing Appropriations Act for Fiscal Year 2012.

<sup>195</sup> See The Humane Society of the United States, National Animal Welfare Groups, Veterinarians and Horse Owners Applaud Federal Efforts to Protect Horses and the Public, March 13, 2003, *available at* [http://www.humanesociety.org/news/press\\_releases/2013/03/SAFE-Act-introduction-031313.html](http://www.humanesociety.org/news/press_releases/2013/03/SAFE-Act-introduction-031313.html).

<sup>196</sup> *Cavel Int'l Inc. v. Madigan*, 500 F.3d 551, 557 (7<sup>th</sup> Circ. 2007).

<sup>197</sup> Council Directive 98/58, art. 3, 1998 O.J. (L 221) 23 (EC); Council of Europe, European Convention for the Protection of Animals Kept for Farming Purposes, March 10, 1976, arts. 4, 6, 7; ACT Animal Welfare Act 1992, sec. 8 para. 1 (Austl.); Federal Act on the Protection of Animals, 2005, § 6 (1) (Austria); Criminal Code R.S.C., 1985, c. C-46, 445.1 (1) (Canada); Penal Code, art. 521-1 (France); Animal Welfare Act, 2006, § 1 (Germany); The Prevention of Cruelty to Animals Act, 1960, art. 3 (India); *Let the Animal Live v. Hamat Gader Recreation Enterprise*, LCA 1684/96, third component (Israeli Supreme Court); Animal Welfare Act, 1974, § 3 (Norway); Animal Welfare Act of 1998, section 6 (Philippines); Animals Protection Act, 1962, art. 2 (South Africa); Animal Welfare Act 1988, section 2 (Sweden); TSchG, supra note 116, art. 4 para. 2 (Switz.); Animal Welfare Act, 2006, c. 45, § 4 (UK); Favre, *Living Property*, supra note 84, at 1029; See Catherine Sykes, *Beasts in the Jungle: Animal Welfare in International Law*, Submitted in partial fulfillment of the requirements for the degree of Master of Laws at Dalhousie University, Halifax, Nova Scotia, August 2011.

definition on stunning that ends with the words ‘thus sparing it [the animal] in any event any avoidable suffering.’<sup>198</sup> The commitment of states to reduce animal suffering and the international policy of humane treatment of animals<sup>199</sup> are not paradigms for utopia, but serious, meaningful short- and long-term goals necessitating the replacement of animals in farming wherever feasible alternatives exist.

In terms of preference, given that the urgency of applying the 3R principles to a practice that harms animals is proportional to the necessity of the practice, it follows that the detrimental impacts of farming are so significant that the application of 3R is more urgent in the farming sector than it is in research.<sup>200</sup> Moreover, as the aim of research lies in saving lives and the one of animal farming is about culinary pleasure, farming is certainly less necessary than research. Therefore, if the absolute replacement is the accepted imperative in research, there should be an even stronger imperative for replacement in farming.<sup>201</sup>

#### 4. Conclusion

Refinement, reduction, and replacement have encountered worldwide recognition by the majority of states as expressed in their legal systems. The legal manifestations of the 3R principles in research have generated remarkable successes: conditions have been ameliorated, numbers have been reduced, and unnecessary experiments have been avoided by means of replacement.

By contrast, farm animals are discriminated from a legal point of view. Although they represent 98% of all domesticated animals, they lack either meaningful regulation or legal apprehension at all. The findings manifest that 3R in research were introduced for the primary purpose of reducing animal suffering, yet the capability to suffer is experienced by both farm and research animals. Major conventions concerning the treatment of animals, national laws, codes, and practices recognize animal sentience and draw no distinction in this regard as to the designated use of the animals for humans. Based on this global recognition, as well as the global enshrinement of the principle of unnecessary animal suffering (which is adopted by the European Union, the Council of Europe, Australia, Austria, Canada, France, Germany, India, Israel, Norway, the Philippines, South Africa, Sweden, Switzerland, the United Kingdom, the U.S., and others<sup>202</sup>), it follows that there exists no legitimate justification to deprive farm animals of equal

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<sup>198</sup> Council Decision 88/306/EEC, art. 1 para 2, on the Conclusion of the European Convention for the Protection of Animals for Slaughter (May 16, 1988).

<sup>199</sup> Catherine Sykes, *Beasts in the Jungle: Animal Welfare in International Law*, Submitted in partial fulfillment of the requirements for the degree of Master of Laws at Dalhousie University, Halifax, Nova Scotia, August 2011, 134.

<sup>200</sup> See Bruce A. Wagman, Matthew Liebman, *A Worldview of Animal Law* 63 (Carolina Academic Press 2011).

<sup>201</sup> Russell and Burch, *The Principles of Humane Experimental Technique*, supra note 7, at Chapter V; Physicians Committee For Responsible Medicine (PCRM), PCRM Position Paper on Animal Research, July 21, 2010, available at <http://www.pcrm.org/search/?cid=512>.

<sup>202</sup> ACT Animal Welfare Act 1992, sec. 8 para. 1 (Austl.); Federal Act on the Protection of Animals, 2005, § 6 (1) (Austria); Criminal Code R.S.C., 1985, c. C-46, 445.1 (1) (Canada); Penal Code, art. 521-1 (France); Animal Welfare Act, 2006, § 1 (Germany); The Prevention of Cruelty to Animals Act, 1960, art. 3 (India); *Let the Animal Live v. Hamat Gader Recreation Enterprise*, LCA 1684/96, third component (Israeli Supreme Court); *Animal*



3R application. As the Council of Europe specified, ‘man has a moral obligation to respect all animals and to have due consideration for their capacity for suffering and memory.’<sup>203</sup> Also the World Organisation for Animal Health recognizes a responsibility to ensure the welfare of animals to the greatest extent possible.<sup>204</sup> In consideration of the aim of research to save lives and the one of animal farming to create culinary pleasure, the application of 3R to farming is even more exigent, requiring scrutiny on the grounds of consistency.

The subsequent application of 3R to farming elucidates the main issues. Although Switzerland’s provisions have set a good example on refinement to be geared to other states’ legislation, the massive demand for animal products gives rise to a host of new problems that refinement alone is incapable of solving: environmental pollution, world hunger, human health concerns, and in particular detrimental consequences for animals. The reduction of animal products hence stands to reason. However, its implementation and dissatisfying consequences unavoidably challenge the necessity of animal products. Under the aegis of the principle of replacement, the principle of proportionality, consisting of the sub-principles of suitability, necessity, and proportionality *strictu sensu*, is applied. Suitability of animal product consumption may by its nature depend on subjective judgments, whereas necessity should not be interpreted dependent on society’s perception, but pay deference to the readily available alternatives. Meat, eggs, and dairy products represent the type of food that leave the biggest ecological footprint and as splendid alternatives are readily available, the consumption of animal products and the resulting animal suffering is avoidable. At last, proportionality *strictu sensu* poses a difficult task of weighing disparate interests, where the interests of one subject *a priori* are deemed higher than those of the other subject. Such a disregard of the principle of proportionality *strictu sensu* can only be justified if the excessive restriction is of high importance. The qualitative balance of interests elucidates that the harms humans would endure by not consuming animal products is fundamentally incomparable to the harm inflicted upon farm animals, since interest in remaining alive certainly rates higher than interest in eating, dressing, and being entertained in a certain, easily remunerable manner. The replacement of animal products *prima facie* may appear radical, but must be compared with 3R in research. Society and the law accept and foster the demand to replace potentially life-saving research, whereas it commonly is deemed radical to replace easily substitutable culinary pleasure, which is actually the weaker demand. Causing unnecessary pain, on the other hand, is the most eccentric of all moral principles. Additionally, given research’s aim

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Welfare Act, 1974, § 3 (Norway); Animal Welfare Act of 1998, section 6 (Philippines); Animals Protection Act, 1962, art. 2 (South Africa); Animal Welfare Act 1988, section 2 (Sweden); TSchG, supra note 116, art. 4 para. 2 (Switz.); Animal Welfare Act, 2006, c. 45, § 4 (UK); Council Directive 98/58, art. 3, 1998 O.J. (L 221) 23 (EC); Council of Europe, European Convention for the Protection of Animals Kept for Farming Purposes, March 10, 1976, arts. 4, 6, 7; Favre, Living Property, supra note 84, at 1029.

<sup>203</sup> Council of Europe, European Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes, March 18, 1986, second recital, incorporated by Council Decision 1999/575/EC, O.J. (L 222) 29 into Recommendation of 18 June 2007 on Guidelines for the Accommodation and Care of Animals used for Experimental and other Scientific Purposes, No. C(2007) 2525, 2007/526/EC, 2007 O.J. (L 197) 1.

<sup>204</sup> Terrestrial Animal Health Code, World Organisation for Animal Health, 21<sup>st</sup> ed., May 2013, section chapter 7.1, article 7.1.2, § 6.

to save lives and animal farming's aim to have culinary pleasure, farming certainly is less necessary than research. And therefore, if the absolute replacement is the accepted imperative in research, there should be an even stronger imperative for replacement in farming. These fundamental findings are not only of theoretical character but have in fact been applied by the High Court of India and the Israeli Supreme Court.

Governments therefore should at least introduce one major analogy to 3R in research, namely the duty to further alternatives to current industrial farming methods. Alternatives to conventional farming that overcome the use of animals should enjoy privileged furtherance in order to ensure future food security, sustainability, public health and to master the recognition of animal sentience and the correspondent avowal to the reduction of animal suffering. Such an approach pays full regard to the changing societal sensitivities to animal cruelty, as well as to the fact that 'animals have an intrinsic value which must be respected' and 'should always be treated as sentient creatures', be they animals in research or farm animals.<sup>205</sup>

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<sup>205</sup> Directive 2010/63/EU, 2010 O.J. (L 276/33).