

Simulated animal and simulated umwelt: Towards a method of analysing and critiquing nonhuman animals in consumer settings

Andrew Mark Creighton¹

Abstract: In this article I develop sociologist George Ritzer’s concept ‘simulated animal’ by focusing on rational systems, enchantment, and nonhuman animal corporeality and behaviour. I argue that simulated animals are nonhumans controlled, structured, or represented within consumer contexts. From this I develop what I am calling ‘simulated umwelt’. Simulated umwelt, as a concept, is a synthesis of zoosemiotics with Ritzer’s work and focuses on nonhuman animals’ experiences and representations within rationalized settings and consumer representation. This is accomplished by applying umwelt theory and analysis to the subjective experiential aspect of simulated animals via umwelt construction, in the ongoing pursuit of descriptive and critical approaches to nonhuman animals closely connected to consumption. I conclude by emphasizing the utility of simulated umwelt reconstruction for facilitating “truly” intersubjective descriptions of nonhuman experience.

Keywords: rationalization; McDonaldization; enchantment; zoosemiotics; ideal types

Introduction

The importance of nonhuman animals is increasingly accepted throughout the humanities and social sciences today, and this is especially relevant to semiotics with research focusing on dog and human relations (Mangano 2018), animal rights activism and speech (Meschiari 2018), etc. Jakob von Uexküll’s (2010; see Maran *et al.* 2016a) and later Thomas A. Sebeok’s (1972, 1990) work on nonhuman animal communication has resulted in a drive within and beyond the humanities for more zoosemiotic research on a wider array of communication phenomena (Martinelli 2010) and their contextualized embeddedness in relations (Delahaye

¹ Department of Semiotics, University of Tartu, Jakobi 2, Tartu, 51005, Tartu, Estonia; e-mail: andrew.mark.creighton@ut.ee.

2023; Cerrone, Mäekivi 2021), institutions (Mäekivi, Maran 2016), conservation (Magnus, Mäekivi 2023), and natural disasters (Nazaruddin 2022; Nazaruddin, Magnus 2023) among many other areas. Zoosemiotics is also greatly concerned with the climate crisis, modernity, and issues in the Anthropocene (Maran 2023a; Noble 2021). Human relations with nonhuman animals have always been an urgent topic for zoosemiotics, and this importance has only increased with the quickly unfolding ecological catastrophes.

Timo Maran (2023a) has noted the semiotic and cultural importance of such human development, focusing specifically on the over-reliance upon (and over-abundance of) abstract meanings within many contemporary societies. Maran pushes for degrowth and an attempt to interpret the world through more iconic and indexical relations. In this paper, I take Maran's work to heart, although I turn in a slightly different direction by identifying phenomena within the current consumer context that blur and confuse referential relations. I am not so much concerned with redirecting meaning towards indexes or icons as I am interested in identifying, defining, and exploring simulations of nature, here specifically of non-human animals. Generally, I will discuss how rational systems, or McDonaldized systems (Ritzer 2019), and their accompanying enchantment construct our understanding of the world. I intend to provide a better definition of the concept 'simulated animal', while also coining a coupled concept, 'simulated umwelt', as a means to understand rational and enchanting influences on our world, as well as a way to critique such influences and the rational treatment of nonhuman animals. To accomplish this, I will draw on George Ritzer's concepts of McDonaldization and enchantment, and zoosemiotic literature on umwelt theory.

Enchantment and rationalization

At the core of this study lie two closely linked concepts, consumer rationalization, or McDonaldization, and enchantment. McDonaldization can be understood as an extension of Weberian rationalization, with Ritzer focusing his concept on consumption. McDonaldization entails the structuring of a system based on ends-to-means logic governed by strict rules or regulations, and Ritzer makes use of American fast-food restaurants as a model and metaphor for this process. McDonaldization is characterized by increasing efficiency, predictability, calculability, and control, which all contribute to amplified productivity and consumption within the system, ideally at least (Ritzer 1983, 2001: 198). The act of prosomption within fast-food restaurants exemplifies McDonaldization, as prosomption, or the simultaneous act of consuming and producing, is used to create more control

over customers by restricting human interaction (self-checkout machines cannot be argued with), predictability through design (self-checkout affords easy-to-use interfaces), efficiency through removing labourers (consumers work as cashiers and also bus their own tables), and calculability via standardized procedures (consumers know where to take their garbage, trays, etc.). Prosumption also aids in extending the economic rational logic of fast-food restaurants, achieving lower costs and increasing financial success. However, such systems have their irrational drawbacks, or irrational rationalities. These can be the negative consequences of their operations, being anything from environmental destruction to alienation in labour or unhealthy diets. Moreover, McDonaldized systems themselves can be alienating. Their predictability can be found to be boring or “inauthentic”, and they remove us from more substantive, less rigidly structured experiences. Consequently, McDonaldized systems and their irrational rationalities must be mediated to ensure their continued success, and such a means comes in the form of enchantment.

The concept of enchantment as largely understood today partially stems from Max Weber (1965, 2001). Weber (2001: 123; see Jenkins 2000: 13) argued that rationalization would increasingly disenchant society, resulting in our imprisonment within an iron cage of bureaucratization and formalization while revealing the soulless objective reality of the world. When we consider contemporary consumer societies and Ritzer’s work, then Weber’s ‘iron cage’ and ‘disenchanted world’ do not appear to have come to absolute fruition. The world is still enchanted, although not with the teleological cosmologies which once dominated pre-modernity, as Jeffrey C. Alexander (2013) notes. Additionally, such enchantment is largely constructed for and by consumer means (Ritzer 2005, 2010). For Ritzer, contemporary enchantment is a means to hide and disguise McDonaldization. Through many different methods and techniques, from advertising and product placements to branding and local in-person events enchantment is used to conceal the rational and dehumanizing aspects of McDonaldization. Consequently, the term is rather encompassing in this sense, and enchantment can be anything that obscures McDonaldization and its irrational rationalities. As an example, recent research on this topic and tourism has demonstrated the use of ‘situational-enchantment’, or feelings of transcendence and ‘oneness’ (Drinkwater *et al.* 2022). Situational-enchantment enchants by giving consumers a spiritual connective experience, for instance in haunted spaces, in which guests noted a plethora of felt emotions and a sense of connecting with the paranormal (Drinkwater *et al.* 2022).

Enchantment is constructed by various types of spectacles, the most general being the extravaganza, which makes use of intentionally human-constructed

events, objects, etc., to entice consumers. Especially noticeable in Las Vegas hotel-casinos, cruise ships, and similar venues of consumption like ski resorts, such extravaganzas often create encompassing and immersive spectacles on grand scales, in what Ritzer (2005, 2010; Ritzer, Stillman 2001) terms the new means of consumption, or the new cathedrals of consumption. The new means of consumption are institutions specialized towards consumption and differ from previous consumer institutions in an increase in extravaganzas, simulations, implosions, and McDonaldization (Ritzer 2010, 2005; Ritzer, Malone 2000). The new cathedrals of consumption are not always as grandiose as ski resorts or Las Vegas; alternatively, they are found within everyday experiences, from superstores to online shopping and consumer media. Similar to their flashier cousins, these everyday means of consumption integrate extravaganzas, simulations, implosions, and McDonaldization.

While ‘extravaganzas’ is a general term for techniques used to construct enchantment, simulations and implosions can be considered as relatively specific techniques, although they encompass a wide range of phenomena. Drawing from Jean Baudrillard (see Baudrillard 1994, 1998), simulations blur the true and the false via McDonaldized structures or enchanting representations. As such, merely blurred truth and falsity is not enough to denote a simulation, but such blurring must be facilitated by rationalization or the media surrounding such rationalization. Simulations can be seen throughout consumer institutions from themed restaurants emulating cultures to simulated flavours in foods; this form of enchantment confuses reality as a means to encourage consumption and production (Ritzer 2010, 2005).

Similar to simulations, implosions for Ritzer (2010), who is again drawing from Baudrillard (1983), are prevalent in the new means of consumption and McDonaldization. Implosion in Ritzer’s (2010: 119) context can be understood as the erosion of meaning between two once clearly distinguishable things – it includes the “real” and fake meaning; implosions can also be a type of simulation (Ritzer 2010: 128). A telephone and camera, for instance, are now imploded within a smartphone along with social media, online shopping, video games, emails, and a plethora of other apps and functions. Implosions not only operate on a technological level but implode our social and cultural relations as well: for instance, the smartphone greatly erodes the temporal and spatial divisions between meaningful elements of our lives. This effectively situates a user’s time and space and mediates the user’s meaningful interaction when connected to a smartphone. Through this technology, consumption can easily dominate meaning. Whether it is using consumer products like the phone itself, giving information to data miners, consuming audio-visual media and advertising, or online shopping, the new cathedrals

of consumption can potentially, and often do, implode significant aspects of our everyday lives for consumption purposes (Ritzer 2010).

Implosions are strongly linked to technology and organization, although they can also be linked to the anomic – used very broadly here – dissolving of societal norms, values, roles, identity, etc. (Creighton 2023). Such results can be seen in the erosion of borders between adults and children, with adults indulging more often in media like cartoons and video games, once largely reserved for children (see Bernardini 2013 for a similar perspective emphasizing the importance of marketing in this change²). This anomie has broken many cultural and societal borders that in past times would have led to ostracization and mockery for certain activities. This, in a sense, has allowed us greater freedom (freedom tied to consumption) in choosing who we are, our activities, and who we want to associate with, etc., yet such freedom has come at the cost of beneficial divisions, like that between leisure and labour (De Kosnik 2013, 2009; Creighton 2022) or managerial techniques and emotional affirmation, i.e. co-workers are “like a family” (Boltanski, Chiapello 2018: 98–99).

As a summary of the above, enchantment, whether constructed through simulations, extravaganzas, or implosions, is used to disguise irrational rationalities and the McDonaldization process and entice people into consuming products, services, and experiences. This consumerism is governed by rational action and systems, or McDonaldization, which encompasses strict rule regulations and increasing efficiency, predictability, control, and calculability (Ritzer 2019). The above is a general model of the structures and processes of current consumer society, focusing on production, consumption, and representation and serves as a basis for the rest of the article. I will now investigate and further develop a relatively under-considered aspect of enchantment construction and rationalization, the simulated animal, before using this to help develop the concept of simulated *umwelt*.

Simulated animal

Here I will argue that ‘simulated animal’ as a concept encompasses the simulation of nonhuman animals via the McDonaldized control or structuring of nonhuman animal corporeality, behaviour and communication, as well as through enchanting consumer representations of nonhuman animals. ‘Simulated animal’ as a concept is a relatively minor consideration in Ritzer’s wider work on enchantment

² Bernardini, Jacopo 2013. The role of marketing in the infantilization of the postmodern adult. *Fast Capitalism* 10(1) can be accessed at https://fastcapitalism.uta.edu/10_1/bernardini10_1.html.

and rationalization, being rarely mentioned (see Ritzer 2005: 105, 2010: 183). However, the sociologist's concept of 'simulated human' is comparable with the concept of 'simulated animal', as both are the products of rational systems regarding behaviour and appearances (Ritzer 2005: 102–105). So, a simulated animal and a simulated human both act within McDonaldization, encompassing the very tenets of such systems. Employees at fast-food restaurants, for instance, are simulated due to their behaviour and appearance being oriented and controlled by rational systems, not only in the general sense that they work within and to facilitate such systems, but especially in the sense that such systems direct their personalities through dictating appearances (uniforms), and orienting their emotional expressions, discussions, and actions in general (smiling at customers regardless of personal mood). Nonhuman animals in this context generally fall under similar rationalized structures. Simulated animal behaviour can perhaps best be viewed in animal shows, where nonhuman animals have been trained to exhibit certain behaviours, such as performing tricks and stunts, and certain levels of obedience and reliance (Creighton 2022: 669). These nonhuman animals are often even further simulated, having names and being anthropomorphized, with their tricks being simulated human activities – seals and dolphin's "kissing" trainers, for instance (Creighton 2022: 673). Anthropomorphism points towards another aspect of the simulated animal, which is the use of representation, and not just changed behaviour, to simulate nonhuman animals.

In my previous work, I have demonstrated that anthropomorphism, especially when linked to 'simulations of intersubjectivity' in advertising where enchantment confuses human and nonhuman animal relations, often takes advantage of and encourages emotions towards and bonds with nonhuman animals as a means to entice consumption (Creighton 2022: 672–673). Meanwhile, Vänskä (2016: 84) argues that consumer objects for pets are symbols for relational emotions, directing and encapsulating human emotions. Moreover, fiction series, and other forms of consumer media make use of nonhuman animal representations more generally to entice consumption too, as demonstrated by the Care Bears franchise. The franchise has used cartoon bears to sell merchandise themed after the show since the early 1980s. The use of live dogs in commercials enticing consumption via associating the product with human–dog relations also acts as an example of such simulations (Mangano 2018: 58–59). So, a simulated animal in these instances is a media representation. Such representation can be structured by McDonaldization, but other representations may just be the enchantment used to disguise or entice said systems. The depth of these simulations is furthered when we consider the prevalence of nonhuman animals represented in various media like series and film, etc., that construct knowledge of nonhuman animals, which includes habits,

affective relations, and atmospheres surrounding them. This can also be seen in the ritual-like and dramatic nature of consumer media, creating enchantment through focusing collective effervescences and representations towards a totemic object, which could include products or the company itself, to create a community-like experience as a means to facilitate consumption (Creighton 2023). This means that knowledge of nonhuman animals in consumer media tends to be constructed to focus on and encourage consumerism. So not only are nonhuman animals used in enchantment to create certain representations, but such representations create and channel meanings towards certain consumer entities.

Reiterating, nonhuman animals can be simulated as a form of enchantment and as a product of rational action and systems in both their behaviour and representations. However, positioning nonhuman animals as simulations is an ideal typification, as such a strong distinction between behaviour and representation is difficult to formulate. This is especially the case when nonhuman animals are viewed through the lens of enchantment. Every behaviour could then be considered as a representation, as the nonhuman animal is either filtered through enchantment, with enchanting descriptions created to represent it as a means for enticing consumption, or the nonhuman animal is a complete construction via enchantment in cases such as animation.

This brings us to a third simulated aspect of simulated animals, which deals with the nonhuman animal's corporeality. Corporeality, like behaviour, is idealized here, as it too can be considered representation when filtered or completely constructed through enchantment. However, the corporeal simulation of nonhuman animals is often a product of rational systems themselves. Broiler chickens in factory farm settings, or concentrated animal feeding operations (CAFO), for instance, have had their own bodies and growth development transformed in ways that conform to rational consumption and production. Such transformation includes a faster growth rate and increased muscle mass, meaning chickens develop more meat at a faster rate, making them more efficient to produce and more profitable for sale. However, it is important to remember that this comes at the cost of the chicken's own quality of life, as it is relatively immobilized by its own mass (Bennet *et al.* 2018). Corporeal changes are also evident outside of factory farms, as Annamari Vänskä states, regarding pet consumer culture: "It taps into the emergence of breeding as a science and a tool for configuring the dog's bodily shape and character to fit human needs" (Vänskä 2016: 89). Vänskä notes that lapdogs have been a commonality and fashion accessory for the nobility since the Middle Ages. However, their small bodies also make them ideal for consumption, serving McDonaldized needs. They are controllable, require little space, and can be kept in urban apartments. This means just about anyone can have a

small dog, or a babified dog per Vänskäs (2014) term, without needing significant strength, space, or resources to control it.

To clarify simulated corporeality, a last but extended point needs to be made: the simulated animal is a simulated nonhuman animal, which, according to Ritzer's (2005: 101) definition of simulations, means it blurs the line between true and false in enchanted and McDonaldized contexts. Simulations defined as such can be easily seen in enchanting media images, anthropomorphization, and so on. These are instances in which nonhuman animals are portrayed so as to blur the meaning of their behaviour, corporeality, and other characteristics through representations; as such, most media representations can be considered as (presenting) simulated animals. Such simulations can be anything including announcers anthropomorphizing nonhuman animals at animal shows, blurring meaning between the human and nonhuman animal, or using nonhuman animals in advertisements to connote their qualities with the advertised product, or even animated series, mascots, etc., hyperbolizing nonhuman animal charisma to draw attention to brands. However, when attention is paid to nonhuman animals with changed characteristics in the physical world as opposed to only media representations, Ritzer's definition becomes strained, at least intuitively. If a nonhuman animal's corporeal body is structured by a rational system and exists within the world not as a "pure" representation but as, so to speak, flesh and blood, then whether it is a simulation or not is called into question. Media representations can be compared with nonhuman animals, but corporeal or behavioural simulations are nonhuman animals in comparison with other nonhuman animals. In other words, media representations of simulated nonhuman animals in say, film or series, differ greatly from living breathing simulated animals. A simulated animal whose corporeality and behaviour has been simulated is, in fact, an actual animal with subjective experiences, and in this sense is not fake.

I have a response to the above – such changes in behaviour and corporeality can be considered simulated even in merely *in situ* (in this article considered non-rationalized nonhuman animals) comparisons with those in rational contexts, and such nonhuman animals are similar to media representations as both are intended to contribute towards the same goal of constructing and continuing consumer processes and structures. Consequently, they are not different in this regard, and rationalized animals could be seen as representing or being confused with their *in situ* counterparts or even as simulacra being confused with supposed *in situ* peers. This is especially true regarding how intricately linked media representations are in regard to all nonhuman animals. This similarity comes from two elements, implosions and the medium, or, specifically, the medium's influence on the message – "the medium is the message" per McLuhan (1994: 7). As I will elaborate on

below, McDonaldized structures and processes themselves can be a medium via their abilities to control communication.

Implosions, consumer media, and rationalization and enchantment are all intricately linked. The new cathedrals of consumption, as Ritzer stated, make heavy use of implosions to entice consumption by blurring what was once considered clearly divided meanings. Modern communication mediums are also ripe with implosions, perhaps most notably blurring the boundaries between space, time, and social and cultural spheres (where we work, shop, and socialize is now often the same place, the personal computer or smartphone). For McLuhan (1994), this largely stemmed from mediums imploding space and time, while Baudrillard (2008) noted this in wider contexts such as aesthetics.³ Ritzer (2010, 2005) contends that the new cathedrals of consumption greatly implode many aspects of our cultural and social worlds, many of which create simulations. Nonhuman animals as such, I argue, are imploded through interaction with rational systems, simulating them; in this sense, I hope to consider rational systems as a medium. By this specifically, I mean to consider McDonaldization as a means to control, create, and change both the environment it is embedded in as well as the life within said environment. This consideration stems from rationality often acting to structure communication, entire environments, and the behaviours of nonhuman animals, largely through removing or constructing simplified yet direct means of communication. This can be seen in the grander scheme with Ritzer's (2003: 193; Ritzer, Ryan 2002: 52) concepts of 'nothing' and 'something' in which consumer global goods are often constructed with as little local meanings as possible. The products are instead made to attract a global audience. In more semiotic terms, 'nothing' products, services, etc., have as few signifiers as possible, but the signifiers they do retain tend to communicate with as broad of an audience as possible, often crossing geopolitical borders and cultural barriers. Many nonhuman animals in such consumer systems can be seen as the inverse of this 'nothing' to a certain extent; their experiences are as meaningless as possible, and their communication is reduced. This can be seen with dolphins at water shows and hotel casinos (Creighton 2022: 667), with many animals in zoological gardens (Mäekivi 2016: 209–210), or even in the case of broiler chickens whose very corporeal structures and environment prevent them from interacting with a much wider world.

This is not to say there is no communication or little communication. CAFO chickens, for instance, are surrounded by thousands of other chickens when in

³ Baudrillard, Jean 2008. Simulation and transaesthetics: Towards the vanishing point of art. *International Journal of Baudrillard Studies* 5(2) can be accessed at <https://baudrillardstudies.ubishops.ca/simulation-and-transaesthetics-towards-the-vanishing-point-of-art/>.

factory farm settings, and all are communicating. They are not, however, surrounded by a functional ecosystem or enriching environment. These nonhuman animals are grown and structured within and by a rational production/consumption system. Consequently, such chickens (and other nonhuman animals in similar situations) experience fewer variation in communication and experiences and are imploded through bodily changes or behaviour. They age quicker than their *in situ* counterparts do, their bodies prevent interactions with the world, their own communicable environment is largely restricted to the barn they are raised in, and they die quicker, all to accommodate, construct, and reconstruct McDonaldized systems intended for consumption. So, in this sense, rational systems, when seen as a medium, implode nonhuman animals and their environment by structuring a nonhuman animal for consumer needs, blurring the lines between product and living being, quickening the nonhuman animal's own development, and reducing its space and experiences. This, again, not only challenges the distinction between "real" and "false", but it demonstrates the implosive abilities of rationalization and its structuring abilities, which, if not traditionally considered a medium itself, is always acting as a medium, changing and directing communication. Nonhuman animals involved in these rational systems are often very much a part of them via their body and behaviour. So, while they are, in fact, flesh and blood, they are still, in many ways, like media representations due to the strong influences of implosions and the medium-like nature of rational systems. Consequently, this leads me to argue that nonhuman animals within these confines are simulated.

Quickly considering the above section, a working definition of 'simulated animal' would be: nonhuman animals that blur the line between reality and fiction, as well as nonhuman animals that are structured via McDonaldized systems. Importantly, such structuring can change nonhuman animal corporeality and behaviour, including their communication. Such changes largely lessen the communicative experiences for the purpose of consumer facilitation. Lastly, representations of nonhuman animals can also be considered simulations as long as they are present within the context of enchantment and McDonaldization.

Simulated umwelt

Keeping the definition of 'simulated animal' in mind, it is apparent the concept is important in understanding rational and enchanting influences on the behaviour, representation, and corporeality of nonhuman animals. However, the concept is largely an etic perspective, in part conditioned on the notion of a comparison between *in situ* and McDonaldized nonhuman animals. The *in situ* factors of a

nonhuman animal can be compared to the equivalent of their *ex situ* nonrationalized peers, revealing differences or pointing to possible change created through enchantment or rationalization within *ex situ* nonhuman animals. Scholars can also distinguish a simulated animal by looking at the characteristic aspects of McDonaldization, such as increased efficiency, controlling technology, and irrational rationalities, or through noting the considerable dissimilarities between nonhuman animals as represented in enchantment and those in the system being enchanted (Ritzer 2019, 1983). So, the current conception of the term, while allowing a relatively encompassing understanding of nonhuman animals within a more social theoretic context and possibly from multiple perspectives, is missing a more emic view. Attempting an emic view here is important, as it allows more qualitative theoretical considerations, taking subjective experiences from those within rational systems. Considering subjective experiences offers more detailed descriptions of understandings or even more normative empathetic considerations, both of which are important for critiquing and studying social and cultural phenomena. So, an emic view would allow new perspectives on the topic, attempting the integration of the Other into the analysis and the overall perspective.

Consequently, I propose to use the concept of 'umwelt' to create an emic dimension to Ritzer's simulated animal through coining a coupled term: 'simulated umwelt'. Considering 'umwelt' allows reading a nonhuman animal's subjective experiences while encouraging reflexivity. Dario Martinelli (2011) positions umwelt theory and analysis as being not quite an emic method, but as an emic-like method in which the view of nonhuman animals being studied is constructed to the best abilities of the scholar. This takes knowledge of the corporeal, social, and environmental relations of the nonhuman animal but also requires an understanding that the nonhuman animal is an agent, experiencing its world subjectively (J. von Uexküll 1992: 319–320). Most importantly, researchers utilizing umwelt theory must understand that they cannot entirely access this subjective world but can only construct an approximation of it. This is perhaps best understood through Gordon Burghardt's (2007) critical anthropomorphism. While researchers are not able to escape imposing human characteristics upon nonhuman animals, they are able to reflect critically upon and analyse their biases while drawing from as many emic properties as possible. Consequently, reflexivity is required to gain and demonstrate this understanding, which can be done by emphasizing constructed umwelten as representations or models. Jakob von Uexküll's (2010: 43) work supports this, emphasizing the bubble-like nature of umwelten, referring to the subjective experiences of nonhuman animals. This positions the world as viewable from many different perspectives and, consequently, the world has different meanings depending on the perspective. For Claus Emmeche (2001: 655),

“[t]he Umwelt may be defined as the phenomenal aspect of the parts of the environment of a subject (an animal organism), that is, the parts that it selects with its species-specific sense organs according to its organization and its biological needs”. However, umwelt theory and analysis have a wider methodology, encompassing the reconstruction of umwelten, which Thure von Uexküll (1982: 4) refers to as ‘participatory research’. Such research involves studying the receptor organs of the nonhuman animal, using this to decode the ways in which the nonhuman animal interprets the world. Lastly, the goal, or perhaps normative aspiration of umwelt theory, is to develop an understanding of the wider number of umwelten acting in harmony (T. von Uexküll 1982: 4).

The critical and emic-like aspect of umwelt theory, as well as its focus on constructing nonhuman animal points of view, greatly positions it as a reflexive method, allowing a means of understanding nonhuman animals’ subjectivity within McDonaldization and enchantment by positioning the researcher as both modelling experience and being self-aware of their influence on the modelling. My previous work helped illuminate the importance of the simulated animal as a means of understanding nonhuman animals within rational systems and enchantment. It also helped create methodological comparisons of *in situ* nonhuman animals with rationalized ones by offering conceptual guidelines to follow when analysing nonhuman animals, e.g. effector cues, umwelt mapping, etc. (Creighton 2022). Conversely, Ritzer’s work lacks an in-depth conceptual understanding of the simulated animal’s experiences. As I stated earlier, a simulated animal can be identified by corporeal and behavioural changes within nonhuman animals, as well as representations, all when constructed through McDonaldization and/or enchantment. When umwelt analysis is applied here, the emic-like perspective allows the scholar to reconstruct the subjective experience of a simulated animal. Umwelt analysis, in short, derives from focusing on the receptor and effector organs and cues of a nonhuman animal which operate within a functional cycle/circle (*Funktionskreis*) leading to meaning making, interpretive abilities and agency. This general cycle allows the entity to perceive and manipulate the world around it – constructing its umwelt and interpretive abilities (J. von Uexküll 1982: 31–32, 1992: 324–325; Kull 2020: 224). A nonhuman animal’s receptor and effector tools can be largely understood as its corporeal structure or body. Consequently, its abilities to interact with the world are largely constructed and defined by this structure. It is important to remember that, according to Franklin Ginn (2014: 132), “Uexküll insists that every organism spins out beyond itself into a wider mesh of existence, and thus is never alone”; however, there are still constant defining limitations on their abilities due to their very corporeality, environment, etc. More to the point, rational consumer systems are able to change and

manipulate nonhuman animal corporeality, changing their effector and receptor tools. This, consequently, changes nonhuman subjective reality by changing the way they perceive, interact, and make meaning of their world.

The changed corporeal and behavioural aspects of a nonhuman animal are extremely evident when we focus on their four basic functional cycles. These cycles also demonstrate the emic abilities of umwelt theory through constructing detailed nonhuman animal experiences. According to Jakob von Uexküll (1926: 128) the basic cycles are: food, enemies, medium/environment, and partners/sex. Paying specific attention to these cycles allows further investigation into simulations by noting the more detailed experiences of nonhuman animals in rationalized settings. To exemplify this, I will return to the broiler chicken example. Those chickens raised in factory farm settings where grit is not added to feed tend to digest fibre poorly while developing stunted gizzards (Erener *et al.* 2016: 650–651). Grit is generally easily found and used by chickens in nonrationalized settings. This means broiler chickens in CAFOs require grit supplements in order to develop fully, relying on the control of the farmers for proper digestion.

Regarding enemies, the chickens are relatively secure within their farm enclosures. If this were not the case, though, then their corporeality does not generally allow escaping from or defending themselves against predators like coyotes or weasels. Broiler chickens suffer from at least two issues keeping them from such abilities: heart failure and lack of mobility. The relative immobility of these rapid-growth chickens would restrict them from escaping or defending themselves, despite the chicken's perception and interpretation of a threat being prevalent. Additionally, chickens fed to develop and grow rapidly tend to have heart issues, with up to 27% experiencing arrhythmia in such cases, causing the risk of heart failure (Olkowski 2007: 999–1000). Consequently, CAFO chickens have issues dealing with stress corporeally. So, in the unlikely case of encountering an enemy, the chicken is significantly more likely to suffer a heart attack due to stress when compared to broiler chickens outside of factory farming and rapid-growth contexts.

Considering the environment, factory farms greatly reduce variations in communication and experience on the part of nonhuman animals. The settings themselves are highly and densely populated (Anomaly 2015: 246), with inhabitants being consequently surrounded by a limited variety but large number of similar signs and meanings. Lastly, sex and reproduction for broiler chickens is greatly changed in McDonaldised settings. The very sexual development of chickens can be partially controlled by many factions, including lighting techniques within the barn: "Once the birds have reached an adequate age, body weight (BW), and frame size, then sexual maturation can be hastened by providing photostimulation" (Shi

et al. 2020: 812). Chickens are also bred specifically for certain genetic results, meaning many are removed from the breeding process (see Siegel 2023 for a discussion on broiler chicken genetics). Perhaps even more drastically, hens intended for egg laying will likely never encounter a breeding partner in their entire life, being completely denied this functional cycle. Considering these basic functional cycles, it is notable that investigating the receptor and effector tools of nonhuman animals is an important means to utilize umwelt theory in investigating the umwelten of simulated animals, but focusing on specific needs and behaviours, or specific functional cycles, allows a greater understanding of the controlled and simulated nature of nonhuman animals' experience in rationalized systems. Moreover, an understanding of umwelt allows more details than the notion of a simulated animal, as umwelt theory directs towards more behavioural needs, bodily structures, and emic aspects of the nonhuman animal.

When looking at the broiler chicken's umwelt more generally, its corporeality is changed within a rational system, and their subjective experiences are changed along with it. The increased muscle mass and weight of these nonhuman animals interferes with their bodies and their ability to interact with the world, limiting their communication. Just from this point alone, an umwelt analyst can construct the experience of immobility, seeing these simulated animals as experiencing beings with agency, and inferring that such immobility is truly experienced and felt. I think the aforementioned changes to the broiler chicken's basic functional cycles demonstrate very well just how horrific the experiences of simulated animals can be, especially in factory settings. Such immobility and the wider removal of experience can be seen as a sort of umwelt reduction. Maran (2023b: 482), in his discussion on umwelt collapse, discusses the core umwelt, which adapts to long-term needs through meaning-making processes such as 'cognitive archetypes' and 'embodied memory'. For Morten Tønnessen (2015: 82) this is part of the umwelt that directly encounters the wider world. Rational structures in a sense could be understood as reducing these aspects of a nonhuman animal's umwelt, quickly transforming nonhuman bodies, behaviours, and core long-term relations, as seen in the example above. The chickens' core umwelten are changed to fit the nonhuman animals into a rationalized environment, simplifying their adaptive abilities if not removing them. It can also be noted that umwelten with greater changes to their core are perhaps more adapted to rational systems as their life processes can only be sustained in such settings, especially as large populations.

When thinking reflexively on umwelt construction, it becomes apparent we must try to reconstruct the nonhuman's point of view guided by the bodily way the nonhuman animal perceives its world (Martinelli 2010: 84). The point of umwelt analysis is an attempt to reconstruct a situation as similar as possible to

the nonhuman animal's, and to gain some understanding of its world. When considering normative aspirations here, then *umwelt* analysis is used to construct an understanding of the simulated animal's experiences within rational consumption and enchantment and to critique such experiences as needed, to inquire about and critique suffering, the rejection of nonhuman animal autonomy, messages that use simulated animals to entice consumption, etc. It is important to use *umwelt* here to disrupt our natural attitude towards everyday life, to use *umwelt* theory as a means to reflect and disrupt our, so to speak, common sense. This allows a window into the damages and destruction many McDonaldized institutions cause. For instance, the broiler chicken example shows significant harm is apparent, as the rational changes of the chicken have resulted in its immobility and the closing of its subjective experiences, its *umwelt*. Viewing the chicken as an agent and subjective being disrupts more mechanistic justifications for such behaviours, and generally draws us closer to its experiences through empathy. However, corporeal changes could arguably take the opposite route too; a nonhuman animal can have their corporeal structures rationalized for their benefit, which may even enrich their *umwelt*. Still, even in such cases, it is important to remain critical when McDonaldized systems are involved, looking for nonhuman animal exploitation, or irrational rationalities such as ecological disruption resulting from corporeal changes in nonhuman animals or their increased use in labour, consumption, etc.

Before concluding I think it is important to make some further clarifications about simulated *umwelt* as a concept here in order to contextualize the term better. Specifically, I argue that the simulated animal and its *umwelt* are ideal types within a spectrum ranging from *in situ* nonhuman animals on one end to rational and enchanted nonhuman animals and *umwelten* on the other. This coincides with Ritzer's (2019) insistence that rationalization itself happens in degrees while he also uses ideal types as a methodological tool throughout his work, distinguishing localness and the global in rational organizations, or consumption and production relations (Ritzer 2015: 2). Moreover, ideal types often do not exist in the "real" world. This is notable when considering that all nonhuman animals appear to us as symbolic on some level, as being influenced by representations. This can be seen, for instance, in the relation of our *umwelten*; we can only understand nonhuman animals through our own terms; we can only see them emically-like or iconically-like, and not emically or iconically. Such "likeness" in part comes from our own corporeal structures, etc. However, I am not discussing corporeal influences on perception here; what I am discussing are the cultural influences that are used to construct and even stereotype nonhuman animals that stem from rationalization and, especially here, media enchantment.

Considering the previous paragraph, never being altogether able to remove the symbol from our view of something does not mean the latter is simulated; it is only symbolic to some degree. Yet the pervasiveness of consumer media within current times, and especially the pervasiveness of the image, suggests that enchantment is always potentially influencing us and being passively absorbed without critical consideration (Alexandri 2023; Book 2023: 56, 60). So, if such symbolism is constructed through rational consumer means or enchantment, I argue such animals are simulated, whether heavily or only slightly. More to the point, the idealized typification of this spectrum allows an understanding of such degrees by setting absolute posts on either side. These absolute posts, one being absolutely simulated, the other absolutely unsimulated, allow a means to compare a simulated animal's umwelt as relative to various degrees of enchantment, McDonaldization and other means of representation and organization (rationalized or not).

When looking at the notion of a simulated umwelt as a whole, at least from what has been discussed here, then a working definition can be constructed with a focus on epistemological humility, in which such construction is understood as a model made through human interpretation within consumer societies, as opposed to revealing reality. This consequently adds more reflexivity to considerations of nonhuman animals in rational context than the concept of simulated animal, encouraging greater contemplation of the construction of the simulated umwelt, as well as means to disrupt consumerist-influenced commonsensical views of nonhuman animal experiences. Accordingly, simulated umwelten can be considered ideal types used to construct emic-like perspectives of nonhuman animals within rational systems and enchantment. Such construction is focused on the process and structures of the nonhuman animal's umwelt, mainly focusing on their corporeality (receptor and effector organs), basic functional cycles, behaviour, and the understanding that they construct and experience their own world subjectively. Moreover, focusing on specific functional cycles within a simulated animal's umwelt can direct attention to even more specific aspects of simulation, as shown with the basic functional cycles of broiler chickens. Lastly, this can be extended to their environment, as well as aspects of their core umwelt in regards to embodied memory and immediate meaning making. As such, we can define a stimulated umwelt as changed or constructed subjective experience of a nonhuman animal resulting from McDonaldization altering the nonhuman animal's corporeal, communicative, behaviour, basic functional cycle, and other elements. We can also understand a simulated umwelt as an umwelt represented through enchantment. So, like simulated animal, simulated umwelt notes a simulation structured by McDonaldization, or a simulation used to enchant said systems, blurring the line

between reality and fiction. Simulated umwelt as a concept allows the critiquing of rational systems and enchantment by presenting nonhuman animals within these contexts as experiencing subjects. Consequently, considering umwelten disrupts mechanical narratives and allows empathetic interpretations and reconstructions of nonhuman animal experiences within such systems.

'Simulated umwelt' as a term is also coupled with 'simulated animal'; together they outline umwelt maps (Maran *et al.* 2016b: 31; Tønnessen 2011: 40–4) by focusing on the relational, structural and environmental aspects of nonhuman animals within rational systems. These systems replicate the mediums of rational media via imploding various aspects of the simulated animals, consequently reducing the nonhuman animals' communicative and subjective experiences. It could perhaps even be more efficient to use these terms interchangeably, as they do retain significant overlap; conversely, these perspectives have different main focuses: 'simulated animal' is more concerned with rational consumption, while 'simulated umwelt' focuses on subjective experiences. With this, and the current state of these concepts, in mind I encourage the two concepts be used in tandem as idealized types, as 'simulated umwelt' is strongly linked to experiences of the enchanting and rationalizing influence imposed upon a nonhuman animal, while the notion of a 'simulated animal' is more concerned with the structural aspect of rational systems and enchantment around said nonhuman animal.

Conclusion

While the above is a working definition of the 'simulated animal' and 'simulated umwelt' concepts, I believe it has developed the general scaffolding needed to enrich these terms and to use them to analyse nonhuman animals within rationalized and enchanted contexts. Regarding 'simulated animal', I have drawn out Ritzer's definition, noting its focus on behaviour and appearance. Then, using my own work and literature on the topic, I have added further considerations of corporeal change elaborating on Ritzer's points. The importance of the term 'simulated animal' as a critical concept stems from its applicability in analysing nonhuman animals in McDonaldized and enchanted contexts and its ability to compare simulated animals with *in situ* peers. Moreover, I have also argued that rational consumer systems can be considered as mediums that reduce and implode nonhuman animals and their communicative abilities, and that such implosions result in nonhuman animal simulation. This argument also builds upon Ritzer's definition of simulations as blurred meaning between fiction and the "real" due to McDonaldized systems, by offering an explanation of this process via umwelt analysis.

As I just noted, ‘simulated umwelt’ acts as a coupled term with ‘simulated animal’. Compared to simulated animal, simulated umwelt allows a more emic-like view, owing to its basis in umwelt theory, yet emphasizes the prevalence of consumer influences on nonhuman animals throughout contemporary societies. In my previous work, I have used umwelt theory in conjunction with McDonaldization and enchantment as a theoretical framework to analyse the umwelten of simulated animals. With the formulation of ‘simulated umwelt’ as a concept, I argue such emic-like views can be more focused, taking subjective experiences as the focal point. This, of course, does not necessarily work for an animated simulated animal; however, it can work in many instances involving living simulations. Also, a thorough analysis of how nonhuman animal experiences are portrayed through consumer media and representations could greatly benefit from the conceptualization of ‘simulated umwelt’. The present analysis, in many ways, has focused on umwelten within living beings, as opposed to animations and media representations not involving nonhuman animals themselves.

Umwelt analysis is also more reflexive when thought of as umwelt *construction* from a human’s viewpoint. Such construction is largely done through the focus on nonhuman animals’ corporeality, specifically effector and receptor organs, as well as their functional cycles. Altogether, this conceptualization offers the tools to create a multi-pronged understanding of a simulated umwelt. Conceptually, ‘simulated umwelt’ can also be used to interpret the loss of communicative variety through rational systems regarding the loss of meanings within core umwelten, in that it results in a loss of signs and a variety of meanings. ‘Simulated umwelt’ as a concept pushes back against discredited rational, destructively mechanistic scientific worldviews and highlights damaging consumer and production institutions, like casinos, universities, and ski resorts. ‘Simulated umwelt’ exhibits McDonaldized destructiveness by highlighting nonhuman animals and their experiences within such systems, encouraging intersubjective understandings, as well as presenting their loss of meaning and experience when compared to those *in situ*.

As already noted, these concepts are only in their infancy, and require further developing. The eradication of experience and meanings among simulated umwelten, for instance via rational systems, may also be described as a kind of semiocide: the destruction of meaning and signs by “malevolence or carelessness”, negatively influencing identities (Puura 2013: 152). Such a view may be beneficial in better investigating the intentions of those working within McDonaldized systems, whether in research labs or factory farms, as well as placing a greater focus on environmental/ecological destruction (Uslu 2020: 242). Umwelt theory also often looks at nonhuman animal representations within literature (Bala, Singh 2023),

film (Pollmann 2013), and cartoons (Dydzynski, Mäekivi 2021), which are major areas of enchantment that this article largely leaves unconsidered. Consequently, these areas of research, among many others require significant attention, and may be fruitful areas of inquiry.

Acknowledgements. This paper was supported by the Estonian Research Council grant PRG1504 “Meanings of endangered species in culture: Ecology, semiotic modelling and reception”. Many thanks to Nelly Mäekivi, Timo Maran, Oscar Miyamoto, and J. Augustus Bacigalupi. Special thanks to the reviewers for their thorough and thoughtful comments.

References

- Anomaly, Jonathan 2015. What’s wrong with factory farming? *Public Health Ethics* 3(8): 246–254. <https://doi.org/10.1093/phe/phu001>
- Alexander, Jeffrey C. 2013. *The Dark Side of Modernity*. Cambridge: Polity.
- Alexandri, Eleni 2023. A spectacular world of modeled reality. In: Kõvamees, Erik; Miyamoto, Oscar; Randviir, Anti (eds.), *Concepts for Semiotics II*. (Tartu Semiotics Library 24.) Tartu: University of Tartu Press, 198–225.
- Bala, Moumita; Singh, Smriti 2023. Highlighting elephant’s perspective through umwelt exploration: Textual analysis of the novella *River Storm*. *The Senses and Society* 18(3): 273–283. <https://doi.org/10.1080/17458927.2023.2210034>
- Baudrillard, Jean 1983. *In the Shadow of the Silent Majorities*. New York: Semiotext(e).
- Baudrillard, Jean 1994. *Simulacra and Simulation*. Ann Arbor: The University of Michigan Press. <https://doi.org/10.3998/mpub.9904>
- Baudrillard, Jean 1998. *The Consumer Society: Myths and Structures*. London: Sage Publications. <https://doi.org/10.4135/9781526401502>
- Bennett, Carys E.; Thomas, Richard; Williams, Mark; Zalasiewicz, Jan; Edgeworth, Matt; Miller, Holly; Coles, Ben; Foster, Alison; Burton, Emily J., Marume, Upenyu 2018. The broiler chicken as a signal of a human reconfigured biosphere. *Royal Society Open Science* 5: 180325. <https://doi.org/10.1098/rsos.180325>
- Boltanski, Luc; Chiapello, Eve 2018. *The New Spirit of Capitalism*. London: Verso.
- Book, Abram 2023. Bemusing ourselves to death: Using a media ecology framework toward a Postman understanding of Facebook. *Artifact Analysis* 2(2/3): 55–68.
- Burghardt, Gordon 2007. Critical anthropomorphism, uncritical anthropocentrism, and naïve nominalism. *Comparative Cognition & Behavior Reviews* 2: 136–138. <https://doi.org/10.3819/ccbr.2008.20009>
- Cerrone, Mirko; Mäekivi, Nelly 2021. A zoosemiotic approach to the transactional model of communication. *Semiotica* 2021(242): 39–62. <https://doi.org/10.1515/sem-2020-0052>
- Creighton, Andrew Mark 2023. Enchantment. In: Kõvamees, Erik; Miyamoto, Oscar; Randviir, Anti (eds.), *Concepts for Semiotics II*. (Tartu Semiotics Library 24.) Tartu: University of Tartu Press, 166–196.

- Creighton, Andrew Mark 2022. Umwelt, enchantment and McDonaldization. *Chinese Semiotic Studies* 18(4): 653–679. <https://doi.org/10.1515/css-2022-2084>
- De Kosnik, Abigail 2009. Should fan fiction be free? *Cinema Journal* 48(4): 118–124. <https://doi.org/10.1353/cj.0.0144>
- De Kosnik, Abigail 2013. Fandom as free labor. In: Scholz, Trebor (eds.), *Digital Labor: The Internet as Playground and Factory*. London: Routledge, 125–144.
- Delahaye, Pauline 2023. Exploring the nature and strength of the semiotic relation: A case study about liminal species in Tartu. *Sign Systems Studies* 51(1): 114–127. <https://doi.org/10.12697/SSS.2023.51.1.05>
- Drinkwater, Kenneth; Massullo, Brandon; Dagnall, Neil; Laythe, Brian; Boone, Juliette; Houran, James 2022. Understanding consumer enchantment via paranormal tourism: Part I – conceptual review. *Cornell Hospitality Quarterly*, 63(2): 195–215. <https://doi.org/10.1177/1938965520967920>
- Dydyński, Jason Mario; Mäekivi, Nelly 2021. Impacts of cartoon animals on human–allo-animal relations. *Anthrozoös* 34(2): 753–766. <https://doi.org/10.1080/08927936.2021.1926718>
- Emmeche, Claus 2001. Does a robot have an umwelt? Reflections on the qualitative bio-semiotics of Jakob von Uexküll. *Semiotica* 134(1/4): 653–693. <https://doi.org/10.1515/semi.2001.048>
- Erener, Güray; Ocak, Nuh; Garipoğlu, Ali Vaiz; Şahin, Ahmet 2016. Insoluble granite-grit allows broiler chicks to have better growth performance and gut health. *Revista Brasileira de Zootecnia* 45(11): 659–654. <https://doi.org/10.1590/s1806-92902016001100002>
- Ginn, Franklin 2014. Jakob von Uexküll beyond bubbles: On umwelt and biophilosophy. *Science as Culture* 23(1): 129–134. <https://doi.org/10.1080/09505431.2013.871245>
- Jenkins, Richard 2000. Disenchantment, enchantment and re-enchantment: Max Weber at the Millennium. *Max Weber Studies* 1(1): 11–32.
- Kull, Kalevi 2020. Jakob von Uexküll and the study of primary meaning-making. In: Michellini, Francesca; Köchy, Kristian (eds.), *Jakob von Uexküll and Philosophy: Life, Environments, Anthropology*. New York: Routledge, 220–237. <https://doi.org/10.4324/9780429279096-14>
- Mäekivi, Nelly 2016. Modelling ex situ animal behaviour and communication. *Biosemiotics* 9(2): 207–226. <https://doi.org/10.1007/s12304-016-9264-5>
- Mäekivi, Nelly; Maran, Timo 2016. Semiotic dimensions of human attitudes towards other animals: A case of zoological gardens. *Sign Systems Studies* 44(1/2): 209–230. <https://doi.org/10.12697/SSS.2016.44.1-2.12>
- Magnus, Riin; Mäekivi, Nelly 2023. Ecossemiotic analysis of species reintroduction: The case of European Mink (*Mustela lutreola*) in Estonia. *Biosemiotics* 16(2): 239–258. <https://doi.org/10.1007/s12304-023-09530-1>
- Mangano, Dario 2018. Forms of animality: The dog. In: Marrone, Gianfranco; Mangano, Dario. (eds.), *Semiotics of Animals in Culture: Zoosemiotics 2.0*. Cham: Springer, 55–72. https://doi.org/10.1007/978-3-319-72992-3_5
- Maran, Timo 2023a. Meanings for the degrowth society: From the great acceleration to the semiosis of the living. *Sign Systems Studies* 51(1): 153–170. <https://doi.org/10.12697/SSS.2023.51.1.07>

- Maran, Timo 2023b. Umwelt collapse: The loss of umwelt-ecosystem integration. *Biosemiotics* 16: 479–487. <https://doi.org/10.1007/s12304-023-09545-8>
- Maran, Timo; Tønnessen, Morten; Magnus, Riin; Mäekivi, Nelly, Rattasepp, Silver, Tüür, Kadri 2016a. Introducing zoosemiotics: Philosophy and historical background. In: Maran, Timo; Tønnessen, Morten; Rattasepp, Silver (eds.), *Animal Umwelten in a Changing World: Zoosemiotic Perspectives*. Tartu: University of Tartu Press, 10–28. https://doi.org/10.26530/OAPEN_620672
- Maran, Timo; Tønnessen, Morten; Tüür, Kadri; Magnus, Riin; Rattasepp, Silver; Mäekivi, Nelly 2016b. Methodology of zoosemiotics: Concepts, categorisations, models. In: Maran, Timo; Tønnessen, Morten; Rattasepp, Silver (eds.), *Animal Umwelten in a Changing World: Zoosemiotic Perspectives*. Tartu: University of Tartu Press, 29–50. https://doi.org/10.26530/OAPEN_620672
- Martinelli, Dario 2010. *A Critical Companion to Zoosemiotics: People, Paths, Ideas*. London: Springer. <https://doi.org/10.1007/978-90-481-9249-6>
- Martinelli, Dario 2011. Let's get physical! On the zoosemiotics of corporeality. *Biosemiotics* 4(2): 259–279. <https://doi.org/10.1007/s12304-010-9098-5>
- McLuhan, Marshall 1994. *Understanding Media: The Extensions of Man*. Cambridge: MIT Press.
- Meschiari, Matteo 2018. Anti-speciesist rhetoric. In: Marrone, Gianfranco; Mangano, Dario. (eds.), *Semiotics of Animals in Culture: Zoosemiotics 2.0*. Cham: Springer, 33–42. https://doi.org/10.1007/978-3-319-72992-3_3
- Nazaruddin, Muzayin; Magnus, Riin 2023. The post-disaster transformation of interspecies dependencies: From talkative buffalo to desemiotized cows on the slope of Mt. Merapi. *Sign Systems Studies* 51(1): 128–152. <https://doi.org/10.12697/SSS.2023.51.1.06>
- Noble, Denis 2021. The illusions of the modern synthesis. *Biosemiotics* 14: 5–24. <https://doi.org/10.1007/s12304-021-09405-3>
- Olkowski, Andrew A. 2007. Pathophysiology of heart failure in broiler chickens: Structural, biochemical and molecular characteristics. *Poultry Science* 86: 999–1005. <https://doi.org/10.1093/ps/86.5.999>
- Pollmann, Inga 2013. Invisible worlds, visible: Uexküll's *Umwelt*, film, and film theory. *Critical Inquiry* 39(4): 777–816. <https://doi.org/10.1086/671356>
- Puura, Ivar 2013. Nature in our memory. *Sign Systems Studies* 41(1): 150–153. <https://doi.org/10.12697/SSS.2013.41.1.10>
- Ritzer, George 1983. The “McDonaldization” of society. *The Journal of American Culture* 6(1): 100–107. https://doi.org/10.1111/j.1542-734X.1983.0601_100.x
- Ritzer, George 2001. *Explorations in Social Theory: From Metatheorizing to Rationalization*. London: Sage Publications. <https://doi.org/10.4135/9781446220160>
- Ritzer, George 2003. The globalization of nothing. *S AIS Review* 23(2): 189–200. <https://doi.org/10.1353/sais.2003.0053>
- Ritzer, George 2005. *Enchanting a Disenchanted World: Revolutionizing the Means of Consumption*. (2nd ed.) Thousand Oaks: Pine Forge Press.
- Ritzer, George 2010. *Enchanting a Disenchanted World: Continuity and Change in the Cathedrals of Consumption*. (3rd ed.) London: Sage. <https://doi.org/10.4135/9781483349572>
- Ritzer, George 2015. The “new” world of prosumption: Evolution, “return of the same”, or revolution? *Sociological Forum* 30(1): 1–17. <https://doi.org/10.1111/socf.12142>

- Ritzer, George 2019. *The McDonaldization of Society: Into the Digital Age*. (9th ed.) Los Angeles: Sage Publications.
- Ritzer, George; Malone, Elizabeth L. 2000. Globalization theory: Lessons from the exportation of McDonaldization and the new means of consumption. *American Studies* 41(2/3): 97–118.
- Ritzer, George; Ryan, Michael 2002. The globalization of nothing. *Social Thought & Research* 25(1/2): 51–81. <https://doi.org/10.17161/STR.1808.5191>
- Ritzer, George; Stillman, Todd 2001. The modern Las Vegas casino-hotel: The paradigmatic new means of consumption. *M@n@gement* 4(3): 83–99. <https://doi.org/10.3917/mana.043.0083>
- Schiller, J. C. Friedrich von 2002[1795]. *Letters upon the Aesthetic Education of Man*. London: Blackmask.
- Sebeok, Thomas A. 1972. *Perspectives in Zoosemiotics*. The Hague: Mouton de Gruyter.
- Sebeok, Thomas A. 1990. *Essays in Zoosemiotics*. Toronto: Toronto Semiotic Circle: University of Toronto.
- Shi, Lei; Sun, Yanyan; Xu, Hong; Liu, Yifan; Li, Yunlei; Huang, Ziyang; Aixin, Ni; Chen, Chao; Li, Dongli; Wang, Panlin; Fan, Jing; Ma, Hui; Chen, Jilan 2020. Effect of age at photostimulation on sexual maturation and egg-laying performance of later breeders. *Poultry Science* 99(2): 812–819. <https://doi.org/10.1016/j.psj.2019.12.027>
- Siegel, Paul B. 2023. Broiler genetics and the future outlook. *Frontiers in Physiology* 14: 1150620. <https://doi.org/10.3389/fphys.2023.1150620>
- Tønnessen, Morten 2011. *Umwelt Transition and Uexküllian Phenomenology*. (Dissertationes Semioticae Universitatis Tartuensis 16) Tartu: Tartu University Press.
- Tønnessen, Morten 2015. Umwelt and language. In: Velmezova, Ekaterina; Kull, Kalevi; Cowley, Stephen J. (eds.), *Biosemiotic Perspectives on Language and Linguistics*. Cham: Springer, 77–96. https://doi.org/10.1007/978-3-319-20663-9_5
- Uexküll, Jakob von 1926. *Theoretical Biology*. New York: Harcourt, Brace & Company, Inc.
- Uexküll, Jakob von 1982. The theory of meaning. *Semiotica* 42(1): 25–82. <https://doi.org/10.1515/semi.1982.42.1.25>
- Uexküll, Jakob von 1992. A stroll through the worlds of animals and men: A picture book of invisible worlds. *Semiotica* 89(4): 319–391. <https://doi.org/10.1515/semi.1992.89.4.319>
- Uexküll, Jakob von 2010. *A Foray into the World of Animals and Humans: With a Theory of Meaning*. Minneapolis: University of Minnesota Press.
- Uexküll, Thure von 1982. Introduction: Meaning and science in Jakob von Uexküll's concept of biology. *Semiotica* 42(1): 1–24. <https://doi.org/10.1515/semi.1982.42.1.1>
- Uslu, Mehmet Emir 2020. Semiocide: An introduction to semiotics of destruction of the meaningful. *Sign Systems Studies* 48(2/4): 224–245. <https://doi.org/10.12697/SSS.2020.48.2-4.03>
- Vänskä, Annamari 2014. New kids on the mall: Babyfied dogs as fashionable co-consumers. *Young Consumers* 15(3): 263–272. <https://doi.org/10.1108/YC-10-2013-00400>
- Vänskä, Annamari 2016. 'Cause I wuv you!' Pet dog fashion and emotional consumption. *Ephemera: Theory & Politics in Organization* 16(4): 75–97.
- Weber, Max 2001. *The Protestant Ethic and the Spirit of Capitalism*. London: Routledge.

**Симулятивна тварина та симулятивний Умвельт:
до методу аналізу та критики нелюдських тварин
в умовах споживання**

У даній статті я працюю з концептом “симулятивної тварини”, введеного соціологом Джорджем Рітцером. Зорема, я зосереджуюсь на темах раціональних систем, зачаруванні, тілесності нелюдських тварин та їх поведінці. Мені йдеться про те, що симулятивні тварини є нелюдськими істотами, що контролюються, структуруються або репрезентуються в контекстах споживання. На основі цього я розробляю концепт “симулятивного Umwelt”. Симулятивний Umwelt виникає внаслідок синтезу зоосеміотики та теорії Рітцера, суть цього концепту у досвідах та репрезентаціях нелюдських тварин у раціоналізованих середовищах та контекстах споживання. Його формулювання досягається шляхом застосування Umwelt-теорії до суб’єктивного досвідного аспекту симулятивних тварин через Umwelt-конструювання, у безперервному пошуку описових та критичних підходів до нелюдських тварин, що тісно пов’язані зі споживанням.

**Simuleeritud loom ja simuleeritud omailm. Tarbimiskeskcondadesse
paigutatud mitteinimestest loomade analüüsimise ning
kritiseerimise meetodi poole**

Arendan artiklis edasi sotsioloog Georg Ritzeri mõistet “simuleeritud loom”, keskendudes ratsionaalsetele süsteemidele, lummusele (*enchantment*) ning mitteinimestest loomade kehalisusele ja käitumisele. Väidan, et simuleeritud loomad on mitteinimesed, keda kontrollitakse, struktureeritakse ning kujutatakse tarbimiskontekstides. Selle põhjal töötan välja mõiste, mida nimetan “simuleeritud omailmaks”. Simuleeritud omailm tuleneb zoosemiootika ja Ritzeri tööde sünteesist ning keskendub mitteinimestest loomade kogemustele ja nende representatsioonidele ratsionaliseeritud taustadel ning tarbijate representeerimises. Selleni jõutakse, rakendades omailmateooriat ning -analüüsi simuleeritud loomade subjektiivse kogemuse aspektile omailmalooma kaudu, püüdes järjepidevalt saada tulemuseks kirjeldavaid ning kriitilisi lähenemisi mitteinimestest loomadele, kes on tihedalt seotud tarbimisega. Lõpetan artikli, rõhutades simuleeritud omailma rekonstrueerimise kasulikkust mitteinimeste kogemuste “tõeliselt” intersubjektiivse kirjeldamise hõlbustamisel.