Gabriela Jarzębowska

Species Cleansing

The Cultural Practice of Rat Control

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Introduction

This book is the product of an interest in the environment in the city and sustainable urban policy going back many years. Before dedicating myself to academic work, I was an activist and expert supporting "green" trends in urban planning. Over time, however, I reached the conclusion that understanding urban nature as presented in discussions about eco-cities is highly problematic. I was particularly concerned about the consistent disregarding of troublesome species of animals that undermine the Arcadian vision of "nature" and are therefore awkward in terms of implementing specific persuasive strategies.

Rats, however, are a unique case. It is not enough to say that they are overlooked or identified as troublesome, which is the case with such species as pigeons and free-roaming cats. This is because in the public debate, but also in popular perception, they do not operate in the paradigm of nature/environment, but rather as an economic and sanitary problem. Urban rats – conscious, intelligent animals that experience pain, "effectively separated from the human community by a wall of disgust"[1] – are treated as living waste. Disgust, fear and shame are the three social emotions that organise the popular reception of rats in cities – emotions that we can refer to as the "anti-rat triad". As I shall attempt to show, its prevalence is a consequence of the spread of the sanitary and modernising discursive practices associated with modernity.

I decided to analyse rat extermination using a specific example – that of postwar Poland. As a semi-peripheral post-socialist country, Poland can be treated as a paradigmatic case. On the one hand, it faces similar problems with urban rats to other European countries (and, with certain differences, the United States and Canada). Various phenomena – urbanisation in the nineteenth and twentieth centuries, rapid industrialisation, spread of a bourgeois lifestyle, the development of epidemiology, twentieth-century cleanliness standards – all followed similar trajectories in Poland as in the West, resulting in a diminishing

1 P. Krupiński, *Dlaczego gęsi krzyczały? Zwierzęta i Zagłada w literaturze polskiej XX i XXI wieku*, Warszawa: Wydawnictwo IBL, 2016, p. 77.

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tolerance to the presence of rodents in cities. In this sense, the Polish case study can be treated as a *pars pro toto* of the rat extermination discourse in late modernity – a discourse that turned rats from ubiquitous creatures living in the vicinity of humans and treated with indifference into a deadly threat demanding coordinated administrative actions.

Yet Poland was also a unique case: the arena of the Holocaust and the bloodiest events of the Second World War, and thereafter a country incorporated into the Soviet sphere of influence at the time of the greatest Stalinist terror and remaining there for almost half a century. And then, post-1989, a country subjected to a sudden and painful transformation from a socialist system to capitalism. As I shall show, these major sociopolitical upheavals were of fundamental significance for the formation of the discourse on urban nature management. Poland can therefore be treated as an experiment on a living organism showing the various relations between people and city rats – at both discursive and material level – depending on political and historical factors. It also reveals the extent to which the discourse specifying the norms for behaviours towards animals is shaped by the ideologies dominant at a given historical moment.

* * *

Why must rats be exterminated? – asks the pioneer of Polish rat control, Aleksander Brodniewicz, in a booklet published in 1953. Its title is significant. Today, nobody would be likely to put the question this way, in Poland or any other country of the Global North. Even if the effectiveness of dealing with rats often leaves much to be desired, the need to do so is no longer questioned. In keeping with Brodniewicz's proposals, the extermination of these mammals has become an integral element of the protection of health and public property, as well as a yardstick of modernisation and hygiene. The battle has been won. How did this come about? What kind of rhetorical strategies have allowed the killing of urban rodents to be so thoroughly naturalised that it has become self-evident to the point of near imperceptibility? I shall try to answer these and other questions in this book.

In this book, I investigate postwar rat extermination practices in Poland and the discourse organising them. I trace the historical processes of the formation of contemporary rat control, analysing various determinants of the decision-making processes involving the control of the population of this species. I also examine the accompanying narratives, especially the cultural scripts into which the rhetoric justifying the extermination of urban rodents fits. I consider the performative function of language and images particularly important, meaning how they translate into creating and perpetuating specific social practices.

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Cultural ideas associated with the presence of rats in cities have their own specificities. They should be considered in an intersectional perspective – one in which the negative status of a given group is reinforced by a series of overlapping circumstances. I will attempt to prove that this kind of perception of rats might be an important reference point for the lack of ethical consideration of rat control practices. I will do this by investigating why, at a time of intensive development of animal rights, the question of minimising suffering is practically absent in the debates surrounding rat extermination. My assumption is that **the lack of moral reflection in implementing rat control practices is caused by the unique status of this species in modern Western culture. Moreover, in the Polish discourse, rats have been symbolically excluded from the context of nature management and included in the sanitary narrative, as reflected in the language in the concept of "DDD" (disinfection, disinsection, deratisation). Elimination of rat populations thereby becomes a form of purging a given area of an undesirable element. Given the similarity to ethnic cleansing practised towards human communities, I will call this "species cleansing".**

The concept of species cleansing was introduced by Adrian Franklin to describe the extermination of non-native species in Australia.[2] Franklin's thesis is that the negative portrayal of alien species in the country was a consequence of specific social processes rooted in colonial history and Australian nationalism. He claims that extermination drives, supposedly based exclusively on scientific facts (associated with the dangers that these species pose to local ecosystems), are de facto carried out even when there is no conclusive evidence of the actual existence of such a destructive influence. Furthermore, Franklin argues, animal elimination schemes often play down the threat from native species that cause damage to the ecosystem, confining themselves to "foreign", "un-Australian" creatures, thus reflecting the nationalistic foundations of the phenomenon.

Franklin's article is important in this discussion as it not only reveals a rhetorical continuity between xenophobic and ecological discourses, but also their common historico-cultural source, which is the fear of an alien, destabilising element threatening the social and biotic community. But it is important to stress that my understanding of species cleansing (I present my theoretical model in Chapter 6) is slightly different, and should not be equated with Franklin's. This is because extermination of rats in Poland is seldom placed in an ecological narrative, while the population growth of these animals in urbanised areas is unquestionable. Yet the rhetoric on rat extermination is similarly ruthless and bitter and accompanied by a distinct rhetoric of invasion. This analysis may

2 A. Franklin, "An Improper Nature? Introduced Animals and 'Species Cleansing' in Australia", in: *Humans and Other Animals. Critical Perspectives,* eds. B. Carter, C. Nickie, Basingstoke: Palgrave Macmillan UK, 2011, pp. 195–216.

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therefore offer a useful tool for understanding the specificities of combating troublesome species as a form of environmental management and their similarities to mechanisms present in genocidal narratives.

I must emphasise that the objective of my research is neither to play down the problems associated with the presence of rats in urbanised areas nor to equate animals with excluded groups of people. My aim is to analyse the sociocultural mechanisms common to political purges and certain forms of environmental management.[3] I examine the discursive strategies used for including animals in political narratives in the context of reinforcing the processes of modernity. I thus propose an alternative, biology-based, perspective on the modernisation narrative in postwar Poland.

Rat extermination between science and culture

This book combines reflection on issues of history and cultural studies with methods from the field of social science and natural science. It is therefore not only transdisciplinary (crossing the boundaries between various disciplines of the humanities), but also trans-domain, striving to develop a "third culture"[4] – a bridge between the natural sciences and humanities. Scientific knowledge for me becomes a basis for posing research questions. **I am particularly interested in how the unique form of relations between rats and humans in cities (transfer of pathogens, competition for resources) and the species' biological characteristics (above-average immunity, high fertility, opportunistic feeding) becomes a foundation for creating specific, usually extremely confrontational narratives justifying the need for their extermination. In other words, I investigate how biological facts – especially those from the ethology of rats, the urban ecology of rats and humans, and epidemiology – are incorporated into the narrative scripts on which the symbolic exclusion of these rodents from the vertebrate community is founded. In a broader sense, therefore, my research offers an example of the translation of the findings of natural sciences into the language of public debate. As I shall show in the following chapters, this is a process characterised by a far-reaching sharpening and simplification of facts and incorporating them into particular, widely comprehensible narratives usually based on social fears.**

In the book I use the generic name "rat" (*Rattus*) for short to refer to the brown or Norway rat (*Rattus norvegicus*). The vast majority of rats currently found in Poland as well as in most cities of the Global North belong to this species.

3 Edmund Russell did likewise in: *War and Nature. Fighting Humans and Insects with Chemicals from World War I to Silent Spring,* Cambridge–New York: Cambridge University Press, 2011.

4 J. Brockman, *The Third Culture*, New York: Simon & Schuster, 1995.

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Significantly, given the historical nature of this book, however, Poland in the first decades after the Second World War was also home to the black rat (*Rattus rattus*). I am interested in the relations between humans and rats living in the wild in Polish cities. Laboratory rats, pet rats and populations occurring outside of urban areas will not be considered in my analysis.

There is no doubt that the presence of rats in urbanised areas is a problem. Uncontrolled, rapid urbanisation, growth in the global *Homo sapiens* population (together with an increase in their level of consumption), ineffective waste disposal and climate change are all factors conducive to population expansion of these mammals. A consequence of this is a major escalation of interspecies conflict. The situation is compounded (from the point of view of our own species) by their increasing biological and behavioural resistance to successive generations of rodenticides. The findings of this book reveal a consensus among scientists dealing with this problem that poisoning rodents is a short-term action, and effective methods for reducing rat numbers should focus on prevention and reducing their fertility. Why, in this case, are we unable to go beyond the logic of extermination? As I shall try to show, this is at least partly due to the mental and cultural mechanisms organising the way we think about rats and our relations with them.

In the field of knowledge about the brown rat, a significant discrepancy is revealed. On the one hand, its use in laboratory research as a model organism means that it is one of the most studied species of animal, especially in terms of its morphology, physiology and cognitive abilities. On the other hand, little is known about the ecology of free-living brown rats owing to the very limited number of studies.[5] This causes problems in determining the extent to which the results obtained from laboratory experiments (e. g. concerning social structure or inter-individual relations) can be extrapolated to populations living in the wild. The low number of credible studies concerning the likelihood of a genuine epidemiological threat occurring means that decisions on rat population control are taken in conditions of high uncertainty, more the sum of chaotic and accidental actions than a coordinated strategy. As a result, a vast number of these

5 This problem has been identified in many works, including: D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology of Rattus Norvegicus: From Opportunism to Kamikaze Tendencies", in: *Ecologically-Based Management of Rodent Pests,* eds. G. Singleton et al., Australian Centre for International Agricultural Research, Canberra 1999, pp. 41–81; C. Himsworth et al., "Using Experiential Knowledge to Understand Urban Rat Ecology: A Survey of Canadian Pest Control Professionals", *Urban Ecosystems* 2013, 16, pp. 341–350; M. Parsons et al., "Trends in Urban Rat Ecology: A Framework to Define the Prevailing Knowledge Gaps and Incentives for Academia, Pest Management Professionals (PMPs) and Public Health Agencies to Participate", *Journal of Urban Ecology* 2017, 1 (3).

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mammals die in vain, as the conditions created by our species usually lead to swift population renewal.

My research is based on the premise that, among many factors contributing to rat extermination policy, the most important is the discourse created by the rat control sector and pest control experts collaborating with them. This is the main transmission belt for mediating scientific knowledge to the mass media, public administration and citizens. It therefore shapes attitudes and opinions concerning both the presence of these animals in cities and the factors to be considered when making decisions on methods for dealing with them. The discourse of the pest control sector is therefore the main subject of my research.

It is also important to remember that this process of producing meanings takes place in specific sociocultural and axiological conditions. It is these that decide which elements of the complicated knowledge about human–rat relations in the city are emphasised (e. g. health and economic threats) and which are marginalised or excluded from the debate (e. g. animals' suffering and the ethical-environmental dimension of their extermination). By analysing the Polish pest control discourse, we can therefore answer the questions of which narratives about rats and extermination initiatives are created and reinforced within the existing debate and how materials produced by the industry form and sustain the stereotypical image of entities with negative cultural connotations. And also: can we find in them attempts to develop positive figures of "otherness" indicating a change in attitudes to this animal?

Merging the modernity discourse with a narrative of war based on depreciation of the enemy is well known in studies on genocide (especially the Holocaust). My hypothesis is that a similar mechanism can be observed in debates on environmental management. An animal with a low symbolic status is included in the sanitary narrative and stigmatised as a dangerous factor causing disease. This phenomenon can be ascribed to a broader cultural mechanism that Umberto Eco called "inventing the enemy", which is useful for consolidating collective identity and defending the values important for a particular social group.[6] Based on the rat control rhetoric, I examine how the cultural mechanisms of exclusion work and what persuasive strategies they might adopt.

A broader, more global perspective on the problem reveals common connections between the rhetoric of exterminating pests and/or invasive species and xenophobic and racist rhetoric. I therefore believe that an analysis of organised and institutional cruelty with political foundations may prove useful for post-colonial and subaltern studies, genocide studies and other fields of research concerning systemic discrimination of negatively viewed groups. Unlike with

6 U. Eco, *Inventing the Enemy and Other Occasional Writings,* trans. R. Dixon, New York–Boston: Mariner Books, 2013.

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social groups facing discrimination, the portrayal of rats is not fettered by humanism and conventional morality, which may (not counting extreme examples such as Nazi rhetoric) to a certain extent curb the mechanisms of building social hatred in xenophobic narratives. Attitudes to rats may therefore serve as a gauge of the mechanisms of othering in an extreme case. This aspect of my research places it in the tradition of comparative analyses of exclusion mechanisms in human communities and interspecies relations, previously conducted, among others, by Charles Patterson,[7] Marjorie Spiegel,[8] and, in Poland, Michał Bilewicz.[9] My project is therefore both a contribution to and an opening for further rhetorical analyses of exclusion mechanisms. While based on previous findings from genocide studies, it also provides new analyses, offering an opening to the future for these areas of research.

The problem of "species cleansing" and engaged humanities

This book is guided by the premise that, amid growing conflicts and environmental threats, the humanities should participate in developing practical solutions to the problems of the contemporary world, rather than restricting itself to a descriptive and critical function. New methods of analysis and theories are necessary, as well as interpretations fostering and stimulating thinking about humans' place in the world.

My book should therefore be considered from an engaged humanities perspective, meaning that it provides tools for making changes in social practices. At this level, its objective is to develop alternative narratives to describe the relations between rats and humans in urbanised spaces. I believe that pointing to such alternatives can help to create more sustainable methods for dealing with these mammals. By this I mean more humane methods with a lesser negative influence on the animals' welfare, but also characterised by diminished environmental impact and greater effectiveness in the long run.

In theoretical and cultural studies terms, meanwhile, I am aiming to recognise the rhetorical patterns organising the debate on the specific case of environmental management of the extermination of the urban rat population. I also identify the points at which this rhetoric reflects the linguistic and visual patterns

7 C. Patterson, *Eternal Treblinka: Our Treatment of Animals and the Holocaust*, New York: Booklight, 2001.

8 M. Spiegel, *The Dreaded Comparison: Human and Animal Slavery*, London: Mirror Books/IDEA, 1997.

9 M. Bilewicz, "Funkcjonalna dehumanizacja. Studium odczłowieczenia ofiar i grup uciskanych", in: *Poza stereotypy: Dehumanizacja i esencjalizm w postrzeganiu grup społecznych*, eds. M. Drogosz, M. Bilewicz, M. Kofta, Warszawa: Scholar, 2012.

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of othering. Viewed from this perspective, the book can provide knowledge concerning both the cultural functioning of stereotypes and how debates on controlling nature are organised discursively.

Against this background, I call for control of the urban rat population to be incorporated at both an empirical and a rhetorical level into the management of nature – treated, that is, in the same way (also in terms of animal welfare) as control of other problematic populations of vertebrates inhabiting cities. This proposal is not only cognitive, but also ethical and practical. My ambition is to open a discussion on specific proposals for changing practices in this field. Certainly, this does not mean that I am calling for inclusion of rats in the domain of urban "nature". I agree with the dominant tendency in current humanities that problematises this concept as an at least partly socially constructed phenomenon and replaces it with the notion of natureculture.[10] Furthermore, in my view the reason for the symbolic exclusion of rats from the community of urban mammals has in fact been the establishment of a narrow, essentialistic and exclusory concept of "nature". Moreover, as I shall demonstrate in the book, certain tendencies in "green urban planning" promote the expansion of this species, thereby indirectly contributing to the magnitude of subsequent cleansing.

I am therefore interested in the city as a naturecultural space, and particularly the question of our capacity to tolerate in our environment the non-human actors that threaten the interests of our species. In other words, I am attempting to answer the question of how much an expanded community can be an inclusive category. A concept that accompanied me throughout my work on the book was interspecies utopia. I understand this to mean the attempt to develop practices allowing various life forms to coexist in conflicts. Utopian thinking interests me as the expansion of what is "thinkable" in specific social and historico-cultural conditions. In other words: as challenging well-worn and seemingly obvious stereotypes and ways of thinking. But I am even more interested in the borders of utopia; that unique place in which the imagination of the world is confronted anew with material, ecological and social limitations forcing us to make often difficult compromises.

An important issue that influenced the direction the book took was the question of anchoring the ethics of rat extermination in aesthetics. I agree with Eviatar Zerubavel that not only the processes of perceiving, but also of collective ignoring of specific phenomena have deep cultural foundations and result from a more or less overt social contract separating what is worth noticing from what is not.[11] As I shall try to prove, the experience of the presence of urban rats as an

10 Cf. D. Haraway, *The Companion Species Manifesto, Chicago:* Prickly Paradigm Press, 2003.
11 E. Zerubavel, *The Elephant in the Room. Silence and Denial in Everyday Life,* Oxford–New York: Oxford University Press, 2006.

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aesthetic experience is also strongly affected by specific regimes of visibility and invisibility. I am particularly referring to what Nicholas Mirzoeff calls "active ignoring" and, alluding to Rancière's "police version of history", describes as discursive communicative practices: "move on, there's nothing to see here".[12] Indeed, the contemporary rat control discourse dissuades looking. The animal being killed and suffering is a great absentee in this kind of rhetoric. This contains evident traces of Foucauldian biopolitical programmes. Pest extermination campaigns based on pure, brutal violence (and thus, to use Michel Foucault's language, on sovereign power), which could still be observed in the first decades after the war, would soon be replaced with sophisticated violence concealed behind modern technology and complicated bureaucratic procedures.

At the same time, social ideas about rats are significantly affected by culturally reinforced disgust, with the result that their corporeality is widely depicted as repugnant. Interestingly, the negative affect weakens markedly when rats are residing in areas with high aesthetic evaluations. Both my interviews and field observations show that rats living in parks and green spaces are more frequently greeted with neutral or even positive reactions from human residents than those encountered in neglected alleyways or cellars. Analysing the aesthetic representations of cockroaches, Nathalie Blanc notes that the symbolic exclusion of these insects from the context of nature is a consequence of identifying them with the anthropogenic, often negatively viewed spaces that they inhabit.[13] A similar phenomenon can be observed with the aesthetic perception of rats. We can therefore make the hypothesis that the space in which the interspecies contact takes place has a significant impact on the social reception of these rodents.[14]

The dominant cultural perception of rats is largely based on an anti-rat myth. In using the concept of a myth, I am thinking of what Mary Midgley calls "networks of powerful symbols that suggest particular ways of interpreting the world".[15] Meanwhile, Roland Barthes emphasises that a myth, unlike a symbol, is living, present, and "indisputable",[16] and the knowledge it contains is formed by loose, shapeless associations.[17] At the same time, "myth hides nothing and flaunts nothing: it distorts; myth is neither a lie nor a confession: it is an inflexion".[18] One could say similar things about the arguments in favour of the need

12 N. Mirzoeff, *How to See the World*, New York: Basic Books, 2016, ebook.
13 N. Blanc, "Cockroaches, or Worlds as Images", *Contemporary Aesthetics* 2007, 5, no page numbering.
14 As an aside, it is worth adding that this phenomenon no doubt also takes place in reverse – that is the presence of rats symbolically reduces the value of spaces even with a high aesthetic value.
15 M. Midgley, *The Myths We Live By*, London–New York: Routledge, 2003, p. 15.
16 R. Barthes, *Mythologies*, trans. A. Lavers, New York: Noonday Press, 1972, p. 117.
17 Ibid., p. 118.
18 Ibid., p. 128.

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for absolute eradication of city rats. It is neither a lie (because rats really do share certain pathogens with us, compete with us for resources and destroy the infrastructure we created), nor true (because it contains subtle semantic shifts, exposing some aspects of interspecies coexistence and erasing others). Yet it is a subtle combination of the real and the imagined, a "black box of the imagination" simplifying interspecies relations hugely.[19] This is probably why it is so strongly embedded in the models of social perceptions and so resistant to change, thereby influencing the colloquial reception of urban rodents. This colloquiality, as defined by Zbigniew Kloch, models the "common-sense world", creating unreflective statements and beliefs taken as read about reality, based on well-worn formulas seen as self-evident.[20] I therefore made it my aim to problematise the objective, anti-rat myth that conditions and justifies the extermination of these animals, while also proposing to create alternative narratives about them and their relationship with humans.

Research methods and theoretical framework

The research this book is based on is characterised by so-called radical interdisciplinarity, combining the humanities and social sciences with natural sciences.[21] I therefore use methods belonging to various fields of the humanities, but also refer to hybrid methodology, whose objective is to develop new methods and approaches to research on the problems in question. I treat the phenomenon of rat control in postwar Poland as a case study that I examine from various angles using different competences and research tools. This transdisciplinary perspective might contribute to a more complete and nuanced understanding of the phenomenon.

My research methods included textual analysis and analysis of visual representations obtained as a result of archival research, as well as ethnographic fieldwork combined with direct observation and interviews. I also make use of scientific texts from the natural sciences, especially zoology, ecology and epidemiology. The reason for this is not only to check the credibility of the materials used, but also to verify the research process itself. In this way, I am able to avoid a situation in which the discourse analysis becomes a process detached from the

19 M. Napiórkowski, *Władza wyobraźni. Kto wymyśla, co zdarzyło się wczoraj?*, Warszawa: Wydawnictwo Uniwersytetu Warszawskiego, 2014, p. 22.

20 Z. Kloch, *Odmiany dyskursu. Semiotyka życia publicznego w Polsce po 1989 roku*, Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego, 2006, p. 16.

21 Radical interdisciplinarity in the context of the history of animals is discussed by Ewa Domańska in "Historia zwierząt", *Konteksty. Polska Sztuka Ludowa* 2016, 3–4, pp. 322–331.

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empirical ecological or epidemiological context affecting the relationship between rats and humans.

The level of complication and multifaceted nature of rat control practices leads me to consider and analyse many biological, technological and political factors shaping them. An important theoretical context for my research is therefore provided by actor–network theory, developed and popularised by Bruno Latour.[22] Moreover, administratively organised extermination practices, and especially their evolution from being literal and brutal to disembodied and technologised, encourage use of the concept of biopolitics presented by Foucault.[23] When analysing the research material, especially fragments replicating genocidal narratives, I employ the theories developed by Zygmunt Bauman[24] and René Girard,[25] as well as Mary Douglas's theory of impurity.[26] In a broader theoretical context, the framework for this project is marked out by science and technology studies (STS), especially Karen Barad's concept of material-discursive practices producing both meanings and physical objects while also excluding or marginalising the production of others.[27] This perspective treats the empirical and rhetorical dimension of species management policy as a continuum, rather than separate, opposite areas, with one, belonging to natural sciences, examining facts, and the other, linked to the humanities, investigating meanings and values.

Since much of the book comprises an analysis of the representations of rats in pest control sector materials and the meanings they produce, it also needs to be considered in the context of visual culture studies. This assumes that research on visuality should not be confined to analyses of cultural images and texts, but should treat them as a sphere of broader cultural practices encompassing the construction of a specific type of forms of visibility or invisibility. I am mostly guided by the pointers in Gillian Rose's important publication in this field,[28] as well as Peter Burke's book, which calls for studies on images and visuality to be

22 B. Latour, *Politics of Nature: How to Bring the Sciences into Nature*, trans. C. Porter, Cambridge, MA: Harvard University Press, 2009.

23 Although Foucault develops his biopolitics theories most completely in his series of lectures at the Collège de France from 1978 and 1979, my reading of rat control rhetoric resonates most with the process of transfer from sovereign to disciplinary power described in *Discipline and Punish: The Birth of Prison*, trans. A. Sheridan, New York: Pantheon, 1975.

24 Z. Bauman, *Modernity and the Holocaust*, Cambridge–Maldon: Polity Press, 1989.

25 R. Girard, *The Scapegoat*, trans. Y. Freccero, Baltimore: Johns Hopkins University Press, 1989.

26 M. Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*, Routledge: Abingdon, 2002.

27 K. Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Durham: Duke University Press, 2007.

28 G. Rose, *Visual Methodologies: An Introduction to Researching with Visual Materials*, London–Thousand Oaks–New Delhi: SAGE, 2001.

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incorporated into historical research.[29] As a historian of art, I transfer the tools and methods characteristic of this discipline to cultural and historical studies. Competences in this field are crucial here, as many of the contents examined are visual materials that I analyse using the standard methods of history of art such as visual analysis, comparative analysis, iconography, semiotics and hermeneutics. My work entails content analysis of found materials followed by establishing them in the wider context by carrying out discourse analysis. I conduct a rhetorical and linguistic-semiotic analysis on the texts and interview transcripts. While working with the found materials, I place a particular emphasis on the relationship between text and image, especially in terms of their persuasive functions.

However, the objective of my analysis of the rat control discourse is not exclusively descriptive and cognitive. Following Steve Baker,[30] I also investigate the impact of the models of the animals' representation in visual culture on the formation and consolidation of social attitudes towards them. I am also interested in the linguistic practices accompanying rat control, especially the metaphors used (and over-used) in describing these animals and their extermination. Echoing George Lakoff and Mark Johnson, I see these metaphors as not only rhetorical devices, but also mental processes both reflecting and shaping our reception of the world.[31] They are therefore strongly performative[32] in nature and function as cultural models, which means that they can directly or indirectly shape the social perception of the animals.[33]

It is important to stress that I treat the above theories and approaches as a starting point for my research – an inspiration and support for the process of creating meanings, and not an end point. I find this an important distinction. This is because the approaches, theories and methods developed hitherto in the aforementioned research disciplines are mostly associated with the interpretive-constructivist paradigm dominant in the 1980s and 1990s, which proved insufficient for the discussion in this book. As Ewa Domańska notes, researchers using it have generally utilised existing theories as ready-made "toolboxes", treating the research material as a field for testing the analytical tools taken from this box, thus making their analyses predictable and limiting the potential of the

29 P. Burke, *Eyewitnessing: The Uses of Images as Historical Evidence*, Ithaca: Cornell University Press, 2008.

30 S. Baker, *Picturing the Beast. Animals, Identity and Representation*, Urbana: University of Illinois Press, 2001.

31 G. Lakoff, M. Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press, 2003, p. 3.

32 M.-Y. Tseng, "The Performative Potential of Metaphor", *Semiotica* 2010, 180, pp. 115–145.

33 A. Sabloff, *Reordering the Natural World. Humans and Animals in the City*, Toronto–Buffalo: University of Toronto Press, 2001, p. 23.

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material.[34] In this book, however, we are dealing with "unruly research subjects", which demand complementary and transdisciplinary perspectives linking the humanities with natural sciences, and have a major potential for innovation. It is therefore worth focusing on empirical research (as well as creating original sources). Consequently, I use existing theories as a starting interpretive framework for formulating the initial premises and research questions, and not as a ready-made mode that I apply instrumentally for analysing texts and images. Guided by the ideas of grounded theory,[35] which Domańska proposes applying in the humanities as a way of contributing to the production of a new, "bio-humanist" paradigm,[36] I am trying to extract analytical categories and construct a "bottom-up" theory from analyses of empirical material. In line with the procedure for creating a theory proposed there, I conduct a comparative analysis and create generalisations, building a theoretical model on their basis.

I also use methods from the social sciences, especially interviews with people working in the rat control sector as well as direct observations. The interviews have a twofold function, and I use them to study and verify both facts and opinions, tailoring the methods to these ends. First, they are expert interviews, in the sense that they help me to construct rat control practices, both in the historical and the contemporary dimension, as well as the systemic problems the sector faces.[37] I therefore use standardised interviews, often (albeit not always) based on closed questions. I try to continually confront the information provided by the interviewees (e. g. concerning the factors conducive to growth of the rat population) with scientific reports. At the same time, however, my assumption is that the practical knowledge of people working as rat exterminators, based on many years of experience, can be equally useful as that produced by scholars, especially given the lack of academic research in this field.[38] Therefore, if information appeared in several statements made by unrelated people, I regarded it as credible.

34 E. Domańska, "Jakiej metodologii potrzebuje współczesna humanistyka", *Teksty Drugie* 2010, 1–2, pp. 45–55.

35 B. Glaser, A. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research,* New Brunswick–London: Aldine, 1967; K. Charmaz, *Constructing Grounded Theory*, London–Thousand Oaks–New Delhi: SAGE Publications, 2014.

36 E. Domańska, "Jakiej metodologii potrzebuje", op. cit. Krzysztof Konecki also discusses the use of Grounded Theory in research in visuality in the article "Wizualna teoria ugruntowana. Podstawowe zasady i procedury", *Przegląd Socjologii Jakościowej* 2012, 8 (1), pp. 12–45.

37 A similar study, based on interviews with Canadian rat exterminators, was performed in 2013 by Himsworth and colleagues: C. Himsworth et al., "Using Experiential Knowledge", op. cit. Cf. also K. Beumer, "Catching the Rat: Understanding Multiple and Contradictory Human-Rat Relations as Situated Practices", *Society & Animals* 2014, 1 (22), pp. 8–25.

38 K. Beumer, Catching the Rat, op. cit.

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The second aim of the interviews was to study the attitudes and opinions of people involved in rat control regarding these animals, the practices of their killing and their role in the human environment, with a particular focus on the presence or absence of ethical reflection. This is my reason for employing non-standardised (or partially standardised) in-depth interviews. I am particularly interested in the language the interviewees use to describe their work, and especially the attitudes whose presence can be detected on this basis. To check whether this reflection appears spontaneously, I deliberately eliminated questions on ethical issues from the interviews, unless my interlocutors themselves steered the conversation in this direction (which usually happened after the question on the use of glue traps).

While conducting the interviews, I anonymised them as standard. Given the size of the pest control sector in Poland and the ease with which participants in the research can be recognised, I assumed that anonymity (about which I informed the interviewees in each case) can facilitate freer expression of their opinions. An exception to this rule was the interview and email correspondence with Tadeusz Karpiński, the founder of the DDD Museum (who agreed to the interview not being anonymised). Given the interviewee's role in the Polish pest control sector and his historical knowledge, this was more of an expert interview than the others. At the preliminary stage of the research, I was also provided with expert information on rat control in Poland by a pilot interview with Stanisław Ignatowicz, a professor at Warsaw University of Life Sciences (although, given its exploratory nature, this was not among the interviews I analysed).

On several occasions I also employed direct observation, mainly at pest control sector events. The most important of these took place at the ConExPest trade fair in Wrocław in 2017. As a result of the research at these events, I initiated interviews with participants in the event (mainly pest control company employees and owners) and also compiled notes and photographic documentation. By holding interviews in a more informal atmosphere, without audio recording and often in the presence of several people participating in the discussion, I gained a broader perspective on the phenomenon by interacting with the participants in their natural, everyday conditions and observing their mutual interactions.

Rat extermination as cultural practice: Literature review

This book is situated in the interdisciplinary research fields of critical animal studies and environmental humanities. It is therefore part of the biological and ecological turn in the humanities, which has led to growing interest in studying the cultural relations between humans and the environment. The book should be

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considered in the context of works investigating the relations between the biological and the political in twentieth-century modernising strategies[39] as well as the similarities between strategies of warfare and certain forms of environmental management,[40] and critically analysing the rhetoric of the ecology of invasion, demonstrating its ideological basis.[41] The publication is also a response to the debate, developing especially in recent years, calling for the perception of interspecies relations in a political perspective.[42] Although the analysis goes in a somewhat different direction, anchoring relations between rats and humans in the political remains important for justifying the arguments made in the book.

A large part of my analyses are historical, with research in the field of animal history providing an important context. Historians have grown increasingly interested in a non-anthropocentric perspective in recent years.[43] Among them are scholars dealing with cultural issues in the reception of so-called pests from a historical perspective: here we can mention publications by Dawn Biehler[44] and Lucinda Cole,[45] as well as the wider, cultural studies context of this phenomenon offered by a monograph edited by Kelsi Nagy and Phillip David Johnson.[46] Colin Jerolmack's[47] and Nathalie Blanc's[48] publications analysing the cultural and aesthetic reception of despised urban animals – pigeons (Jerolmack) and cock-

39 Cf. F. Rowe Davis, *Banned: A History of Pesticides and the Science of Toxicology*, New Haven: Yale University Press, 2014; N. Ahuja, *Bioinsecurities. Disease Interventions, Empire and the Government of Species*, Durham–London: Duke University Press, 2016; L. Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*, Berkeley: University of California Press, 2007.

40 Cf. E. Russell, *War and Nature*; D. Wadiwel, *The War against Animals (Critical Animal Studies),* Leiden–Boston, 2015.

41 *The Ethics and Rhetoric of Invasion Ecology,* eds. J. Stanescu, K. Cummings, Lanham–Boulder–New York–London: Lexington Books, 2017.

42 Cf. e. g. S. Donaldson, W. Kymlicka*, Zoopolis. A Political Theory of Animal Rights*, Oxford: Oxford University Press, 2013.

43 E. Baratay, *Le Point de vue animal. Une autre version de l'histoire*, Paris: Seuil, 2012; E. Fudge, "A Left-Handed Blow: Writing the History of Animals", in: *Representing Animals*, ed. N. Rothfels, Bloomington: Indiana University Press, 2002, pp. 3–18; P. Eitler, "Animal History as Body History: Four Suggestions from a Genealogical Perspective", *Body Politics* 2014, 4 (2), pp. 259–274; D. G. Shaw, "A Way with Animals. Preparing History for Animals", *History and Theory* 2013, 52, pp. 1–12; B. L. Walker, "Animals and the Intimacy of History", *History and Theory* 2013, 52, pp. 45–67; cf. also E. Domańska, "Historia zwierząt", op. cit.

44 D. Biehler, *Pests in the City: Files, Bedbugs, Cockroaches and Rats*, Seattle: University of Washington Press, 2013.

45 L. Cole, *Imperfect Creatures. Vermin, Literature, and the Sciences of Life, 1600–1740,* Ann Arbor: University of Michigan Press, 2016.

46 *Trash Animals. How We Live with Nature's Filthy, Feral, Invasive and Unwanted Species*, eds. K. Nagy, P. Johnson, Minneapolis–London: University of Minnesota Press, 2013.

47 C. Jerolmack, "How Pigeons Became Rats. The Cultural-Spatial Logic of Problem Animals", *Social Problems* 2008, 55 (1), pp. 72–94.

48 N. Blanc, "Cockroaches", op. cit.

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roaches (Blanc) – also proved useful for conceptualising my research. Scholars who have examined the history of animals in Poland include Dariusz Jarosz in his in-depth study of the extermination of free-ranging dogs under Władysław Gomułka[49] and Karolina Wróbel-Bardzik, who tackles the place of animals and the environment in occupied Warsaw.[50] Włodzimierz Pessel[51] and Ewelina Szpak,[52] meanwhile, analysed the sanitary-modernising discourse in twentieth-century Poland.

The history of rats and their relationship with our species has been outlined in several books: by Hans Zinsser,[53] Jonathan Burt,[54] Anthony Barnett,[55] Robert Sullivan[56] and Robert Hendrickson.[57] Although these are overviews and popular science, they are mostly based on archive materials (chiefly from the English and German language areas). They provided me with a starting point and an invaluable source of knowledge in my attempts to sketch the history of relations between *Rattus norvegicus* and *Homo sapiens.* Apart from Burt's book, however, none of them offers a deeper, critical analysis of the relations between rats and humans or seeks to dismantle anti-rat myths. Sometimes the authors even consolidate these myths outright.[58]

49 D. Jarosz, "Wielka masakra psów w Polsce gomułkowskiej", *Polska 1944/45–1989. Studia i Materiały* 2017, 17, pp. 103–133.

50 Cf. e.g. K. Wróbel-Bardzik, "Odwrócone zoopolis. Zwierzęta towarzyszące w getcie warszawskim", *Przegląd Kulturoznawczy* 2019, 4 (42), pp. 450–465.

51 W. Pessel, *Antropologia nieczystości. Studia z kultury sanitarnej Warszawy*, Warszawa: Wydawnictwo Trio, 2010.

52 E. Szpak, "Warunki sanitarne w powojennej Polsce. Zarys problemów i dynamiki zmian", *Polska 1944/45–1989. Studia i Materiały* 2014, 12, pp. 277–299.

53 H. Zinsser, *Rats, Lice and History*, London–New York: Routledge, 2008 (1939).

54 J. Burt, *Rat*, London: Reaktion Books, 2004.

55 A. Barnett, *The Story of Rats. Their Impact on Us and Our Impact on Them*, Sydney–Adelaide: Allen&Unwin, 2001.

56 R. Sullivan, *Rats. Observations on the History and Habitat of the City's Most Unwanted Inhabitants*, New York: Bloomsbury, 2005.

57 R. Hendrickson, *More Cunning than Men. A Social History of Rats and Men*, New York: Kensington, 1983.

58 E.g. Hendrickson repeats as fact the story that rats survived the atom bomb on Eniwetok Atoll (for which there is no conclusive evidence), thus perpetuating the myth of these animals as indestructible. Cf. W. Jackson, "Survival of Rats at Eniwetok Atoll", *Pacific Science* 1969, 23, pp. 265–275.

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Structure of the book

The book consists of an introduction and six chapters, as well as a conclusion with proposals for the future.

Chapter 1 (Rats and Humans: A Problematic Cohabitation) begins by presenting the cultural status of rats. In it, I describe the patterns and social ideas that might influence the formation of the contemporary myth of this animal. I then sketch a biological overview of brown rats and the problems caused by their presence in urbanised areas. Based on the available subject literature, I reconstruct an outline of the history of the extermination of this species. I discuss the debates on widely used methods, describing the controversies associated with them, particularly concerning their impact on the environment and animal welfare. I conclude the chapter with a critical analysis of proposals to moderate rat control practices, attempting to locate the main challenges and problems blocking their implementation.

Chapter 2 ("Fighting the Enemy": A Brief History of Rat Extermination in Poland, 1945–1989) is historical in nature. I present the most important phenomena and mechanisms that shaped the Polish rat control sector in the postwar period as well as their material dimension, including the methods used for exterminating rats at the time. I also sketch the dynamics of change that affected the development of the industry. I show that rat control in the Stalinist era had a political and propaganda dimension which it lost in subsequent decades, and this may have affected the deepening crisis in the sector.

Chapter 3 ("Constant Dripping": Rat Control Propaganda in 1945–1989) describes the discursive practices shaping the social reception of rats in the Polish People's Republic. I place particular emphasis on rat control propaganda in the Stalinist period, when an unprecedented and since unequalled level of extermination of these animals was seen. In this chapter, I conduct a visual analysis of materials calling for rat extermination, as well as an analysis of the rhetoric of academic and popular science publications related to this problem. I point to the main iconographic motifs and rhetorical devices shaping the image of these mammals (the rat as enemy, the rat as pathogen), and thus indirectly influencing the formation of social practices concerning their extermination.

In Chapter 4 ("Threat Removal Services": The Rat Control Discourse after 1989), I examine the rat control rhetoric in the industry after the political and economic transformation. I show that the material-discursive practices of rat extermination reveal an advancing process of disembodiment and euphemisation of the death of animals, which is almost completely excluded from the domain of visibility. I demonstrate that this occurs systemically, at several levels of phenomena shaping contemporary forms of rat control: from the legislative-institutional dimension, constructing a framework for permitted forms of ex-

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termination of these animals in their material dimension, via the ideological and economic dimension associated with the inclusion of killing rats into the logic of late capitalism, and ending with the sociocultural dimension, exploiting the myths and stereotypes associated with these mammals and thus, indirectly, reinforcing anti-rat phobia.

Chapter 5 ("A Craft Like Any Other?" Rat Exterminators on Their Work) reflects more deeply on the specifics of rat control in Poland and the relationship between rats and humans based on interviews with rat exterminators. Most of the interviewees are critical of the dominant forms of managing urban rat populations and the behaviour of our species aiding their growth, pointing to a need for changes in social attitudes as well as preventive decisions. While aware of the threats to health and economic concerns caused by these animals, most of the rat control professionals I interviewed were keen to distance themselves from the widespread anti-rat stereotypes and public concerns associated with them, which they saw as exaggerated. The dominant opinions regarded rat control as an important and necessary activity, albeit not always enjoying sufficient social prestige. Some of my interviewees also expressed overt moral objections concerning their profession.

In the final, sixth chapter (Rat Extermination as Species Cleansing), I anchor the information in a broader historico-cultural context. I compare the mechanisms of denying rats their generic specifics in the rat control rhetoric and the strategies of dehumanising individuals and groups regarded as hostile in genocidal projects. I recognise the continuity of the linguistic and iconographic templates used for describing rats in the context of antisemitism and creating the image of the enemy in Stalinism. In this chapter I also propose a definition of species cleansing and present the model for it, placing the phenomenon in the broader historico-cultural context connected to the processes of constituting modernity.

To conclude, I summarise the results of the research and outline possible scenarios for breaking the status quo. I argue that a change in social attitudes and the perception of rats will be possible only if there is a change in the cultural narratives concerning these animals, their presence in cities and their relationship with humans. I therefore propose "defusing" the negative rat stereotype by reversing these vectors. To this end, I analyse two positive rat role models functioning in the public discourse: the Rats of Tobruk and Pizza Rat.

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Chapter 1.
Rats and Humans: A Problematic Cohabitation

The rat as pest

To fully understand the contemporary discourse concerning control of the rat population, we must first grasp the reasons for the unique status of this species in Western culture. Like other animals conflicting with human interests, for centuries rats have had the status of pests. Yet this explanation does not suffice to account for their contemporary status. I will start, therefore, with an outline of the phenomenon of pests, before examining the status of rats, attempting to show what makes them special and sets them apart from other species referred to in this way.

The popular perception of pests regards them as populations of animals defined by the damage and disorder they cause and the belief that they spread disease. The New Zealand Biosecurity Act defines pests as any species capable or potentially capable of causing harm to natural and physical resources or posing a threat to human health.[59] The Cambridge Dictionary's definition is "an insect or small animal that is harmful or damages crops",[60] while the Biology Online dictionary refers to "A general term for organisms (rats, insects, etc.) which may cause illness or damage or consume food crops and other materials important to humans".[61] In another source, we can read: "Species are not created as 'pests'. Whether a species constitutes a pest is a direct result of the preferences of humans. Animals or plants that are in places or at times where humans do not want them to be are considered pests".[62] A pest is therefore any organism that threatens humans and their health and welfare.[63]

59 K. Littin et al., "Animal Welfare and Ethical Issues Relevant to the Humane Control of Vertebrate Pests", *New Zealand Veterinary Journal* 2004, 52 (1), pp. 1–10.
60 https://dictionary.cambridge.org/dictionary/english/pest.
61 https://www.biologyonline.com/dictionary/pest.
62 https://lawexplores.com/the-ecology-of-pests/.
63 D. Resnik, *Environmental Health Ethics*, New York: Cambridge University Press, 2012.

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Even this cursory overview of definitions reveals that the definition of a pest takes various criteria into account, depending on the context. Most importantly, however, it is a strictly anthropocentric concept: it is human interests that designate its definitional criteria. Animals referred to as pests are therefore problematic owing to their transgressive potential. Crossing the boundaries established by humans can cause anxiety and a sense of threat (real or imagined), and even lead to a phenomenon of moral panic.[64] An ecosystem relationship based on competition for resources – in the non-human world seen as entirely "natural" and correct – is described using a separate, negatively valued term only because it concerns species competing with humans.[65]

Although the competition for resources between *Homo sapiens* and other species has existed since prehistoric times, the phenomenon of the pest in its contemporary form emerged only with the formation of large human settlements, and with them excess food. This process gained impetus with the appearance of monocultures disrupting ecosystem relationships as well as colonialism, which caused problematic species of animals to be dispersed around the world.[66] The phenomenon of so-called sanitary pests is also at least partly an outcome of human decisions.[67] At the same time, fear of animals which might spread pathogens dangerous to humans (often unproportional to the real threat) can also have a biological explanation. From an evolutionary point of view, avoiding them, even excessively, is beneficial, since it reduces the risk of exposure to potential pathogens.[68]

Nevertheless, it is worth examining the mechanism of defining damage in relation to animals, for example calling sick animals "vectors of disease". In his philosophical analysis of the status of pests, Stephen Young notes that in the process of defining damage we have the tendency to concentrate on the causes that we can control, but when this is impossible, we define as the key element that which minimises our responsibility for the situation at hand. We therefore blame an epidemic on its other victims (e. g. rats, decimated by pathogens, yet referred to as disease vectors) from which we can be infected, without attaching im-

64 Among the authors to have discussed this question are William Cronon in the foreword to: D. Biehler, *Pests in the City,* op. cit., p. 7; C. Jerolmack, "How Pigeons Became Rats", op. cit.; R. Twine, *Animals as Biotechnology. Ethics, Sustainability and Critical Animal Studies,* London–Washington: Routledge, 2010, p. 51.

65 This is pointed out by Mark Winston in: *Nature Wars. People vs. Pests*, Cambridge, MA–London: Harvard University Press, 1997, p. 1.

66 Ibid., pp. 6–7.

67 Among the authors to cite the hypothesis that zoonotic diseases are a consequence of the process of domesticating animals is Jared Diamond, in: *Guns, Germs, and Steel: The Fates of Human Societies*, New York: W. W. Norton & Company, 1999, pp. 157–175.

68 T. J. Kasperbauer, *Subhuman. The Moral Psychology of Human Attitudes to Animals*, New York: Oxford University Press, 2018, p. 25.

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portance to anthropogenic factors. We thereby minimise our role and justify the extermination of problematic species.[69]

A phenomenon similar to the concept of pests yet which avoids an anthropocentric perspective is invasive species. The concept of invasion ecology is too broad to be analysed here. It is worth noting, however, that from this perspective a problematic species is no longer just one that enters into conflict with the vital interests of humans, but also one that endangers the ecosystem.[70] The assumptions of invasion ecology have faced growing criticism in recent decades. Such criticism has called into question the eternal static and harmonious nature of ecosystems, which from the beginning of the existence of life on Earth have been subject to the processes of dynamic changes.[71] With these doubts in mind, however, it is worth remembering that, unlike the traditional narrative describing economic and sanitary pests, invasion ecology is, by definition, characterised by non-anthropocentric thinking. It is the stability of the ecosystem as a whole that is the highest instance in judging the usefulness or otherwise of particular species, rather than the selfish interests of *Homo sapiens*. On the other hand, it is not hard to notice that the ecosystem perspective never fully displaced the anthropocentric one, but merely appended new values to it. Consequently, describing a given species as a threat to the ecosystem may be a pretext for exterminating a species that humans find troublesome.

The concept of a pest is therefore used to describe species of animals that enter into conflict with particularistic human interests by contaminating food, destroying infrastructure and carrying diseases, but also by their hard-to-define "nuisance" nature. More broadly, we can also include in this category invasive species threatening the stability of the ecosystem, although the relations between these concepts are ambiguous.[72] Regardless of the criteria we accept in defining this concept, however, populations of free-roaming rats are almost certain to be included.

Contrary to popular belief, the contemporary symbolic status of these rodents is relatively recent. Burt shows that in the Middle Ages it did not differ significantly from the status of mice. These mammals were perceived mainly as "thieving" animals that were a nuisance to humans, but rarely did they arouse

69 S. Young, "On the Status of Vermin", *Between the Species* 2006, 13 (6).

70 For more on invasive species, see D. Simberloff, *Invasive Species, What Everyone Needs to Know*, Oxford–New York: Oxford University Press, 2013; Y. Baskin, *A Plague of Rats and Rubbervines. The Growing Threat of Species Invasions,* Washington–Covelo–London: Island Press, 2002.

71 Cf. D. Botkin, *Discordant Harmonies: A New Ecology for the Twenty-First Century*, Oxford: Oxford University Press, 1992; F. Pearce, *The New Wild. Why Invasive Species will be Nature's Salvation*, Boston: Beacon Press, 2015.

72 The word "pest" in the subject literature often refers to invasive species.

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such strong connotations of disease and death as they do nowadays.[73] In the early modern period, we can find cultural sources identifying rats with a demonic nature. Along with toads and snakes, they tended to be presented as companions of witches.[74] A factor in the species' worsening status at the dawn of modernity might have been the displacement of the black rat by the larger brown rat. This species, originally from Central Asia, was more likely than its European cousin to occupy damp areas such as cellars and sewers, places with negative connotations in the symbolic geography, associated with dirt and decay, danger and disease.

In their analysis of the phenomenon of transgression, Peter Stallybrass and Allon White include the figure of the rat in the process of sewerage of European cities. They argue that the animal's new status can be directly linked to the modernist sanitary discourse, which resulted in the creation of a network of sewers for carrying away urban sewage.[75] The sewage system turned out to be an unexpected gift to the unloved rodent, providing it with a comfortable living environment far from predators lying in wait. At the same time, it was an excellent fit to the processes of creating the dualisms characteristic of modernity permitting the symbolic redefinition of the city space. Everything clean, ordered, valued, as well as under human control, remained on the surface. Meanwhile, the unwanted elements of urban metabolism, such as dirt and waste (and the rats associated with them) were "delegated" to the underground world. The authors assign this process to the increasingly widespread belief in the nineteenth century that physical and moral hygiene were inextricable. Citing the case of Sigmund Freud's "Rat Man", they propose the psychoanalytical figure of the metropolis as a body in which the sewer is the anus – that which is suppressed, unconscious, and causing anxiety.[76] Rats appearing on the surface from then on were no longer ordinary pests. They became a disruption of the status quo, transgressively marked violators of an unbreachable boundary. They were accused of excessive reproduction and gluttony. As Burt notes: "Rats manage to bring together the taboo areas of sexual lawlessness and cannibalism".[77] The new phantasm of the free-roaming rat as a demonic entity, breaking free from modernistic disciplinary practices, therefore seems to be closely related to the sanitary narrative and is reflected in the symbolic geography of what we call the modern metropolis.

73 J. Burt, *Rat*, op. cit., p. 10.
74 L. Cole, *Imperfect Creatures,* op. cit., p. 29.
75 P. Stallybrass, A. White*, The Politics and Poetics of Transgression*, Ithaca: Cornell University Press, 1986, p. 143. Sewerage as a metaphor of the modernisation process is also discussed by Donald Reid in the book: *Paris Sewers and Sewermen: Realities and Representations*, Cambridge, MA: Harvard University Press, 1991.
76 P. Stallybrass, A. White*, The Politics and Poetics,* op. cit., pp. 144–145.
77 J. Burt, *Rat*, op. cit., p. 45.

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This phenomenon is strongly rooted in aesthetics. The authors of *The Politics and Poetics of Transgression* cite Friedrich Engels' analysis of the symbolic geography of the nineteenth-century city, where dirt – embodied by the proletariat and animals – was hidden from the bourgeois gaze.[78] Of course, shame and taboo are not an invention of modernity. But this was what removed a large section of practices towards animals from the sphere of visibility. Although, as I have mentioned, rats were also exterminated previously, their presence in a farmhouse, district or city had hitherto been regarded as self-evident. Modernity created the figure of the rat as an animal whose presence is not only undesirable, but also profoundly concealed and shameful, something "unthinkable".

This shamefulness is stoked by the brown rat's tendency to occupy areas with negative connotations (cellars, sewers, dark alleyways). As a result, it even becomes a synonym of dirt, its cultural manifestation. In her book *Purity and Danger*, Douglas described the cultural status of dirt as follows: "If we can abstract pathogenity and hygiene from our notion of dirt, we are left with the old definition of dirt as matter out of place".[79] Dirt, the author writes, is the by-product of a systematic process of classification and systematisation, understood as rejection of elements that do not fit the system, and is therefore a form of disruption of the social order.[80] Since a significant factor supporting the growth of the rat population is failure to maintain adequate hygienic conditions, these animals are automatically included in the rhetoric of uncleanliness. This established a narrative linking their presence with a lack of hygiene, poverty, and even social pathologies. That in turn might explain why the appearance even of individuals of this species can generate such strong emotions among humans. This way of thinking is often reinforced by cultural and mass media texts constructing a narrative according to which the presence of rats in "better" neighbourhoods becomes a scandal, while in "worse" ones it puts a symbolic seal on negative social phenomena.

This mechanism may also be strengthened by the peculiarities of the social organisation of rat populations. These animals live in large groups with an extremely fast reproduction rate. They therefore become the embodiment of animality in the sense given to the concept by Gilles Deleuze and Félix Guattari, that is as a synonym for radical plurality, multiplicity, constant becoming, in which individuality is consumed by the group, swarm or population. The authors ascribe this multiplicity to "demonic animals, pack or affect animals". Interestingly, writing about reproduction, they emphasise the importance of a "block of becoming" based not on relationship or evolution, but on population through

78 P. Stallybrass, A. White, *The Politics and Poetics,* op. cit., p. 130.
79 M. Douglas, *Purity and Danger,* op. cit., p. 36.
80 Ibid., p. 36.

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contagious contact.[81] Although the concept of contagion has a metaphorical potential for Deleuze and Guattari, it seems important in the context of a species that is generally seen as a synonym of a reservoir of disease. The image of the city rat as a synonym of multiplicity may be relevant for this argument, especially for issues of empathy for animals subject to rat control practices. Here it is worth contrasting two figures: the laboratory rat as a "living machine" and the sewer rat as an uncontrollable population. The laboratory rat as research model is a specimen, an individual form, even if it is repeatedly multiplied and killed in its millions. The "sewer" rats of the city are always perceived in a paradigm of multiplicity. Perhaps this subconscious mechanism is partly to blame for the lack of interest in city rats from philosophers dealing with the status of animals as well as animal rights activists. For the empathy mechanism to be engaged, we must discern the individual's suffering.

The ecology of brown rats

Both the brown and the black rat belong to the order of rodents, comprising over 40% of all mammals living on Earth. The genus *Rattus* encompasses a total of 61 species and is the most populous mammal genus on Earth. All species of rats derive from Southeast Asia. Five of them, including brown and black rats, are synanthropic[82] and commensal[83] species. Brown rats have adapted to urbanised areas, and their populations are seldom found outside of human settlements.[84] Moreover, this species is characterised by exceptionally easy adaptation to new conditions and resources. It is therefore currently encountered in the majority of urbanised areas in the world.[85]

The brown rat is among the fastest-reproducing species of mammals. Considering the rapid succession of generations, the offspring from one original pair

81 G. Deleuze, F. Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. B. Massumi, London–New York: Continuum, 2004, pp. 263–265.

82 Synanthropes are plant and animal organisms associated with an environment modified by humans, directly accompanying humans, living with them and using their food or indirectly benefiting from human activity. J. Strzałko, *Słownik terminów biologicznych,* Poznań: Wydawnictwo Naukowe UAM, 2006, p. 621.

83 Commensalism is an asymmetrical type of interspecies interaction in which individuals from one species benefit from coexistence with individuals from another species, while the latter do not benefit but also are not harmed (except for allowing the former species to access their food). Ibid., p. 297.

84 R. Nowak, *Walker's Mammals of the World,* Baltimore–London: Johns Hopkins University Press, 1991.

85 A. Feng, C. Himsworth, "The Secret Life of the City Rat: A Review of the Ecology of Urban Norway and Black Rats (*Rattus Norvegicus* and *Rattus Rattus*)", *Urban Ecosystems* 2014, 17, pp. 149–162.

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can be as many as 15,000 in one year.[86] The species does not have a specific mating season, and the female can be on heat all the time.[87] In a temperate climate, however, the reproduction rate is slower in winter, peaking in spring and autumn.[88] Gestation lasts between 21 and 26 days, and the female is ready for renewed fertilisation just 18–21 hours after giving birth to a litter of two to 22 (on average eight or nine) young.[89] A female gives birth to between one and 12 (on average five) litters annually.[90] Young rats leave the nest independently 22–30 days after birth and reach sexual maturity after around two–three months, usually between 85 and 115 days[91] – the more food they get, the quicker.[92] Consequently, compared to populations living outside of cities, urban rats attain sexual maturity faster, and therefore their reproduction rate is also quicker. Furthermore, females living in large groups are on heat synchronically, resulting in an increased survival rate of their young as the females feed them together and chase others out of the nest.[93] This in turn reduces the level of competition from young rats born in previous litters.[94]

Rats in natural conditions have short lives, usually no longer than a year, with a death probability of 90–95% within a year. We know little about the causes of this low survival rate, except that the influence of predators is relatively low.[95] We also know very little about the mortality of rats as a result of disease. All that is known is that, apart from the (now rare) plague spread by them, they are not affected by infectious diseases.[96] Rats are, however, vulnerable to tumours and dust particles,[97] which may increase their mortality rate in the polluted (also chemically) urban environment.

Data on the ecology of rats in cities are very limited and largely based on estimates. The variability and complicated nature of their habitats makes it

86 R. Sullivan, *Rats,* op. cit., p. 11.
87 A. Barnett, *The Story of Rats,* op. cit., p. 150.
88 R. Nowak, *Walker's Mammals of the World,* op. cit.; A. Feng, C. Himsworth, "The Secret Life", op. cit.
89 R. Nowak, *Walker's Mammals of the World,* op. cit.
90 Ibid.; A. Feng, C. Himsworth, "The Secret Life", op. cit.
91 R. Nowak, *Walker's Mammals of the World,* op. cit.; M. Lund, "Social Mechanisms and Social Structure in Rats and Mice", *Ecological Bulletins* 1975, 19, pp. 255–260.
92 D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology", op. cit.
93 J. Calhoun, *The Ecology and Sociology of the Norway Rat*, Bethesda: US Department of Health, Education and Welfare, 1962.
94 A. Feng, C. Himsworth, "The Secret Life", op. cit.
95 Ibid.
96 C. Himsworth et al., "Rats, Cities, People, and Pathogens: A Systematic Review and Narrative Synthesis of Literature regarding the Ecology of Rat-Associated Zoonoses in Urban Centers", *Vector Borne Zoonotic Diseases* 2013, 13 (6), pp. 349–359.
97 This issue is discussed, for example, by Edilberto Bermudez et al. in: "Pulmonary Responses of Mice, Rats, and Hamsters to Subchronic Inhalation of Ultrafine Titanium Dioxide Particles", *Toxicological Sciences* 2004, 77 (2), pp. 347–357.

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difficult to determine which factors influence the dynamics of their populations.[98] The capacity of a population's environment is closely related to the availability of food and space for nesting, largely provided by sewage networks, gaps in buildings and foundations. City rats, however, are not exclusively dependent on anthropogenic structures; they also build their own systems of nests.[99]

The main barriers dividing individual populations living in cities are transport lanes. A population's territory is therefore usually limited to a district.[100] Rat dispersal is also blocked by waterways and so-called resource deserts, where there is a lack of resources necessary for survival, resulting in a strong genetic differentiation within the (meta-)populations of rats living in big cities.[101] As a rule, these animals do not travel large distances, but remain in the environment in which they were born. The maximum recorded movements of an individual were 11.5 kilometres, but these are thought to be isolated cases. Rat movements might also be caused by their extermination, as new individuals colonise spaces vacated by exterminated populations. One study showed that reduction of the population by 88% as a result of rat control led to a growth in the rat population numbers in the area in question of between 3 and 20% as a result of migration from neighbouring areas, mainly sewers.[102]

Rats are omnivorous and opportunistic eaters, although brown rats demonstrate a certain preference for animal products.[103] They accumulate large stocks of food, but avoid spoilt items.[104] A Canadian study on the remains of these animals using an isotopic method also showed that city rats' diet has a higher nutritional value and was more stable than that of rats living in rural areas.[105] Rats usually feed at dusk,[106] as well as, according to other research, two to three hours before dawn.[107] When food sources are available during the day, however, they easily adapt.[108] Feeding can be disrupted by rainfall, but no disruptions have been

98 D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology", op. cit.; A. Feng, C. Himsworth, "The Secret Life", op. cit.
99 A. Feng, C. Himsworth, "The Secret Life", op. cit.
100 Ibid.
101 M. Combs et al., "Urban Rat Races: Spatial Population Genomics of Brown Rats (*Rattus Norvegicus*) Compared across Multiple Cities", *Proceedings of the Royal Society* 2018, 285 (1880).
102 K. Byers et al., "Rats about Town: A Systematic Review of Rat Movement in Urban Ecosystems", *Frontiers in Ecology and Evolution* 2019.
103 R. Nowak, *Walker's Mammals of the World,* op. cit.
104 A. Feng, C. Himsworth, "The Secret Life", op. cit.
105 E. Guiry, M. Buckley, "Urban Rats Have Less Variable, Higher Protein Diets", *Proceedings of Royal Society B: Biological Sciences* 2018, 285(1889).
106 A. Feng, C. Himsworth, "The Secret Life", op. cit.
107 K. Byers et al., "Rats about Town", op. cit.
108 J. Calhoun, *The Ecology and Sociology of the Norway Rat*, op. cit., p. 112.

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observed as a result of the presence of humans. A difference between sexes has been revealed in feeding: females generally feed more frequently, but for shorter periods, whereas males do so less often, but their foraging trips usually last longer.[109] If there is sufficient food, feeding areas are common spaces for all members of the colony.[110] Rats' neophobia is often emphasised in the context of their feeding behaviour. This phenomenon occurs particularly among synanthropic rats and is scarcely observed in populations living outside of the human environment[111] as well as among laboratory rats.[112] Yet this is not a permanent characteristic. If an environment constantly changes, rats adapt to changes and are not bothered by them.[113] The idea that rats are universally neophobic is also challenged by contemporary research.[114]

The rat population includes kin groups comprising a dominant male protecting the territory from other males and one or several females with offspring. The female occupies the nest herself or with several other females which may jointly care for the young.[115] Contrary to what might one expect, greater population density means that defence of the territory is reduced, not increased. Outsider rats are more likely to be attacked in small colonies, probably because in larger ones it is harder to recognise individual specimens.[116] Furthermore, research conducted in rural areas in England shows that a population rich in resources will comprise many males and females. When the resources are limited or diffuse, however, numerous migrations of males occur, as well as areas where one male monopolises access to several females. This causes disruption to the sex proportions.[117] A similar mechanism may also operate in city rat populations. In stable populations, social status is more often determined by the male's age than his size (subordinate males are often larger than the alpha male). This is because good access to resources covering the needs of all members of the colony means that fighting is not worthwhile.[118] The social position of a kin group is determined by the number of females (the more there are, the higher the position of the group), their reproductive success and the location of the nest in terms of distance from food sources.[119]

109 A. Feng, C. Himsworth, "The Secret Life", op. cit.
110 M. Lund, "Social Mechanisms and Social Structure", op. cit.
111 D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology", op. cit.
112 A. Barnett, *The Story of Rats*, op. cit., p. 56.
113 Ibid., pp. 61–62.
114 Cf. K. Modlińska, R. Stryjek, W. Pisula, "Food Neophobia in Wild and Laboratory Rats (Multi-Strain Comparison)", *Behavioural Processes* 2015, 113, pp. 41–50.
115 J. Calhoun, *The Ecology and Sociology of the Norway Rat,* op. cit.
116 M. Lund, "Social Mechanisms and Social Structure", op. cit.
117 D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology", op. cit.
118 Ibid.
119 M. Lund, "Social Mechanisms and Social Structure", op. cit.

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The presence of rats in *Homo sapiens*' environment and the struggle with them is among humans' most difficult relationships. The scale of the problem is difficult to assess. Estimates from 2003 showed that in the United Kingdom alone, 20 million rodents regarded as pests were killed annually, compared to "only" 2.7 million of the same animals killed every year in laboratories.[120] Even if not all the individual animals included in the statistics belong to the *Rattus* genus, the scale of the phenomenon is still vast. And yet, as it turns out, also insufficient. Despite large-scale rat control programmes, rats are still among the species causing the biggest problems on a global scale, in terms of both sanitary-epidemiological dangers and economic threats.

Traditionally, the disease most commonly associated with rats is plague, although this is now curable by widely available antibiotics. Globally, between 1,000 and 2,000 cases annually of this disease are reported to the WHO. Even given the fact that the number of people affected might be underestimated owing to poor diagnostics in the countries where it occurs (especially in Africa),[121] nowadays it does not represent as large a threat as in previous centuries.[122] A much more serious health risk is leptospirosis. Annual numbers of people affected are estimated at 500,000 worldwide, especially in the countries of the Global South. Spread of the disease may be related to climate change, and especially floods, which are conducive to the development of pathogens.[123] Traditionally associated with rural areas, it is increasingly frequently observed in urbanised areas too, where rats are the main carriers.[124] Serious diseases spread by rats also include trichinosis (10,000 cases annually worldwide, although the main source of infection is eating contaminated meat[125]), salmonellosis, which particularly causes major economic losses (epidemics among farm animals),[126] and rat-bite fever.

In all these cases, the threat of disease is particularly prevalent in the countries of the Global South. Among the causes of this phenomenon are the warm climate and widespread areas of poverty and overcrowding in these countries causing problems with maintaining adequate sanitary conditions, as well as lack of access

120 B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", *Pest Management Science* 2008, 64 (12), pp. 1205–1211.

121 Centers for Disease Control and Prevention, https://www.cdc.gov/plague/maps/ (access: 26 June 2019).

122 However, Meerburg et al. assess the threat to life and probability of infection as "quite large".

123 M. Schneider et al., "Leptospirosis: A Silent Epidemic Disease", *International Journal of Environmental Research and Public Health* 2013, 10 (12), pp. 7229–7234.

124 C. Himsworth et al., "Rats, Cities, People, and Pathogens" op. cit., see also: A. Minter et al., "Optimal Control of Rat-Borne Leptospirosis in an Urban Environment", *Front. Ecol. Evol.* 2019, 7 (209).

125 Centers for Disease Control and Prevention, https://www.cdc.gov/parasites/trichinellosis/epi.html (access: 26 June 2019).

126 B. Meerburg, G. Singleton, A. Kijlstra, "Rodent-Borne Diseases and Their Risks for Public Health", *Critical Reviews in Microbiology* 2009, 35 (3), pp. 221–270.

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to medical care.[127] On a global scale, climate change and transformations in the structure of human settlement (mainly urbanisation) have a major impact on the growth of diseases carried by rodents.[128] In a study among Canadian exterminators, 47% of respondents assessed the health threat caused by rats as "moderate" and 20% as "large". At the same time, 53% said that it was health threats that were the main reason for their clients' fears about these animals.[129] It is also worth emphasising that the threat of zoonotic diseases affects many species (mostly domesticated by humans). Tyler Joshua Kasperbauer cites statistics according to which rats share 27 species of parasites with humans, whereas cats share 54, dogs 71 and sheep as many as 84. It is a similar story with diseases. We share 23 disease entities with rats, 25 with cattle, and 29 with dogs.[130]

Rats are also regarded as the biggest economic pests, although estimates vary. According to Feng and Himsworth, in the United States alone losses caused by rats consuming and contaminating stored grains amount to 19 billion dollars annually.[131] Mason and Littin give a figure of 900 million dollars, noting that a further 300 million is consumed by rat control operations.[132] Amid such large discrepancies, estimates based on non-monetary estimates might prove useful. According to data provided by Singleton et al., losses of rice (mostly caused by rodents) before the harvest in Indonesia are around 17% on average – enough to cover the needs of 25 million Indonesians. Given the fact that rice accounts for 50–60% of the energy demand in countries like Indonesia, losses of this magnitude can represent major threats to food security.[133] Furthermore, rat bites to infants as well as disabled and homeless people are more common in less affluent countries. They are practically unheard of in highly developed countries, and in the sporadic cases when they do occur, receive extensive media attention.[134] To this we can also add damage to infrastructure, including electricity cables. An estimated 25% of fires of unknown origin are caused by rats.[135]

127 C. Himsworth et al., "Rats, Cities, People, and Pathogens", op. cit.
128 S. Battersby, "Rodents as Carriers of Disease", in: *Rodent Pests and Their Control*, eds. A. Buckle, R. Smith, CABI, Oxfordshire–Boston 2015, pp. 81–100.
129 Meanwhile, 40% said that aesthetic concerns were the decisive criterion. C. Himsworth et al., "Using Experiential Knowledge", op. cit.
130 T. J. Kasperbauer, *Subhuman*, op. cit., p. 27.
131 A. Feng, C. Himsworth, "The Secret Life", op. cit.
132 G. Mason, K. Littin, "The Humaneness of Rodent Pest Control", *Animal Welfare* 2003, 12 (1), pp. 1–37.
133 G. Singleton et al., "Ecologically-Based Management of Rodent Pests – Re-Evaluating Our Approach to an Old Problem", in: *Ecologically-Based Management of Rodent Pests*, eds. G. Singleton et al., Canberra: Australian Centre for International Agricultural Research, 1999, pp. 17–30.
134 M. Lund, "Commensal Rodents", in: *Rodent Pests and Their Control*, eds. A. Buckle, R. Smith, Oxfordshire–Boston: CABI, 2015, pp. 19–30.
135 R. Sullivan, *Rats,* op. cit.

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In developed countries, rats are usually exterminated for sanitary reasons, and only secondly because of economic threats. The reverse is true in the Global South.[136] However, the above data reveal that epidemiological threats associated with rats are also a bigger problem in developing countries than in developed ones. Moreover, it is worth clarifying what we understand by economic damage. This is different in the rich countries of the North, where high overproduction of food takes place. According to estimates, more than half the world's food is wasted before reaching consumers; these data therefore do not include food waste in households.[137] Amid such large waste in the food distribution and consumption chain, damage caused by rodents is only one of many components of the problem. Yet the concept of economic loss is generally understood to mean both the purely financial losses borne by corporations operating on the food market and material losses capable of causing famine in the affected area, which makes a reliable analysis difficult. Nevertheless (and despite the moderate epidemiological threat in the Global North), in developed countries we can observe lower tolerance for rats than in developing countries. Singleton et al. quote a common response of farmers from the Global South: "for every eight rows of rice we sow for our family, we sow two for the rats".[138] In the countries of the Global North, however, rodent control has taken the form not of intentional management, but large-scale extermination.

Rats are also seen as one of the most important invasive species, devastating native ecosystems.[139] They are regarded as a threat to endemic fauna particularly in island ecosystems, e. g. the Galapagos Islands and Guam,[140] although attempts to exterminate them also take place in larger areas. Recently, authorities in New Zealand decided on the complete eradication of the species (along with possums and stoats) by 2050.[141] Whereas with economic and sanitary damage it is individuals identified as carriers or vectors of disease that are exterminated, and the species they belong to is a secondary matter, the eradication of invasive species means that individuals are exterminated because they belong to a specific species. This may lead to a situation in which one species of rat is exterminated

136 M. Lund, "Social Mechanisms and Social Structure", op. cit.

137 J. Parfitt, M. Barthel, S. Macnaughton, "Food Waste within Food Supply Chains: Quantification and Potential for Change to 2050", *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences (London)* 2010, 365, pp. 3065–3081.

138 G. Singleton et al., "Ecologically-Based Management", op. cit. The source does not specify which area of the world these responses come from.

139 A. Feng, C. Himsworth, "The Secret Life", op. cit.

140 D. Macdonald, F. Mathews, M. Berdoy, "The Behaviour and Ecology", op. cit.

141 A. Klein, "New Zealand to wipe out all Rats as Part of Alien Eradication", *New Scientist*, 26 July 2016, https://www.newscientist.com/article/2098806-new-zealand-to-wipe-out-all-rats-as-part-of-alien-eradication/#ixzz5zm3n65yA (access: 26 June 2019).

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and another is not, which fundamentally does not occur in operations with the objective of exterminating rats as economic or sanitary pests.

The impact of rat control on rodent welfare and the prosocial behaviour of rats

The problem of animal welfare seldom appears in rat control publications. Even when ethical issues are raised, these usually concern the welfare of non-target species which might accidently ingest poison or be subject to secondary poisoning by consuming a poisoned rat. This situation is slowly changing, however, and the question of "humane" control of problematic animals is one that, especially since the late 1990s, has increasingly been raised by scholars. To date, however, this rarely has an impact on practice and the control methods used.

Discussion on the ethics of exterminating problematic species of animals has hitherto mainly developed in academic circles in Australia and New Zealand. Both countries are in the peculiar position of having archaic native fauna sensitive to alien species and subsequently very restrictive laws on exterminating problematic animals.[142] In Australia, species to which humans have positive feelings are also exterminated, and paradoxically, this might turn out to be a happy circumstance for rats. Covered by the same legislation as other "pests", they might profit from amendments as a result of public pressure, which is already slowly taking place.

This part of the world was the birthplace of the first complete, structured, multifaceted theory of welfare as a balance of affects, created by David Mellor of Massey University in New Zealand and named the Five Domains Model of the (Threat) of Welfare,[143] in reference to the famous Five Freedoms model of the UK Farm Animal Welfare Council (FAWC). The factors from domains 1 to 3 (food/water, harmful/dangerous environment, disease/bodily damage) threaten survival by violating physiological balance and bodily integrity and therefore cause strong negative affects motivating a response. Mellor and Ngaio Beausoleil[144] call

142 For example, Sodium fluoroacetate (compound 1080) poisoning of rabbits, foxes, dingoes, but also some native marsupials seen as pests, including the common brushtail possum (*Trichosurus vulpecula*) from the Phalangeridae family in Australia.

143 D. Mellor, "Updating Animal Welfare Thinking: Moving beyond the 'Five Freedoms' towards 'a Life Worth Living', *Animals* 2016, 6 (3), p. 21; Mellor, "Operational Details of the Five Domains Model and its Key Applications to the Assessment and Management of Animal Welfare", *Animals* 2017, 7 (8), p. 60. The first draft of the Five Domains Model was produced in 1993 for assessing the welfare of experimental animals.

144 D. Mellor, N. Beausoleil, "Extending the 'Five Domains' Model for Animal Welfare Assessment to Incorporate Positive Welfare States", *Animal Welfare* 2015, 24, pp. 241–253.

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these factors and the affects they stimulate survival-critical or survival-related, and minimising them leads to quasi-neutral but not unequivocally positive welfare, leaving aside the momentary emotional rebound following removal of the factor causing suffering. Indicators of experiential factors cannot be used for assessing positive welfare, as their effects end after a zero level is attained, for example the stress hormone concentration does not fall below the base line. Lack of suffering therefore does not mean positive welfare, and assessing welfare within the positive range requires different indicators than in the negative range, i. e. indicators of positive affective engagement, including activity during food acquisition, any spontaneous activities, and especially exploration and fun as well as inter-specimen interactions, particularly maintaining bonds (familial and others, even interspecies). Only satisfying widely understood behavioural needs in domain 4 automatically leads to positive welfare, as it is behaviour and sociopositive contacts that are the main source of stimulation to the brain's reward system.

As John Webster[145] notes, Mellor's theory provides a basis for broad research on the impact of various factors on welfare and easily integrates the knowledge acquired from testing the needs and preferences of species – in this sense it is a synthetic welfare theory. Trudy Sharp and Glen Saunders[146] used earlier versions of this theory to develop an assessment of the impact of the humanitarian level of methods for controlling animals regarded as pests, while Beausoleil and Mellor[147] tested it on the example of the extermination of common brushtail possums (*Trichosurus vulpecula*), marsupials from the Phalangeridae family, in New Zealand. Guidelines for evaluating the humaneness of pest control methods in that country were also prepared by Kate Littin and C. E. O'Connor,[148] who propose a five-stage process of assessing humaneness: 1) assess the animal's capacity to suffer, 2) foresee the likely effects of poison, 3) determine the probable duration of the poison's effects, their intensiveness and the number of animals affected, 4) determine the level of welfare reduction (i. e. suffering caused) and 5) estimate the poison's humaneness.

Owing to their mass use in biomedicine, brown rats are the mammals about which most is known in neurobiological terms, which means that their sentience

145 J. Webster, "Animal Welfare: Freedoms, Dominions and 'a Life Worth Living'", *Animals* 2016, 6, p. 35.

146 T. Sharp, G. Saunders, *A Model for Assessing the Relative Humaneness of Pest Animal Control Methods,* Canberra: Australian Government Department of Agriculture, Fisheries and Forestry, 2011.

147 N. Beausoleil, D. Mellor, "Advantages and Limitations of the Five Domains Model for Assessing Welfare Impacts Associated with Vertebrate Pest Control", *New Zealand Veterinary Journal* 2015, 63 (1), pp. 37–43.

148 K. Littin, C. E. O'Connor, *Guidelines for Assessing the Welfare Impacts of Vertebrate Poisons. Landcare Research Contract Report: LC0203/006,* Lincoln 2002.

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and thus also their capacity for suffering are also well understood. Studies of rats' brains have shown that the substrates of sensations (parts of the limbic system and the mesolimbic, i. e. reward system), which are located in the evolutionally conservative part of the brain, do not show qualitative differences in comparison to humans.[149] Imaging of the brain functions using magnetic resonance has shown that pain in these animals is generated by the same areas of the brain as in humans in a similar situation.[150] Rats are used for testing pain in humans, which significantly increases knowledge of their pain mechanisms[151] and has led to the production of a photographic atlas of the facial expression of pain of varying intensity.[152] Their status as pests means that rats' capacity to feel emotions is often ignored.[153] In reality, however, rats, like other mammals, share with us at least a significant part of the spectrum of primary emotions[154] triggered by sensory perception (or the lack thereof).

Among negative emotions (apart from pain), the most distinct and best known are fear and anxiety, triggered by threat and lack of control. However, lack of stimulation (boredom) or deprival thereof, especially of positive stimulation (e. g. from a companion), can also lead to depression and frustration. Rats make a significant effort to get into a cage with a suitably diverse environment.[155] As with pain, negative sensations become suffering when the intensity is high[156] or the duration is long,[157] and especially when escaping them is impossible.[158] Mellor,

149 K. Berridge, "Comparing the Emotional Brains of Humans and Other Animals", in: *Handbook of Affective Sciences,* eds. R. Davidson, K. Scherer, H. Goldsmith, Oxford–New York: Oxford University Press, 2003, pp. 25–51.

150 F. L. J. Smit, "Ethics in Rodent Control", in: *Rodent Pests and Their Control*, eds. A. Buckle, R. Smith, Oxfordshire–Boston: CABI, 2015, pp. 315–329.

151 J. Makowska, D. Weary, "Assessing the Emotions of Laboratory Rats", *Applied Animal Behaviour Science* 2013, 148, pp. 1–12.

152 S. Sotocinal et al., "The Rat Grimace Scale: A Partially Automated Method for Quantifying Pain in the Laboratory Rat via Facial Expressions", *Molecular Pain* 2011, 7 (1), p. 55.

153 J. Makowska, D. Weary, "Assessing the Emotions of Laboratory Rats", op. cit.

154 Primary emotions or, according to Panksepp (2005), core emotional feelings. In this sense, primary emotions are contrasted with secondary, attributive emotions, which are associated with self-appraisal and dependent on self-perception as a perpetrator, that is reflexive self-awareness. J. Makowska, D. Weary, "Assessing the Emotions of Laboratory Rats", op. cit.; J. Panksepp, *Affective Neuroscience. The Foundations of Human and Animal Emotions*, Oxford–New York: Oxford University Press, 1998; Panksepp, "Affective Consciousness: Core Emotional Feelings in Animals and Humans", *Consciousness and Cognition* 2005, 14, pp. 30–80.

155 J. Makowska, D. Weary, "Assessing the Emotions of Laboratory Rats", op. cit.

156 M. Dawkins, *Animal Suffering. The Science of Animal Welfare,* London–New York: Chapman & Hall, 1980.

157 G. Neville, *Physiology and Behaviour of Animal Suffering,* Oxford: Blackwell Science, 2004.

158 D. McFarland, *Problems of Animal Behaviour,* Harlow: Longman Scientific & Technical, 1989; J. Webster, *Animal Welfare. A Cool Eye towards Eden,* Oxford: Blackwell Science, 1994.

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Emily Patteson-Kane and Kevin Stafford[159] define suffering as the opposite of welfare, which shows that the notion of suffering has the same status as welfare and is a fully fledged, scientifically grounded bioethical concept.

Positive emotions (also among humans) are generally less differentiated and individualised than negative ones, making them harder to recognise. There is no doubt, however, that all mammals experience them, as they have a well-formed dopaminergic mesolimbic system, discovered as a reward system along with the discovery of the brain's self-stimulation and particularly well understood in rats. We know enough about this that we can distinguish neurones responsible for the pleasure of wanting and the pleasure or joy of the very act of consumption (liking). These pleasures are correlated with facial expression,[160] which for us is intuitively recognisable and evolutionarily homologous, meaning that it derives from common progenitors of mammals (at least placentals).

Among most vertebrates, and certainly all amniotes (reptiles, birds and mammals), the mesolimbic system participates in motivating social behaviours.[161] In rats[162] and other mammals, the connector is oxytocin, which controls social preferences and affects the nucleus accumbens of this system.[163] We can infer from this that preferred social interactions are linked to positive sensations. Numerous behavioural observations confirm the gratifying effect of both non-sexual and sexual contacts with other rats.[164] The interaction of oxytocin and the mesolimbic system affect production of an emotional bond between parents and their offspring,[165] which is especially strong during lactation – for the mother, as Craig Ferris et al. write, "pup suckling is more rewarding than cocaine".[166]

Like many other mammals (and birds), rats prefer to acquire their food independently rather than eating the same ready-made food (given in a container).

159 D. Mellor, E. Patterson-Kane, K. Stafford, *The Sciences of Animal Welfare,* Oxford: Wiley-Blackwell, 2009.

160 K. Berridge, "'Liking' and 'Wanting' Food Rewards: Brain Substrates and Roles in Eating Disorders", *Physiology & Behavior* 2009, 97 (5), pp. 537–550.

161 L. O'Connell, H. Hofmann, "The Vertebrate Mesolimbic Reward System and Social Behavior Network: A Comparative Synthesis", *Journal of Comparative Neurology* 2011, 519 (18), pp. 3599–3639.

162 M. Lukas et al., "The Neuropeptide Oxytocin Facilitates Pro-Social Behavior and Prevents Social Avoidance in Rats and Mice", *Neuropsychopharmacology* 2011, 36 (11), p. 2159.

163 A. Anacker, A. Beery, "Life in Groups: The Roles of Oxytocin in Mammalian Sociality", *Frontiers in Behavioral Neuroscience* 2013, 7, p. 185.

164 J. Makowska, D. Weary, "Assessing the Emotions of Laboratory Rats", op. cit.

165 F. Champagne et al., "Variations in Nucleus Accumbens Dopamine Associated with Individual Differences in Maternal Behavior in the Rat", *The Journal of Neuroscience* 2004, 24 (17), pp. 4113–4123; R. Bridges, "Neuroendocrine Regulation of Maternal Behavior", *Frontiers in Neuroendocrinology* 2015, 36, pp. 178–196.

166 C. Ferris et al., "Pup Suckling Is More Rewarding than Cocaine: Evidence from Functional Magnetic Resonance Imaging and Three-Dimensional Computational Analysis", *The Journal of Neuroscience* 2005, 25 (1), pp. 149–156.

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They also prefer self-stimulation by pressing a lever (closing an electrical circuit) than the same impulse being provided by the experimenter. This behaviour, known as contrafreeloading, is similar to exploratory behaviours,[167] which are also a source of rewarding sensations[168] resulting from a combination of dopaminergic wanting and opioidal pleasure of consumption.[169] For rats and other mammals (and birds), therefore, the balance of sensations can be increased by the very activity of exploration or foraging. Exploration, in turn, demonstrates links with play, e. g. the frequency of play when young correlates with the intensiveness of exploration among adults.[170] Play is by definition a self-rewarding activity, and it therefore seems likely that gratification for activity enabled the evolutionary emergence of fun. Play occurs in the majority of placentals and is relatively common among rodents.[171] Among rats, both individual motoric (motoric-rotational) and partner play have been observed.[172] The best-understood is partner play of adolescent rats in the form of rough and tumble, although wild rats do this slightly more rarely than laboratory rats.[173] The correlates of this play in the mesolimbic system are well understood.[174] Rats emit ultrasounds of delight[175] and react to being tickled, emitting characteristic vocalisations that may be the equivalent of laughter.[176]

Rats provide help where needed (e. g. by freeing from a trap) not only to known rats,[177] with which they might even share valuable food,[178] but also to

167 I. R. Inglis et al., "Foraging Behaviour of Wild Rats (*Rattus Norvegicus*) towards New Foods and Bait Containers", *Applied Animal Behaviour Science* 1996, 47 (3–4), pp. 175–190.

168 W. Pisula, *Curiosity and Information Seeking in Animal and Human Behavior,* Boca Raton: Brown Walker Press, 2009, pp. 80, 98–101, 107–109.

169 J. Litman, "Curiosity and the Pleasures of Learning: Wanting and Liking New Information", *Cognition & Emotion* 2005, 19 (6), pp. 793–814.

170 W. Pisula, *Curiosity and Information Seeking, op. cit.,* p. 60.

171 G. Burghardt, *The Genesis of Animal Play. Testing the Limits,* Cambridge, MA: MIT Press, 2005.

172 T. Poole, J. Fish, "An Investigation of Playful Behaviour in Rattus Norvegicus and Mus Musculus (Mammalia)", *Journal of Zoology* 1975, 175 (1), pp. 61–71.

173 B. Himmler et al., "How Domestication Modulates Play Behavior: A Comparative Analysis between Wild Rats and a Laboratory Strain of Rattus Norvegicus", *Journal of Comparative Psychology* 2013, 127 (4), pp. 453–464; L. Vanderschuren, R. Niesinkt, J. van Ree, "The Neurobiology of Social Play Behavior in Rats", *Neuroscience and Biobehavioral Reviews* 1997, 21 (3), pp. 309–326.

174 A. Manduca et al., "Dopaminergic Neurotransmission in the Nucleus Accumbens Modulates Social Play Behavior in Rats", *Neuropsychopharmacology* 2016, 41 (9), p. 2215.

175 B. Knutson, J. Burgdorf, J. Panksepp, "Ultrasonic Vocalizations as Indices of Affective States in Rats", *Psychological Bulletin* 2002, 128 (6), p. 961.

176 J. Panksepp, J. Burgdorf, "'Laughing' Rats and the Evolutionary Antecedents of Human Joy?", *Physiology & Behavior* 2003, 79, pp. 533–547.

177 R. Church, "Emotional Reactions of Rats to the Pain of Others", *Journal of Comparative and Physiological Psychology* 1959, 52, pp. 132–134; G. Rice, P. Gainer, "'Altruism' in the Albino Rat", *Journal of Comparative and Physiological Psychology* 1962, 55, pp. 123–125.

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unknown ones that come from the same breed.[179] An albino rat from the Sprague-Dawley breed will therefore aid an unfamiliar individual from the same breed, but not an unknown hooded rat, which is clearly coloured differently. However, if a hooded rat is known (because, for instance, it lived in a cage with the albino), it will receive help. Such behaviours are strong evidence of motivation through empathy,[180] whose effect at the level of nerve substrates (the same, i. e. homologous, as in humans) has recently become relatively well understood in rats.[181] As with humans, empathic motivation may be socially modulated not only by the level of familiarity and similarity, but also by generalised reciprocity or upstream indirect reciprocity: rats are more likely to help others regardless of the degree of familiarity (at least within their own breed) if they have previously received help from anyone.[182]

Unlike certain highly social rodents (such as spermophilus), rats do not form organised groups or colonies with a division of labour. This may be the reason for Feng and Himsworth's comment that for animals residing in large "social colonies", rats exhibit a low level of cooperative behaviours.[183] Rats indeed do not cooperate in obtaining food, but as empathic agents they are ready to help if they perceive a threat to another individual and are able (cognitively and physically) to provide aid. Among free-roaming rats, such possibilities are probably rare, because rats are usually not caught in mechanical traps, but poisoned.

The most comprehensive list of rodent extermination methods in terms of their welfare was produced by Mason and Littin.[184] The researchers considered the intensiveness of pain, the time that the rodents are conscious and suffer, the effects of poisoning, and also the possibility of poisoning non-target species. They also took into account the practicality and effectiveness of methods, assuming that the most humanitarian method of control cannot be recommended if the effects of its use are unsatisfactory. Mason and Littin's research is important because, in contrast with other studies assessing the impact of control methods on welfare, it concentrates on practices of rodent extermination, and therefore to a great extent considers the characteristics of rats as a species. As it

178 I. B.-A. Bartal, J. Decety, P. Mason, "Empathy and Pro-Social Behavior in Rats", *Science* 2011, 334 (6061), pp. 1427–1430.

179 I. B.-A. Bartal et al., "Pro-Social Behavior in Rats is Modulated by Social Experience", *Elife* 2014, 3.

180 J. Panksepp, G. Lahvis, "Rodent Empathy and Affective Neuroscience", *Neuroscience & Biobehavioral Reviews* 2011, 35 (9), pp. 1864–1875.

181 J. Schaich Borg et al., "Rat Intersubjective Decisions are Encoded by Frequency-Specific Oscillatory Contexts", *Brain and Behavior* 2017, 7 (6); M. Carrillo et al., "Emotional Mirror Neurons in the Rat's Anterior Cingulate Cortex", *Current Biology* 2019, 29, pp. 1–12.

182 C. Rutte, M. Taborsky, "Generalized Reciprocity in Rats", *PLoS Biology* 2007, 5 (7), p. 196.

183 A. Feng, C. Himsworth, "The Secret Life", op. cit.

184 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.

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was published in 2003, however, it does not cover rat control methods that have become popular in recent years or are in the process of registration, such as powdered corn cob and dry ice.

Based on Mason and Littin's study, we can conclude that, apart from non-lethal methods, those with the least negative impact on welfare are well-designed (including electric) traps, hydrogen cyanide and Chloralose. The last of these, however, is only widely used for mouse control. The authors make it clear that traps only have a small impact on welfare if they kill immediately. This is an important caveat – the research the authors cite shows that between 5 and 14% of animals (depending on the study) were alive after being caught. This is highly probable, especially in a case when rats were caught in a mousetrap, which is more likely to cause them painful injury than to kill. Electrocution can be painful, but loss of consciousness usually follows relatively soon, in less than two minutes. The impact of electric traps on welfare is unclear, however, and according to the authors requires further research.

Sulphur dioxide, zinc phosphide, glue traps and anticoagulants have the worst impact on welfare. It is worth emphasising that the last two methods are among the most popular in rat control in countries of the Global North. Glue traps, like other mechanical methods, are regarded as ecological as they do not carry the risk of environmental pollution, poisoning non-target species and danger to humans.[185] They are controversial, however, because of the high level of suffering caused to target species. This has led to them being banned in several countries, including New Zealand.[186] Theoretically, animals caught in a glue trap should be "killed humanely". Mason and Littin conclude, however, that it is extremely difficult to test this humaneness, especially in countries where such traps are on general sale. The studies they cite refer to rats biting off their own limbs to free themselves from traps or suffocating for hours in glue clogging their mouth and nostrils.[187] My research also indicates that such situations are not just sporadic "workplace accidents", but the rule (cf. Chapter 5).

Anticoagulants, currently the most widespread rat population control method globally, proved to have a very high negative impact on animal welfare. By disrupting blood clotting, these substances lead to a series of internal haemorrhages. Mason and Littin note that, while bleeding alone does not cause strong pain, accumulation of blood in the body cavities and organs (lungs, kidneys, eyes)

185 A. Meyer, D. E. Kaukeinen, "Rodent Control in Practice: Protection of Humans and Animal Health", in: *Rodent Pests and Their Control*, eds. A. Buckle, R. Smith, Oxfordshire–Boston: CABI, 2015, pp. 231–246.

186 *Glueboard Traps Prohibited from 2015*, Ministry for Primary Industries, https://www.mpi.govt.nz/news-and-resources/media-releases/glueboard-traps-prohibited-from-2015/ (access: 26 June 2019).

187 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.

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does. Yet the main factor responsible for anticoagulants' negative impact on welfare is the duration of the occurrence of clinical symptoms, generally lasting from a few hours to three days – although certain studies have shown them lasting even up to five days. Differences in the time taken to die may result from various factors. The authors name the most important as being poison concentration – the greater it is, the briefer the symptoms.[188] The findings from Mason and Littin's analysis are mainly convergent with those from evaluations of control methods for other vertebrate species. In an analysis by Donald Broom, whose assessment took into account the intensiveness of negative sensations preceding loss of consciousness and their duration, anticoagulants came out worst, while carbon monoxide had the best results, causing rapid loss of consciousness.[189] Meanwhile, Sharp and Saunders show that snap traps have the lowest negative impact on welfare, while anticoagulants and glue traps have the highest.[190] Also in Littin et al.'s research, using the Five Domains method in Australia and New Zealand, anticoagulants proved the least humane, while the lowest negative impact on animal welfare was observed when using encapsulated cyanide and snap traps.[191]

Problems with practical estimations of the suffering caused by the various methods of rat control do not change the fact that the ways of controlling the rat population currently being used are irreconcilable with any forms of moral reflection on these animals. Individual welfare is not taken into account even to a minimal degree in planning and implementing rat control initiatives (measures might include attempts to cut the time of suffering when killing rats), with the interests of humans – not only primary, but also economic – being the only factors considered.

A brief history of rat control

The history of rat extermination contains more blank spaces than fully understood parts. It is not easy to locate the sources and distinguish historical facts from legends and folk tales. One thing that is certain, however, is that for centuries these animals have generated serious problems, competing with *Homo sapiens* for resources. Various methods have been used in an effort to exterminate the species. Among those that Jonathan Burt mentions are phospho-

188 Ibid.

189 D. Broom, "The Welfare of Vertebrate Pests in Relation to Their Management", in: *Advances in Vertebrate Pest Management*, eds. D. P. Cowan, C. Feare, Fürth: Filander Verlag, 1999, pp. 309–329.

190 T. Sharp, G. Saunders, *A Model for Assessing the Relative Humaneness,* op. cit.

191 K. Littin et al., "Animal Welfare and Ethical Issues", op. cit.

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rus, plaster of Paris that expanded in the animal's stomach, and arsenic with sugar and wholemeal flour, but also a paste of hog's lard and weasel brain, which supposedly stopped rats entering a room.[192] Furthermore, as late as the nineteenth century it was a common practice to exchange rat corpses or parts of them for money. Sometimes such practices were even mandatory. Hans Zinsser, quoting Heine, mentions a special tax levied on Jews in Frankfurt in the fifteenth century, which required them to deliver 5,000 rats' tails every year.[193] Throughout most periods until the present day, the battle between humans and rats was a collection of rather chaotic activities combining intuitive actions, random poisons and a large dose of superstitions based on magical thinking. Hendrickson dates the beginnings of modern rat control to 1786, when Robert Smith recommended preceding a rat control campaign by laying unset traps to familiarise rats with the new object.[194] Similar thinking based on the rat's neophobia is employed even today, with unpoisoned bait being left out before the operation proper.

A turning point in the history of rat control came in the nineteenth century, when the development of antiseptics and knowledge about the spread of diseases led to new standards of cleanliness. The first scientific evidence that rats can transmit the plague was produced simultaneously by Alexandre E. J. Yersin and Shibasaburo Kitasato in 1894. Four years later, this was confirmed by the French medical officer and missionary Paul-Louis Simond.[195] In barely more than a decade, it appears that this evidence became common knowledge. Burt sketches the dynamic of changes in attitudes to rats and methods for controlling their population on the basis of the epidemic in San Francisco in 1900–1908. The first epidemic in Chinatown mostly evoked anti-Chinese sentiment, as the disease was associated with immigrants. But in 1907, just a few years later, it was rats that were blamed for the outbreak of the epidemic.[196]

The beginnings of modern rat control as a codified area of knowledge, however, can only be dated to the 1940s. Research on the ecology of rats began in the United Kingdom. Beginning in 1939, Charles Elton and Dennis Chitty led the Bureau of Animal Population at Oxford University, whose aims included protection of the country's food stocks from rodents. Within this initiative, Elton studied rats' behaviours towards poisons, using new, scientific language to describe them, including such concepts as "new object reaction" and "refusal response". It was also here that unpoisoned traps prior to the main rat control

192 J. Burt, *Rat,* op. cit., pp. 137–139.
193 H. Zinsser, *Rats, Lice and History*, op. cit., p. 192.
194 R. Hendrickson, *More Cunning than Men,* op. cit., p. 115.
195 Ibid., pp. 44–45.
196 J. Burt, *Rat*, op. cit., p. 124.

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operation began to be used, which in subsequent decades would become the standard.[197]

The events that were crucial for the history of rat control, however, were played out in the 1940s in Baltimore, which at this time grew into the centre of rat ecology research and new methods for combating these rodents. Two approaches to controlling their population crystallised at the time. The first was based on then innovative chemical substances. The second, meanwhile, made success in the fight against rats dependent on an understanding of their ecology and promoted more holistic solutions, which in subsequent decades would give rise to the strategies known as integrated pest management and ecologically based pest management. It is worth examining the dynamic of this process, as it formed the template for most of the later – and contemporary – discussions on rat control.

In the United States, research on poisons lethal to rats accelerated during the Second World War. The Americans were afraid that Germany would use rats as a biological weapon, especially as during the war in the Southern Pacific thousands of US soldiers contracted scrub typhus, a disease spread by these rodents.[198] Moreover, the war left damaged infrastructure, resulting in concerns that they could spread disease,[199] particularly as the wartime blockade of the Mediterranean Sea had made *Drimia maritima* (red squill), which grew there and was widely used as a rat poison, unavailable.[200] Efforts were therefore made to find alternatives. This was a time of faith in the power of chemical solutions – one product introduced then, DDT, would earn a certain infamy in subsequent decades; its negative ecological effects were later described by Rachel Carson in *Silent Spring*. At the time, however, there was a lack of awareness of the uncontrolled use of strong chemicals as biocidal products.

In 1942–1946, Curt Richter, a physiologist from the Johns Hopkins Hospital in Baltimore, carried out research on an innovative rodenticide in the form of alpha-naphthyl thiourea (ANTU). This product kills within 16–30 hours, filling the lungs with water and leading to drowning. ANTU went on general sale in 1946, soon earning a reputation as a "wonder" product for use on rats, especially amid assurances from its inventor that, while effectively killing rodents, it was 100% safe for humans.[201] These assurances soon proved to have been somewhat premature. Richter had carried out a widespread campaign to promote ANTU

197 C. Keiner, "Wartime Rat Control, Rodent Ecology, and the Rise and Fall of Chemical Rodenticides", *Endeavour* 2005, 29 (3), pp. 119–125.
198 Ibid. It was probably a different species of *Rattus* that was involved, but the source does not specify this information.
199 R. Sullivan, *Rats*, op. cit., p. 28.
200 C. Keiner, "Wartime Rat Control", op. cit.
201 Ibid.

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without much information on its effects on humans and other species.[202] Children were poisoned as a result, while dogs and cats were also killed by the poison.[203] Although no children died, this case enveloped the programme in controversy. A further problem was the fact that, despite its rapid results, the rat population was swiftly restored.[204]

At the same time, in 1945 the Rodent Ecology Project was set up at Johns Hopkins School of Hygiene and Public Health, with John Emlen, David E. Davis and John Calhoun at the helm. Emlen, previously a colleague of Richter's, had studied with Aldo Leopold and therefore favoured an ecological perspective.[205] He began to study the ecology, behaviour, size and habitat distribution of rats. Calhoun carried out groundbreaking studies on the sociology of rat populations,[206] while Davis, project director from late 1945, conducted studies with the objective of creating rat control methods other than chemical extermination, about which he remained sceptical.[207]

Richter was opposed to ratproofing campaigns, arguing that only offensive methods made sense. Owing to the poisonings and short-term action of ANTU, however, Baltimore authorities began to favour the solutions proposed within the Rodent Ecology Project.[208] Davis showed that the space of Baltimore ideally supported the development of rat populations, and the only way to eliminate the species was therefore to deprive it of access to food, i. e. waste, as well as a space to live in, that is poorly secured buildings in bad technical condition.[209] This led to the creation of an experimental area in Baltimore without rodenticides but with an emphasis on maintenance of order and hygiene. Sanitary police were enlisted to help, outside toilets were scrapped, and waste, wrecked vehicles, decaying fences and abandoned buildings serving as refuges for rat populations were all cleared away. Simultaneously, a revitalisation scheme called the Baltimore Plan was launched, with one of its premises being the conviction that changes in the residential setting reduce the rat population in a more sustainable way than

202 D. Biehler, *Pests in the City*, op. cit., p. 126.
203 C. Keiner, "Wartime Rat Control", op. cit.; D. Biehler, *Pests in the City*, op. cit., pp. 124–127. This problem was also mentioned by one of the co-founders of the Baltimore rat control programme, John Emlen, although he claimed that ANTU was relatively safe and, considering the scale of the campaign, the number of dogs poisoned was low. J. Emlen, "Baltimore's Community Rat Control Program", *American Journal of Public Health* 1947, 6, pp. 721–727.
204 C. Keiner, "Wartime Rat Control", op. cit.
205 Ibid.
206 B. Colvin, W. Jackson, "Urban Rodent Control Programs for the 21st Century", in: *Ecologically-Based Management of Rodent Pests*, op. cit., pp. 243–258.
207 D. Biehler, *Pests in the City,* op. cit., p. 129.
208 C. Keiner, "Wartime Rat Control", op. cit.
209 D. E. Davis, "The Characteristics of Global Rat Populations", *American Journal of Public Health and the Nation's Health* 1951, 41 (2), pp. 158–163.

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rodenticides. This comprehensive project resulted in a radical reduction of the rat population in the areas of Baltimore that it covered.[210]

Colvin and Jackson showed changes in the size of the rat population in the same city in 1943–1950, the period of the most intensive use of ANTU, followed by systemic solutions associated with the Rodent Ecology Project[211]. The first rat control campaign was conducted in spring 1943, with the result that Baltimore's rat population fell rapidly from an initial estimate of 130,000 to 50,000. In subsequent months, however, it was gradually restored, returning to its original size by late 1945. The chart shows that further campaigns in 1946 and 1947 brought an even less impressive outcome – although a swift reduction of the population could be observed (in the record summer months of 1946 it fell to just 30,000), the return to the original size took just a few weeks, perhaps surprisingly, considering that the first campaign in 1943 proved effective for two years. Particularly noteworthy is what happened after the authorities changed strategy from rat control campaigns to a sanitary programme, which took place in late 1947/early 1948. For the next two years, the size of the rat population gradually reduced, fluctuating between 20,000 and 50,000 individuals but demonstrating a clear decline trend. The only breach in this tendency came in autumn 1948, when the population increased significantly, reaching a level of 80,000, possibly correlating with a sanitary services strike in this period.

The research conducted by the Rodent Ecology Project and the experiment of replacing lethal methods with ecological ones were summarised by Davis himself, who emphasised the role of environmental factors in determining population size and the short-term effects of rodenticides. Citing his own research, he demonstrated that a 50% reduction in the rat population from a given quarter as a result of poisoning resulted in a twofold increase in the reproduction rate over the next few months, as a consequence of reduced competition for space and food for the surviving individuals. Consequently, Davis concluded, the only long-term consequence of the rat control operation was the creation of a comfortable living space for a larger number of rats.[212]

In his study of the rat population in New York in 1949, Davis was also the first to prove that the belief that there was one rat for every human resident was a myth. According to his calculations, there were 36 people for every rat (he esti-

210 D. Biehler, *Pests in the City,* op. cit.

211 B. Colvin, W. Jackson, "Urban Rodent Control Programs", op. cit.

212 D. E. Davis, "The Characteristics of Global Rat Populations", *American Journal of Public Health and the Nation's Health* 1951, 41 (2), pp. 158–163. It is worth noting that, although the findings from Colvin and Jackson's analysis are congruent with Davis's view, information about the estimated size of the rat population in Baltimore in the 1940s does not match in the two sources. Davis estimates it at 400,000 in 1944, 165,000 in 1947 and 65,000 in 1949. This discrepancy shows the imprecision of data on city rat numbers.

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mated that the New York rat population numbered around 250,000). The theory of one rat per human had emerged in 1909 in W. R. Boelter's book *The Rat Problem*. But the error came from the fact that the author's figure concerned rural areas, with an estimate of one rat per acre. At that time, Great Britain had 40 million acres of farmland and 40 million people lived in rural areas. This was the source of the 1:1 ratio, which, although challenged repeatedly in scientific studies, remains present in media and popular publications.[213]

Despite its spectacular success, the Rodent Ecology Project programme was soon abandoned. The main reason for this was the huge costs involved. Biehler also points to a failure to include communities and ignorance of residents' economic exclusion. As a result, problems with the presence of rats began to recur.[214]

One of the reasons why research on the development of ecological methods was not continued more widely after the Baltimore experiment may have been the new rodenticides introduced in the 1950s. These were substances from the anticoagulant group, which largely replaced acute rodenticides. Today they comprise 95% of the rodenticides used in the United States and 92% in the United Kingdom.[215] They prevent the secretion of vitamin K, which is responsible for proper blood clotting. As a result, rats die from internal bleeding, usually five to 15 days after consumption.[216] The first widely used anticoagulant was warfarin, which soon became popular owing to its relative safety.[217] In 1967, however, Davis called it "the worst thing that [has] happened to rodent control".[218] It is hardly surprising that these words came from the biggest advocate of ecological methods. The ease of use, efficacy and speed of anticoagulants meant that preventive methods – education, increased ratproofing of buildings, emphasis on sanitary questions – were sidelined. As Mark Winston notes, people have always struggled with pests, but previously the aim of this struggle was to minimise damage. Yet the efficacy of the new generation of rodenticides brought a new objective – complete elimination.[219] As Emlen highlighted in an article summarising the Baltimore programme, however, uncontrolled poisoning using the (then) new methods, especially frequently and irregularly, could reduce their efficacy con-

213 Cf. R. Sullivan, *Rats*, op. cit., pp. 22–23. It is important to remember, however, that owing to rats' lifestyle and uneven distribution of populations in cities, all estimates of their numbers are speculation rather than information based on hard data.
214 D. Biehler, *Pests in the City,* op. cit., pp. 139–141.
215 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit. The UK data concern rural areas.
216 B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit.
217 D. Biehler, *Pests in the City*, op. cit., p. 136.
218 Quoted in: ibid., p. 172.
219 M. Winston, *Nature Wars,* op. cit., p. 9.

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siderably.[220] Furthermore, although their use increased mortality, it did nothing to reduce reproduction, which was the decisive factor in the context of rat population control.[221]

As early as 1958, the first reports appeared stating that rats were developing resistance to warfarin and that resistant ones were dominating the local populations.[222] The reason usually cited for this phenomenon is the need to give several doses of the anticoagulant. When rats have an abundance of food, the concentration of poison in the organism is therefore reduced, and poisoned individuals can survive, thereby gaining resistance to the substance and passing this on to their offspring. Studies from 1973 showed that some 70% of rats in studied districts of Chicago were already resistant to anticoagulants, and studies carried out six years later revealed that resistance had increased to 89%.[223] Rats' genetic resistance to warfarin was also proven in the United Kingdom.[224] The media coined the term "super rats"[225] to describe the resistant population, and this certainly influenced the public reaction to the problem.

The result of this was work on second-generation anticoagulants, which were stronger than warfarin, killing after a smaller number of doses. One of the most popular is brodifacoum, introduced in 1979 and still today the strongest rodenticide of its type, although certain populations (e.g. in the United Kingdom) proved less susceptible to it.[226] A commonly cited advantage of second-generation anticoagulants is rats' lower resistance. Yet they also pose a greater threat to non-target species, especially in the case of secondary poisoning (consumption of dead species by predatory species), as they remain in the organism longer.[227]

Controversial rodenticides

Scepticism over chemical biocides had been growing since the 1960s, especially following the publication of Carson's *Silent Spring*. This was the backdrop to the development of the integrated pest management (IPM) movement, which called for reduced pesticide use and more sustainable control methods.[228] The term

220 J. Emlen, "Baltimore's Community Rat Control Program", op. cit.
221 J. Clinton, "Rats in Urban America", *Public Health Reports* 1969, 84 (1), pp. 1–7.
222 A. Buckle, C. Eason, "Control Method: Chemical", in: *Rodent Pests and Their Control*, eds. A. Buckle, R. Smith, CABI, Oxfordshire–Boston: CABI, 2015, pp. 123–154.
223 D. Biehler, *Pests in the City*, pp. 171–172.
224 B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit.
225 D. Biehler, *Pests in the City*, op. cit., p. 172.
226 A. Buckle, C. Eason, "Control Method: Chemical", op. cit.
227 B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit.
228 D. Biehler, *Pests in the City*, op. cit., p. 140.

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took off after President Richard Nixon used it in a speech to the US Congress in 1972. After this date, major investments were made in IPM, especially in the United States.[229]

IPM envisages reduced use of chemicals and control based on more holistic thinking. Its main aim is not elimination of populations, but setting a damage threshold and adapting the extent of control to it.[230] IPM approaches employ the following steps: 1) identifying the species causing the damage, 2) assembling information on its ecology and biology, 3) monitoring the damage, 4) determining the damage threshold in the specific case, 5) choosing the best of the population control methods available, 6) implementing the action, 7) monitoring the consequences of that action, and 8) evaluating its efficacy.[231] The actual action taken against the problematic species therefore becomes just one of many elements in a multi-stage process in the IPM strategy, also including prevention and monitoring the effects.

However, a report on IPM issued in 1996 by the Board on Agriculture of the US National Research Council noted that its application in practice did not reflect its philosophy, focusing mainly on appropriate doses of pesticides. This led to the emergence of the "ecologically-based pest management" (EBPM) strategy, whose goals were threefold: 1) minimising effects on non-target species and the environment, 2) low costs, also taking into account the financial possibilities of farmers from countries in the Global South, and 3) durable effects. Although the report concerned the strategy for insect and weed pest management, Singleton et al. argue that a similar mechanism functioned in implementing rodent control programmes. Based on EBPM, they therefore proposed the concept of "ecologically-based rodent management" (EBRM), focusing on studying the ecology of the species to ensure more sustainable population control.[232]

The fact that both IPM and EBPM evolved as weed and insect control mechanisms begs the question how appropriate they are for the specific issue of the presence of rats in cities. Colvin and Jackson point to the decline of research on the ecology of rats since the 1950s and the split of the Johns Hopkins Institute team. In their view, contemporary mammal researchers do not regard the topic as worthy of fundamental research. Consequently, research on control of animals regarded as pests was dominated by entomologists with scant interest in rats, or who treated them as "furry cockroaches".[233]

229 J. Hadidian, "Integrated Pest Management (IPM) for Vertebrates: Do We Need to Broaden This Concept?", *Ecology, Habitat and Land Management* 2010, 12, pp. 361–364.
230 M. Winston, *Nature Wars,* op. cit., p. 163.
231 J. Hadidian, "Integrated Pest Management (IPM) for Vertebrates", op. cit.
232 G. R. Singleton et al., *Ecologically-Based Management of Rodent Pests,* op. cit.
233 B. Colvin, W. Jackson, "Urban Rodent Control Programs", op. cit. Cf. also J. Hadidian, "Integrated Pest Management (IPM) for Vertebrates", op. cit.

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Parsons et al., however, cite data showing that EBRM-based strategies proved very effective in rodent control on farms in Asia and Africa, with significantly lower use of chemical methods and costs as much as 70% lower than IPM. Despite this, to date no scheme based on this strategy has been implemented anywhere in the world. The authors suggest that the reason for this state of affairs is a lack of knowledge on the ecology, behaviour and social structure of the city rat, which is necessary for effective EBRM practices. Studies on alternative methods are not seen as a priority, neither by public administration nor by bodies awarding research grants. The authors also note that rats, because of their associations with dirt and poverty, generate antipathy and a lack of interest among decision-makers. This situation, they argue, could be dangerous owing to the range of problems, especially sanitary and epidemiological, caused by rats in cities. Furthermore, similar studies to those carried out by Davis in the 1940s – for example entailing catching, marking and releasing rats – would nowadays be considered too risky from a public health point of view.[234]

It is important to emphasise that neither IPM nor EBPM/EBRM entirely abandons lethal methods. Most authors accept rodenticides and other pesticides as one of the forms of population control. They stress, however, that physical elimination should be a last resort, with a focus on various methods being implemented simultaneously, particularly monitoring and prevention. Researchers generally argue that practices of extermination of an unwanted species without implementing a large-scale ecology-based programme are ineffective in the long term as they create an ecological niche rapidly filled by new, better adapted specimens.[235] They also emphasise the need for extensive ratproofing of buildings. This demands knowledge and scrupulousness, but can also deliver satisfactory results without the need for offensive methods or with their reduced use.[236]

The main arguments for and against the use of chemical methods are presented by Lisa Chambers et al. Among the benefits of rodenticides, they cite rapid action, their permanent nature (they remove unwanted rats for good) and short-term efficacy. The drawbacks include developing resistance among poisoned rodents, poisoning non-target species (also secondary), potential environmental pollution by poison remnants, potential reinvasion in areas not covered by the rat control, long-term inefficacy (especially among moving rodents), high costs (if they are used for a long time over a large area), as well as inhumaneness, although it is unclear whether the authors are referring to the suffering of the rodents killed

234 M. Parsons et al., "Trends in Urban Rat Ecology", op. cit.

235 G. R. Singleton et al., *Ecologically-Based Management of Rodent Pests*, op. cit.; B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit.

236 J. Hadidian, G. Hodge, J. Grandy, *Wild Neighbors. The Humane Approach to Living with Wildlife,* Washington: Humane Society Press, 1997.

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or that of non-target species.[237] David Cowan et al. also give a negative assessment of chemical methods. They also note that, although they cannot be avoided entirely, there should be a focus on other methods, particularly given the negative ecological impact of rodenticides.[238] Barnett also argues that all known methods of combating rats should be used simultaneously. Above all, however, we should change the conditions offered to unwanted animals. To do this, we need to know not only how rodents feed and where they nest, but also their social structure.[239] Bruce Colvin and William Jackson cite Boston in the 1990s as a good example of an IPM strategy, where a comprehensive programme was developed based on inter-sector collaboration. Most of the tasks coordinated by the city entailed changing rats' habitat, monitoring their populations and improving sanitary conditions, although chemical methods were not abandoned.[240]

A renewed implementation of IPM-based methods also took place in Baltimore in the 1990s. A large-scale programme encompassing rat control drives, education of residents and improvement of sanitary conditions was developed. In the long term, however, this scheme was successful only in a more affluent district where the infestation level was much lower to start with. In smaller neighbourhoods, the population size returned to the initial level within six months, as it had been impossible to change residents' attitudes. Soula Lambropoulos et al. conclude that the efficiency of rat control not only affects this species, but also encompasses many sociocultural factors influencing residents not wanting or unable to maintain the requisite sanitary conditions in their environment.[241] A further question worth asking here is which factors caused an ecology-based programme to be effective in Baltimore in the 1940s but unsuccessful in the same city half a century later, although analogous methods were bolstered by chemical control. The difficulty with answering this question demonstrates how complicated issues of rat population control programmes are and how many not always identifiable variables may have an impact on their efficacy.

Some authors[242] also point to a lack of coordinated, long-term action in rodent control strategies. Coordination may be a significant factor limiting the effectiveness of previous methods. Meyer and Kaukeinen note that limitations in IPM

237 L. Chambers, M. Lawson, L. Hinds, "Biological Control Of Rodents – the Case for Fertility Control Using Immunocontraception", in: *Ecologically-Based Management of Rodent Pests*, op. cit., pp. 215–242.

238 D. Cowan, R. Quy, M. Lambert, "Ecological Perspectives on the Management of Commensal Rodents", in: *Rats, Mice and People: Rodent Biology and Management*, eds. G. Singleton et al., Canberra: Australian Centre for International Agricultural Research, 2003, pp. 433–439.

239 A. Barnett, *The Story of Rats,* op. cit., p. 159.

240 B. Colvin, W. Jackson, "Urban Rodent Control Programs", op. cit.

241 S. Lambropoulos et al., "Rodent Control in Urban Areas. An Interdisciplinary Approach", *Environmental Health* 1998, 6 (61), pp. 12–17.

242 E.g. B. Colvin, W. Jackson, "Urban Rodent Control Programs", op. cit.

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use may result from the fact that rat control workers have no influence over many factors associated with the problem, such as sanitary conditions. What is therefore needed is a top-down, coordinated cooperation policy between various actors – rat control companies, public administration, scientists and residents.[243] Winston also highlights the need for incorporating the authorities into planning actions in this field. In his view, the major problem in limiting chemical methods in the control of animals regarded as pests is the fact that, in response to an infestation, clients expect a swift resolution of the problem and do not always see the link between a building's sanitary condition and the risk of repeated population growth. In theory, therefore, rat exterminators include IPM in their work, while in practice they rely on quick and efficient chemical solutions.[244]

Sustainable practices in rat control

One of the main objectives of this book is to investigate the possibilities of developing alternative, more sustainable practices for controlling rat populations. I will therefore end this introductory chapter by tracking and critically analysing the main ideas for moderating rat control practices. I will then try to answer the question of why previous attempts at change have ended with an impasse and what would have to change for such changes to occur.

John Hadidian et al. point to key questions affecting our attitude to control of the populations of animals known as pests. Among them is the values gridlock, meaning a situation in which a problem is unsolvable owing to irreconcilable differences in values systems. In our case, this conflict would be based on the question of whether we should take the interests of animals other than humans into account when they collide with our own. According to the authors, this gridlock must be broken to go a step further. The second issue they mention is transparency: both the authorities and the contractors carrying out animal extermination services should provide information about their practices, revealing conflicts of interest and respecting public opinion in order to monitor beliefs and points of view.[245] I regard this argument as particularly important. As I shall demonstrate later, one of the most important characteristics of contemporary rat extermination practices is their euphemisation, or in fact invisibility. It is also worth adding the lack of transparency of laws and control methods, as well as failure to inform citizens about the methods used.

243 A. Meyer, D. E. Kaukeinen, "Rodent Control in Practice", op. cit.

244 M. Winston, *Nature Wars*, op. cit., pp. 53–57.

245 J. Hadidian, C. Fox, W. Lynn, "The Ethics of Wildlife Control in Humanized Landscapes", *Ecology, Habitat and Land Management* 2006, 13, pp. 500–504. The need to implement transparent procedures is also stressed by F. L. J. Smit ("Ethics in Rodent Control").

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The possible causes hindering the introduction of changes also include a discourse of efficiency (in which getting rid of the problem is the main and usually the only criterion for selecting the control method), lack of precise data concerning estimated welfare, rats' deaths going unnoticed due to their lifestyle and lack of social pressure.[246] There is also scant interest in the problem from animal rights activists, who are usually the main pressure group when it comes to implementing changes beneficial to animals. Unlike with other forms of cruel practices affecting vertebrates, such as laboratory experiments and factory farming, pressure to introduce rat control methods interfering less in the animals' welfare therefore more often comes from scientists rather than society.[247] As Mason and Littin point out, animals killed for food or in laboratories can never suffer as long as victims of rat control practices. The conditions of their exploitation and killing are regulated by relevant procedures stating that, at least in theory, death should be relatively quick. For example, if a pet or laboratory animal is poisoned by an anticoagulant, it is euthanised to shorten its suffering. The cruelty of methods used in rat control is therefore known but ignored. This makes the situation of rodents seen as pests an anomaly, especially considering the scale of the phenomenon and the number of animals affected by these practices.[248]

One can, of course, point to phenomena that elude this mechanism. For example, Mason and Littin mention that in the 1990s a British zoo invited a scientist studying animal welfare to work on its rat control scheme. The objective of this collaboration was to assure visitors that the treatment of rats at the zoo was as "humane" as that of its official residents.[249] An important turning point in attempts to create less cruel forms of pest extermination came with the Solutions for Achieving Human Vertebrate Pest Control workshop held in 2003 by the RSPCA in Melbourne. This was attended by representatives of the government, animal rights organisations, the veterinary community (including the Australian Veterinary Association), pest control organisations and producers of animal products.[250] They established humane vertebrate pest control rules to develop techniques for minimising pain in target and non-target species. The post-workshop materials stressed that the objective of the strategy was not to set a "gold standard", but rather to take small steps to improve the welfare of repre-

246 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit. Cf. also B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit.

247 B. Meerburg, F. Brom, A. Kijlstra, "Perspective: Ethics of Rodent Control", op. cit. Activists' lack of interest is also discussed in: K. Nagy, P. Johnson (eds.), *Trash Animals,* op. cit., and P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.

248 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.

249 Ibid.

250 T. Sharp, G. Saunders, *A Model for Assessing the Relative Humaneness,* op. cit., p. 3.

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sentatives of controlled species.[251] The workshop made a significant impact in animal welfare circles. The guidelines stated that the most "humane" method of control should always be chosen. Where there is a choice of methods, however, it is important to ensure a balance between "humanitarianism", public perception, ease of use and efficiency. Evaluation of the effect of the method on welfare should be presented by an independent group of experts, with methods ranked in a species- and context-specific manner. Deficits in information on a method's impact on welfare should lead to further research. It was also stressed that a lack of methods fulfilling welfare criteria may justify the use of non-humane methods as long as they are effective. The final outcome of the workshop was eight principles of "humane" control of animals seen as pests:

1) The aims, benefits and harms should be clear. A control programme should only take place when the benefits outweigh the harms.
2) Control should only be undertaken if the aims are likely to be achieved.
3) The most humane methods securing the aims of the control programme should be used.
4) The most effective methods should be used.
5) The methods should be applied in the best possible way.
6) A programme should be followed by an evaluation of whether it achieved its aim.
7) Once the aims have been achieved, steps should be taken to maintain this situation (prevention).
8) Constant research is necessary on improving and creating alternative methods with a smaller negative impact on welfare.[252]

It is particularly worth noting the calls for inclusion of experts from various fields for evaluating the methods used in a given case as well as the clear emphasis on the need for ongoing research on alternative methods and improvement of existing ones. It is also important to note that methods should be used in accordance with best practices. As I emphasised earlier, a theoretically quick method of killing (such as a snap trap) may prove catastrophic for welfare if it is poorly designed or used incorrectly, just as a high anticoagulant concentration might shorten or lengthen the duration of clinical symptoms.[253]

However, the recommendations from the RSPCA workshop concerned control of invasive species populations in Australia, and therefore do not apply to rat

251 K. Littin et al., "Animal Welfare and Ethical Issues", op. cit.

252 *A National Approach towards Humane Vertebrate Pest Control, Discussion Paper,* RSPCA 2004.

253 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit. The importance of appropriate rules of conduct is also emphasised by Sharp and Saunders in *A Model for Assessing the Relative Humaneness,* op. cit.

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extermination policies in European cities. The first point, stating that control measures can be undertaken when the benefits outweigh the harms, is itself problematic. As we have seen, with city rats and their impact on human communities it is practically impossible to determine benefits and harms. The second point, which makes control measures dependent on likely accomplishment of the objective, is also difficult to achieve in the context of city rats, as it would be necessary to specify whether we are interested in a short- or long-term aim. Modern rodenticides are very effective in the short term, but their long-term effects are very limited, not least because the species is characterised by high fertility. Also striking in the RSPCA guidelines is the lack of mention of costs among the factors to be taken into account when selecting a method. The differentiation made in the document between "humaneness" and public perception is also puzzling. One might assume that if there is any public perception in the context of animal extermination, it concerns controversies surrounding their suffering. On the other hand, "humaneness" is not always the same as its perception. Mason and Littin recall that there were protests from animal rights activists in the UK over the use of hydrogen cyanide, although scientific research shows that its impact on welfare is lower than that of other methods used in rat control.[254] We can surmise that such protests stem largely from the symbolic status of this chemical compound, used in the Second World War to murder prisoners in extermination camps.

The most troublesome element of the RSPCA's strategy can be seen as the co-occurrence of two conflicting priorities: a method's impact on welfare ("humaneness") and its effectiveness. If we assume that we should use the "most humane" as well as the "most effective" method to control a population, we are left without tools for solving the problem – especially as the most common methods have the greatest negative impact on welfare. Where such signposts are lacking, benefits outweighing respect for welfare considerations usually prove to be anthropocentric values such as efficacy or costs. This is particularly the case as the RSPCA document clearly allows for the use of non-humane methods where no method meeting welfare criteria is available.

It is also possible to apply norms from laboratory experiments to controls on animals defined as pests. Advocates of this idea[255] note that control of "pests" is no different from other situations when humans manipulate animals' lives and affect their welfare. Certain procedures, especially those causing strong, long-lasting pain, should therefore never be justified. James Yeates develops the idea of introducing the norms adopted in laboratories into vertebrate control practices. Noting that the principles of laboratory animal use have a consistent and co-

254 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.
255 K. Littin et al., "Animal Welfare and Ethical Issues", op. cit.

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herent structure, he argues that there is no reason why they should not apply to control practices affecting free-living animals. Yeates therefore proposes adopting pest management principles (PMPs), resembling ethical principles for scientific procedures (PSPs), based on the 3R principle. In rat control this would mean: 1) refinement: lessening pain by using less cruel extermination methods, e. g. by adding anaesthetic substances to rodenticides and correct use of live traps and glue traps; 2) reduction: of numbers of animals affected by rat control to a lower level allowing the population to be kept below the damage threshold; and 3) replacement: increased use of non-lethal methods such as prevention.[256]

I consider the idea of incorporating laboratory norms into rat control practices to be an important proposal worth consideration. It is true that animal rights defenders protest at norms regulating experiments on animals, seeing them as insufficiently restrictive, and the practical application of the 3R principle often leaves much to be desired. Nonetheless, given the fact that current rat control practices are not covered by any welfare regulations, such a solution could moderate them significantly. Particularly noteworthy are the proposals to add anaesthetics to poison as well as fumigation of animals caught in live traps with hydrogen cyanide or carbon monoxide. Adopting Yeates's more general strategy to implement the 3R principle in rat control could provide a practical framework for introducing practices with a lower impact on animals' welfare.

An alternative to lethal methods may be contraception, although efforts to introduce it are yet to deliver satisfactory results. Ideas of adopting such solutions are not based purely on humanitarian reasons, but also the search for more effective methods. As I have mentioned, the rapid reproduction rate of rats and impossibility of immediate extermination of an entire population mean that rodenticides are a short-term and repetition-based method. Hence the emphasis on the need to develop methods geared towards reduction not of the consequences, but of the causes of population growth, including rats' high fertility.

Chambers et al. wrote about immunocontraception two decades ago. The ideal version impairs fertility but not sexual functions, meaning that when it is taken by an individual high in the hierarchy, it can still block the sexual activity of lower-ranked individuals. The authors cited as drawbacks of this method the high costs and problems with administering doses. In the long term, however, they emphasised that contraception is at least as effective as lethal methods. Some simulations even forecast that its long-term results are better than with poisoning. Yet other studies are less optimistic. In 1972, for example, Kennelly et al. sterilised 85% of one group of male brown rats and did not obtain any difference in population growth compared to the control population. This might suggest

256 J. Yeates, "What Can Pest Management Learn from Laboratory Animal Ethics?", *Pest Management Science* 2010, 66, pp. 231–237.

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that in species with high sexual activity, such as rats, contraception may not deliver satisfactory results.[257]

Although the discussion on the possibility of using contraception in rat population control has been recurring for years, it is yet to gain sufficient impetus to be implemented as a replacement, or at least a complement, for rodenticide use. A contraception method developed in recent years named ContraPest give grounds for cautious optimism. Laboratory research has shown it to be almost 100% effective in blocking the fertility of both sexes. Importantly, as this substance blocks the reproductive functions only of this species, it is safe for non-target species. However, no independent scientific verification of its efficacy has yet been carried out in non-laboratory conditions. Although the company responsible for developing the method has tested it in several locations, including the New York subway, the small sample size and logistical problems ensuing at the testing stage mean that results have been inconclusive.[258] In 2019, Washington, DC made a further attempt to use ContraPest.[259] For now, however, it is too early to assess whether this strategy will prove effective in the long run.

Systemic challenges to changing rat control practices

The complex nature of the relationship between rats and humans makes simple solutions impossible. I would argue, however, that decisions to exterminate them should be made only when this is an absolute necessity and preventive actions have failed. Such a system would deem rat population control practices, including lethal ones, to be permissible only when they represent the last possible solution, implemented after other methods have been shown to be ineffective and not to cause excessive suffering to animals. Of course, "excessive suffering" is an ambiguous concept and should be analysed in reference to the specific ecological and social context. We can, however, tentatively assume that those methods that demonstrated the highest negative impact on welfare in several independent studies, including anticoagulants and glue traps, should be withdrawn.

This proposal seems difficult to enforce given the fact that these methods account for the overwhelming majority of measures used in rat extermination. As

257 L. Chambers, M. Lawson, L. Hinds, "Biological Control of Rodents – the Case for Fertility Control Using Immunocontraception", op cit.

258 B. Pyzyna et al., *Management of Urban Rat (Rattus Norvegicus) Populations with Senes Tech Fertility Management Bait* (unpublished and undated report by SenesTech).

259 J. Fleischer, R. Yarborough, S. Jones, *DC Tries Birth Control for Rats Despite Limited Data on Effectiveness in Citywide Use*, NBC Washington, 3 May 2019, https://www.nbcwashington.com/investigations/DC-Tries-Birth-Control-for-Rats-Despite-Limited-Data-on-Effectiveness-in-Citywide-Use-509401901.html (access: 25 July 2019).

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I shall try to show, however, scepticism towards the mass use of anticoagulants is also growing in circles with little to do with animal rights activism. This is dominated by a narrative of a lack of alternatives, which in European Union countries is reinforced by EU regulations that make it difficult to register methods other than anticoagulants.[260] This idea of a "lack of alternatives" to the status quo seems to stem from many factors, at least some of which are global and systemic in nature.

The first and most obvious level involves financial concerns. In the short term, programmes based on poisoning are a more economically viable solution than investment in innovative research, especially on the ecology of an animal of such low repute as the rat. This aspect of the problem is firmly embedded in the mechanisms of Western-style democracy. One can imagine that people in power are resistant to investing substantial public funds, for which they are accountable, in solving a problem not widely considered a priority. Moreover, the model of Western democracy fundamentally rewards short-term solutions. Persuading decision-makers of the value of a solution that in all probability will bear fruit in 10 to 20 years seems a difficult task when political decisions are made in a four- or five-year cycle of government. Here it is worth mentioning that the EBRM strategy was launched in 1996 at a workshop in Morogoro, Tanzania, where it was emphasised that African countries could not afford to rely solely on rodenticides.[261] Indeed, it is in the countries of the Global South that this method is currently most successful. So the idea that investment in research on the ecology of city rats and alternative methods is a luxury that only the richest countries can afford, with chemical methods offering the cheapest solution, is not always confirmed in practice.

The second level worth noting concerns public perception, and specifically the aforementioned "anti-rat triad": fear, disgust and shame. To a large extent, this seems to organise rat control policy. Parsons et al. highlight the phenomenon of shame in the context of rat extermination, noting that when the presence of these animals is noticed in an administrative entity, this leads to immediate steps to remove the problem, although seldom does a wider discussion on the reasons for their presence and possible alternatives take place. Not to mention support for fieldwork, which might bring unnecessary attention to an embarrassing problem and give the city or district an unfavourable reputation for being "rat-infested".

260 Although the EU Biocidal Products Directive stresses the need to reduce negative impacts on animal welfare, this is not defined, and the regulation is therefore de facto dead. The authors of the Directive also ignored the proven negative impact of anticoagulants on welfare. The only guideline on animal welfare it includes that might apply is the recommendation not to duplicate experiments on animals in the biocidal product testing process. Cf. F. L. J. Smit, "Ethics in Rodent Control", op. cit.

261 G. R. Singleton et al., *Ecologically-Based Management of Rodent Pests,* op. cit.

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As a result of the symbolic identification of rats with dirt and pathology, the battle against them is waged undercover.[262] It is therefore hardly surprising that when these animals appear in the mass media, it is almost always in an atmosphere of sensation, not balanced analysis.

It is also worth noting that planners and implementers of rat control practices inevitably operate in a situation of extreme uncertainty, both in terms of the consequences of their actions and the dangers these rodents generate. This is partly because of the lack, signposted above, of reliable studies on city rats and the challenges their presence brings. Yet the problem is a deeper one. To appreciate the scale of uncertainty in rat control schemes, we need to make use of concepts of risk management developed in sociology. Authors investigating this problem make it clear that risk assessments are not objective. When there is a threat, facts are inextricably linked to the axiological framework in which they operate.[263] The concept of social amplification of risk elaborated by the Kaspersons assumes that the perception of a specific type of risk results from accepted culturally generated heuristics.[264] Its subjective evaluation might also be influenced by the "fear factor", meaning an affectively grounded factor "disrupting" its perception. As Douglas notes, a risk can be "a weapon for mutual coercion"[265] used to maintain the social order in such a way that it begins to resemble taboos functioning in traditional cultures as a method of social integration.

This discussion is significant in the context of the risk caused by the presence of rats in the vicinity of humans. On the one hand, we have the palpable suffering, ignored by society, of thousands of rats subjected to painful rodent control practices. On the other hand, a threat to the health and sometimes even lives of representatives of our species. This is only a potential threat, yet when it arises it may have catastrophic consequences. Unfortunately, we do not (cannot?) have sufficient knowledge on the likelihood of a large-scale epidemic. We only know about the risk factors increasing this likelihood, including uncontrolled development of cities and anthropogenic climate change favouring rat population growth.[266] The issue is complicated by the fact that, even if the probability of an epidemic occurring is very low, this does not rule out other dangers, such as painful bites or contamination of food. In this situation, an obvious trump card prevailing over animal welfare is anthropocentric values, even if the probability of an epidemic were within the margin of error.

262 M. Parsons et al., "Trends in Urban Rat Ecology", op. cit.
263 J. Arnoldi, *Risk: An Introduction,* Cambridge–Malden, MA: Polity, 2009, pp. 118–120.
264 Ibid., p. 142.
265 M. Douglas, *Risk and Blame: Essays in Cultural Theory,* London–New York: Routledge Kegan & Paul, 1992, p. 6.
266 S. Battersby, "Rodents as Carriers of Disease", op. cit.

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The scale of the problem is also a factor paralysing the implementation of less cruel methods. Relations between rats and humans are a phenomenon that Anna Tsing calls "nonscalable", meaning that on a micro- and macro-scale they have entirely different dynamics, causing quite separate problems.[267] This dimension of the phenomenon is not fully understood by the few authors dealing with the ethical aspect of managing urban rodent populations, especially those adopting an animal rights perspective. Where such publications contain proposals for solving problems with the undesired presence of rats, solutions such as relocation are usually favoured.[268] Erika Fudge's interesting reflections are part of this narrative. Fudge describes the appearance in her home of an uninvited guest – a mouse with which over time she managed to develop a relationship based on distance and the human setting clearly stated boundaries, but without violence.[269] One can imagine a rat arriving in the author's apartment rather than a mouse. If this was just one individual, its relationship with its hostess would probably be similar, like the cautiously optimistic conclusions from the essay. But the problem is that our relations with rats are seldom based on the meeting of individuals – human and non-human. At their core is the context of multiplicity on both sides of the interspecies boundary: cities housing several hundred thousand or sometimes several million representatives of our species are also inhabited by rat populations of many thousands. We are two enormous populations posing a mutually serious threat to each other. The question of scale puts our mutual relations in a completely different light. Even if we assume – and this is the premise of this book – that the individual welfare and protection from suffering of non-human, sentient individuals are important values to be fostered, this demands the use of new tools taking into account the context of collectiveness.

267 A. Tsing, *The Mushroom at the End of the World. On the Possibility of Life on Capitalist Ruins,* Princeton: Princeton University Press, 2015.

268 S. Donaldson, W. Kymlicka, *Zoopolis,* op. cit.

269 E. Fudge, "Pest Friends", in: *Uncertainty in the City*, eds. B. Snæbjörnsdóttir, M. Wilson, Berlin: The Green Box Kunstedition, 2011.

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Chapter 2.
"Fighting the Enemy": A Brief History of Rat Extermination in Poland, 1945–1989

The historical context

I will begin by outlining the broader historical context of rat control programmes in early postwar Poland. The two critical factors that shaped pest control rhetoric were the Second World War, which left the country in a state of total destruction and post-Holocaust trauma, and the Stalinist regime which came immediately afterwards. The late 1940s saw vast reconstruction programmes, especially the rebuilding of Warsaw, which was almost completely destroyed after the Warsaw Uprising in 1944. These schemes were based on strong social mobilisation, aimed at giving hope to a people traumatised by war. However, they were also used as a tool for symbolic consolidation of the new, Stalinist regime. Propaganda materials portrayed the efforts not only as reconstruction but as a process of modernisation: building a new, brave, socialist world, emerging from the ashes of the war. And rats were a crucial part of this story.

Documents from the late 1940s and 1950s emphasised that rat infestations were prevalent during and immediately after the war. This may indeed have been the case, considering the scale of destruction and the number of human and non-human bodies buried under the ruins, providing food for scavengers. However, while rat infestation in the wake of the wartime destruction was already cleared by 1945, it was not until 1949 that the anti-rat campaign began on such a broad scale. It was also at this time that the communists came to power in Poland, which then became a satellite of the Soviet Union. This seems to support my hypothesis that the nature of the early-postwar anti-rat campaign was political, with a clear link to the consolidation of the Stalinist regime – especially as the campaign became distinctly less fervent after the Khrushchev Thaw in 1956.

What I mean by this claim that the rat control campaign was political is that the Stalinist regime was centred around chasing true or imagined enemies to consolidate the nation around the Party. These foes were mainly human (Ger-

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mans, Americans, capitalists, "kulaks",[270] and so on), but this combative logic soon began to incorporate non-human actors as well. As a troublesome species, destroying the property of humans and spreading disease, rats made a perfect enemy, along with the potato beetle, supposedly dropped by the Americans to destroy Polish crops.

The most interesting decade in the postwar history of rat control in Poland was 1949–1957, which saw unprecedented – and since unrivalled – interest in the topic. The institutional framework developed at the time lasted almost unchanged until the end of the communist period. Scientific research was conducted on new methods of dealing with rats as well as the effectiveness of the previously employed methods, along with a widespread propaganda campaign (cf. Chapter 3). This period offers a large quantity of valuable material for analysis: reports, minutes from the meetings of institutions responsible for rat control, propaganda posters, flyers and leaflets, radio broadcasts promoting rat control, training materials and extensive expert literature targeted at people working in the sector. From the second half of the 1950s onwards, the amount and diversity of sources diminished significantly. As I shall try to demonstrate, this was not by chance.

In many respects, the postwar rat extermination drives marked a continuation of the methods and rhetoric of the interwar period, and even earlier. Yet they also had their own characteristics. Among the features of rat control practices in the Polish People's Republic were the scientification of the sector, institutional centralisation permitting extensive coordination of initiatives, increased interest in issues of rat control in the international arena and, particularly importantly for this analysis, the political context of the first years of the communist state, which turned the rat into an enemy figure useful in propaganda activities.

As we have seen, the times of war and occupation and their accompanying destruction were conducive to growth of the rat population.[271] Under the rubble of houses were numerous remains of humans and animals providing food to rats, while the ruins themselves gave them shelter.[272] As a result, a major increase in the rodent population was observed in 1945.[273] Meanwhile, that year and the next two brought severe food shortages. These were caused by an array of factors including

270 A term from Stalinist propaganda referring to landowning peasants who resisted giving up their land to the state during the postwar land reforms.

271 A. Brodniewicz, "Organizacja służby DDD w Polsce ze szczególnym uwzględnieniem stołecznych placówek usługowych w tej dziedzinie", in: *Studia nad infestacją budynków i mieszkań przez szkodniki sanitarne na terenie m.st. Warszawy,* ed. Aleksander Brodniewicz, Warszawa 1979.

272 J. Kłoniecki, *Powszechna akcja deratyzacyjna woj. gdańskiego (20 kwietnia–10 czerwca) r. 1947. Opis i ocena,* Gdańsk: Gospodarcze Zrzeszenie Samorządu Terytorialnego, 1947.

273 A. Dehnel, E. Kamiński, *Najpospolitsze gryzonie i sposoby ich zwalczania,* Warszawa: Biblioteka Samopomocy Chłopskiej, 1947.

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the difficult economic situation and drought in 1947, which in some areas ruined over half of all crops.[274] Yet this phenomenon was able to consolidate and strengthen a known cause-and-effect relationship: rodents – theft of grain – famine. However, the winter of 1946–1947 was a particularly harsh one, causing around 25% of the field mouse population to freeze to death (and probably also many rats). The concentration of this population in some areas may have allowed for depletion by chemical and bacteriological means. The population sizes may also have been limited by fallowing.[275]

Sanitary conditions in the liberated cities were terrible, with some reporting significant rat populations.[276] Problems with maintaining sanitary norms increased the likelihood of infectious diseases such as typhoid, epidemic typhus, malaria, diphtheria, meningitis, measles and whooping cough.[277] Furthermore, in the Gdańsk region in 1947 over a dozen cases of leptospirosis, one of the most common diseases associated with rats, were recorded.[278] Although most infectious diseases are not transmitted by these animals, the notion that rats equal disease took a firm grip in the sanitary rhetoric of the period.

This was not a new idea; it was also present in the anti-rat propaganda of the 1920s and 1930s. But what was different about the postwar period was the scale of the phenomenon. I do not mean the actual size of the rat population living in Poland – which was never estimated – but its public perception. Although to some extent doubtless based on individual experience, this was fomented by propaganda blaming rats for economic and health damage. In his book *The Great Fear*, Marcin Zaremba lists famine and infectious diseases as two of the three "horsemen of the apocalypse" that informed social anxieties in 1945–1947.[279] This is an important observation in the context of this discussion. It was clear that rat extermination drives in the period immediately after the war were based on management of the collective fears of a society traumatised by the war, the resettlement operation and other negative phenomena occurring in this period.

The word *deratyzacja* ("deratisation") was coined in Polish around the turn of the 1950s, by analogy to the concepts of disinfection and disinsection, in use since the beginning of the century. Different terms were used in the prewar discourse. But equivalent expressions were already being used in other languages, such as

274 M. Zaremba, *Wielka trwoga. Polska 1944–1947. Ludowa reakcja na kryzys*, Kraków: Wydawnictwo Znak/Instytut Studiów Politycznych Polskiej Akademii Nauk, 2012, p. 533.

275 D. Jarosz, *Rzeczy, ludzie, zjawiska. Studia z historii społecznej stalinizmu w Polsce*, Warszawa: IH PAN, 2017, p. 42.

276 Data on sanitary conditions in the so-called Recovered Territories in 1945, MZO AAN.

277 *Program poprawy stanu sanitarno-epidemiologicznego kraju oraz usprawnienia Państwowej Inspekcji Sanitarnej w latach 1978–1990,* Warszawa 1978, p. 6., AAN, Departament Techniki Medycznej i Farmacji Wydz. Nadzoru Farmaceutycznego, 14/4.

278 J. Kłoniecki, *Powszechna akcja deratyzacyjna woj. Gdańskiego,* op. cit.

279 M. Zaremba, *Wielka trwoga*, op. cit., pp. 509–552.

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French, and also, sporadically, English, although "deratisation" never really caught on. The connection between rats and dirt and poor sanitary conditions was already present in the interwar discourse, but at a linguistic level it was not yet associated with the fight against harmful microorganisms. The oldest source containing this word that I found is an announcement from the city of Łódź from July 1946 referring to the "Central Rat Control Institute".[280] Most announcements from the second half of the 1940s, however, were still using the phrases *tępienie szczurów* or *odszczurzanie* ("rat extermination" or "deratting"). The popularisation of the new word in Poland was probably influenced by the establishment of the "Rat Control Division" (1948), followed by the "Central Rat Control Office" (1949). This was also when the abbreviation DDD began to be used, meaning "disinfection, disinsection and deratisation", or extermination of microorganisms, insects and rats.

This phrase conditioned the public perception (and continues to do so), and indirectly also the ethics of rat control. Combining the extermination of rats into one conceptual cluster with insects and microorganisms degrades these mammals, while also including them in the sanitary narrative. It seems obvious that this conceptual configuration of rat extermination processes had an undoubted impact on the formation and consolidation of public perceptions of this rodent, and indirectly also the ethics of its control. The concept of DDD appears characteristic of the countries of the former Eastern Bloc. We can therefore assume that the incorporation of rat control into the sanitary discourse at the linguistic level (the formation of the initialism DDD) appeared in one of the countries in the region (perhaps the USSR) and was transplanted to others.

"Penalties for the non-compliant": Rat control drives

The first widespread postwar rat control initiatives remained ad hoc and uncoordinated. Sanitary teams had been created as part of the war effort; they now entered the territories captured by the Soviet forces almost simultaneously with the army. In November 1944 in Lublin, the Supreme Emergency Epidemic Control Office was established, which soon began to organise training for disinfection personnel and to produce material promoting hygiene rules. It was this institution that in the early stage was the main actor initiating and overseeing rat control drives. In late 1947, the decision was taken to transfer the office's duties to

280 Announcement on national rat control, Łódź, 1946, DŻS XVI1a, BN.

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the newly formed Sanitary and Epidemiological Department of the Ministry of Health.[281]

Rat control programmes at the time were still conducted by private and co-operative entities. They were also unscientific, meaning that they were not based on an understanding of the rat's habitat, ethology and ecology as well as laboratory research. The main strategy for dealing with the rodents was the so-called national campaigns known from the interwar period, also called "rat extermination drives". These were generally short (from three to five days), compulsory, and conducted without a particular understanding of the terrain and size of the animal population. All state, cooperative and private institutions and facilities and the general population participated. The drives were usually combined with sanitary/cleaning and educational-propaganda campaigns aimed at informing the population about the harmfulness of rats and the need to deal with them. Owners or administrators of properties were obliged to put down rat poison there in a strictly defined time period and then to remove it with the dead rodents and burn them or bury them far from water sources. Almost all announcements include an obligation to use one specific poison (usually based on zinc phosphide or thallium sulphate), often naming places where it could be bought. Sales of other poisons in this period were sometimes even prohibited. In a few cases, sanitary officers delivered rodenticides for a fee. Most announcements emphasised the need to tidy rubbish away in advance "so that the starving [rodents] are all the more likely to throw themselves onto the poison".[282] The need to keep pets indoors was also stressed, usually motivated by concerns about them getting poisoned.

Participation in a campaign was framed as a civic duty. An announcement in Łódź from 1947 warns of "Severe penalties for the non-compliant and negligent. The campaign, and this control of the terrible plague of rodents, is entirely dependent on the collective approach of the whole of society".[283] Individuals shirking their rat extermination duties were punished by fines, and, when these could not be enforced, by three months' detention. But people only had to show a receipt for purchase of poison as proof that they had fulfilled their duty; not that they had actually used it.

Based on the available materials, it is difficult to assess the public attitude towards national rat control campaigns. The subject literature contains critical remarks about individuals not adhering to their "civic duty" and refusing to

281 *Program poprawy stanu sanitarno-epidemiologicznego kraju oraz usprawnienia Państwowej Inspekcji Sanitarnej w latach 1978–1990,* pp. 1–6, AAN, Departament Techniki Medycznej i Farmacji Wydz. Nadzoru Farmaceutycznego,14/4.

282 Announcement on national rat control, Opatów, 1946, DŻS XVI1a, BN.

283 Announcement, Łódź, 1947, DŻS XVI1a, BN.

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cooperate with the sanitary services.[284] But there is no way of knowing how widespread such approaches were, and even more so what caused them. I suspect that people's reluctance towards the drives may have resulted from fears about poisoning humans and pets or a sense that there was no need for such campaigns as they had not observed rats on their own properties.

The first nationwide Polish sanitary and rat control campaign was sanctioned by a circular from the Ministry of Health in 1947, with 15 August designated as the date of its conclusion. It was negotiated with the ministers of public administration, the Recovered Territories,[285] and also (notably) public security. The rat control operation in Gdańsk is particularly worth examining. Firstly, this was the first postwar drive which sought (with partial success) to incorporate elements of scientific knowledge and more holistic thinking about rat control. Secondly, it was the basis on which the Rat Control Division was formed, from which the centralised DDD system later emerged. It may therefore provide a starting point for tracing the process of nationalisation and centralisation of the rat control sector in Poland in the Stalinist period.

This was the first rat control operation in Poland that was not confined to distributing poisons, but encompassed many stages: preparatory studies, staff training, an information and propaganda campaign, preparation of poisons in a special laboratory, distribution of poisons, collection and reporting. The initiative was to be a "collective feat of the entire population" and a "kind of mass sanitary and cleaning operation".[286] It was preceded by a drive to tidy rubbish from the city, with the densely laid poisons to constitute "death strips" impassable by rodents.[287] The event was referred to in documentation as a "campaign of national significance".[288] Around 30% of poisons remained undistributed owing to "resistance or failure from the population to put them out".[289]

The Gdańsk rat control campaign was managed by a private company selected during a tendering process. Soon, however, the dynamic of large-scale rat control programmes in Poland would change in favour of nationalisation and centralisation of the institutions set up for this purpose. The idea of appointing central institutions responsible for rat extermination was not confined to the Eastern Bloc (we could mention, for example, the publicly administered Baltimore Plan).

284 "Checks showed that many residents did not comply with ordinances and were held strictly accountable", "Not all owners, administrators and users of properties satisfied the requirement to implement rat control". Announcement, Częstochowa, 1948, DŻS XVI1a, BN.

285 The Recovered Territories were the former eastern territories of Germany that became part of Poland after the Second World War.

286 Ibid.

287 Ibid. I analyse the characteristic wartime rhetoric of this and other texts by Kłoniecki in Chapter 3.

288 General assembly of 2 October 1948 – minutes with attachments, 1948, GZST AAN.

289 Ibid.

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Yet the dynamic of this process in Poland was unique, as it aspired not only to create an overarching institution controlling and coordinating these actions, but also to place the entire production and services in the hands of state institutions. Entities not subsumed by central authorities were either directly scrapped and their assets nationalised or placed in a situation in which, stripped of contracts, they were forced to close down.

Nevertheless, a careful reading of the documentation left by one independent rat control cooperative that was closed reveals an important change in the top-down rat control campaign strategy in this period. In its report for 1950, we can read that the failure to implement the cooperative's plan was dictated by a decision of the national councils to replace the national rat control campaign with selective drives. As a result, instead of 300,000 portions of poison planned to be spread in a given area, only 100,000 were used. This clearly contrasted with the cooperative's economic interest and may have had a direct impact on the financial troubles it soon faced. Yet the change in tactics from national campaigns to selective ones seems to have resulted not so much from the authorities' malevolence as from the growing awareness that scattering tonnes of poison around "blindly" is not only risky in terms of the possibility of poisoning humans, but also less effective in the fight against rats than an operation specifically targeting susceptible areas (e.g. slaughterhouses, ports, farms, food processing plants) or simply those with a high level of infestation. For this reason, from the early 1950s onwards, national campaigns, though still organised, were no longer such mass operations as they were in the 1940s, and those that were conducted took place under the supervision of specially appointed state institutions. This new perspective on rat control, based on scientific research, centralisation and meticulous, methodical preparation of extermination strategies, would be characteristic of the 1950s.

"Long-term remedies": Scientification of rat control

In the second half of the 1940s, scientists, realising the scale of the problem, began to study more efficient rat control methods.[290] Yet this narrative, widespread in communist-era literature, requires some caveats. First, analysis of documents does not show the extent to which scientists' interest in rodent control was a bottom-up phenomenon, and how much it was inspired by the authorities. We can assume, however, since at this time it was manifested in several institutions simultaneously (Gdańsk's rat control division, the anti-rat laboratory in Poznań, Czyżewski's research in Wrocław), that it was spontaneous. Second, as men-

290 Cf. e. g. A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.

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tioned in the previous section, the 1940s was also a period of increased interest in rat control issues in other countries. Geopolitical concerns in Poland meant that it was mainly Soviet scientists who were cited (especially Ivan Pavlov's conditioning process), while the achievements of Davis and the Rodent Ecology Project probably remained unknown. However, one can find some references to the works of Elton. This suggests that interest in the scientific basis of rat extermination in Poland in the late 1940s and early 1950s was dictated not only by the circumstances of the time, but was also a reaction to the prevailing scientific views. Earlier, professional, "pre-scientific" knowledge of rat control was based on similar mechanisms, and particularly careful observation of the animals, their ecology, and especially their habitat. The main reason why this knowledge became "scientific" in the twentieth century was the introduction of the criterion of measurability.[291] This does not change the fact that the "scientificity" of postwar rat control in Poland can be viewed as one of the main factors characterising rat control practices in this period, and especially in 1947–1957.

Unlike the Western pioneers of scientific rat control (such as Elton or Davis), their Polish counterparts were not trained ecologists or biologists specialising in mammals, but entomologists (e.g. Czyżewski) or physicians (e.g. Brodniewicz). This made it easier to locate rat extermination in the sanitary-epidemiological discourse and to disregard the specific characteristics of the animals' species. Like researchers from other countries, however, Polish scientists too underlined the need for multi-faceted, holistic thinking in rat control. This was based on the conviction that physical extermination of an animal, most frequently using chemical methods, is only one of the elements for its effective elimination. Almost all the publications from this period – both specialist and those aimed at the general public – mentioned preventive measures (especially making buildings ratproof and keeping them clean and tidy) as fully fledged, essential rodent control methods. Brodniewicz, from the late 1940s a rat control consultant in the Ministry of Health and author of two articles on ratproofing,[292] pointed out that preventive methods are "in terms of purposefulness the most rational, effective and long-lasting in their results", despite requiring major financial outlay and more time.[293] He also expresses the view that purging a rat population without fully eradicating them can even make things worse:

291 K. Sayer, "The 'Modern' Management of Rats: British Agricultural Science in Farm and Field During the Twentieth Century", *BJHS Themes* 2017, 2, pp. 235–263.

292 A. Brodniewicz, *Zasady zabezpieczania budynków przed szczurami*, Poznań: Zakład Higieny Akademii Lekarskiej w Poznaniu. Pracownia Przeciwszczurza, 1950.

293 A. Brodniewicz, "Dezynfekcja, dezynsekcja, deratyzacja", in: *Ostre choroby zakaźne,* vol. 5, ed. Stanisław Wszelaki, Wydawnictwo Lekarskie PZWL, Warszawa 1957, p. 770.

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> Any drop in the rat population, whatever its nature, automatically alleviates […] among them the question of the struggle for existence. Here lies one of the reasons for the constant renewal of the plague of these pests. Still living rats find in the much thinned-out environment excellent conditions for development: abundance and diversity of food and a free underground network of burrows. In these circumstances, the losses caused by the extermination operation may be made up for in a very short time, a few months, if further long-term countermeasures are not implemented.[294]

A dominant idea in the late 1940s was that the effects of previous mass rat control campaigns were incommensurate with the efforts and funds devoted to them.[295] A similar view was held by Czyżewski, who from 1947 carried out research aiming to detect the failures of the existing methods and find an effective way of fighting rats. His so-called Wrocław method was based on Elton's Oxford method, while also taking Pavlov's conditioning process into account. Czyżewski considered many factors, such as the animal's sense of smell and taste, its ethology, the characteristics of its habitat and the impact of changes to it on behaviour. His first work at the National Hygiene Institute in Wrocław (1947–1948) led to the discovery of the main elements contributing to the effectiveness of poisons: high toxicity, failure to sense poison in the bait, slow action and attractiveness of the bait used in a given habitat. He employed the conditioning method, finally developing three main principles of effectiveness of a rat extermination operation: satisfying the condition of effectiveness of poisons, creating a conditioned feeding response and differentiating actions depending on the environment.[296] His method was used by the Cereal and Flour Pest Prevention Office, but did not catch on in the network of pest control companies. The reason for this was its relatively high labour intensiveness and use of exclusively toxic (and soon discontinued) thallium sulphate, meaning that it could only be employed in non-residential sites.[297] Its use was probably also abandoned because of the increased popularity of anticoagulants with delayed action, which did not require previous conditioning.

Those responsible for developing rat control programmes were also united in the belief that focused (selective) drives were superior to the national campaigns dominant at the time. Theoretically, the latter were implemented in cases of epidemiological or epizootic risk or as a result of major damage caused by the appearance of large rat populations. In practice, however, in the second half of the 1940s (and, to a certain extent, also in subsequent decades), they were the

294 Ibid., p. 777.
295 Cf. A. Brodniewicz, *Zasady zabezpieczania budynków*, op. cit. p. 5.
296 J. A. Czyżewski, "Zwalczanie szczurów na dużych obszarach", *Przegląd Epidemiologiczny* 1953, VII (4), pp. 277–289.
297 S. Rybicki, "Technika prac deratyzacyjnych", in: *Vademecum dezynfektora, dezynsektora i deratyzatora*, ed. S. Rybicki, Warszawa: Wydawnictwo Lekarskie PZWL, 1955, pp. 249–309.

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most common way of dealing with these animals. Scientists working in rat control were usually sceptical about them. Czyżewski thought that this method could not be used to achieve mortality higher than 50%, while for rapidly reproducing animals (such as rats), mortality below 75% is pointless. He also pointed to factors reducing the efficacy of such initiatives, such as the indolence of the population, the brevity of the operation and inappropriate selection of poison for a habitat. As a result, national campaigns could even result in increasing populations.[298] Brodniewicz agreed, estimating the maximum mortality resulting from such operations at 60–80%, but arguing that even such reduction of rat populations was not sufficiently radical to prevent rapid population renewal.[299] Selective campaigns, meanwhile, carried out in individual buildings, were to be entrusted to specially trained technical personnel and should be implemented using scientific methods, based on understanding the animals' habitat.[300]

Rat extermination methods varied at this time. For rat control of ports and ships, fumigation with toxic gases was employed (mainly Zyklon B and sulphur dioxide[301]), while for private use, various snap traps and glue traps were used. How-to guides and popular science publications from the time feature instructions for making such traps, including glue traps, at home. This means that the latter were known, albeit probably not on general sale.[302] But there is nothing to suggest that rat control professions used them on a mass scale at the time, as they do now. Many publications recommend the method of specially trained dogs or cats, although the general view was that use of rodents' natural enemies should generally be a preventive or additional method.[303]

Arvico candles were used to combat rodents in burrows in homes, using a special apparatus called a "mouse choker" ("The lid is removed from the candle, the two protruding wicks are ignited and held against the wind until a thick yellow smoke develops. Then the candles are pushed onto the stem of the apparatus and closed. The apparatus with the burning candle is inserted with the outlet into the burrow. The candle burns for about 17 minutes"[304]). Brodniewicz writes of rat extermination using electric currents, flooding burrows and shooting.[305] Przyborowski also mentions shooting with a small calibre gun, but

298 J. A. Czyżewski, "Zwalczanie szczurów na dużych obszarach", op. cit.
299 A. Brodniewicz, "Dezynfekcja, dezynsekcja, deratyzacja", op. cit., p. 778.
300 Ibid., p. 779.
301 M. Kulesza, "Deratyzacja", in: *Vademecum dezynfektora, dezynsektora i deratyzatora*, op. cit., pp. 231–248.
302 Although, judging by Babecki and Szulc's publication from 1926, they were on sale in the interwar period (J. Babecki, G. Szulc, *Szczur i walka z nim,* Warszawa: Wydawnictwo "Lekarza Wojskowego", 1926, p. 26).
303 M. Kulesza, "Deratyzacja", op. cit.
304 S. Rybicki, "Technika i organizacja prac deratyzacyjnych", op. cit.
305 A. Brodniewicz, "Dezynfekcja, dezynsekcja, deratyzacja", op. cit., p. 771.

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adds that this "is […] rather a sport than an effective prevention method".[306] He does, however, recommend other methods of rat hunting ("The hunting ground should be enclosed by a dense, ideally fishing net, along which people armed with elastic rods for killing the rats are placed"[307]). A Soviet publication by M. L. Turich and V. V. Solovev, which was also released in Poland, recommends the method of giving pieces of cork fried in sheep fat, causing mechanical harm to the intestines.[308] In a publication from 1926, we can read about a folk method of scaring off rats by dazing animals caught in traps with a red-hot iron and releasing them in this state. Although the authors note that this was a "barbarian and uncultured", now "seldom encountered" method, it is possible that such practices still took place in the postwar period.[309] Marek Diechtiar, meanwhile, refers to extermination of rats using flame throwers[310] as well as non-lethal traps called "death pits". The author tells his readers how to kill rodents in a trap: the whole cage can be immersed in water for a few minutes, or the rats can be burned alive in a furnace.[311]

As these examples show, methods of killing rats in the postwar era were often "inventive" and usually extremely cruel. But the main method of exterminating the animals in urban areas was poison. The late 1940s and early 1950s were times of major change, also in Poland, when it came to the poisons used. It is worth looking at the substances used most commonly by state institutions before 1989.

Chemical rat extermination methods can be divided into natural and synthetic, and the latter into non-organic and organic. The most popular natural method was *Drimia maritima* (red squill), although later poisons were produced based on its synthetic substitute. The most common methods used in Poland based on non-organic substances were thallium sulphate and zinc phosphide. As for organic methods, in the 1940s the bacterial strains popular in the interwar period (mainly the Danysz virus), designed to cause an epidemic among rodents, were no longer used, as they proved to be dangerous for humans and other animals in the vicinity. In the 1950s, anticoagulants appeared, which became the most widely used rodenticides in this decade.[312] A Ministry of Health circular from 1949 (before the introduction of anticoagulants) recommended the use of

306 T. Przyborowski, *Szczury. Biologia i zwalczanie,* Warszawa: Wydawnictwo Lekarskie PZWL, 1958, p. 56.
307 Ibid., p. 56.
308 M. Ł. Turicz, W. W. Sołowjew, *Dezynfekcja, dezynsekcja i deratyzacja*, trans. J. Bucholz, K. Flatau, Warszawa: Wydawnictwo Lekarskie PZWL, 1954, p. 231.
309 J. Babecki, G. Szulc, *Szczur i walka z nim,* op. cit., p. 27.
310 M. Diechtiar, *Zarys dezynfekcji, dezynsekcji i deratyzacji,* Warszawa: Wydawnictwo Ministerstwa Obrony Narodowej, 1955, p. 58.
311 Ibid., p. 357.
312 M. Kulesza, "Deratyzacja", op. cit.

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ANTU, zinc phosphide, red squill, sodium arsenide and barium carbonate.[313] However, the documents I analysed show that the last two were used least frequently.

Red squill was one of the most popular rat control methods at the time. The fibre of this plant contains a poisonous chemical compound from the glycoside group, scillaren, which affects the circulatory system and digestive tract. The dominant view in the literature from the period is that this was the safest of all known and mass-use rodenticides for others in the vicinity, owing to its bitter taste that warns humans and other animals. One fundamental weakness of this method that was mentioned was the fact that the amount of the toxic substance in red squill is variable, which can affect its efficacy. It was also noted that the plant loses its properties when kept too long.[314] Poisons based on thallium sulphate, in general use in the 1940s and 1950s, were very effective, but the lack of warning smell and potential for dermal absorption could lead to poisoning among humans.[315] Extensive precautions were therefore recommended when using it,[316] and it was ultimately withdrawn from sale. Zinc phosphide was generally regarded as cheap and practical to use, with a characteristic garlic smell protecting humans from poisoning.[317] When it comes into contact with gastric acids, this substance produces phosphine, which paralyses the nervous and respiratory systems.[318] This was the most common method for killing rats in the communist period in Poland, sometimes second only to anticoagulants. Domestic production of ANTU began in the Solly Chemical Laboratory in Bytom before 1947, just a few years after Richter developed the formula.[319] The formula may have arrived in Poland from the Soviet Union, where it was produced under the commercial name of Krysid. It was widely regarded as not only effective, but also safe for other animals and humans. By 1962, however, the State Agriculture guidelines warned that ANTU should only be put out after at least a year's gap,[320] suggesting that Polish rat populations, like those in the United States, had gained immunity after consuming too small a dose of the substance. Nonetheless, ANTU-based substances continued to be mentioned among the methods used until 1974.[321]

313 Meetings of the Scientific and Technical Council 1949, 1950, GZST AAN.
314 M. Kulesza, "Deratyzacja", op. cit.
315 *Instrukcja o dezynfekcji, dezynsekcji i deratyzacji,* Warszawa 1948.
316 M. Kulesza, "Deratyzacja", op. cit.
317 *Instrukcja o dezynfekcji, dezynsekcji i deratyzacji,* op. cit.
318 M. Kulesza, "Deratyzacja", op. cit.
319 A. Dehnel, E. Kamiński, *Najpospolitsze gryzonie,* op. cit., p. 47.
320 Technical/economic analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1962, SZDDD APS.
321 *Przepisy techniczne* [no author], Łódź: Zakłady Zwalczania Szkodników Zbożowo-Mącznych Przedsiębiorstwo Państwowe w Łodzi, 1974, p. 84.

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The biggest breakthrough, however, came with the appearance of warfarin, followed by other anticoagulant-based substances. In 1954 these were still being trialled,[322] but they soon proved effective and safe for humans.[323] In 1956, derivatives of coumarin were being produced by the Gdańsk poison factory. Pest control company documents from the 1960s show that this was the most widely used substance apart from zinc phosphide in that decade, especially after the discontinuation of thallium-based means. It seems, however, that rodents soon became immune to this substance. For example, a report of the Sanitary and Epidemiological Station in Nowogard from 1972 informs that warfarin-based poison is "practically ineffective and offers no guarantee of rodents' dying after its consumption".[324] Critical observations evidently did not prevent its usage. Indeed, a similar comment appears in a report from 1974, whose author argues that "with such a large number of rodents, this substance is not a radical rodenticide".[325] The result was a return in the 1970s to acute rodenticides.[326] Only the emergence of second-generation anticoagulants would bring a change.

The influence of widely used extermination methods on rats' welfare was essentially absent in the rodent control sector's discourse before 1989. The ethical dimension of exterminating these animals was not only not discussed in materials targeted at the general populace (understandably, given their propaganda character), but even in surviving materials aimed at professionals. I did, however, manage to find several sources that were exceptions to this rule, one of which is worth citing as it comes from 1948, a period of heightened anti-rat sentiments. This is a report on testing a poison in the Forensic Medicine Department of the University of Łódź for the Rat Control Division in Gdańsk (Figures 4–6). The document, signed by Prof. B. Puchowski, describes laboratory experiments using brown rats for testing three poisons: arsenic cake, red squill crumble and barium-arsenic cake. The description of the experiment using red squill is particularly noteworthy. It shows that a rat subjected to the experiment takes a long time to die (29.5 hours), experiencing serious suffering recorded by the tester (convulsions, restless limbs, biting its tail, difficulty breathing). The second rat tested using the same substance, 8.5 hours after the beginning of the experiment, having

322 S. Rybicki, *Zwalczanie szczurów i myszy. Praktyczne wskazówki przyrządzania i wykładania trutek*, Warszawa: Biblioteka Popularno-Naukowa Zarządu Dezynfekcji, Dezynsekcji i Deratyzacji w Warszawie, 1954, p. 5.

323 A. Bojanowska, *Nowe zdobycze w dziedzinie deratyzacji*, Warszawa: Biblioteka Popularno-Naukowa Zarządu Dezynfekcji, Dezynsekcji i Deratyzacji w Warszawie, 1955, p. 4.

324 Report on the work of district sanitary/epidemiological stations in disinfection, disinsection and rat control for 1972, WSSES APS.

325 Report on the work of district sanitary/epidemiological stations in disinfection, disinsection and rat control for 1974, WSSES APS.

326 A. Brodniewicz, A. Krzemińska, "Współczesne metody zwalczania i zapobiegania pladze szkodników sanitarnych", in: *Studia nad infestacją budynków,* op. cit., pp. 63–68.

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exhibited the same symptoms, was drowned. The reasons for the tester's decision are not specified, but we can assume that the objective was to shorten the animal's suffering, since the findings from the experiment state: "The red squill crumble acts very slowly, causing *long-lasting and enormous suffering to the animal*, and this is therefore an *inhumane* poison. Moreover, the sight of the lengthy torment of the poisoned animal might discourage consumption of this poison" [my emphasis].[327]

The stress on the pragmatic reasons why a substance causing great suffering cannot be recommended (discouraging other rats observing their companion's death throes from consuming it) does not change the diagnosis of this suffering. The concept of inhumanity is used to describe the poison's action, which is remarkable for the period. Yet this document should not lead to the conclusion that this was a common attitude among researchers at the time or that red squill caused stronger and longer-term suffering than other substances (although this experiment in fact showed that it was less humane than arsenic-based poison). Other reports on tests of poisons from this period completely ignore the ethical dimension of experiments, although the suffering of the animals the substances were tested on might have been even greater. For example, a report by the Institute of Marine and Tropical Medicine of the Medical Academy in Gdańsk from 1949 states that the rats subjected to an experiment died only after four to five days. On this occasion, though, there is no comment on the days of suffering experienced by the animals. The document does not state the active substance on which the tested poison was based, but the time lapsed between administering the poison and the animal's death may suggest that the experiment in question was on anticoagulants, which were new at the time.

The "benchmark" and its decline

Let us take a closer look at 1949–1957, a key period in the history of Polish rat control. The almost complete centralisation of the sector, which became known as the "DDD service", made it possible to coordinate actions, and harnessing researchers provided a basis for the scientification of the field. Extermination of rats was accompanied by a widespread education and propaganda campaign encompassing posters, leaflets, talks in schools, commissioned press articles and radio broadcasts. Most of the scientific, popular-science and how-to publications on dealing with rats ever to have appeared in Poland date to these few years.

327 Production and registration of rat poisons. Report on testing of poisons, 1948, GIOŚZK AAN.

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The development and coordination of rat control was possible as all the sector's services and production of poisons were placed in the hands of one institution. Despite constant structural changes over the next few years, resulting in changes to the names of the institution and its subsidiaries, from the outset it was designed to oversee all existing entities working in rat control, responsible for both production and services. In 1950, a process of the institution's successive acquisition of poison producers began, and two years later the Technological Laboratory was established, whose purpose was to conduct experiments and develop new methods of animal extermination. In 1953, the entire institutional rat control system, including the subordinate field facilities, was transferred to the administration of the Ministry of Health. The reasons for this change are unclear. The objective may have been to connect the sector even more closely to central government. It is important to note that the people responsible for implementing rat control operations had access to dangerous substances. It would be speculation to suggest that the authorities were worried about individuals producing and dealing with poisons, especially if we consider that the process of nationalisation and centralisation of industry and services was a universal occurrence at the time. On the other hand, however, it is quite possible that the paranoid atmosphere of the era might have had some influence on this close merging of this sector – which, after all, was potentially lethal – with central government.

Brodniewicz described the time of centralisation (and especially 1955–1957) as an "organisational benchmark" for rat control practices in Poland. He praised certain tendencies such as an increasingly dense network of local pest control branches, differentiation and improved quality of the poisons produced, the creation of a technological laboratory employing 30 people and researching new types of poisons, interinstitutional cooperation, a wide-ranging system for training professionals and numerous specialist and propaganda publications. Brodniewicz also mentions the visit of a WHO expert to Poland, who was apparently so impressed with the organisation of the pest control service in the country that he proposed presenting the Polish model as exemplary at a conference in Geneva in 1962.[328] But this "benchmark" did not last long. In 1957, with the post-Stalin Thaw and decentralisation, the central pest control administration was scrapped. Local pest control companies were transferred to the jurisdiction of provincial national councils, with producers of poisons and the laboratory directly overseen by the Ministry of Health.[329]

328 A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.

329 S. Rybicki, "Organizacja zarządu i okręgowych zakładów dezynfekcji, dezynsekcji i deratyzacji", in: *Vademecum dezynfektora, dezynsektora i deratyzatora,* op. cit.

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Assessing this process from the perspective of the 1970s, Brodniewicz's verdict on the decentralisation process was negative. He notes that by making local companies dependent on national councils in terms of financing, expertise and organisation, they became one of many companies subordinate to them. In his view, the need to operate by the same rules as other state firms, without considering the specific field they were operating in, meant that the "momentous role [of the pest control sector] as an emergency sanitary and epidemiological service for the city" was not appreciated.[330] The need to comply with top-down financial discipline made it difficult, and sometimes even impossible, to perform its tasks effectively. Furthermore, the abolition of the central pest control administration stripped local companies of their specialist facilities, training, guidance and educational materials and equipment essential for their work (Brodniewicz particularly highlights deficits in their car fleet[331]). Further negatives he mentions are personnel problems caused by such factors as low wages and the ban on employing women in the sector, which caused major staff shortages.[332] Neither here nor in any other source did I ascertain when and why women were not permitted to work in pest control. It was possibly because of a potential negative impact of rodenticides on fertility (which has been confirmed in recent years by the European Chemicals Agency; see Chapter 4). Documentation from the 1940s and 1950s reveals that women still worked in these firms at the time, although it is difficult to pinpoint whether they had direct contact with toxic substances or performed administrative duties.

As one of the founders of the centralised rat control system of the Stalinist era, Brodniewicz could not be entirely objective in his negative appraisal of how the sector operated in the 1970s. Yet an analysis of the surviving documents of local pest control companies from 1957 to the mid-1970s mostly corroborates his views. Denied the leadership of a central supervisory and advisory entity, the companies faced increasing difficulties.

The looming crisis was barely visible at the end of the 1950s and beginning of the 1960s. The rat extermination campaign organised by the pest control companies in Szczecin in 1960 is interesting for at least for three reasons. First, it was perhaps the last major anti-rat operation in communist-era Poland to combine a methodical approach with an extensive propaganda campaign, making it similar to the drives of the late 1940s and early 1950s (although, unlike them, its innovativeness is debatable). Second, there is an evident economisation of the language used in its reports. Third and finally, Szczecin pest control company

330 A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.

331 The author notes that of the 10 Nysa cars owned by the Warsaw pest control institute in 1979, only seven or eight were roadworthy (A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.).

332 A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.

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documents (also from other years) include the numbers of rats killed. This is a historical rarity. Other firms usually gave the number of square metres or tonnes/bags of poison used, which makes it harder to assess the scale of animal killing.

An "experimental operation" was conducted as part of the national campaign organised in March 1960. The Szczecin pest control company carried out a rat control exercise in the part of the city directly adjacent to the port, the banks of the River Oder and port canals. The operation, using a two-poison method (with zinc phosphide in pork and ANTU with vegetables), was conducted by a team of 26 rat control personnel. It was preceded by an information campaign encompassing press articles and broadcasts on the local Polish Radio station and distribution of leaflets delivered by the Ministry of Health (150 copies "What every citizen should know about DDD" and 2,000 of "Rats and flies are the enemies of human health"), along with 13,500 posters ("Fight rats", "Rats are the enemy of health" and "Rats are carriers of infectious diseases"). In 1960, heads of institutions were also sent 1,500 Nature Protection League calendars containing inserts promoting the pest control company's services.[333] The campaign was accompanied by a conference attended by representatives of the Sanitary and Epidemiological Station and City Cleansing Plant.

The campaign itself, though "experimental" in name (possibly to attract press attention) was not particularly groundbreaking in terms its rat extermination methods. Its objective was simply a far-reaching intensification of operations for combating the animals in a strictly designated area:

1) The aim of this fragmentary operation was to eradicate the rats *infiltrating* from the port into the area of the city and thus particularly dangerous in epidemic terms.
2) It was developed specially, specifically, and in collaboration with the Municipal Cleansing Company, which was not possible for the entire city owing to its size, as well as vehicle shortages.
3) Strong poisons with zinc phosphide and poppy seed were used, monitoring continually to receive rapid results and experimental material in the form of dead rats for the Provincial Sanitary and Epidemiological Station, pest control laboratories.
4) The idea was for a particularly accurate analysis of this district in terms of the rat count in domestic and industrial buildings [my emphasis].[334]

We learn from this text that dead rats were collected and delivered to the Sanitary and Epidemiological Station for experimental purposes. The next document states that "the operation did not provide excellent results", but that "it can be

333 The reporter adds: "Practice shows that such keepsakes are very helpful in working with various institutions" (Report on the propaganda activities of the Services Department in 1961, PWRN APS).

334 Economic/technical analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1960, PRWN APS.

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regarded as a successful operation", as it resulted in "absolute reduction of the rat population".[335]

The Szczecin pest control company's technical and economic analysis for 1960 is characterised by several interesting themes typical of the language of rat control at this time. The passage I cite below concerns the reasons for the drop in the accumulation rate in 1960 compared to the previous year:

> The efforts of the company's administration in 1960 were geared towards achieving better results by eradicating a larger number of rodents, i. e. improving the quality of services provided. This objective was fully realised if we consider the fact that the number of pests killed in 1960 was 21,409, compared to 7,631, three times fewer, in 1959.
>
> Based on scientific data, we can assume that for every dead rat collected on the surface an average of nine die in burrows and hidden, so the number of rodents destroyed in 1960 amounted to approx. 215,000, and in 1959 approx. 76,500. Assuming that the damage caused in a year by one rat amounts to approx. 200 zloty, the savings achieved in the national economy as a result of eradication of this number of rodents in 1960 reached a level of 43,000,000 zloty, and in 1959 close to 15,000,000 zloty. In the light of this calculation, one can state that the drop in the accumulation rate in 1960 of around 100,000 zloty compared to 1959 is insignificant. If we add to this the benefits deriving from cleansing entire districts, and frequently entire cities, from these pests carrying infectious diseases, the company's activity in this segment in 1960 compared to 1959 can be evaluated as incomparably better.[336]

Several questions are worth noting here. Firstly, the document provides an estimated number of rats killed in just one year, in one province, by one organisation (pest control companies): 215,000 specimens. To get a fuller picture of the statistics, it would be necessary to add the number of rats killed by the Cereal and Flour Pest Prevention Office, health institutions (other documents show that the majority carried out their own rat control) and individual residents. I do not have such statistics and doubt whether they were compiled. However, even the estimates provided by pest control companies should be treated as only approximate. The estimated ratio of 1:10 for rats found versus the total killed is not corroborated in other sources. But the figures given in the analysis might give at least a very general idea of the scale of the problem.

Secondly, in addition to the sanitary language typical of such materials ("cleansing" districts) and the word clusters reinforcing the negative stereotype of a rat ("these pests carrying infectious diseases"), also noteworthy is the reference to "achieving better results by eradicating a larger number of rodents, i. e. improving the quality of services provided". This anticipates the new language that would be typical of the sector's rhetoric after 1989. Killing the largest number

335 Ibid.
336 Ibid.

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of animals is dictated here by the aspiration to increase the quality of services. A growth in the number of rat control operations is treated as proof, on the one hand, of a high number of rats, and on the other, of the effectiveness of the company. A high number of killed rats is therefore both a success (rat control operations are effective) and a failure (they show how many rats there are, and therefore, indirectly, how much remains to be done). The number of dead bodies found becomes a message showing the need to step up the battle against these animals. Yet this is an endless battle, based on the logic of excess: there are always too many rats, and the extent of their extermination is never sufficient for the "quality of services rendered" to be satisfactory.

Also striking in the description is the high level of economisation of rat extermination. This is not a new phenomenon. Attempts to calculate the economic losses caused by the animals could also be observed in prewar and Stalinist debates.[337] Their main objective at the time, however, was to use these data for propaganda purposes, although conversion of rats into monetary units also sometimes appeared in industry debates.[338] This time, including them in a company's economic reports seems to result from the increasing financial regime that rat control companies had to deal with. The author of the report tries to convince the representatives of the National Council that, despite the decreased accumulation rate in 1960, the company's ultimate economic result is favourable because a larger number of rats were killed, and a contribution was therefore made to savings in the national economy. However peculiar this may sound in the context of a centrally planned economy, in this narrative a dead body of a rat becomes a carrier of capital, and the extent of its extermination an embodiment of profit.

In another document from this time, addressed to the National Council, representatives of Szczecin's companies propose a change in tactics for combatting rats in the city, noting the inefficacy of general campaigns. They claim that there are often question marks over the preventive nature of such operations and that "they are not understood by the general population".[339] They therefore propose introducing new principles for rat control in Szczecin:

> The principle of the new project entails dividing the city into permanent districts served throughout the year by one permanent company staff member who will carry out services in the area allocated to him. […] The staff member will continue to conduct rat control operations of infested buildings until rats are completely eradicated in them.

337 This "economic discourse" concerned not only rats, but also extermination of other animals regarded as problematic. Cf. D. Jarosz, "Wielka masakra psów", op. cit.

338 At a meeting of the Regional Government Economic Association, Adam Janowski, the head of the board, asked: "Is it possible to specify how much a poisoned rat costs?" (Board Meetings from 1949 to 1950, GZST AAN).

339 Report on the propaganda activities of the Section for Services in 1961, PWRN APS.

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> Rat control in infested buildings will thus not be conducted only twice a year, as has previously been the practice, but will in fact last throughout the year until the full effect has been achieved. In buildings without rats, meanwhile, poison will be put down only as a safeguard – so-called chemical ratproofing. The duties of the company staff member will include conducting rat control whenever requested to do so by the administrators and users of buildings and other sites. […] We would also like to add that this working method is already employed in European cities, e.g. in Moscow.

In addition to the repeated annihilistic language ("completely eradicated"), also notable is the concept of chemical ratproofing, which is common nowadays but was new in 1960. This entails the permanent presence of poisons on a given site, which has little in common with preventive ratproofing, although in today's discourse it is treated as a preventive method rather than an offensive one (see Chapter 4). I see the quoted passage as important as the proposal it contains corresponds in broad terms to how rat control practices work today. However, there is no indication that the authorities reacted with understanding to the proposal of the zealous representatives of the Szczecin rat control company from 1960. There was a change in the atmosphere of the time. Financial discipline and (often difficult) attempts to stay within budget seem to have had a greater effect on pest control companies' policy in the 1960s and 1970s than inventiveness, long-term planning and creativity in coming up with new extermination strategies. In the documentation of local pest control firms in the next years, one can more often find complaints about the financial and staffing situation in the company than a search for alternative strategies for dealing with the animals. In addition to budgetary restrictions, one of the main problems cited in almost all documents is the lack of competent personnel and the resulting high staff rotation in rat control companies. It is worth considering this problem for a moment. An exhaustive analysis of the dynamics of changes to the rat control sector in communist-era Poland and the reasons for its crisis seems impossible without exploring the economic situation, motivations and morale of the people employed as rat control professionals.

"Rat control pioneers": The work of rat exterminators

The postwar, "scientific" rat control practices demanded new, specific competences for exterminators. This involved both increasing bureaucratisation of practices and attempts at elevating the status of rat exterminators, who were now to be "important healthcare professionals". In practice, however, it proved extremely difficult to satisfy these premises owing to the nature of the work, which required contact with poisonous substances and killing, as well as being poorly paid and enjoying scant social prestige.

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Individuals working in rat control were required to adhere to strictly defined procedures. These developed as a result of the scientification of the industry, but can also be linked to trends characteristic of the socialist economy, such as standardisation of labour, competition and promotion of inventiveness. It was already known that effective rat extermination demands a knowledge of their ecology and that ratproofing and compliance with hygiene rules are fully fledged methods of combating them. As a result, in the Stalinist era, complicated, standardised procedures were developed and general rat exterminator courses were introduced that were a prerequisite for a position in the Rat Control Division and later pest control companies. Surviving programmes from these courses show that they were quite progressive for the time: future rat exterminators were taught the principles of ratproofing buildings, the basics of rodent biology and toxicology, as well as the legal foundations of rat control.

Documentation from the 1950s provides an insight into the reality of rat control procedures at the time. Regulations for the work of rat control field teams specify:

> The head of the crew, accompanied by a controller, is obliged to acquaint himself in person with the area and determine: a. the size of the site, b. the type of the site, c. ratproofing of the buildings, d. the type of rats' food in the given area including water sources, d. the amount of food available to rats, e. paths used, hiding places, nest, f. level of infestation, and on this basis compile the first part of the rat control protocol.[340]

This document indicates that steps were now being taken to treat the problem of rat control holistically, with the procedure of putting down poison just one of many stages of the work. This kind of approach began to return in Poland in the 1990s with the emergence of the concept of integrated pest management (IPM). This concept did not yet exist in the late 1940s and early 1950s, but the features of rat control operations in this period (especially detailed analysis of the specific habitat, possible sources of sustenance and paths used by rats, and the associated bureaucracy) suggest that the strategies in use anticipated IPM, and especially today's tightly regulated inspection standards for food processing facilities (e. g. HACCP). The extensive documentation that rat control personnel were required to compile and the bureaucratic focus on procedures mean that the killed rat symbolically disappears, replaced by reports, protocols and the crew leader's activity log.[341] The change in language seems symptomatic here. The prewar ratcatcher (according to the socialist narrative usually dishonest and only interested in profit) was replaced by the modern, socially oriented and compre-

340 Regulations for fieldwork of rat control contingents, undated document (it concerns the activity of the Rat Control Division of the Local Government Association, meaning that it probably dates from 1948–1949), GZST AAN.

341 I elaborate on the question of bureaucratisation of language in Chapter 3.

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hensively educated rodent exterminator. In order to fulfil his duties, he needed to have the relevant specialist qualifications and a community-focused approach to his duties. A good rat exterminator is not only a performer of the tasks allocated to him, but also a consultant and instructor. He therefore needs to have a knowledge of chemistry, biology, toxicology, technology and commodity science. "At the same time, his conduct and sociopolitical attitude should demonstrate that he is worthy of being called a healthcare professional".[342]

The process of the symbolic elimination of the tangible, killed rat from the industry discourse of the era may have been caused indirectly by the popularisation (from the 1950s onwards) of anticoagulants. These substances, which did not require prior feeding of unpoisoned food to the animals and extended the time between the rat control operation and the rodent's death, meant that rat exterminators did not need to be confronted directly with suffering and dying.

The various tasks that made up a rat exterminator's work were also radically formalised. The tightly controlled division of labour is especially notable. At the time of the Rat Control Division, the main organisational unit during work in the field was a rat control contingent, numbering from a dozen to several dozen people. This was divided into smaller units known as patrols, which if necessary could be combined into squads[343]. However, documents from the 1950s show that a rat control squad then became the basic organisational unit. This was a team comprising seven members: the squad leader, one or two senior rat exterminators and four or five exterminators. Apart from the practical training, squad leaders needed to have completed a central squad leader course and passed the exam at its conclusion. Each squad member had strictly defined tasks:

> If the whole squad is working together, the senior exterminator goes first, indicating the place where poison is to be laid and the type of poison. Exterminator 1 places poison on paper and lays it in the place identified by the senior exterminator. Exterminators 2 and 3 carry different poisons in containers and give them to the person laying them. Exterminator 4 sticks a warning sign above the place where the poison has been laid. Exterminator 5 brings extra poisons or is on duty at the operation point. The squad leader goes before the squad, conducts repeated reconnaissance of the area, determining the order of buildings, gives orders on distribution of the portions laid, and later checks how they have been served and put out.[344]

Several issues are worth noting here. First, this passage shows that pest control teams brought more than one type of poison with them and the senior rat exterminator decided on which substance to use based on his knowledge and assessment of the situation. This means that it was at least assumed that he had

342 S. Rybicki, "Technika i organizacja prac deratyzacyjnych", op. cit.
343 Regulations for fieldwork of rat control contingents, n.d., GZST AAN.
344 S. Rybicki, "Technika i organizacja prac deratyzacyjnych", op. cit.

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sufficient competences to not only conduct a rat control operation efficiently but also determine which extermination method would be the most effective in specific conditions. Second, it is hard to resist the impression that too many people were involved in the operation, and the entire procedure could have been conducted equally successfully with a team of two or three people. I suspect that the objective of this restrictive planning was to optimise (to use today's language) operations, and probably also to make it easier to find the person responsible in the event of errors and shortcomings in the work with toxic substances.

I suspect, however, that the division of labour within a squad also had a different, deeper meaning. The division of responsibilities and the characteristic language used to describe them ("operation point", "reconnaissance of the area", but also the concepts of "patrol", "squad" and "contingent", common at the time), bring to mind the mechanisms of the operation of military formations. The "battle against rats" thus requires manoeuvres in a highly formalised and hierarchically constructed team. Although the logic of wartime was commonplace in many areas of public life in the Stalinist era, rats were animals that were used particularly frequently as a personification of the enemy.

Nevertheless, practice did not quite coincide with theory. It was no easy task to find competent, responsible individuals willing to work in rat control. In the late 1940s, seasonal workers or medical students were resorted to. However, the permanent rat control institution team mainly consisted of people who had only completed seven years of primary education and a 100-hour course. Reports referred to problems with finding good staff, poor working conditions and low productivity.[345] They mentioned the "tough fortunes and bad traditions" associated with the industry that lingered on in society, "that anyone in contact with a rat control operation must be earning a lot because in the past, in different conditions, they earned a lot, and had fees and other income".[346] The report suggests that there was an unhealthy working atmosphere in the institution and the mood among staff was bad. The head of field operations mentions the difficult conditions when out on calls, having to work even during very poor weather, basic accommodation during operations and the working conditions often requiring employees to be away from home for 80 or 90 days without a break. One document states: "Employees of the Rat Control Division succumb to the exaggerated myth of the *supposedly incomparable* work in the rat control division" [my emphasis]. And yet "rat control employees have the same tasks as other workers in our country – except the forms of work are different". In an

345 Meeting of the board from 1949 to 1950. Minutes from the meeting of the Economic Board of the Local Government Assembly of 9 and 10 November 1949, GZST AAN.

346 Ibid.

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attempt to boost morale in the team, the department head addresses the following words to them:

> You are pioneers of rat control and have been entrusted with an important task in the team of our national economy. You must be aware of the whole issue and all the difficulties to generate a good working atmosphere, combat bad human habits, and activate and raise awareness among employees.[347]

Two issues are worth noting in these quotations. First, earnings from rat control operations were regarded as undesirable. Rat control was now a matter of national importance, a "service" whose social impact could not be overestimated. Accepting "fees and other income" for rat extermination services was therefore immoral and deserving of condemnation. Second, the description of the rat exterminator's work as "incomparable" is striking. These words, although doubtless uttered in the fervour of discussion, appear typical. It is important to remember that these minutes stem from a time of the painstaking and back-breaking rebuilding of the country, the Six-Year Plan and development of heavy industry. The description of the rat exterminator's duties as "incomparable" with work in other branches of industry, even if it was made sarcastically, seems to contain an alarming allusion to the realities of work in this field. We will not find these in official publications, which reflect the optimistic propaganda atmosphere of the period.

Materials from the 1950s paint a more positive picture of work in the pest control sector. A note added to the services plan for 1953 states that local companies' operations staff were gradually transforming from seasonal workers into a permanent team trained comprehensively either in their local firms or on courses organised by management staff. This was the reason for lower turnover of personnel and "an increasing love of their work, and especially the question of improved quality of the services performed is becoming a task fulfilled with continually improving results".[348] This enthusiastic optimism probably stemmed from a growing level of terror resulting in a freezing of the public debate, although it is also possible that centralisation and the subsequent dissemination of uniform procedures may have had a certain positive impact on employees' morale. From the next decade onwards, however, critical views on the realities of work in pest control companies would become the norm rather than the exception.

In the Szczecin pest control company, for example, employment levels from the beginning of the 1960s onwards were lower than planned owing to a lack of interest – and despite the zeal of its leadership, which was running the rat control

347 Ibid.

348 Technical/industrial plan for the Service for 1953. Note included in the service plan of the Derodinsekcja P.P. local company in Warsaw, CDDW AAN.

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programme at the time. The reasons given are savings in wages and extending working time to meet the planned service levels.[349] According to the authors of the analysis, paid overtime led to reduced motivation among employees, resulting in numerous abuses of the system (e. g. it was easy to receive a confirmation from the client that the work was carried out during overtime). These difficulties worsened in the spring and summer months, when most workers took work in construction companies that could offer much better earnings.

We should also remember that contact with poisons increased the likelihood of occupational illnesses. The documents cite cases of people working in poison mixing plants suffering from erysipeloid on their arms as well as epidemics of respiratory diseases.[350] It is worth emphasising, however, that despite encountering rats during their work, "to date no employee has been attacked or bitten, and there have been no reported cases of leptospirosis, a disease found sporadically among sewer workers".[351]

Reconstructing the working conditions in rat control in the 1980s is made difficult by the lack of archival documentation from this period. Based on interviews with people working in rat extermination, however, we can conclude that, as in other areas of public life, a deepening crisis could also be observed in the pest control sector. One of my interviewees recalls:

> There were many irregularities in the operation of state companies. Employees of state firms sold the substances they received for their work on the black market, reducing the doses, or they were even minimal [laughs] or non-existent, so they simply couldn't be effective […]. The black market flourished. […] Next to state pest control companies […] on bus stops and lamp posts we put up a notice saying: "will buy product". And they got in touch straightaway. They'd bring it wrapped up in newspaper [laughs].[352]

Such dubious sales of rodenticides must have been widespread in this decade, as most of the narratives of people who worked in the pest control sector in the 1980s allude to them. For my interviewees, these stories usually typify the utterly insufficient competences of the employees of state pest control companies at the time:

> They were basically salaried, so it wasn't in their interest to do the work well, at least not all of them. The leadership often wanted to implement some policy. But for the ordinary work they often took random people who gave it a kind of [negative] atmosphere. Many products were just bought illegally from company staff. So he must have done his work

349 Technical/economic analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1962, PWRN APS.

350 Economic analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1961, PWRN APS.

351 A. Brodniewicz, "Stan sanitarno-porządkowy miasta jako czynnik sprzyjający rozwojowi i utrzymywaniu się plagi szkodników", in: *Studia nad infestacją budynków*, op. cit., pp. 32–49.

352 Respondent 2, interview from 24 April 2017.

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> badly to have a product that he sold to the private firms that were starting to be formed.[353]

Views on the Department of Food Pest Control were similar. A person employed at this institution in the 1980s described work there as "fraught", saying that rat control strategies were chaotic, reactive and lacking a long-range strategy:

> Then you'd distribute kilogrammes, so tens, 50, 100 kilogrammes of poison, which would vanish, it calmed down a bit for the first two weeks, then for the next two weeks you'd show more and more and after a month again you'd come in with the 50 or 100 kilogrammes of poison.[354]

Such testimonies demonstrate how far the pest control sector had drifted from, to use Brodniewicz's term, the "benchmark" of the 1950s. Sales of poisons on the black market (both to individual customers and to the first private firms), and the subsequent systematic reduction of doses meant that the battle against the animals could not be successful. Distributing a vast amount of poison without considering the actual infestation level brings to mind the general campaigns of the 1940s criticised by scientists at the time. My interviewees indicated that there were practically no preventive operations in the final years of the communist period, with rat extermination performed on an ad hoc basis. One respondent, when asked why he thought rat control had stopped being treated as a priority area, replied that: "There was no time for such trivial stuff – who cared about rats? The system was falling apart".[355] It is difficult to disagree. On the other hand, in the time of postwar reconstruction, tightened control of the country and dealing with problems of provisions, the authorities were also not short of difficulties. At that time, however, the question of the fight against rats was regarded as a matter of national importance.

These problems may therefore be a symptom of a much more profound phenomenon than merely the authorities' other priorities or the unfavourable institutional changes highlighted by Brodniewicz. From the late 1950s onwards, rat control was no longer regarded as a priority area as it had lost the peculiar political dimension it had enjoyed in the Stalinist era. This is not to say, of course, that the need for rat extermination was no longer discerned in subsequent decades. The timeless, emotional reports in the popular press may, to some extent, have reflected public anxieties in this regard. The need to combat the animals was also emphasised by representatives of the healthcare and sanitary/epidemiological services. Not counting journalists and epidemiologists, however, the topic no longer aroused extensive attention. This steady decline in interest in

353 Respondent 17, interview from 17 May 2018.
354 Respondent 11, interview from 26 June 2017.
355 T. Karpiński, email from 27 March 2018.

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rat control from the 1950s to the 1980s was no accident: rat control programmes in the Stalinist period had distinct propaganda purposes. With the gradual retreat and weakening of the totalitarian state, rat extermination ceased to be a matter of national importance.

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Chapter 3.
"Constant Dripping": Rat Control Propaganda in 1945–1989

Rat control propaganda as cultivation of attitudes

In this chapter I will trace the dominant ideas about rats and their extermination during the communist period. The materials I analyse can be divided into those targeted at professionals (mainly specialist literature) and those aimed at the general population (educational and propaganda materials). In practice, it is often difficult to differentiate between the two, especially with materials from the 1950s, a period of heightened interest in rat control. The numerous popular science and self-education publications from this time blurred the boundaries between the industry discourse and the public one. It is also important to note that the specialist literature produced by scientists directly shaped rat control propaganda. It therefore provided a kind of template for the narratives later reproduced in posters, flyers and educational leaflets, making it the original discourse on rats in communist Poland. The content of the propaganda materials created or co-created by the people in charge of exterminating the species can be treated, firstly, as evidence of deliberately chosen rhetorical devices. It can also, however, be seen as a manifestation of the values, beliefs and fears of those responsible for the design and implementation of rat control campaigns between 1945 and 1989.

I am not claiming that the dominant, top-down discourse created by the state rat control authorities in the Polish People's Republic is the only factor that shaped the postwar public perception of rats. Certainly, a multitude of cultural aspects of the phenomenon (especially the animal's symbolic status, discussed in Chapter 1) created a solid basis for postwar propaganda. We should also not discount the importance of negative personal experiences, especially among people living in districts where encounters with this mammal were not a rarity. But it seems likely that the scale of anti-rat propaganda and state bodies' monopolisation of messaging meant that the discourse created by central rat control institutions had a huge impact on shaping the perception of rats (and especially

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the terror they inspired) of at least two generations and, indirectly, also on contemporary sociocultural attitudes to them.

I use the terms "propaganda" and "education" and the phrase "educational and propaganda materials" in the context of top-down cultivation of attitudes towards rats at the time of so-called real socialism. Following the original, Leninist understanding of propaganda, I ought rather to use the term "agitation", meaning an action calculated to meet short-term objectives. Propaganda in this original sense was supposed to be a long-term undertaking, targeted at a smaller audience. In sociopolitical practice, however, these concepts were used interchangeably.[356] In rat control, the concept of agitation hardly appeared at all in debates at the time. Efforts to elicit a specific reaction from citizens were described as propaganda or propaganda-information campaigns. It is difficult to say how much this term's use in rat extermination demonstrated a belief in the importance of the problem, and how much the then popular concept of propaganda was borrowed in this context. But my first reason for using the term is to remain faithful to historical sources.

The second reason is that I see the concepts of propaganda, agitation, information and education (meaning promotion of certain attitudes among the population) as being more closely related than it might seem, although some of the concepts, especially "propaganda", have a negative undertone owing to their connotations with totalitarian regimes.[357] I agree with Oliver Thomson that propaganda is commonly misunderstood due to the fact that it partly overlaps with education (meaning transmission of knowledge). The role of education in shaping public attitudes, meanwhile, is inestimable even in countries that at a declarative level renounce the use of propaganda activities.[358] Thomson also differentiates between rational and emotional propaganda. The former is based on selecting facts corresponding to the objective that is being argued for, and omitting those that do not support it, while the latter is about manipulation through stimulating a specific type of affect in the recipient.[359] This broad understanding of propaganda overlaps with scientific or para-scientific debates using a selective choice of facts and accompanying visual representations of rats.

356 M. Jastrząb, *Mozolna mowa absurdu. Działalność wydziału propagandy warszawskiego komitetu wojewódzkiego PZPR w latach 1949–1953*, Warszawa: Instytut Historyczny Uniwersytetu Warszawskiego, Instytut Studiów Politycznych PAN, 1999, p. 8.

357 It is interesting that the verb from which the gerundive "propaganda" derives, "propagate", does not have the same negative connotations.

358 O. Thomson, *Easily Led: A History of Propaganda*, Stroud: Sutton, 1999, p. 4.

359 Ibid., p. 46.

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This makes it possible, to cite Katarzyna Murawska-Muthesius, to encode regimes of seeing and give a specific shape to a complicated reality.[360]

However, whereas the vast majority of contemporary rat control propaganda is based on the propaganda that Thomson refers to as "rational", the variety from the real socialist period was distinctly emotional. In the neat phrase used in one document from the time, it was supposed to be "the proverbial constant dripping wearing away the stone of public awareness".[361] But awareness had to be backed up by deeds, as the texts and images that were distributed had a distinct performative function. The main aim of rat control propaganda was to mobilise public opinion to join the fight against rats and, as Brodniewicz put it at a scientific and technical council meeting, to "break the often hostile mood of the population".[362] A distinction was made between general propaganda ("the first track") and mobilisation ("the second track"). The first of these took place regardless of whether rat control drives were being held in a specific place or not. The idea was to make the population aware of the need for combating rats and to present the dangers inherent in these animals' presence around humans. Mobilisation propaganda, meanwhile, was organised before distribution of poisons to encourage society to join the "direct fight against rats together with the company's specialist apparatus".[363]

The propaganda department in the Rat Control Division conducted a widespread and well-planned programme with the objective of encouraging citizens to join the fight against rats. The main channel used for reaching them was advertorials and warning broadcasts on the radio, especially prior to and during the poison distribution period. The second most important communication channel was propaganda posters and flyers issued through the health service, public organisations (e. g. the Women's League), trade unions and schools. The materials were sent to school authorities, local trade union boards, the Union of Polish Youth and other similar institutions, which, particularly for mobilisations accompanying national rat control campaigns, held talks on the subject and distributed materials among the population ("So the propaganda operation is

360 K. Murawska-Muthesius, "Jak rysować podżegaczy wojennych? Obraz Zachodu w socrealistycznej karykaturze radzieckiej i polskiej 1946–1954", in: *Realizm socjalistyczny w Polsce z perspektywy 50 lat*, eds. S. Zabierowski, M. Krakowiak, Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2001, p. 264.

361 Economic and technical analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1960, Report on the propaganda activity of the Services Section in 1961, PWRN APS.

362 Meetings of the Scientific and Technical Council 1949, 1950. Minutes from a meeting of the Scientific and Technical Council for Rat Control from 19 November 1949, GZST AAN.

363 Meetings of the Board from 1949 to 1950. Minutes of a meeting of the Economic Board of the Territorial Local Authority from 9 and 10 November 1949, GZST AAN.

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carried out through the *spoken word* – talking about and reinforcing the topic in the form of discussion"[364]).

At the same time, it was emphasised that the fight against rats was not a commercial issue. The accompanying propaganda could therefore not be confined to a business's advertising, but should rather be understood as an "awareness campaign in the segment of the fight against the pests that rats are".[365] This objective was only partly satisfied. Whereas the propaganda materials from the Stalinist era are indeed dominated by information about the economic and epidemiological threats posed by these animals, from the late 1950s onwards these materials begin to evolve, becoming increasingly less veiled advertising for pest control companies. That is not to say that they did not emphasise the health and economic risks, but these were usually only a starting point for information about the services the firms offered. Killing rats was therefore incorporated into the logic of an advertising message that first triggered a need or emotion ("Rats are a danger to you"), before calling for action ("Exterminate rats!"), and finally offering a solution ("Use the services of pest control companies").

It is hard to gauge the resonance of propaganda among citizens. Specialist literature from the period suggests that it was a partial success. But we must also bear in mind the fact that the people involved in rat extermination may not have been entirely objective in their assessment, concentrating on failures and paying insufficient attention to the long-term impact. Pest control trade literature from the 1950s is full of critical analyses of citizens' lack of awareness. These can serve as evidence both of society's general attitudes towards rat control and of the stance of the people involved in planning and implementing rat control. In the booklet *Why Must Rats Be Exterminated?*, Brodniewicz writes:

> Voices of approval and acknowledgement of some, usually the victims of rats, are combined with the general sometimes negative criticism of others. Others still, meanwhile, base their complaints on additional financial burdens, remarks on the low effectiveness of poisons, or even the pointlessness of national rat control campaigns and extermination of these little animals that want to live too […]. One gets the sad impression that the general population is absolutely unaware of the role of these very dangerous pests. Their presence in our environment and buildings is regarded as a completely normal manifestation, the damage they do as inevitable, and the radical fight against them as unnecessary, and additionally quite costly. Such views, lacking any substantive foundations, can only be expressed by a layman or frivolous individual. […] A passive or negative approach is not only negligent, but even very harmful, lulling us into a false sense of security.[366]

364 Ibid.
365 Ibid.
366 A. Brodniewicz, *Dlaczego należy tępić szczury?,* op. cit., pp. 3–4.

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We can infer from this that rat control programmes were controversial among the population. Some people presumably viewed rats not exactly favourably, but with a reluctant indifference, seeing their presence as self-evident and the large-scale fight against them as unnecessary. People without any bad experiences with these animals might not have seen the reason for and point of across-the-board poisoning campaigns. According to Brodniewicz, there were three possible arguments for this. The first was financial – citizens did not want to bear the financial burden of compulsory rat control. The second reason might have been a lack of faith in the efficacy of such endeavours. And the third might have been characterised by ethical concerns. If Brodniewicz's diagnosis is correct, this could mean that, despite the objectively existing problems associated with excessive growth of the rat population in the immediate postwar period, at least some citizens held moral objections about national rat control campaigns. Nevertheless, the author frames this argument in a sarcastic form ("little animals that want to live too"), suggesting a sceptical or even unequivocally negative attitude towards the sense of making such objections. This is confirmed in the next passage, in which Brodniewicz refers to the population's tolerance to rats, which he sees as definitely harmful. He refers to people questioning the sense of national rat control drives, expressing ethical opposition to them or at least showing indifference, as "laymen or frivolous individuals", expressing views "lacking any substantive foundations". While Brodniewicz puts the population's passive attitude down to their lack of awareness and imagination, another author gives a harsher verdict on neglectful citizens: in his view, indifference towards rats and failure to participate in campaigns for their eradication are not the result of a simple lack of awareness, but "rather negligence and a lack of sense of duty".[367]

Specialist publications therefore promote a narrative assuming the need for ruthless, large-scale extermination of rats as the only possible, unquestionable and self-evident way. Participation in national rat control is treated as a civic duty and shirking it as despicable conduct that can by no means be tolerated. This kind of rhetoric should, of course, be regarded as typical of the language of the time. But it also reflects deeper processes associated with the incorporation of rat control into modernisation processes. This might, to a certain extent, explain the zeal, fervour and uncompromising nature evident in the analysed materials.

367 W. Krycki, *Szkodnictwo szczurów i walka z nimi*, Warszawa: Biblioteka Popularno-Naukowa Zarządu Dezynfekcji, Dezynsekcji i Deratyzacji, 1953 (n.p.).

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"Rats are enemies of the human race": The militaristic discourse of Stalinism

I will begin my analysis of the rat control discourse with Kłoniecki's 1947 report on the general rat control campaign in Gdańsk. This is neither a propaganda text nor specialist literature; it was aimed at a small group of people working with the Rat Control Division, being set up at the time, as well as superior authorities. I decided to take a closer look at it, however, as it contains several themes that dominated the anti-rat propaganda for at least the next decade. Moreover, Kłoniecki was a commissioner in the Extraordinary Commission for the Fight Against Epidemics and one of the most important people who formed the postwar rat control industry. The texts he authored could therefore have a major impact on shaping the public debate in the coming years. Kłoniecki describes the migration of rats from the Vistula Fens towards Gdańsk as well as the programme for their extermination as follows:

> After complete consumption of the provisions supply in an area of five districts in the fens, in spring 1947 starving throngs of rodents marched in a mighty mass northwards to Tczew, and began their destructive work on the west bank of the river, inflicting severe damage […]. Various forms of poison, laid as in as large amounts and as densely as possible, must constitute […] *death strips* impassable by rats, preventing the rodents still alive after the rat control programme from escaping safely and finding any help. Rats fleeing, usually in a stampede at the sight of their fallen fellow tribe members, coming up against an uninterrupted chain of diverse, more or less tempting poisons, finally succumb – despite their innate suspicion and craft, high level of animal intelligence and instinctive aversion – to the temptation of tasty food, or fail to resist the power of hunger, ultimately dying. When laying poisons, one must not leave any empty places without any poisoned baits in a large area, that might provide a place of temporary shelter and an oasis of safety for the remaining fleeing rodents.[368]

Particularly striking in this passage is the aggressive, warlike rhetoric. Rats are described as a hostile army ("starving throngs of rodents marched in a mighty mass […] and began their destructive work […], inflicting severe damage"). In a similar fashion, the author presents the activities of humans, using quasi-military methods to combat the rodents, arranging poisons in the form of "death strips" and denying the animals a "place of temporary shelter". Elsewhere in the report, we can also find such militaristically tinged concepts as "operation zones" and "rat control contingents". The conflict between humans and rats is thus portrayed as a regular, interspecies war. Rats are presented as the enemy, but a distinctly anthropomorphic one, as shown by the use of the phrases "fellow tribe members" and "succumb to the temptation". The animals are depicted as acting

368 J. Kłoniecki, *Powszechna akcja deratyzacyjna woj. Gdańskiego,* op. cit.

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with purpose and even malice (doing "destructive work"), and are suspicious and crafty, thanks to their "high level of animal intelligence". Yet the objective of this distinct anthropomorphisation is not to arouse compassion for these mammals, still less to give them moral exaltation. One gets the impression that it is the opposite. In this narrative, the animal becomes a "human" enemy to make it easier to succumb to moral degradation.

This document is no exception. On the contrary, most rat control materials from this period – both internal documents and educational/propaganda texts – clearly replicate the militaristic narrative. This is expressed explicitly in a document from 1947: "The organisation of the rat control operation itself should be conducted in a sense in military style, i. e. when exterminating rats in a city, for example, a detailed plan of action should be compiled to begin the operation from the edges and aim for the centre, to prevent rats from breaching the rat control cordon to areas not covered by rat control".[369] In many other documents, rat extermination is called "Operation D" (for deratisation).[370]

A similar narrative prevailed in rodenticide advertising in the 1940s. One example is a flyer advertising the Enka poison from 1947 (Fig. 1). A red, monochrome drawing depicts a group of eight rats gathered around a bowl of food (implied to be poison). Four other rats lie around them. They appear to be dead, but go unnoticed by their fellows. Two other rats are moving with interest towards the bowl. A caption above the image reads: "We love the taste of ENKA poisons!" Below, however, is an additional one: "But they murder us without mercy!" As well as the illustration, the flyer also features the Enka poison logo, depicting a rat lying on its back, run through by a sword (Fig. 2).

The picture is a rare case of an illustration exhibiting the perspective of the rats subjected to rodent control practices. The narrative in the first-person emphasises the two stages essential for effective extermination of these mammals: a poison that attracts them ("we love the taste") but is also effective at killing them ("murder us without mercy"). There are none of the euphemisms common in the later rat control discourse here. Quite the opposite, in fact: the word "murder", traditionally reserved for descriptions of killing people, and additionally with strong emotional overtones, is used for killing rats. Enka's advertising slogan is further reinforced by the words "without mercy". The illustration uses (probably unintentionally) the nature of human visual perception, which first perceives the elements in the top part of the composition. As a result of the text-image-text model, similar to that seen in contemporary memes, the viewer notices the line

369 Meetings of the Scientific and Technical Council 1949, 1950. Minutes from a meeting of the Scientific and Technical Council for Rat Control held on 19 December 1949, GZST AAN.

370 Cf. e. g. report from conference on standardisation of national rat control methods, 1948, 1949 and Production and registration of rat poisons. Report on poison tests, 1948, GZST AAN.

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Fig. 1: Illustration, ENKA poison advertising leaflet, 1947. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

Fig. 2: Graphic symbol, ENKA poison advertising leaflet, 1947. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

about murder last. This makes it a subversive punchline, presumably intended to be humorous, for the rest of the composition, turning the meaning of the first line on its head.

The cruelty of rodent extermination is therefore recognised and emphasised, but also fully acceptable as something natural and right. We could digress and imagine that at a deeper level the Enka advertisement reveals its author's moral discomfort associated with killing animals. Yet the decision to include such an illustration in an advert for poison demonstrates that killing rats was not controversial at the time. Otherwise, the producer would probably not make such a macabre joke. As in Kłoniecki's text, therefore, it seems reasonable to conclude that the main function of the subjectification and anthropomorphisation of the rat is not to elicit pity for the animal, but to incorporate practices of its ex-

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termination into a narrative of war. This intuition is accentuated by Enka's logo, showing a rat as an enemy that perished on the battlefield. The voice of the rodents from the advert for poison is therefore that of the vanquished opponent, whose "murder without mercy" is morally justified.

The depiction unintentionally reveals the convictions and values of its creators, and thus, indirectly, also those of much of Polish society at the time. Unscrupulous extermination of rats is portrayed as something cruel but also self-evident, an uncontroversial and unnegotiable social fact. The use of the strong expression "murder without mercy" prompts a reference to Girard, who in *The Scapegoat* noted that "The conclusive document belongs to perpetrators who are too naive to cover the traces of their crimes, in contrast to modern persecutors who are too cautious to leave behind documents that might be used against them".[371] In later rat control rhetoric, the evidence of the "crime" of rat extermination was (and is) systematically erased by a disembodying, bureaucratic language. Clearly, in 1947 no such need was perceived. This also becomes clear with a review of the crude names of rat poisons at the time, such as Ratomór (Raticide), Zagłada (Holocaust), Szczuro-mór (Rat-killer), Szczurotrut (Rat poison), and a substance used to kill other rodents called Dusimysz (Mouse choker). The name of Zagłada might be particularly shocking today, as it is also used to refer to the Holocaust of the Jews, although it is worth noting that this explicit usage formed somewhat later.

Characteristic of the immediate postwar rat control rhetoric, then, was anthropomorphisation of rats and framing their extermination in a warlike narrative. We can assume that this narrative initially emerged spontaneously and was not yet orchestrated by the authorities. It is important to remember that such materials were produced just a few years after the war, almost certainly by people who had experienced the war, and perhaps actively participated in it. The militaristic rat extermination rhetoric might therefore have been a linguistic habit that stemmed from being accustomed to defining various types of phenomena in military terms. After all, this was still the most habitual and natural language for describing social relations (and ecosystems). The war raged on in this narrative, with human enemies replaced by rats. Initially, therefore, the warlike rat control rhetoric might have been an outcome of the experience of war and the accompanying brutalisation of social life.

This trend did not end in the 1940s. On the contrary, it became much more pronounced in the next decade. Ślusarski's popular science book, with the telling title *Szczur, gryzoń wojujący* (The rat, a militant rodent), describes the animal as a "voracious and belligerent barbarian"[372] that "invaded alien continents in con-

371 R. Girard, *The Scapegoat*, op. cit., p. 8.
372 W. Ślusarski, *Szczur gryzoń wojujący*, op. cit., p. 7.

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quest",[373] "incurring the wrath of the humans it steals from".[374] We learn from this book, which aspires to be a historical study, that "these enterprising animals carried out their invasion" of the European continent,[375] although "it is difficult to determine exactly when […] they invaded Europe".[376] In a chapter titled "Rats are enemies of the human race", the epidemiological dangers associated with this mammal are described as follows: "This is how the plague crawls out of the darkness of dungeons and cellars into the daylight, scarcely visible, terrible, unrelenting … Fleas fly into a veritable frenzy and throw themselves 'furiously' onto their new victims – humans".[377] As the author concludes, "since rats began to pester humans and make their lives unpleasant and difficult, the fight against this insatiable marauder and enemy has become a necessity".[378]

The warlike rhetoric in Ślusarski's book is based on two overlapping narratives. On the one hand, rats are seen as sinister and demonic, which is especially visible in a passage on the plague. Such poetics already sounded rather anachronistic at the time, but were probably a founding element of the cultural imaginary associated with rats. On the other hand, we also see traces of thinking in terms of the ecology of invasion. According to this narrative, rats are enemies not only because they make people's lives "unpleasant", but also as an alien species that "invaded" Europe. In the mid-twentieth century, this narrative was still marginal in Poland and had no deeper ecological aspect, but it is still worth noting its presence.

The publication's warlike rhetoric is accompanied by illustrations emphasising the threat posed by the animals. In one we see a crouching man in Middle Eastern dress. Next to him, an upscaled image of a rat is visible, and above it, a picture of a flea of caricatured proportions. The caption below the image proclaims: "Since the earliest times, rats have oppressed us with the plague, attacking humans with a barely perceptible army of lethal – fleas …" Notably, here it is not the rats that are depicted as an army, but their parasites, fleas. But "oppression" (with the plague) and "attack" (with fleas) suggest that the rodents act with intention, purpose and malice, as an intermediary, a sinister "administrator" of the lethal "army of fleas". Another illustration depicts the figure of a woman in a defensive posture, surrounded by an infographic with the names of diseases and connected images of rats. This is furnished with a caption: "Here is the array of diseases with which rats can always 'make our day'. They are dangerous and justifiably scare us". The image builds a mood of threat and oppression; the

373 Ibid., p. 10.
374 Ibid., p. 10.
375 Ibid., p. 25.
376 Ibid., p. 26.
377 Ibid., p. 146.
378 Ibid., p. 155.

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human figure appears to be entombed by diseases/rats. Again, we have a suggestion of intentionality and malice in the animals' activity. The illustrations are therefore based on reinforcing the social anxieties associated with disease and death, emphasising the justification for fear of rats and encouraging it.

The same author's propaganda publication titled *Szczury!!! Patrz, jaki los chcą nam zgotować te wojownicze i niebezpieczne gryzonie!* (Rats!!! Look what fate these belligerent and dangerous rodents have in store for us!) is similarly performative. The booklet's title alone signposts the kind of rhetoric dominant in it. The author incites the extermination of rats ("We have committed to fighting them! Are you ready for this fight?"[379]), encourages readers to learn unknown facts about them ("Read and find out at last the whole truth about rats", because "the first condition of success in the fight is to know your opponent thoroughly!"[380]) and reminds them of the need for general mobilisation ("Every citizen of our country should join the battle – this is a prerequisite for victory"[381]). Addressing readers in the first-person singular is a persuasive strategy intended to capture their attention and mobilise them to act. In this case, to join national rodent extermination campaigns.

We can find a similar narrative in 1950s propaganda posters. One example is provided by two images from 1954 – one by Piotr "Baro" Łabużek and the other by an unknown artist – published by the Warsaw pest control administration. The first illustration (Fig. 3), in black and red with white and blue accents, depicts a central image of a rat against a blue circle. In the top part of the composition is a large slogan, "Exterminate rats!" Below, in a smaller font, "with chemical substances", is added. The rat is surrounded on all sides by large red arrows featuring the names of popular substances for rat extermination at the time: Antuder, Derotal, Ceder 3. These arrows might evoke two associations. The first is lightning bolts hitting the rat. The second, probably obvious just a few years after the war, might have been military maps, and especially the way in which army movements were depicted on them. Rat extermination is thus once again portrayed as a military operation.

A similar illustration can be seen on another poster (Fig. 4), but this time the connotations of the centrally located object with a lightning bolt are indisputable. It is striking a group of rats, scattering in both directions. The animals, presented in identical colours with heavily accentuated tails and paws, are completely deindividualised, depicted as a homogeneous group. Again at the top, there is the call for action with the slogan "Exterminate rats!" The sense of danger to the potential recipient is reinforced by the abstract background, constructed from

379 W. Ślusarski, *Szczury!!!,* op. cit., p. 1.
380 Ibid., p. 1.
381 Ibid., p. 12.

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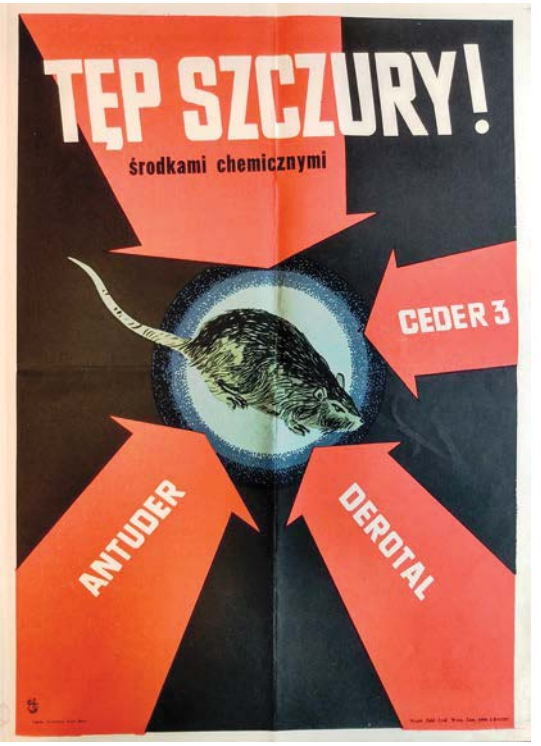

Fig. 3: Poster – *Tęp szczury* (Exterminate rats) by Piotr "Baro" Łabużek, 1954. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

unsymmetrically distributed, black-and-yellow forms, which evoke worrying, dark shadows. As with Łabużek's poster, the illustration is based on strongly militaristic associations depicting rats as the enemy.

This lightning motif is worth noting as a visual metaphor of a quick, surprise attack, which was often used in materials about rat extermination. Another example can be provided by the cover of Bojanowska's book *Nowe zdobycze w dziedzinie deratyzacji* (New acquisitions in the field of rat control) from 1955 (Fig. 5, author of graphic unknown). The red lightning bolt cutting diagonally through the composition is its main element, with the figure of the rat, almost literally melting into the sinister, black, hole, creating demonic connotations.[382]

It would be a mistake, however, to assume that the affective warlike rhetoric is only present in educational materials aimed at the wider population. It can also

382 It is worth noting that the diagonal composition with its negative connotations was often used in anti-rat materials from the 1950s, as was the colour red, associated with aggression and danger (often combined with black, yellow and dark blue).

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Fig. 4: Poster – *Tęp szczury* (Exterminate rats), 1954, author unknown. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

be found in publications written by scientists and targeted at professionals. War metaphors are particularly noticeable in Brodniewicz's language, one of the main driving forces of postwar rat control programmes. Here are a few quotations from publications on pest control (or on rat extermination specifically) from 1950–1957: "It is absolutely no exaggeration […] to describe the rat as the biggest pest and man's deadly enemy".[383] "The imperative of the moment for society as a whole is to make them aware and provide a closer understanding of these intrusive and dangerous opponents with which we will wage a furious battle, no doubt for long years to come".[384] "A society whose individuals will not muster up a mass, organised effort, showing solidarity in universal rat eradication, cannot be certain of the fate the surviving rats might inflict upon them at any time".[385]

383 A. Brodniewicz, *Zasady zabezpieczania budynków,* op. cit., p. 18.
384 A. Brodniewicz, *Dlaczego należy tępić szczury?,* op. cit., p. 6.
385 Ibid., p. 11. Elsewhere, the author also refers to "an enormous, many-million-strong army of rats" and the "complete eradication" of these animals.

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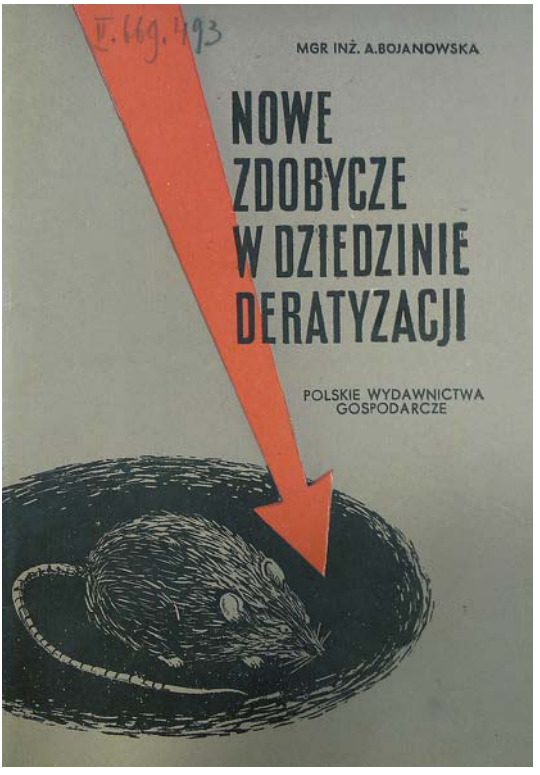

Fig. 5. Cover of Anna Bojanowska's book *Nowe zdobycze w dziedzinie deratyzacji (*New acquisitions in the field of rat control), author unknown, 1955. Photo: Gabriela Jarzebowska.

"Rats wage their predatory battle, and despite man's relentless efforts, are yet to be conquered".[386] It is therefore essential to "radically cut off the foundations for the existence" of these animals.[387] "The aim of this battle is radical reduction of the rat population. […] This is why the campaign to exterminate harmful rodents, and particularly rats, is conducted constantly in all civilised countries with the utmost energy, ruthlessness and all means available".[388] It is thus emphasised that "the phrase 'rats – deadly enemies of mankind' is by no means a propaganda slogan designed to scare the passive, resistant or unaware. This phrase expresses a truth that cost the high price of the lives, health and possessions of many generations".[389]

386 S. Rybicki, *Zwalczanie szczurów i myszy,* op. cit., p. 3.
387 A. Brodniewicz, *Ochrona budynków i osiedli przed szczurami. Zapobiegawcze metody deratyzacji,* Warszawa: Wydawnictwo Lekarskie PZWL, 1955, p. 20.
388 A. Brodniewicz, "Dezynfekcja, dezynsekcja, deratyzacja", op. cit., p. 769.
389 A. Brodniewicz, *Ochrona budynków i osiedli,* op. cit., p. 11.

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The militaristic references in these quotations are clear. They represent more than mere allusions or associations; they directly transplant warlike images, and sometimes explicitly military phrases ("deadly enemy", "furious battle", "cut off the foundations for existence", "army of rats") into the arena of the struggle with these troublesome animals. Their unconscious exploratory nature, to echo Girard, does not require complicated interpretive manoeuvres; it is given directly, in all its naivety and enthusiastic fervour.

Yet this heated rhetoric is accompanied by ambivalent descriptions of the animals. As I shall show, the scientific and popular-science publications of the time reveal an extremely striking rupture in the discourse: the warlike, strongly anti-rat rhetoric is accompanied by expressions of admiration for and sometimes even fascination with these mammals. Moreover, this fascination is repeatedly manifested in the form of familiar and sometimes even infantile language.

"Vile little animals": Ambivalences in the rat control discourse

Let's recall the passage from Ślusarski's publication quoted above, in which he describes rats' "invasion" of the European continent. The logic of an aggressive incursion dominant in these quotations leaves no doubt about the author's negative views on the animals' migration to Europe. Just a few pages later, however, the publication's rhetoric takes a surprising turn:

> What led him [the rat] to travel to these parts? […] These travels are sometimes long and full of adventures. Naturally, many travellers die on the way, but most successfully arrive at the unknown target, where they start a new life.[390]

The brown rat's migration to Europe is portrayed here from a completely different point of view. The author unexpectedly adopts the rodent's perspective, describing its experiences during migration to new territories. Yet this narrative is naive and cumbersome. The anthropomorphisation of the animals is particularly striking, referring to the migration as "travels" and the migrating animals as "travellers" and suggesting that they experience "adventures". This excerpt expresses understanding and even sympathy for rats, and its mood contrasts starkly with the rest of the book.

This is not the only passage in which hateful rhetoric gives way to language suggesting empathy. After mentioning a series of negative features of the species, the author states insightfully: "It is difficult to place rats in a hypothetical separate group of mammals just because they are pests. For there is no reason to treat

390 W. Ślusarski, *Szczur gryzoń wojujący*, op. cit., p. 30.

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them differently, i. e. less fairly or objectively, than we treat other animals".[391] But he does not specify what this "fair" treatment of rats should look like. We can assume that cruelty is still not open to negotiation here, and humans' brutal response to the "invasion" of the species is, in the author's view, a fair and objective reaction to the damage they cause. Even more interesting is the symbolic move of distinguishing wild rats from those in captivity:

> These vile little animals are at times likable … At times they become pleasant little animals. This is often the case when they are raised from early infancy and carefully nurtured. They are then extremely friendly.[392]

The author expresses the belief that rats can only have a valuable relationship with humans if they are subjected to the process of domestication from infancy. This process becomes a *sine qua non* condition of seeing a rat as "likable", an individual worthy of moral consideration. The author also uses a diminutive form, "little animals", which seems not to fit with the rest of the text. The expression "vile little animals" particularly stands out, with an adjective used for objects provoking disgust and revulsion combined with the positive connotations of a diminutive, seemingly demonstrating linguistic awkwardness concealing the author's highly ambivalent attitude to the animal he is describing. A similar tension creeps into a sentence from another of Ślusarski's publications, from 1952: "Living in the darkness of an underground realm, rats are very resourceful and artful […] rodents".[393] This again is a clash of two distant linguistic registers – a collage of incompatible narratives whose cohesiveness the author seems unable to master. He therefore exhibits both his own ambivalent convictions and prejudices regarding the animals and, perhaps, also the ambivalences in the public perception of rats in the mid-twentieth century.

Ślusarski's publications are a popular-science book and a propaganda booklet, and can therefore be regarded as a historical and linguistic curiosity. However, rhetorical dissonances and emotional ambivalence also occur in strictly scientific publications. These are worth considering since their authors played an active part in the creation of the rat control policy of the period and moulded the framework of the discourse organising it.

In Brodniewicz's article from 1950, quoted above, the militaristic rhetoric is joined by the author's views on the characteristics of rats: "Nature has endowed this animal with extremely beneficial physical (small form, agility, strong muscles) and mental attributes (quick and precise bearings, memory, suspicion, cleverness, endurance)".[394] The animal's high cognitive abilities are described as

391 Ibid., p. 92.
392 Ibid., p. 93.
393 W. Ślusarski, *Szczury!!!,* op. cit., p. 3.
394 A. Brodniewicz*, Zasady zabezpieczania budynków*, op. cit., p. 9.

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"mental attributes", in which the author also includes "cleverness". As with Ślusarski, Brodniewicz's texts also includes passages demonstrating a strongly ambivalent perception of rats that combine distant linguistic registers in the same sentence. "Although this sounds quite strange and you might at first find it hard to believe, these small and seemingly innocent looking little animals are actually our deadly enemies."[395] Here again we have a combination of familiar, even infantile language (the diminutive "little animals") with warlike rhetoric ("deadly enemies"). In Brodniewicz's text, however, this device seems to have a specific purpose. Rats are presented as ostensibly innocent "little animals", which only reveal their malevolent nature the more one learns about them. So their "deadly enemy" status is not perceptible at first glance. One must trust the knowledge of experts to show that the presence of these animals in our environment is undesirable, and their extermination is essential. This rhetorical device is intended to heighten civic vigilance and reinforce the conviction of the need to combat these rodents.

The use of diminutives in specialist publications, which in Polish would usually be reserved for a more familiar register, is remarkable. The authors repeatedly use such forms, roughly equivalent to "little paws", "little mouths" or "little fur". It is difficult to determine whether these have the same semantic overtones as they would now – and thus whether their juxtaposition with warlike rhetoric was as dissonant as it is for the reader today. However, it is worth noting the use of affectionate concepts in a description whose objective is to reinforce negative affect towards rats.

An interesting contribution to the analysis of the animal's image is offered by Kłoniecki's publication *Szczur. Zagadnienie ekonomiczne i zdrowotne* (The rat. An economic and health issue) from 1955. This is an excellent example of the formation of the phantasm of the rat in the Stalinist period:

> Even optically, the external appearance of the rat makes an unpleasant and repulsive impression, in contrast to the mouse, for example, which in all its numerous variants is a rather pleasing and graceful figure to the human eye, and by no means arouses such disgust and subconscious fear as the rat. Squat, almost cumbersome and unwieldy, and sometimes, in conditions of favourable existence and food, bloated, his little fur of a uniform grey shade, […] with a long – lively – tail coloured a jarring pale pink, dragging along the ground, his eyes with a sharp, piercing, cold and angry expression, the rat always and in all circumstances possesses the repulsive appearance of a bad and dangerous, wild beast, which incidentally in every way matches his psyche. An exhaustive observation of this rodent's biological characteristics, his habits and way of life, his behaviour towards alien species as well as his own fellow tribe members, and a meticulous psychological analysis of the rat place it in the order of animals of the devious and

395 A. Brodniewicz, *Dlaczego należy tępić szczury?,* op. cit., p. 5.

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> sophisticated aggressor type, and in the case of necessary self-defence or acute hunger, the most ruthless and cruel murderers, which then delight in bloodshed.[396]

This passage is so dense with negative rat stereotypes that it could constitute a *pars pro toto* of the cultural ideas about this animal that have lingered to the present day. The comparison between rats and mice is notable, and worth closer inspection. For although both rodents are exterminated as pests, rats have an incomparably worse reputation. As I mentioned in Chapter 1, until the nineteenth century the cultural notion of rats and mice was similar. In the twentieth century, the symbolic differentiation between the animals is already evident, as the above quotation demonstrates: the mouse is pleasing, while the rat is repulsive. It seems justified to use a gender key to interpret this passage. The mouse, a feminine noun in Polish, is described using labels stereotypically linked to femininity: it has a "rather pleasing and graceful figure to the eye", which (despite its pest status), markedly improves its image. Meanwhile, the rat (a masculine noun), judging by this quotation, is squat, cumbersome and unwieldy, and "sometimes bloated", although a few pages later on it is also described as "well built, muscular, physically strong and resilient".[397] These epithets paint an unequivocal picture of the rat as a man, and specifically one who is loathsome and unattractive, but also strong and muscular. They thus form its image as a dangerous individual prone to violence. This picture is no accident, because although both rats and mice are exterminated as pests, the mouse never gained the dubious "honour" of embodying the figure of public enemy number one – this privilege was reserved for the rat.

The negative stereotype surrounding the animal is therefore clearly embedded in its repulsive exterior, which cannot augur anything good. This is because rats arouse subconscious fear and revulsion in humans. The author describes with relish their characteristic morphological feature, the tail, which is "long, lively, coloured a jarring pale pink, dragging along the ground".[398] The fixation on the tail is also often striking in illustrations in books and on posters, where this part of the animal's body takes on an alarming, snake-like form. Apart from its tail, the rat's gaze is also repellent, "piercing and angry", giving it the appearance of a "wild beast". This phrase is designed to elicit negative connotations associated with the image of the rat as evil and dangerous.

It is not by chance that the animal's external appearance is described in such detail; it is meant to reflect its mental characteristics. Use of the concept of a "psychological analysis of the rat" in a text from the 1950s might seem surprising, yet the objective is by no means to emphasise its complicated cognitive and

396 J. Kłoniecki, *Szczur*, op. cit., p. 8.
397 Ibid., p. 10.
398 Ibid., p. 8.

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emotional capacities, but rather to fulfil specific persuasive functions. As in the previous passages, it is designed to construct an emotional image of the enemy. Rats are therefore a "devious and sophisticated aggressor", "ruthless and cruel murderers, which […] delight in bloodshed." This cruelty is shown not only to other species, but also to its own fellow tribe members. And yet, as we read a few pages later, rats are also distinguished by an above-average level of intelligence.

The passage in which Kłoniecki describes the behaviour of a mother rat is particularly striking. The excerpt begins with a naïve, idyllic depiction of the doe caring for her offspring: "The female rat is a very good and tender mother and provides her young with attentive care, playing with the young and prancing merrily and without a care". Sometimes, however, the author adds, the female rat devours her own offspring for unknown reasons. Kłoniecki clearly deems this information to be insufficient to construct an exhaustive description of the species' ethology, as he supplements it with a macabre passage: "This type of feeding always begins with opening the skull and eating out the brain, or biting the belly and consuming the innards".[399] Adding such a graphic description clearly strengthens the emotional resonance of the text, especially when compared with the first, idyllic scene. This is because it displays not only the animal's cruelty and barbaric customs, but also its perversity and unpredictability. This is designed to make the reader aware that rats, even if they seem harmless, or even amiable, can at any moment express their dormant fondness for violence. Since the female rat is ready to devour her own children, will she have any scruples about making a brutal attack on humans and their property?

The cited passages demonstrate the strong ambivalence of the phantasm of the enemy embodied by the rat in the Stalinist era. Unequivocally negative views are accompanied by highly anthropomorphic contents expressing admiration and even affection for the animal. Yet this anthropomorphisation can also be perceived not so much as an attempt to go beyond the confrontational, militaristic discourse as, paradoxically, reinforcing it. Depriving rats of their animal characteristics (what makes them rats) in favour of a high level of anthropomorphism makes it easier to impose the figure of enemy on them (cf. Chapter 6).

399 Ibid., p. 17.

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"A danger to health and destroyer of property": Rats as an economic and sanitary pest

The aggressive militaristic phraseology was toned down in the late 1950s. In the previous decade, there had been a symbolic merging of two narratives: the rat as an economic and sanitary pest. The first of these was as a threat to the national economy (resulting in references to civic mindedness, especially in the context of reconstructing the country) as well as to individual property. Rats were depicted as thieves, stealing from humans the fruits of their labour. The second narrative concentrated on sanitary and epidemiological threats, although, as I demonstrated earlier, rats were often portrayed as individuals with intentionality, deliberately "attacking" humans and other animals with their germs. I have decided to discuss these narratives jointly, since in some materials they are combined to such an extent that it would not make sense to analyse them separately. I believe that their merging is not just a coincidental convergence: it represents a distinct cultural amalgam that even today continues to shape the rhetoric of the fight against these mammals.

And yet this amalgamation is neither complete nor ubiquitous, and also possesses a distinct historical dynamic. From the 1960s onwards, the sanitary/epidemiological rhetoric comes to the fore, replacing the earlier rat-as-thief narrative. Whereas the economic rhetoric, chronologically the oldest, traditionally also encompassed other rodents, such as the mouse, the sanitary one is distinctly associated with the *Rattus* genus. I shall try to demonstrate that in the rat control discourse in communist Poland, a gradual transition took place from the militaristic, anthropomorphic image of the rat to the "disembodied" version in which it becomes simply a vector of disease.

One example illustrating the rat-as-thief rhetoric is provided by a poster by Alicja Laurman-Waszewska from 1955 (Fig. 6). The horizontal composition depicts a rat walking on its hind paws and carrying a large sack on its back. The caption warns: "The rat is a thief of your crops". Despite leaning forward, the position of the animal as it walks is clearly vertical, meaning that it resembles a walking human. This effect is reinforced by the gesture of holding the sack with its front paw. The poster's message is simple: the rat is a crop thief, so its actions are conscious, intentional and characterised by malice towards our species. The objective of the anthropomorphisation is therefore to take away rats' animalism and place them in the category of a quasi-human opponent. By expanding typically human categories (in this case that of thief) to include ecosystem relations, the poster aims to discredit animals by giving them an unequivocal label.

A similar portrayal can be found on an anonymous poster depicting a full-body image of a rat (Fig. 7). Noticeable are its clawed hands and feet. As in the

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Fig. 6: Poster – *Szczur to złodziej twoich plonów* (The rat is a thief of your crops) by Alicja Laurman-Waszewska, 1955. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

previous illustration, the animal is carrying a sack on its back, with a characteristic mask over its eyes and holding a set of keys (skeleton keys?), leaving no doubt that it is a rat-thief. What sets this image apart from Laurman-Waszewska's poster is the caption "Infectious diseases" that can be read on the sack. At the bottom is a large caption reading "Exterminate rats", along with the invitation to "Contact Regional Pest Control Companies". At the top, meanwhile, is a warning caption: "Rats endanger your health and destroy your property!" The poster is marked by the peculiar combination of two narratives: the rat portrayed as a thief is simultaneously an epidemiological threat. It is therefore a "reverse" thief: while in the previous poster the rodent deprives humans of the fruits of their labour, the (anti)hero of this print delivers dangerous diseases in a sack. The fusion of two negative stereotypes of the rat is evident here. It can also be seen in Witold Chmielewski's poster from 1953 (Fig. 8), for example, where the sinister outline of the demonic figure of the rat is marked with coloured labels forming the caption: "The rat – a health and economic pest".

The rat as a "travelling agent of death"[400] and carrier of dangerous diseases is one of the main rat control topoi perpetuated in communist-era Poland. This combined two seemingly disparate narratives: the old one describing rats as diabolical animals and the new one connected to a sanitary and modernising discourse. Or more specifically: the sanitary narrative was overlaid on the dia-

400 R. Sznajder, *Zwalczanie plagi szczurów*, Tarnów: Wytwórnia i Główny Skład Ratopaxu, 1931, p. 5.

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Fig. 7: Poster – *Tęp szczury* (Exterminate rats), undated, author unknown.

bolical one, harnessing deeply rooted social anxieties and cultural stereotypes for a campaign seeking to foment aversion towards these animals. A good example illustrating this phenomenon is provided by the second poster by Piotr Łabużek, produced for the pest control administration in 1954 (Fig. 9). The dark-coloured composition depicts a group of six rats walking in one direction. On the animals' backs are the names of diseases (paratyphoid, typhoid, plague, jaundice, trichinosis). At the top of the illustration is a large caption reading "Exterminate rats!", while below, in a smaller font, it reads: "Spreaders of infectious diseases". The poster's colour scheme and the way the parade of rats is presented are supposed to instil a sense of danger. The animals are heading in the same direction, and the objective of their march is clear: to spread germs to humans. The labels given to the rats here differ from those in previous images. These labels no longer point to the imagined function in the interspecies community ("pest", "thief", "enemy"), but give the names of diseases. Rats, then, no longer *spread* diseases, but at a symbolic level they *become* the disease. They are metonymically equated with the disease entity. This semantic shift is extremely important, creating the conditions for the animals' further degradation to the level of dangerous pathogens.

Similarly ominous connotations can be found in an anonymous poster from 1962 (Fig. 10). The vertical composition with an intensive, black-and-red colour scheme depicts the large, red figure of a rat in an untypical, reverse position. Its dishevelled fur and clawed paws as well as its long, curly tail stand out. The figure casts a dark blue/black shadow on the round, white shape visible in the central part of the composition, resembling a Petri dish containing dangerous patho-

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Fig. 8: Poster – *Tęp szczury* (Exterminate rats) by Witold Chmielewski, 1953. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

gens. At the top is the large, yellow caption "Exterminate rats". Further information is given in a smaller font: "The rat endangers your health and destroys your property", and another caption at the bottom of the composition reads: "The regional rat control company will help in the battle against these dangerous pests". Despite the reference to "destruction of property", at the visual level, the poster arouses unequivocal associations with epidemic threats. The rat's colouring, combined with the black background and dark shadow cast by the animal, dishevelled fur and clawed paws, means that the image causes anxiety in the viewer. The shadow it casts on the dish is clearly enlarged, as if cast by a larger entity. Also alarming is the direct link between the rat and a disease depicted by using a dish with germs. In this depiction, there is no longer anything anthropomorphic about the animal, and neither is it portrayed in plural form, as a dangerous army. Yet still the image clearly diverges from the rules of realism. The unnatural, aggressive colour scheme, exaggerated shadow and round dish (resembling a full moon) may evoke connotations of representations of chthonic animals, associated with the underworld, death and darkness, and this is further

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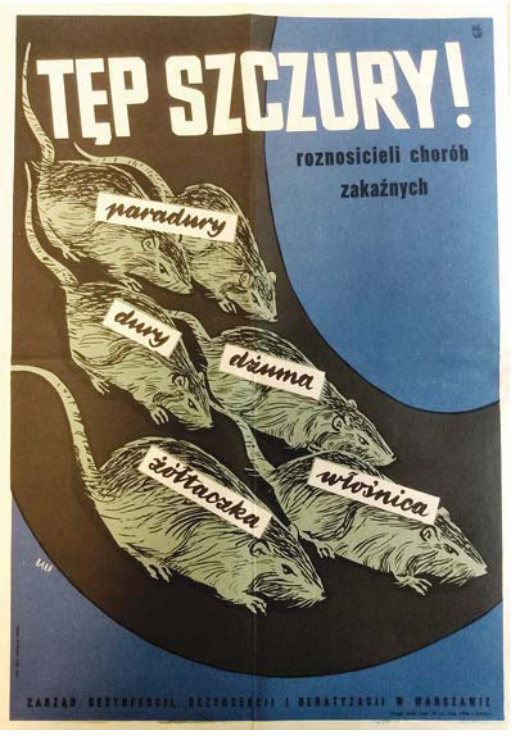

Fig. 9: Poster – *Tęp szczury* (Exterminate rats) by Piotr "Baro" Łabużek, 1954. XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

emphasised by the vertical, downward-facing position of the animal's body. The caption points out that the rat is a "dangerous pest", but this warning, written in a small font, seems unnecessary – the meaning of the poster is clear enough at a visual level to awaken a sense of menace in the viewer.

Harnessing social anxieties – especially those associated with diseases and death – was thus a fundamental strategy used to encourage citizens to join in with rat extermination campaigns. Another example to support this argument is provided by the radio advert produced in 1961 for the Szczecin pest control company:

> We don't want to scare anyone, but we must inform you that each of you might be threatened by dysentery, typhoid, plague or another infectious or tropical disease. How come? Simply through rats […] That is why every Szczecin resident in his own interest should help the Szczecin Disinfection, Disinsection and Rat Control Company with the

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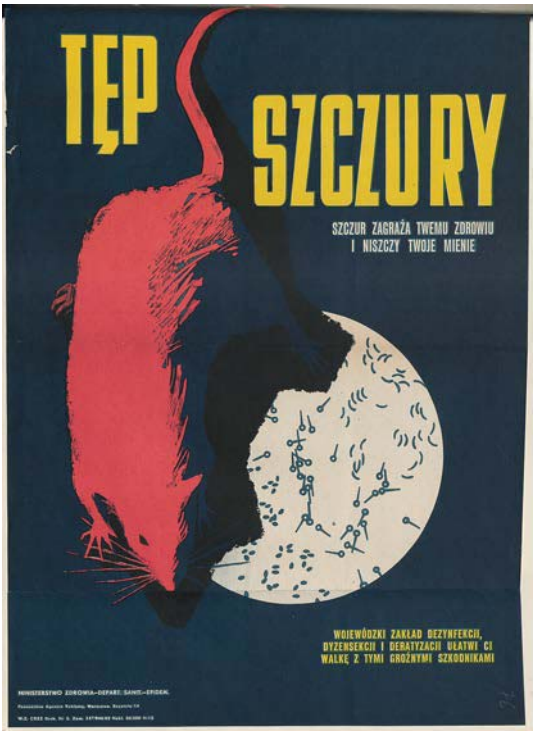

Fig. 10: Poster – *Tęp szczury* (Exterminate rats), author unknown, 1962. Fonds 65/356, Presidium of the Provincial National Council, State Archive in Szczecin.

distribution of poisons. That help should involve informing them about and giving access to the places where rats eat.[401]

The message in the broadcast is based on three components: instilling fear ("We don't want to scare anyone, but …"), identifying the guilty party ("simply through rats"), and proposing a solution ("That is why every resident […] should help […] with the distribution of poisons"). Fear is aroused in a contrary fashion here, by denial: the broadcasters (experts?) do not want to alarm listeners, but see it as essential to inform them of a dangerous threat. Yet the epidemiological risks are not communicated by conveying the multiple risk factors. Their causality is indicated extremely selectively ("simply"), with the message suggesting that rats are the only ones guilty of spreading infectious diseases. In contrast to socialist realist materials, however, no intentionality or malice is attributed to the animals. They become a disembodied risk factor, stripped of their materiality as a vector of

401 Economic analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1961, PWRN APS.

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disease. The instruction to inform the pest control professionals of the animals' nesting places is no longer (or at least not only) an expression of civic duty, but an action "in your own interest". This rhetorical shift is worth noting, as it not only marks a change in the language of public debate in the period of "little stabilisation" under Władysław Gomułka, but to a significant degree also organises the rat control discourse today.

"Technical guidelines": The euphemisation of rat control practices

Another phenomenon important for the contemporary rat control discourse also originated in the communist period: the progressing euphemisation of these practices. As I demonstrated above, in the immediate postwar period, rat extermination was portrayed using blunt, brutal, often militaristic language that did not hide the animals' suffering and death. This situation gradually changed in the subsequent decades. The formation of two trends could then be observed. The first was the bureaucratic language that dominated in publications for professionals. Rat control here becomes a disembodied problem of, so to speak, a technical nature. The second trend, dominant in educational and propaganda materials (from the late 1950s increasingly rare), was the visual aesthetisation, and often quite simply infantilisation of rat control. Although rhetorically contrasting, what they had in common was the description of rat extermination using euphemisms that effectively concealed the brutality of the practices.

The bureaucratisation of language took shape in the Stalinist period and initially remained strongly ensconced in a warlike narrative. For example, Czyżewski describes rat control as follows: "A permanent, well-trained technical staff […] can if necessary be concentrated in endangered districts of the country to perform a mass operation".[402] Meanwhile, Bojanowska notes that "to secure positive results in the battle against rats, it is essential to properly develop organisational premises and carefully hone the operative techniques".[403] This type of language could be classified as a typical example of Stalinist newspeak if not for the fact that it shaped the discourse that accompanied rat control for decades to come. For example, the anonymous education/propaganda pamphlet *DDD* from 1960 defines rat control as a "set of activities" that are "an effective weapon in the fight against infectious diseases".[404] A radio advertisement from 1961, meanwhile, informs listeners that "The Szczecin Disinfection, Disinsection and

402 J. A. Czyżewski, "Zwalczanie szczurów na dużych obszarach", *Przegląd Epidemiologiczny* 1953, VII (4), op. cit.

403 A. Bojanowska, *Nowe zdobycze w dziedzinie deratyzacji,* Warszawa: Biblioteka Popularno-Naukowa Zarządu Dezynfekcji, Dezynsekcji i Deratyzacji w Warszawie, 1955, p. 3.

404 *DDD*, Warszawa, 1960, p. 5.

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Rat Control Company is accepting […] orders for *cleansing* private homes and food producers from insects and pests" [my emphasis].[405] The 1970s are typified by the narrative of the anonymous industry publication on pest control, *Przepisy techniczne* (Technical regulations). The title alone masks the subject matter. The chapter on rat control contains hardly any references to rats, and the language it uses seems to concern indeterminate technical problems. Apart from a description of poisons and health and safety regulations, the only passages specifically on rat control procedures are confined to just a few sentences:

> In comparatively peaceful environments with easy access to food, direct control methods are applied (poisons without previous baits). In an environment where the feeding sites cannot be identified specifically, control with artificial conditioning is used, i. e. baits without poison for six days. Where additional concentrations of rats are found, gassing using Phostoxin or Cyjanofum is employed.[406]

The killing of animals itself is described with the brevity inherent in bureaucratic language: "In the case of direct control, the staff move directly to the operations proper".[407] We can also observe a new, quasi-capitalist language beginning to form in the 1970s, for example in Brodniewicz: "It is important to note that according to foreign experts, investments in pest control are among those bringing the fastest and biggest profits, both for service companies and for those appreciating the obvious benefits of the customers involved".[408] The focus on the supposed profitability of the pest control sector and the advantages it brings conceals the actual work it does, which involves killing animals. As an aside, we should also mention that the belief in the profitability of rat control expressed here stands in contrast to the author's overall negative view on the financial and organisational situation in the Polish pest control industry, mentioned elsewhere in the same publication.

These quotations are a representative sample of the dominant rhetoric in industry publications from the early 1950s to the late 1970s. The early ones still contain references to the logic of war ("the battle with rats", "endangered districts of the country", "mass operation"), but by the 1960s and 1970s the rat control rhetoric had changed. The rat was becoming a disembodied sanitary-epidemiological problem, with its killing portrayed as a banal exercise to be carried out according to meticulously designed "technical regulations". All the quotations are connected by a strong bureaucratisation of language. Violence is trivialised and the death of animals is camouflaged. The physically living (and

405 Economic analysis of the Szczecin Disinfection, Disinsection and Rat Control Company for 1961, PWRN APS.
406 *Przepisy techniczne*, op. cit., p. 83.
407 Ibid., p. 87.
408 A. Brodniewicz, "Organizacja służby DDD w Polsce", op. cit.

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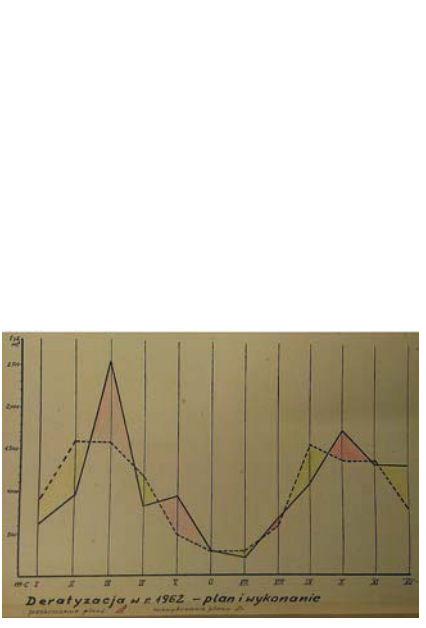
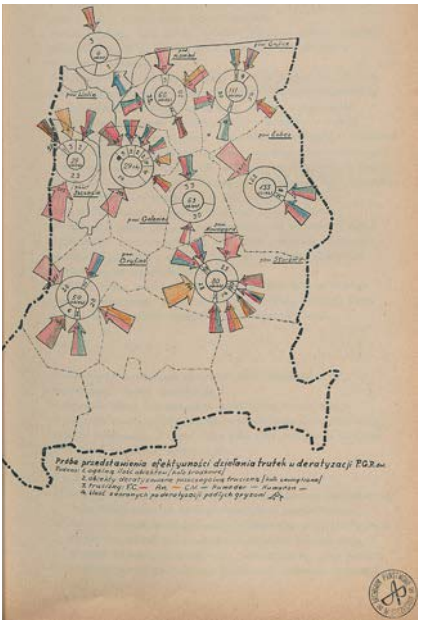
killed) rat disappears from the narrative, replaced by "technical guidelines", "organisational premises" and "investments in pest control". Taking animals' lives becomes a euphemistic "set of activities", presented visually with the aid of graphs, tables and infographics (cf. Figs. 11–12). The metaphor describing the extermination of rats as "cleansing" is also worth noting. The reference to populations of these animals as "concentrations of rats" and describing their extermination in terms of "an effective weapon in the fight against diseases" indicates a shift from the military narrative to the sanitary-epidemiological one, which, although also present previously, would largely organise the rat control discourse at least from the 1950s onwards. At a symbolic level, the rat ceased to be even a hated pest. It became a "reservoir of germs".[409]





Figs. 11–12. Infographics depicting a rat control drive in the Szczecin province, 1961. Fonds 65/356, Presidium of the Provincial National Council, State Archive in Szczecin. Photo: Gabriela Jarzebowska.

The second strategy is exemplified by A. Kulesza's poster from 1958 (Fig. 13). Although its aesthetic is ostensibly the polar opposite of bureaucratic language, it similarly supports the process of the progressing euphemisation of rat control practices. It uses a rich colour scheme, dominated by the positively connoted primary colours. At the bottom of the composition, a male and female rat are

409 A. Brodniewicz, *Ochrona budynków i osiedli,* op. cit., p. 11.

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depicted, standing upright. In the background, on the left, an advertising pillar can be seen with colourful bills bearing the words "Exterminate rats". The female is standing front-on, with a handkerchief to her eyes, while the male is looking at the viewer. At the top of the composition is a large, red caption saying, "Exterminate rats", with "Carriers of germs of infectious diseases!" in a smaller font. The protagonists of the poster have just learned of a planned rat control operation ("Exterminate rats!"), making them sad and angry. They express these emotions in a way stereotypical of their gender – the doe bursts into tears, while the buck's expression suggests a desire for revenge. The position of the rats' bodies, their gestures, and the assumption that they can read all place this illustration in the tradition of anthropomorphisation of these animals, while the male's threatening gaze puts it in the position of a crafty, spiteful opponent. Despite these similarities, this image differs markedly from the majority of propaganda materials of the period. Firstly, it is the only illustration from the communist era in which the rat makes eye contact with the viewer – perhaps suggesting an attempt to give it subjectivity – as well as the only one in which rats possess clear sexual dimorphism.[410] Secondly, it marks a departure from the socialist realist style, replacing the militaristic rhetoric with a concentration on private life (in this case, the rats' distinctly anthropomorphic "private life"), which was a characteristic feature of post-Thaw graphic design. Third and finally, it is a rare example of materials in which rat control practices were depicted from the rats' perspective. It is worth comparing this illustration with the advert for Enka poison from 1947. Both images depict the animals' experience of extermination and use strategies of anthropomorphisation as a necessary condition for perceiving this experience, and both represent this animal subjectivity with tongue in cheek, jokingly playing with convention. In the Enka advert, however, this anthropomorphisation took place only on a linguistic level, with the convention of realism maintained in the visual layer. Moreover, the phrase "murder without mercy", even if lacking any critical implications, still unmasked the cruelty of rat control practices. On Kulesza's poster, the anthropomorphisation of rats takes place on so many levels that they lose their animal identity, becoming cartoon characters. Furthermore, the brutality of rat control is completely ignored here, replaced by a colourful generic scene. The phrase "Exterminate rats!", reproduced dozens of times and functioning in the logic of a quotation (bills on an advertising pillar), loses its edge. It becomes an invocation that is as obvious as it is banal, like the almost unnoticeable slogan, blending into the other elements of the composition, "Carriers of germs of infectious diseases".

410 Apart from Kłoniecki's aforementioned descriptions of the behaviour of the mother rat, socialist propaganda presented rats as entities either without sexual dimorphism or as implied males.

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The rat control narrative here becomes incidental. But the empathy for rats is also superficial and ironic. The poster's humorous overtones, its lively colour scheme, and also what it consistently overlooks (the cruelty of rat control practices), establish a narrative in which extermination of rats is disembodied and visually trivialised. Using euphemisms, humour and distance to describe rat control, as much as breaking down aggressive, militaristic rhetoric, creates a symbolic camouflage for the realities of combating these animals, excluding their brutality from the public debate.

Fig. 13: Poster – *Tęp szczury* (Exterminate rats) by A. Kulesza, 1958, XVI 1a, National Library Documents of Everyday Life, Warsaw. Photo: Gabriela Jarzebowska.

A flyer by the same artist from a year later (Fig. 14) lacks the perversity of the Thaw-era poster, but in some respects, it continues the rhetoric contained in it. The horizontal composition is dominated by the large caption "Exterminate rats", stylised in longhand. In the left part of the composition, we notice two rubbish bins. Waste is spilling out of one of them, with a rat's head emerging. The lid of the other bin is open, with a second rat standing on the edge, back to the

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viewer. It is peering into the receptacle and evidently intending to jump into it. In the bottom part of the composition, next to the bins, two more rats are shown: one stands facing the viewer, while the other faces the other way and is partly hidden behind the bin; only part of its torso, its hind paws and its tail can be seen. On the right is a caption: "The Regional Disinfection, Disinsection and Rat Control Company conducts rat control operations using effective methods and materials".

Fig. 14: Leaflet – *Tęp szczury* (Exterminate rats) by A. Kulesza, 1959. Fonds 65/356, Presidium of the Provincial National Council, State Archive in Szczecin. Photo: Gabriela Jarzebowska.

This illustration is evidently a flyer advertising pest control companies' services, rather than an education and propaganda publication. Apart from the indispensable "Exterminate rats" caption, it makes no attempt to convince the viewer that dealing with these animals is essential or that they constitute a health or economic risk, let alone to create an image of them as the deadly enemies of humans. The content of the image is essentially limited to the message that the regional pest control companies carry out their rat extermination work effectively. Although the colour scheme of the (now faded) flyer was no doubt originally dominated by a quite intensive red, the illustration does not convey the sense of threat, including at a visual level. A close-up of the rat figure reveals that not only does it not have negative connotations, but it even resembles a ("little") animal from an illustration in a popular children's book. The rat – in the dominant narrative of the time a dangerous enemy and practically demonic creature – is infantilised and portrayed in an almost affectionate way. At the same time, the depiction of rats around a rubbish bin perpetuates their image as animals symbolically associated with dirt and waste. The way the head of the rat looking out of the bin is portrayed, literally blending into the rubbish collected there, gives the image of the animal as literal garbage. Yet the aesthetic, cartoon-like style of the illustration means that the visual equation of the animal with rubbish becomes almost imperceptible.

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The aesthetisation of the image of the rat is also striking in the next two regional pest control companies' advertising flyers from the 1960s. A two-sided flyer advertising the services of pest control companies from 1962, in intensive reds, yellows, greens and blues, is strictly informative – it includes information on all regional pest control companies, and on the second page specifies the scope of the services they offer. Rodent control is succinctly defined as "combating rats and mice". On the right of the composition are schematic representations of a fly and a rat and the exhortation to "Exterminate flies and rats, carriers of germs of infectious diseases", with the added caveat that "the basic condition for the fight against these sanitary pests to be effective" is keeping a property clean. The leaflet from 1965 has a similar style. The first page of the folded print shows a rat, portrayed in an untypical, vertical posture ("suspended" in the air). Next to it is the caption: "Wherever there are rats, there is always a danger of epidemic. Join the systematic fight against them". The second page features a small, schematic depiction of a rat, and the top part of the composition shows a yellow shape resembling a sack with the caption: "Rats cause enormous economic damage, reaching into the millions of zloty". The adjacent infographic depicts the mechanism of how germs are spread. We learn from the caption that "rats endanger the health of pets, spreading germs of trichinosis, swine erysipelas, foot and mouth disease, avian cholera, and many more".

What is particularly notable in both flyers is the absence of aggressive rhetoric and a neutral, or even positive, image of the animals they depict. Although they call on citizens to exterminate rats, this is done without zeal; one almost gets the impression that it is added casually. As in Kulesza's flyer, the rats on the print from 1965 are portrayed in a cartoonish style as well as distinctly infantilised. The animals' extermination is therefore depicted as an absolutely emotionally and morally neutral phenomenon, with no reference to the inherent brutality.

Finally, I would like to examine one more leaflet advertising regional pest control companies' services from 1962 (Fig. 15). This is especially interesting as it targets children, with the call to exterminate animals (rats and flies) placed alongside a school timetable. The folded, four-sided print uses intensive primary colours. On the first page is a bubble containing food products (bread, cheese, a filled jug). The top-right part of the composition depicts a much-enlarged fly, and below it, on a red background, a black, schematic sketch of the figure of a rat. The illustrations are accompanied by a textual message: "Do you know that rats and flies are dangerous enemies to your health? Turn the page, read and remember that …". The inner part of the leaflet, as well as the aforementioned timetable, also features an illustration showing fruit and a fly approaching it. At the bottom is a message explaining the threats caused by flies and rats, including the information that:

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> The rat spreads the germs of serious diseases […] By nesting and hiding in sewers and rubbish bins, while also foraging among humans' homes and rooms abundant with food, the rat becomes a dangerous spreader of millions of germs, creating the danger of an epidemic.
> PROTECT FOOD FROM RATS

Fig. 15: Information and advertising leaflet for children, author unknown, 1962. Fonds 65/356, Presidium of the Provincial National Council, State Archive in Szczecin.

The last page of the leaflet features a colourful picture of a house, reminiscent of children's cutouts. The top part contains an educational and advertising text with the following contents: "The systematic fight against flies and rats is everybody's duty. Tell your parents to seek expert advice from the REGIONAL DISINFECTION, DISINSECTION AND RAT CONTROL COMPANIES, which have trained staff and modern chemical substances for combating dangerous sanitary pests". Below this is a warning about the need to keep one's surroundings clean.

This print provides a further example of aestheticisation in the 1960s rat control rhetoric, although in this case the fact that the leaflet is aimed at children might account for its style. Although rats, equally with flies, are described as "a dangerous enemy to your health", there are no brutal contents here – even the call to "Exterminate rats!" typical of such materials. The only instruction given to the young audience is to "Protect food from rats!" The leaflet clearly emphasises the

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need for preventive actions: maintaining cleanliness and systematic removal of waste. At the same time, though, it calls upon children to encourage their parents to seek help from pest control companies. What this help might entail is not specified. Young readers do not get an answer to the question about the actual nature of this fight against rats, which, as they learn, "is everyone's duty".

The fact that rat control services are advertised to children in the first place is an interesting research problem. Admittedly, the flyer is not a typical commercial advertisement; the information about pest control companies' services is given discreetly, and the message is dominated by educational contents which are unquestionably correct (e. g. the encouragement to maintain hygiene standards). However, the very strategy of educating the young audience about the need to combat rats, expressed using a childish style, indicates a process of far-reaching camouflaging of such practices. Rat control, meaning the planned and methodical killing of animals regarded as harmful, is incorporated here into a message of sanitation and hygiene. The rat as an animal disappears from this narrative. This is already apparent at the visual level, where it is portrayed as an enigmatic, black, outline, lacking eyes and other distinguishing features. The leaflet is indicative of two processes. The first is naturalisation and socialisation of rat extermination among the young. At an early stage of development, the belief is instilled that it is something self-evident and not open to discussion, like personal hygiene. The second process is the euphemisation of the phenomenon by masking its brutality. This can result in mental detachment, meaning that the killing of animals is displaced from the cultural imaginary.

While the bureaucratisation of language was one of the main features of the rat control rhetoric in communist Poland, the second strategy in quantitative terms is a phenomenon that, if not marginal, is considerably less represented in the propaganda of the time. Because there was no longer such interest in rat control in the 1960s and 1970s, the number of materials devoted to the subject also inevitably dropped. However, I followed the two phenomena together – not just because they were complementary strategies serving to mask the materiality of the practices, but also because they would constitute the main rhetorical strategies describing rat extermination after 1989.

* * *

The postwar rat control rhetoric was therefore a consequence of two phenomena. The traditional status of the rat as a pest, which in cultural and mental terms underpinned and was a prerequisite for large-scale extermination campaigns, was then reinforced by discourses shaping the public debate in postwar Poland. One of these was a militaristic discourse, an outcome of the war and, consequently, of militarisation of public debate, as well as a specific feature of the

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rhetoric of the Stalinist period, founded on the active search for and eradication of real or imagined opponents. An unpopular and plentiful animal, an ecological rival to humankind, provided a convenient enemy figure.[411] The second discourse shaping the rat control discourse of this period was the sanitary and epidemiological one, within which the concept of "DDD" was formed. In this narrative, the rat is deprived of its animality and symbolically equated with the pathogens it spreads. These narratives constitute separate (and often characterised by differing phraseology), but distinctly complementary components of the cultural image of the rat in this period.

411 Something similar took place in China in 1958 with the Four Pests campaign (against rats, sparrows, mosquitos and flies). There too, killing of animals entailed strong social mobilisation. Cf. J. Shapiro, *Mao's War against Nature: Politics and the Environment in Revolutionary China,* Cambridge: Cambridge University Press, 2001.

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Chapter 4.
"Threat Removal Services": The Rat Control Discourse after 1989

The historical context

The transformation that swept through Poland after 1989 – the fall of communism, the introduction of a capitalist system and, in 2004, accession to the European Union – marked a distinct turning point in the history of the rat control sector. The collapse of state pest control companies and the development of numerous private firms entirely remodelled the industry. In this chapter, I will demonstrate the ways in which rat extermination was incorporated into the capitalist logic of profit and competitiveness. In the last three decades, we have been able to observe a gradual integration of the sector, its ongoing adaptation to European standards and the adoption of neoliberal language.

As in other areas of public life, transformation in rat control was not a rapid process. The period of change should in fact be dated from 1984, when the first open training courses for future pest control contractors took place, to 1994, when the Polish Pest Control Association (PSPDDD) was founded, thereby commencing the process of integration and institutionalisation of the industry. This decade was characterised by the coexistence of networks of already very much flagging state companies and newly established private firms, operating in conditions of economic and organisational chaos.

Probably the first private pest control company in the postwar period was set up as early as 1972 by Jan Goliasz from Jasienica, a former employee of the Katowice pest control company.[412] On a wider scale, however, the development of the sector is dated to the mid-1980s. The first open courses for rat exterminators were held in 1984,[413] and shortly afterwards the ban on state institutions using the services of private firms was scrapped. Given the inefficiency of state companies, it allowed private firms to develop dynamically. As one of my informants notes, however, examinations for future contractors were a pure formality:

412 T. Karpiński, email, 27 March 2018.
413 T. Karpiński, oral communication, 24 April 2018.

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> There were stories going round about those first exams. The exam board asked about making calculations and health and safety, but on substantive issues it was the examinees who taught the board how things were done and with what, what LD50 means, what permethrin is, what a second-generation anticoagulant is. Everyone passed![414]

Ultimately, the profession was classified and included in the Guild of Various Crafts. The following quotation from my interview with a professional from Lower Silesia illustrates the dynamics of change in this period:

> Encouraged by my cousin and his friend, they got together and started up in rat control, and it worked out for them because they turned out to be very competitive. But only because they did everything reliably and honestly. They respected the customer's money. […] And they turned out to be […] competitors for state companies, which routinely turned up, papers, signature, on they went, without even checking what was happening in the company.[415]

As a consequence, just a few years after 1989, the number of pest control firms operating in Poland had risen to 2,000.[416] One should remember, however, that, owing to the unusual status of the profession (e.g. its lack of an unambiguous listing in the Polish Classification of Activities), data on the actual number of companies engaged in pest control in the past and present can only be approximate.[417]

Private firms were often set up by former employees of state companies or the state sanitary inspectorate. With one exception, however, none of my interviewees who began working in the sector in the 1980s had previously worked as a rat exterminator. The decision to start working in the industry usually resulted from chance, knowing people or family circumstances ("Encouraged by my cousin and his friend"). Obtaining both substances and specialist knowledge therefore proved problematic. One informant described those years as follows: "There were rules, contacts, habits, ways of sorting things out. Sorting them out – not buying, but sorting out".[418] Essentially, this "sorting out" of substances would take place in two main ways. The first, which I mentioned in the previous chapter,

414 T. Karpiński, email, 10 April 2018.

415 Informant 14, interview, 6 July 2017.

416 W. Protas, "Powstanie i historia Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji", website of the Polish Pest Control Association https://www.pspddd.pl/powstanie-i-historia-polskiego-stowarzyszenia-pracownikow-dezynfekcji-dezynsekcji-i-deratyzacji/ (access: 16 September 2019).

417 There are currently around 10,000 companies registered as pest control businesses. This figure might be misleading, however, as rat control services are listed in the Polish Classification of Activites in point 81.2, covering cleaning of buildings. Most companies registered in this field do not offer pest control services. A person with close links with the PSPDDD estimates the number of businesses actually involved in rat control at 600–800 (Informant 17, interview, 24 August 2018).

418 Informant 17, interview, 17 May 2018.

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was the illegal purchase of rat control substances from employees of state companies. The second was smuggling in more effective substances from the West (probably second-generation anticoagulants, which were new at the time) by air, mainly through tour guides.[419] Buying the most modern, Western substances was problematic, however, owing to the high price of the dollar. People without access to contraband substances thus relied on products made in Poland. In the 1980s these were mainly poisons produced by the Fregata company, but soon other local firms manufacturing and distributing biocides began to spring up.[420]

The second main problem for newly established pest control companies was obtaining specialist knowledge on animal extermination. This was easier for people who had previously worked in state firms or dealt with pest control issues under the auspices of the sanitary inspectorate. But contractors who were just starting out in the sector had limited opportunities to obtain information on methods and best practices. The main source of knowledge on effective rat killing methods became "the ladies from the sanitary inspectorate and veterinary surgeons".[421] A system of information exchange among people in the industry was also in operation. This was limited, however, since pest control professionals in the same region were competitors, and contacts between people from various parts of Poland were complicated. Facilitating exchange of information among people working in the industry from various regions of the country is in fact given as one of the main reasons for the decision to set up the PSPDDD in 1994.

The main driving force for change in the sector post-1989 was the adaptation of norms and regulations to European Union legislation. Indeed, many of my interviewees cited Poland's accession to the structures of the EU as the main turning point marking changes in the operation of pest control after 1989. This trend was heightened in 2008 when the PSPDDD joined the Confederation of European Pest Management Associations (CEPA), a Europe-wide organisation bringing together national federations of pest control companies and representing the interests of representatives of the industry within the EU.

Given the role played by legislation in implementing rat control practices, it is important to outline the permitted methods used for killing rodents and the legal regulations relevant to their application. First of all, it is worth stressing that in Poland, as in other countries, rat control is not covered by coherent legislation, meaning that there is no single legal act or other binding document that comprehensively stipulates rules of conduct in this field. Rodent extermination, as part of the concept of DDD, is subject to several different systems of regulations.

419 Informant 17, interview, 17 May 2018.
420 Informant 10, interview, 26 June 2017.
421 Informant 17, interview, 17 May 2018.

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None of these, however, lays out the specific details of the unique practice of mass killing of vertebrates regarded as pests. The laws in question are particularly associated with food safety, sanitary and epidemiological rules, as well as those concerning cleanliness and order. In all of the existing legislation, rats are a marginal issue, included in the wider context of safe and aseptic procedures. The euphemisation and marginal nature of rat extermination are thus manifested not only at a rhetorical level, but at a legal one too.

A separate set of legislation is regulations specifying the admissibility of specific active substances in the ingredients of rodenticides. Particularly important to mention in the Polish context is the 2015 Biocidal Products Act, which specifies the conditions of distribution and application of biocides within Poland, with the objective of implementing the guidelines from EU Regulation no. 528/2012 on biocidal products. The regulation defines a biocidal product as "any substance or mixture, in the form in which it is supplied to the user, consisting of, containing or generating one or more active substances, with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action".[422]

After Poland's accession to the EU, a distinct change came about concerning the types of rodenticides permitted for use. In the 1990s and even the beginning of the next decade, both first- and second-generation anticoagulants[423] as well as such acute rodenticides such as scilliroside, pyrinuron and zinc phosphide, as well as the separate substance cholecalciferol,[424] continued to be available on the market. A total of 63 rodenticides were registered on the Polish market by the end of 1998.[425] With the exception of anticoagulants, however, these were all withdrawn as Polish legislation came into line with EU regulations.[426] Currently, the

422 *Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products.*

423 The first second-generation anticoagulant registered on the Polish market was Klerat, officially introduced in 1993 by the company Mundial. In later years, Zeneca took over the rights to production of this substance (T. Karpiński, oral communication, 24 April 2018).

424 T. Kolbuszewski, E. Rokicki, "Profilaktyka i zwalczanie gryzoni w pomieszczeniach ludzkich i zwierzęcych", in: *Problemy dezynsekcji, deratyzacji i dezynfekcji w łańcuchu żywnościowym od zwierzęcia do konsumenta w świetle integracji z UE. Materiały konferencyjne* [multiple authors], Warszawa, 2002.

425 B. Sawicka, A. Krzemińska, A. Gliniewicz, "Preparaty gryzoniobójcze stosowane w higienie sanitarnej w Polsce", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2000, 1 (20), pp. 16–17.

426 The case of zinc phosphide is particularly noteworthy. This was withdrawn from use on the basis of Directive 98/8, but included as an active substance in Directive 91/414/EEC as a plant protection product, and as such is produced by the firm Fregata SA in the form of a grain poisoned with zinc phosphide (information received in a letter from the Office for Registration of Medicinal Products, Medical Devices and Biocidal Products, 5 January 2017).

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biocidal products directory mostly contains second-generation anticoagulant-based substances: bromadiolone, difenacoum and brodifacoum, and less frequently difethialone and flocoumafen. In isolated cases, they are also first-generation anticoagulants – warfarin and coumatetralyl – although these are only used in the form of a foam that sticks to fur and is then licked off by the animals.

The withdrawal of non-anticoagulant-based substances followed the implementation of Directive 98/8/EC concerning the placing of biocidal products on the market. It was motivated by safety concerns: the majority of acute rodenticides are regarded as not only harmful to the environment, but also pose the danger of poisoning humans. This was a controversial decision in the Polish pest control community. There were concerns that restricting the possibility to choose certain biocidal substances could weaken the efficacy of rat extermination, especially amid increasingly widespread reports of the rodent population becoming resistant to anticoagulants, including second-generation ones. Some also expressed views that the resolutions in the directive had a negative impact on local producers, who could not afford to embark on the complicated and costly procedure of registering a new biocidal product. According to the regulations, every substance, even those used before the directive entered into force, had to be registered as a new one. For smaller producers, the costs of conducting studies and preparing extensive toxicological documentation for the directive could be higher than the profit from potential sales.[427]

The policy of promoting anticoagulants as the only permissible substances for rat extermination seems problematic for two reasons. First, along with acute rodenticides, products of natural origin, such as powdered corn cob[428] and cholecalciferol,[429] were also withdrawn. Second, the safety of anticoagulants is

Theoretically, therefore, this substance can only be used to protect plants from rodents. Given its high toxicity and the lack of antidote, it is regarded as a poison dangerous to humans as well as other non-target species, especially fish and birds (K. Grad, "O rodentycydach raz jeszcze", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2007, 1, pp. 5–11). But it continues to be recommended, especially when the quick eradication of a large population is needed.

427 A. Gliniewicz, "Plusy i minusy wynikające w wprowadzenia w życie Dyrektywy 98/8 o produktach biobójczych", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2012, 4, pp. 18–22.

428 In 2013 this substance was ultimately included in the list of permissible biocides ("EU Approves Powdered Corn Cob as Biocidal Active", Chemical Watch website, www.chemicalwatch.com/16094/eu-approves-powdered-corn-cob-as-biocidal-active, access: 22 August 2018).

429 Though relatively safe for humans and birds, it is highly toxic to dogs and results in stopping rats from collecting poisons after two days (a characteristic known as the stop-feeding effect). J. Hohenberger et al., "In search of the Holy Grail of Rodent Control: Step-by-step implementation of safe and sustainable-by-design principles on the example of rodenticides", *Sustainable Chemistry and Pharmacy* 2022, 25. This substance causes progressing

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debatable. These substances are considered to be very toxic, and their use in recent years has therefore been subject to increasingly stringent restrictions.[430] However, although specialists from member states agreed that anticoagulant use should take place with extreme caution, no consensus was forthcoming on creating specific mechanisms to reduce risk at the EU level. As a result, in 2007 rodenticides were divided into two categories: those listed in the annex to the directive and those permitted for use domestically in individual member states.[431] Since then, therefore, it has been possible to register rodenticides in two ways: at EU and national level.

More recently, the policy of restricting the use of biocidal products at EU level has burgeoned. In June 2017, a new classification of active substances used in rodenticides was published. This followed the decision by the Committee for Risk Assessment (RAC) operating at the European Chemicals Agency to change the classification of anticoagulants to "toxic to reproduction". As a result, since March 2018, substances with a concentration greater than 0.003% are no longer legally available for general sale and can only be purchased by professionals. The idea is to prevent non-professionals from accessing anticoagulants with a highly concentrated active substance. In theory, therefore, producers wishing to offer higher concentrations of rodenticides must restrict their target audience to professional users and mark clearly on their labels that their products are toxic to reproduction.[432] This regulation may be hard to implement in the Polish context, where the pest control profession is accessible without professional qualifications. In both the subject literature and expert interviews, however, a different concern has appeared: about the efficacy of anticoagulants administered with a lower concentration. The dominant view is that using lower-concentration substances may lead to an intensification of rodents' resistance to these substances as already observed in certain countries.[433] It is also worth noting that a lower concentration of poison usually means prolonging animals' deaths,[434] something that the authors of the regulation apparently failed to take into account.

The trend towards standardisation of the norms and regulations concerning the extermination of organisms deemed harmful is not only the work of the EU

anorexia among rats and consequently results in their starvation (K. Grad, "O rodentycydach", op. cit.).

430 The European Commission documents specifying the ways of limiting threats to public health and the natural environment caused by the use of anticoagulant-based rodenticides in "Environment Risk Mitigation Measures for Anticoagulants used as Rodenticides and Human Health Risk Mitigation Measures for Anticoagulants used as Rodenticides."

431 "The Debate about Permanent Baiting Continues", *Pest Control News* 2011, p. 89.

432 "Zawartość trutki w trutce", *Pest Control News* 2017, 4, p. 5.

433 Ibid.

434 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.

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authorities, but also of the CEPA itself. Intensified efforts to introduce joint guidelines in this regard began with a meeting in Rome in 2007, resulting in the adoption in 2015 of Norm 16636. However, since most national organisations (including the PSPDDD) were interested in keeping divergence from the legislation of individual EU member states to a minimum, the resolutions contained in the norm retained a high degree of generality.[435]

"Specialist elite": The post-1989 rat control rhetoric

The discourse on rat extermination generated and instigated by the pest control sector is not uniform. It consists of both the internal industry discourse, meaning contents produced by and targeted at people working in the sector, as well as advertising language with which the rat control industry reaches out to potential customers. Whereas the former can be treated as source language, marketing discourse merges the contents dominant in the industry with characteristic marketing rhetoric. Yet this binary division does not take into account the contents that arise between these spheres, i. e. advertising materials aimed at producers and distributors of rodenticides, operators of pest control companies and other people associated with implementing sanitary and epidemiological norms. These can be seen to represent a buffer zone between the industry discourse, in which specific contents circulate exclusively among people in the pest control community, and the fully inclusive advertising message with which rat control companies target their potential customers.

The discursive practices stimulated by the PSPDDD can be regarded as source practices. Although this organisation does not include all or even most businesses in the pest control sector, it is the main institutional body for Polish rat exterminators. Directly or indirectly, it therefore shapes contemporary rat control practices in both empirical and discursive terms, and also, to some extent, legislative ones. The contents transmitted at training courses, conferences and symposia organised by this institution as well as expressed in its *Bulletin* can be regarded as a representative voice of the Polish pest control industry.[436] Therefore, although the discourse created in the circles of PSDDD members is not

435 Informant 17, interview, 17 May 2018.

436 It is worth noting here that, unlike in many other industries, in Polish rat control after 1989 the process of local businesses merging with large companies did not take place. Most rat control services are provided by self-employed professionals or family businesses in which the second or even third generation are now working. A similar trend can be observed throughout the EU, as most companies with CEPA certification operating in the European market employ between one and five staff members (information obtained at a ConExPest training course in Wrocław, 11 May 2017).

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identical to the discourse of the Polish pest control sector as a whole, the institution's dominant position and its de facto monopolisation of messaging for most of the time since the transformation[437] mean that we can treat the contents it has produced as a *pars pro toto* of the industry discourse.

Since the PSPDDD was founded, its information channels have emphasised professionalisation of the sector, improving its image and collaboration with scientists. Both the official industry discourse and the content of my interviews show evident attempts to distance themselves from state companies' pre-1989 practices. These come alongside efforts to forge a new language to describe the contemporary pest control industry as a networked group of specialists – genuine experts in the extermination of harmful organisms. This was no easy task, because, as an article from 2002 reads, "In the last decade, pest control activities in Poland have been treated marginally, as slightly shameful and second-rate".[438] This "shamefulness" might characterise a profession associated with uncleanness and killing, but one cannot overlook the industry's bad reputation before 1989 (cf. Chapter II). The *Bulletin* has for years contained complaints about this "dishonourable tradition" hanging over the industry. And yet, "in modern quality management systems, there is no room for case-by-case approaches, nor for people who are not true professionals in their field".[439] The objective of integrating the community from the mid-1990s onwards therefore included an attempt to improve and modernise the image of rat exterminators. As stated in one of the early issues of the *Bulletin*, "Membership [in the PSPDDD] should denote belonging to an elite of highly qualified specialists".[440] The need to incorporate modern rat control into the healthcare system was also underlined.

The people creating industry messages are aware of the role of language in shaping the public perception of their work. This is illustrated well by the following quotation, calling for a change in the rat control narrative: "Everybody in the industry, within and outside the Association, in discussions, training courses and less formal meetings, should speak, for example, not about eradication of mice, but about protecting a specific space from pathogens".[441] Such language

437 Since 2011, a Polish version of *Pest Control News* has also been published, mainly featuring reprints of texts from the English version of the magazine. After the *PSPDDD Bulletin*, this is the second periodical to cover this subject in Poland. Moreover, in recent years the association's monopolisation of messaging has been weakened by the development of the internet and the resultant creation of pest control websites and blogs.

438 S. Kowalski, "Problemy pest control a rola urzędowego lekarza weterynarii", in: *Problemy dezynsekcji, deratyzacji i dezynfekcji,* op. cit.

439 W. Protas, "Powstanie i historia", op. cit. (access: 16 September 2019).

440 T. Wojciechowski, "Jak widzę przyszłość naszego stowarzyszenia DDD", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 1998, 5 (15), p. 18.

441 Z. Jeszka, "Musimy być elementem ochrony zdrowia", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2017, 1, p. 25.

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clearly masks the controversial aspects of pest control activities, such as killing animals or applying poisonous substances to the human environment. The phrase "eradication of mice", itself euphemistic, is further euphemised by the call to replace it with wording referring to protection from "pathogens". While the first level of euphemisation seems largely unintentional, the second is an explicitly expressed appeal to people in the industry to change their language practices, thereby creating an alternative, "modern" image of pest control. As we shall see, euphemistic language structures based on a combination of corporate jargon and a medical and sanitary discourse would become commonplace in pest control rhetoric – both internal industry communications and advertising.

As in the late 1940s and early 1950s, contemporary discursive practices of the pest control industry are also characterised by their "scientification". I am particularly referring to collaboration with scientists, who not only regularly write for the *PSPDDD Bulletin*, but also helped set up courses and training programmes for pest control professionals.[442] One gets the impression, however, that this "scientificity" of the post-transformation rat control discourse is more superficial and understood much more narrowly than was the case in the time of Brodniewicz and Czyżewski. No studies are carried out on the populations and ecology of city rats in Poland. As a person with close ties to the PSPDDD commented, "that is because no university treats us seriously".[443]

Controversies in the industry have also been caused by the opening of the profession: anybody can become a rat exterminator, even without basic preparation in the field. The consequence is the formation of many "backpack" companies, often registered only for the months when municipal authorities conduct rat control campaigns. The low quality of services they offer, together with price dumping (also in public procurement procedures organised by cities), is regarded as a negative manifestation of the spoiling of the pest control market. The title of "field biologist", obtained after a short training course, comes in for particular criticism.

The magnitude of the changes that have taken place in the last quarter of a century is also emphasised. Current quality standards require constant monitoring for the potential presence of rodents. As a result of ad hoc drives, rat control has become a permanent operation, especially at high-risk sites such as food processing factories and large stores:

442 W. Protas, "Powstanie i historia", op. cit. (access: 16 September 2019). It is worth citing particularly the work of Stanisław Ignatowicz, a professor at Warsaw University of Life Sciences, who as well as writing for the *PSPDDD Bulletin* regularly leads rat control training courses.

443 Informant 18, interview, 16 January 2017.

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> Back then [in the 1980s] it was the "fight the rat" campaign. Now we're more geared towards prevention.[444]

> In my case, as for normal rat control operations, where somebody calls and says they have rodents, there are a dozen or a few dozen each year, whereas in the old days we'd do a lot of them as an emergency service. Then there were over a dozen a month. So that's changed a lot because of permanent monitoring.[445]

> As a result of 2004 [Poland's accession to the EU], it didn't just change on the outside, but also the systematic aspect of working in the profession. What used to happen […] was something happened and the phone rang. Nowadays it's done periodically. There are contracts that stipulate whether it's monthly or quarterly inspections and you lay rat control stations, live traps, bait devices.[446]

The fundamental difference between pre-1989 and present-day rat control is therefore the fact that operations were previously uncoordinated and reactive, taking place after a colony of rats was observed in a building. Today's practices, on the other hand, place the emphasis on monitoring and prevention. Yet this prevention is understood in somewhat specific terms, by no means indicating that it does not involve killing animals. To explain this rhetorical paradox, we need to look more closely at the specifics of contemporary rat extermination practices.

Equipping a building with pest surveillance means that rat control stations (bait devices) and sometimes also traps (glue or snap) are placed within and around it at regular intervals. The so-called three-barrier doctrine is widespread (although it is controversial because of the possibility of poisoning non-target species). A monitored site is covered by a triple cordon of stations monitoring the presence of rodents, with the first inside the building itself, the second along its walls, and the third on the contour of the plot. In particular cases, such as for food processing buildings or other institutions where there is a danger of poisoning humans (e. g. a restaurant or pre-school), stations with a non-toxic content are placed inside. These are usually glue traps (or, less frequently, snap or live traps) or bait devices with non-toxic blocks showing whether the bait has been taken. If it has, the block is exchanged for a toxic one or glue traps are placed in strategic spots. The remaining rat control ("monitoring") stations are placed in locations that do not cause an immediate danger to humans and permanently filled with a toxic poison. Since monitoring is possible, theoretically these could also contain a non-toxic poison. In practice, however, this does not usually happen.[447] Ac-

444 Informant 11, interview, 26 June 2017.
445 Informant 10, interview, 26 June 2017.
446 Informant 14, interview, 6 July 2017.
447 The practice of using poisons for monitoring purposes is not an uncontroversial one in industry literature, especially given the possibility of poisonous substances getting into the

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cording to most of my interviewees, this would not make sense as the toxic blocks fulfil a dual objective: monitoring and, when they are taken, killing an unwanted rodent. This practice is sometimes called "chemical ratproofing". So we see that the concepts of "monitoring" and "prevention" have rather peculiar meanings in contemporary rat control that differ from the intuitive understanding of people from outside the industry.

This seemingly insignificant, almost technical detail is fundamental to understanding how contemporary rat extermination works. As a permanent operation, functioning in the logic of "prevention", and not, as was previously the case, a focused battle, it easily succumbs to the process of disembodiment and dilution of responsibility. Regular rat poisoning campaigns, although they continue to be ordered by municipal councils (usually twice a year), are only a small part of rat control practices. The majority of animals die not during mass rat control drives lasting a few days (and advertised in the press), but during the everyday, commonplace and entirely unnoticed operations described as "preventive" actions.

The understanding of such "preventive" operations in the industry reflects a broader phenomenon: the contemporary rat control discourse is full of linguistic shifts that indirectly shape and perpetuate specific attitudes towards animals. One of the main such shifts is the differentiation in Polish between the concept of *trutka*, a diminutive signifying a portion of poison specifically designed for rats, and the general term for poison, *trucizna.* Although they often refer to the same substances, the linguistic distinction between them contributes to a symbolic delineation between poisoning humans and rats. This disconnect operates not only at a purely rhetorical level, but also a legal one: products designed for exterminating rats are registered in Poland and classified as harmful substances, rather than poisons.[448] Bait stations are referred to as "feeders", possibly suggesting that they are for feeding animals, not poisoning them.. It is also common to use the concepts of invasion and infestation to describe large rat colonies inhabiting a specific site or district. Another example of non-intuitive use of concepts is the understanding of the term "economic injury level", borrowed from agriculture. This determines the size of a population of animals regarded as pests below which their extermination is no longer profitable, since the costs outweigh the losses. In agriculture such estimates are understandable. However, by placing rats in a sanitary and epidemiological context, and thus indirectly also in one of risk management, such calculations cease to make sense since there are

surrounding environment, cf. "Antykoagulanty w rodentycydach. Dobre praktyki w kontroli gryzoni – kto je wyznacza?", *Pest Control News* 2012, pp. 5–7 (based on "Who Determines Rodent Control Best Practice?", *Pest Control News* 2012, p. 90).

448 K. Romaniuk, S. Kowalski, "Bezpieczna, skuteczna i tania deratyzacja", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 1997, 4 (10), pp. 14–15.

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no estimates determining the true sanitary threat caused by a colony of these animals.[449] In practice, the term "economic injury level" is applied arbitrarily in rat control: any situation when humans subjectively perceive the presence of a rat in a given area to be a nuisance is deemed to exceed the economic injury level.

To conclude this preliminary enquiry on contemporary rat control rhetoric, it is worth mentioning that from the late 1990s onwards, new terms from the West arrived in the Polish pest control rhetoric, such as the HAACP quality system and IPM. In the next decade, the term "pest control" itself, borrowed from the English, began to be used. Although it did not displace the handy phrase "DDD", it appears to be a characteristic manifestation of the adoption of linguistic structures from the Anglophone world. This phenomenon is also demonstrated by the gradation of the term *atrakcyjny*, probably a calque from the English "attractive", to describe rodenticides eagerly consumed by rats. The consistent Westernisation of the rat control rhetoric was caused by the process of adaptation of Polish legislation to EU norms. We can assume, however, that the EU integration process did and does not take place solely in legislative terms, but also cultural ones as well as those associated with the dissemination of specific social and discursive practices, which are also visible in descriptions of the extermination of animals.

"The leader in taste blend": Rodenticide advertising

The language of advertising is unique, based not only on transmitting information about a product but also – and perhaps above all – on the process of producing meanings. In the next two subsections, I will analyse the marketing discourse used to advertise products and services associated with rat control and creating a narrative justifying and naturalising killing animals.

Advertising for biocidal products and other tools used for facilitating extermination of rodents mainly comprises leaflets produced by their producers and distributors, as well as adverts taken out in industry magazines (*Biuletyn PSPDDD*, *Pest Control News*). They share the features characteristic of most advertising communication – in terms of both the use of specific words and phrases and of constructing a visual message. Given the specific nature of the industry, one can discern a characteristic mixture of messages based on a negative affect with a discourse that can be described in simple terms as neoliberal. I use this term to refer to descriptions of killing animals employing concepts and

449 A. Gliniewicz, "Próg szkodliwości w przypadku zwalczania szkodników sanitarnych i o znaczeniu medycznym – czy pojęcie uzasadnione?", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2006, 3, pp. 7–9.

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linguistic structures emblematic of the marketing rhetoric of late capitalism, mostly borrowed from corporate jargon and characterised by such words and phrases as "innovative", "leader", "finest quality", "competence" and "success". I will demonstrate that these two trends contribute both to the perpetuation of an affectively underpinned negative stereotype of the rat and to the disembodiment of the brutality of rat control practices, and thus to masking the cruelty of the methods used, which are incorporated into the neoliberal rhetoric of efficacy and control.

An advert for the rodenticide Storm from 2003 (Fig. 16) depicts the black outline of a rat, which stands out from the fiery background. The rodent – shown in profile, in a slightly hunched position – evokes associations with chthonic or even diabolical animals. The atmosphere of threat is amplified by the colour scheme of the illustration, and especially the juxtaposition of the black figure of the rat with the red and yellow hues of the flames. A caption reads: "Rats survive almost everything. But no rat will survive after consuming the rodenticide Storm". The advert contains overt allusions to the stereotype of the rat as an incarnation of evil, incredibly – devilishly, one might say – resistant ("rats survive almost everything"). The message has a somewhat humorous tone, giving the impression of playing with the convention of the anti-rat stereotype. Yet this reference is not critical or subversive. On the contrary: it reinforces the cultural model for rat depictions by entirely subscribing to and affirming it.

This is not Storm's only advert employing this kind of style. Another (Fig. 17) also depicts the dark outline of a rat (albeit this time in a natural pose on four paws) superimposed on a microchip. The figure of the animal's "diabolical" intelligence is built on the fusion of two orders of the imagination: the rat as a sinister threat (the grey shadow) and technological connotations (the microchip). The reference to technology shows ambivalence. On the one hand, it is associated with the rat's intelligence. The rodent's cognitive capacities, the advert seems to be suggesting, are so uncanny that they exceed nature and can only be compared to artificial intelligence. On the other hand, the technological connotations also refer to a manmade innovation (in the guise of this particular brand of rodenticide). The comments below the illustration confirm the validity of this trope: "How can we combat the intelligence of rats? Intelligently." Within this narrative, therefore, human intelligence is a response to rat intelligence, an equal opponent in the fight. Associations with technology would now become an important element in anti-rat rhetoric.

However, contemporary pest control advertising rhetoric also contains examples of the direct continuation of Stalinist iconography, based on the rhetoric of war. A characteristic motif reproduced in many materials of this type is the depiction of a target sight pointed at a rat. One example is a desk mat advertising the company Dez Der. The illustration shows the panorama of a burning city.

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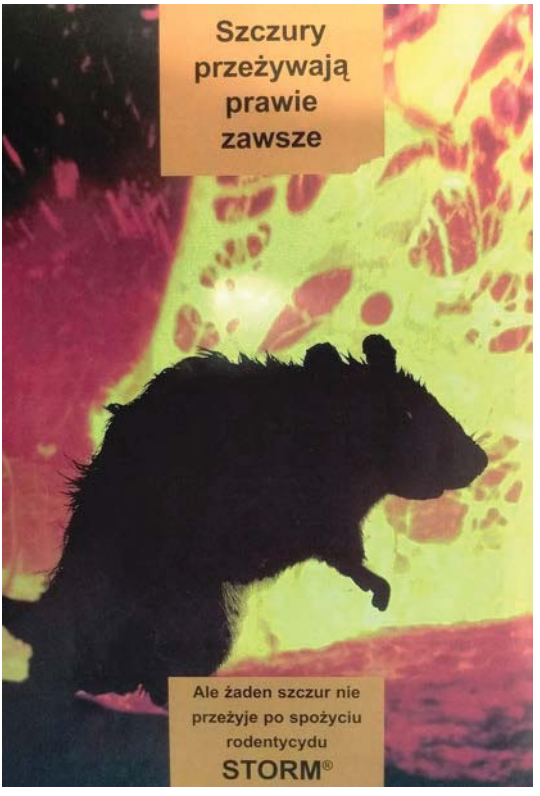

Fig. 16: Storm rodenticide advertisement.

Through a sniper's rifle, we see a rat sitting among the rubble, implied to be the perpetrator of the catastrophe. The image alludes to fires started by rats as a result of biting through electrical cables. But the epic size of the inferno, combined with the militaristic accent of the weapon aimed at the rodent, fits in with the myth of the rat as a terrible, destructive enemy, perpetuating and reinforcing the negative stereotype.

Agrosimex's advertising leaflet (Fig. 18) uses a similar style. Its cover features a herd of rats running towards the viewer, separated by a red-and-white barrier marked "unpassable barrier!" In front of it, blocks of rodenticide can be seen. The rats are running in a large group, mouths open, to give viewers the sense of being trapped and threatened. The rodents resemble an ominous army invading the space and property of humans, with the advertised biocidal product becoming the only defence strategy against the dangerous invaders. It is worth noting at this point that the concept of invasion often appears in advertising

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Fig. 17: Storm rodenticide advertisement.

materials, although it fundamentally does not refer to the problem of rats as invasive species in a biological sense.

So rats in advertising materials for professionals are often shown as a demonical embodiment of threat and a dangerous enemy invader. But the stereotype-based labelling of the animals also embraces other templates. One example is an advertising leaflet for the company Bell, based on the humorous idea of using the figure of the rat as a criminal (Fig. 19). Across the leaflet's cover is a horizontal, red-and-white tape marked "Crime scene. Do not enter". Above it is a photograph of a rat standing on its hind paws, front-on, based on images from case files. The photo is labelled "suspect". The other pages of the leaflet also imitate the style of police files. On one page, intended to resemble a noticeboard,

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Fig. 18: Agrosimex rodenticide advertisement.

photographs of three rodents are pinned to the board. The pictures are captioned "Brown rat – Sniffer", "Black rat – Climber", and "House mouse – Invader". A caption above states "Suspects". The next page of the leaflet contains information about the biology of rodents, given in a neutral, no-nonsense manner. It also gives apparently surprising information:

> Do you know that? The most successful mammals on Earth are humans. Rodents are classified immediately after them. No. 1: Homo sapiens. No. 2: The house mouse. No. 3: The brown rat.

This content comes under the heading "Information about the enemy". To emphasise what rats are being accused of, alongside a photo depicting rat burrows the word "Vandalism" has been added. The final page of the leaflet reproduces the style of the first. Again, there is a tape marked "Crime scene. Do not enter", but this time the photo of the rodent is marked "Dead".

Analysing the idea this leaflet is founded on, we must appreciate its creativity. Despite being based on the stereotype of the rodent as enemy, it handles it in an unconventional manner, consistently alluding to a police style. However, the way

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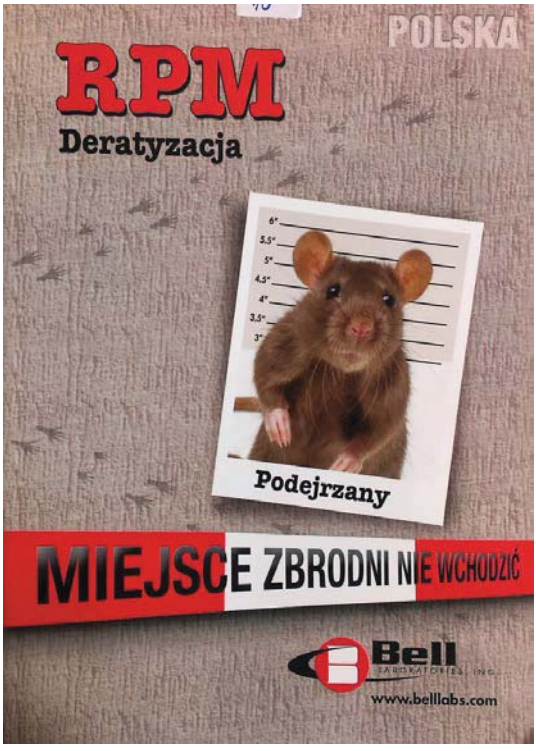

Fig. 19: Bell rodenticides advertisement.

the rodents are portrayed, using anthropomorphic clichés and grafting a specific type of interpersonal relationship ("cops and robbers") into the human–animal context, reinforces the negative myth of rodents as social outcasts. Interestingly, mice, which traditionally tend to be associated rather with "thieving" behaviours, are also included in the warlike narrative. Here, though, they are characterised as "invaders", a concept usually associated with rats. It is also worth noting the juxtaposition of the animals' alleged offence ("vandalism"), treated in human communities as just a misdemeanour, with the strong emotional (and legal) overtones of the term "crime". Furthermore, calling the rodent a "suspect" suggests uncertainty regarding its guilt. Clearly, though, the presumption of innocence does not exist in the leaflet's logic, as shown by labelling the rat as an "enemy" and the predictable conclusion of the story ("dead"). The leaflet also contains numerous phrases overtly alluding to military rhetoric, such as "weapon", "line of defence", and "information about the enemy", reminiscent of Stalinist depictions. And yet the neutral tone of the texts apart from the headlines introduces a completely different, matter-of-fact narrative. The information, presented as a curiosity, that rodents have been the most successful mammals on

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Earth (after humans) clearly disrupts the confrontational narrative dominant in the leaflet. Particularly interesting is the use of the Latin form of the name of our species (*Homo sapiens*), while the Polish names of the house mouse and brown rat are retained.

However, describing rodent extermination in terms of punishment, war and revenge is not the only strategy observed in adverts. Another narrative model portrays rat control as supplying tasty food to the rodents, while disregarding its lethal outcome. Contemporary rat control is based especially on the use of rodenticides, whose efficacy largely depends on the rodents' behaviour. In other words, in contrast to other methods of killing animals such as those present in commercial farming, scientific experiments or hunting, for rat control to be effective it requires the rodents' "cooperation", meaning that they must consume the biocidal product laid by humans. A rodenticide must therefore not only demonstrate efficacy in killing animals, but also satisfy their preferences sufficiently for them to prefer it when alternative food sources are available. As a result, adverts for biocidal products used for rodent extermination often adopt a peculiar narrative stressing the taste qualities of poisons, and thus indirectly subjectifying or even anthropomorphising the animals. For example, the rodenticide Tomcat is claimed to be "so tasty for rodents that mice and rats simply can't resist it". An advert for Racumin employs a similar rhetoric: "A new, blue treat for rats. No rat can resist it […]. Just one bite and rats will have a taste forever". An advert for the Ratimor rodenticide modifies this message to make it impersonal: "a bait that cannot be resisted". As for Unichem's poison, "rodents like it for its taste blend", while Storm's rodenticide "causes in rodents an irresistible desire […] to pick it up". A narrative advertising the rodenticide Nocurat is even more peculiar: "The components of the poison have been specially adapted to the taste demands directly for rodents' food needs. The secret of every chef and true gourmet comes down to using the best-quality ingredients for preparing the meal".

This rhetoric portrays rats as sophisticated foodies, succumbing to the incomparable qualities of the biocidal product being advertised. It is worth noting the impersonal form used in the Ratimor advert ("a bait that cannot be resisted"), blurring the lethal context of the message and begging the question: who cannot resist it? And the culinary metaphors in the Nocurat advert are even more interesting. Firstly, it seems to suggest that the purpose of the substance is not to exterminate the animals, but indulge them. Secondly, the phrases it uses ("chef", "gourmet", "best-quality ingredients", and describing the poison as a "meal') shift the extermination of animals towards culinary associations. In this singular narrative, the rodenticide producer becomes a chef preparing an exquisite dish for his supposed client – a rat – based on the best, specially selected ingredients. The word "gourmet" is intriguing, used not, as one might suppose, to describe the

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rat, but the creator of the poison ("chef"). This construction of the narrative obfuscates the purpose of producing rodenticides, shifting the emphasis to the product's epicurean merits.

A further key narrative model involves the description of rat extermination using neoliberal language incorporating the eradication of animals into a disembodied technological context. Here are a few examples of quotations from advertising leaflets. Unichem describes itself as "the leader in rat control products technology" and "the market leader in performance and taste blend". Bell Laboratories is "the world leader in the field of rodent control technologies […] setting the standards in the rat management segment of the pest control sector. We concentrate on quality, functionality and innovation". A rodenticide advert for the company Agro Zaopatrzenie boasts: "Good value for money means that for years they have enjoyed undimming popularity among users". The Storm poison produced by BASF "… provides rat exterminators with substantial savings in the total cost of the rat control procedure", while Unichem "combines the highest quality, integrity and exemplary business management". Agro Zaopatrzenie informs that: "At the eradication stage, the key to success is using a well-chosen rodenticide", while "the mission of Vaco is to take care of our clients' sanitary security. We abide by principles of partnership when working with clients, suppliers and staff. We create a friendly and competent team. We are increasing our share of the market served". This final quotation is supplemented by a note on "Vaco in numbers", revealing that the company uses 24,000 kg of product annually to combat pests and 60,000 rat control stations, with its staff travelling more than 300,000 km each year. There is no information, however, on how many rodents were exterminated in this time.

This brief overview alone demonstrates the scale on which marketing jargon has been seized to describe the practices of killing animals. The exterminated mammals are absent, with the fight against them described in an extremely euphemistic way, as a "rat control procedure" or "eradication".[450] Encountering such messages outside the context that defines them could cause difficulties in determining the actual nature of rat control – apart from the fact that it is a response to an unspecified technical issue. The use of expressions popular in neoliberal language, such as "leader" (also in the peculiar "culinary" version – "leader […] in taste blend"), "quality" and "innovation", also diverts attention from the animals' death. Most advertising messages are empty of meaning and have no semantic weight, based on clichéd concepts and phrases. It is unclear in

450 Other advertising texts also include such concepts and phrases as "removal", "elimination" and "cleansing of rodents", as well as metaphors such as "a one-way ticket for rodents". Another advert praises the "marvellous effects of the toxic action" of the rodenticide in question.

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this context what the meaning of "functionality" and "integrity" might be (is it about IPM?), and what demonstrates the position of "leader in taste blend". There are clear references to the financial and market context ("good value for money", "substantial savings", "increasing our share of the market served"), with the centre of gravity shifted from practices of animal extermination to the professionalism of the business itself. It is no longer just any old rat poison provider, but a modern, innovative company taking care of its customers' sanitary security.

An extreme example of technologisation and disembodiment of rat control practices is provided by the promotional materials for integrated pest control systems, which in recent years have enjoyed growing popularity among companies offering such services. I suggest taking a look at the language with which a company producing one of the most popular systems of this type addresses its clients. The system comprises a QR-code-based Android app for rat exterminators monitoring rat control stations as well as a web application for supervisors, which company owners can use to monitor their staff and manage the profiles of their clients. The system is marketed as an alternative to paper documentation as well as a solution minimising the risk of mistakes. I will quote a lengthy passage from a flyer advertising the system to demonstrate the features of the language used to describe this solution:

> Monitor your company. The Cerber system will allow you and your administration to manage your company more efficiently. You'll have a real-time view of statistics summarising your technicians' work and productivity. In addition, with an abundant set of charts and trends you can analyse the number of devices installed and the quantity of substances consumed, allowing you to manage orders more effectively […] Your company will immediately experience savings on printing hard copies. The system automatically attaches an analysis of trends for consumption of substances from individual traps and feeders to the electronic report, generating precise and aesthetic charts.
>
> Using the web application, you and your administration will be able to manage and monitor staff, manage your company's clients, review and analyse monitoring reports, generate complete reports in a format ready for printing or mailing, analyse statistics and trends concerning clients, devices and employees, and make documents such as certificates, insurance and instructions available to clients. Your clients will have immediate access to reports on their facilities and will be able to print or mail them. Additionally, they will be able to report the need for an intervention from a pest control professional with the option of an automatic notification.

The Cerber system's rhetoric is based on the need for complete control over all activities and incorporates killing animals into the corporate rhetoric of process optimisation. Various types of activities are described under the term "DDD". This makes it difficult to determine which kind of practices the information refers to: disinfection, disinsection or extermination of rats. Rodents, insects and

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microorganisms are treated the same, not only at a rhetorical level, but also a material one: the tool proposes the same solutions for killing cockroaches and rats.

Whereas in rodenticide adverts we observe a clash between the militaristic and the neoliberal narrative, here the practices of killing are completely overtaken by the free-market/technological discourse. The brutality of inflicting death is not only neutralised and included in capitalist discursive practices, but practically disappears completely, captured by the marketing jargon dominant in businesses operating in the new technologies sector. Moreover, it is not only the cruelty of killing that vanishes from the discourse, but even the death itself, which is concealed by such concepts as "technicians' productivity" and "trends for consumption". This is now second-degree euphemisation – killing rats is no longer even referred to as "elimination" or "pest removal", but entirely eliminated from the discourse. I describe this phenomenon, to which I shall return when analysing the content of rat control companies' websites, as the technologisation of cruelty.

Summing up, then, the advertising of products used for killing rats adopts the marketing language also present in commercials for other products and services. This seems understandable: their producers, operating in conditions of competition imposed by the market context, are forced to market the goods they produce in the most effective way possible. The specific characteristics of the industry indirectly impose the form of the message: in this particular context, disembodied language describing practices of killing animals as a technical and sanitary operation seems to be the only alternative to the narrative of war. But the incorporation of rodenticide adverts into the mechanism of profit, and thus, indirectly, into neoliberal discursive practices, might be a concern given that they refer to a specific type of practice – mass killing of animals.

"Professional and discreet": The rhetoric of websites

Perhaps surprisingly, the dominant rhetoric on pest control companies' websites makes less use of the figure of the rat as enemy than was the case in materials targeted at professionals. Most of all, it employs a strategy of aesthetisation and masking of the brutality of the practices, incorporated into a neoliberal marketing narrative and sanitary discourse. Rats in this narrative are less likely to be depicted as pesky animals, and rather as a disembodied problem to be solved, whose removal guarantees a sense of security. I believe that this structuring of the message plays a crucial role in the euphemisation, and indirectly also the social apathy regarding the cruelty of these practices.

The aesthetisation of rat control is therefore the main factor shaping the marketing rhetoric in the industry. It is formed by two complementary narra-

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tives. The first is the aforementioned neoliberal discourse. The second is an "aseptic" narrative, which places rat extermination practices in the discourse of sanitary security. This is linked to a phenomenon that I will call the conceptual "pest control package", by which I mean the material, linguistic and visual equation of rodent extermination with disinfection and disinsection practices. This narrative symbolically strips rats of their vertebrate sensory specificity and equates them with pathogenic microorganisms. This is associated with two phenomena: the inclusion of rat control practices in the "ecological" context[451] (which I refer to as the **greenwashing of cruelty**) as well as the technological one (which I call the **technologisation of cruelty**). To illustrate this research observation, I will analyse example pest control websites to show which visual codes they use and the presence (or absence) of rats in them.

Regardless of the aesthetics employed by a company, most of the advertising I analysed is dominated by structures characteristic of capitalist and marketing jargon. Companies promise "rapid and efficient rat control" and are "professionals through and through". They describe their work using such phrases as "we fully implement our company's mission" and "we are constantly honing our working methods, expanding our range of services, keeping abreast of the latest knowledge and seeking new solutions". The focus on numerical measures is striking. For example, one company provides the following precise information: "We have now defeated 75,800 rodents". Another firm declares: "We call back in 24 seconds".[452] The death of animals in this narrative is masked by the use of euphemistic expressions: "dealing with the problem", "effective removal of rats", and "threat removal services". Sometimes, this effort to taboo practices is expressed explicitly, using messaging that guarantees the discretion of the entire operation. This is how one company vaunts its services: "Professional, punctual and discreet. Our cars are not branded!!" Another uses a blunter message, with a close-up photo of the lower part of a face with a finger over the lips in a gesture of keeping a secret and a caption stating: "We guarantee complete discretion and satisfaction".

Rat extermination is also repeatedly coopted into a sanitary discourse in which the animals are transformed into undesirable pathogens, thus becoming a disruption to order and an embodiment of an abstract threat. One company

451 My use of the word "ecological" (in quotation marks) in this chapter refers to its meaning not in the scientific sense, but the colloquial one, associated with the dominant contemporary sociocultural trend attributing positive value to that which is "natural", as reflected in marketing strategies.

452 The text is illustrated by a photograph of rats at the Karnia Mata Temple in India, where they are regarded as holy. We can assume that the function of this image was supposed to be purely aesthetic, and the paradox of juxtaposing such a photo of rats with contents encouraging their extermination seems not to be intentional.

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declares: "we ensure that your homes are perfectly clean, fragrant, and free of intrusive insects and rodents". Another "provides threat removal services, guaranteeing the highest hygiene standards" and helps to remove "insects, pests, bacteria or other elements with a negative impact on hygiene in your surroundings". Messages constructed in this way are an excellent example of the sanitary "pest control package". Describing killing animals in terms of a sanitary operation and listing "insects, pests, bacteria" in one breath establishes indifference to an internally diverse group of organisms and completely disembodies rat control practices, which become a practically cosmetic procedure.

Yet the coupling of the sanitary and neoliberal discourse, incorporating rat extermination into the "green technologies" rhetoric, is expressed most emphatically at the level of visual practices. One example of this phenomenon is provided by the website of Bios. This depicts a figure with his or her back turned to the viewer, spraying a tree (presumably with a pesticide). Almost the entire body of the professional is covered by the white disinsection overalls, with the exposed parts (face, hands) additionally covered by a mask, goggles and gloves. The background of the composition is filled by foliage. A caption is overlaid on the photograph: "Trust people with expertise and passion! With over two decades' experience and reliable knowledge, we work effectively and get results without any problems". Below are three icons, each with a caption ("disinfection", "disinsection", "rat control"), and a simplified picture that is a visual representation of the three terms (for rat control it is a simple outline of a rodent's head).

The depiction of a pest control professional at work, captioned "Trust people with expertise and passion!", is part of a narrative about the need for control of nature in which humans play the role of a tough but competent leader and manager. Nature subject to human rule becomes safe, compliant or, as Lévi-Strauss would put it, "cooked". It is an environment that has no room for unwanted organisms entering into conflict with humans. This narrative seems to be emphasised by the wall dividing the space of human dominion (a garden?) from the rest of nature on the outside. Simultaneously, though, this illustration harnesses the idyllic myth of nature as something "naturally" good, basing its marketing message on this association. The nature in the photograph does not have connotations of something dangerous, chaotic and threatening. One gets the impression that the reverse is true. The pleasant, green foliage, combined with the pest control technician's snow-white overalls, suggest connotations of a sense of safety and order. This advert is thus part of the fashionable and catchy marketing trend of "greenwashing", associated with the phenomenon of the "green economy".

Noticeably, this illustration does not depict rat control practices. This apparent omission is significant. The euphemisation of pest extermination is em-

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bedded in the deliberate management of visibility: emphasising those aspects of the pest controller's work that can with the least effort be put into a safe, "ecological" context (tree spraying) and masking practices based on cruelty and founded on the process of aesthetisation (killing rats). Such visual practices are made possible by the "pest control package". This creates a joint conceptual umbrella over diverse types of practices and enables illustrating animal extermination using non-controversial and positively connoted images.

Illustrating rat control (or pest management practices more broadly) using references to an arcadian portrayal of nature is a widespread marketing device. For example, the website of the company Bogel features a photograph of a coastline in a calm, subdued colour scheme. Alongside the image is the caption "insect and rat removal – safe and effective", with a blurb containing information about the services offered by the company, revealing to potential clients that its priority is to liberate them "from problems with uninvited pests". Whereas the previous photo, albeit in a highly aestheticised manner, referred to one of the aspects of a pest control technician's work, this illustration has no connection with the message accompanying it.

This "detachment" of the advert's visual aspects from the practices they describe is expressed most aptly in the kitsch aesthetic of the company EkoDeDeD's website. The image chosen to illustrate pest control services is a sky girded by a rainbow, a bright green meadow with a sprawling tree and an outsized piece of fruit splashing in water. The illustration constitutes the background for a caption stating: "EkoDeDeD's ecological solutions for rat control, disinfection and disinsection. GHP, IPM, HACCP, GMP". The advertising message constructs a hyperbolic association between pest control practices and the "natural" and "ecological", while also emphasising technological advances using a series of not widely understood, but professional-sounding abbreviations.

The phenomenon of constructing a pest control brand on associations with unblemished nature is reflected not only by the visual aspects of marketing communications, but also "green" logos and brand names (such as DDD Green Clean, EkoDeDeD, Bios, Aqua Perfect and Green Care). This promotional strategy aims to build an alternative image of brands operating in this unique industry. Its difficulty lies primarily in its public perception. What I mean is not just the potential controversies caused by killing animals and introducing toxic substances into the environment, but also, in a broader sense, the association of the pest control industry with dirty and thankless work based on contact with organisms evoking culturally entrenched abject connotations. By basing the marketing strategy on associations with the positive values of nature, companies seek to confound this stereotype, but not so much by rejecting this vector as inverting it – resulting in an emphasis on those aspects of the environment that can be subjected to a process of aestheticisation. Judith Williamson describes the

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resultant phenomenon as the "product as signified", which occurs when the product's semantic content is taken from another object or person.[453] In the materials I analysed, pest control brands take over the contents of symbols associated with nature but with positive connotations (trees, coastline, rainbow), thereby making the more controversial aspects of their work invisible. I call this phenomenon the **greenwashing of cruelty.**

A parallel phenomenon is the **technologisation of cruelty,** which I mentioned when discussing integrated pest control systems. At a visual level, this is based on illustrating contents concerning rat extermination with photographs suggesting advanced technological innovations. One example is the rat control tab on the Vaco website. This depicts a light, ascetically arranged warehouse interior with numerous sacks filled with unknown contents (grain?). All the elements of the composition (the sacks, a pillar, the roof of the hall) are white, accentuating the sterility of the empty and meticulously cleaned interior: there is no room for rats here. A caption is superimposed on the picture: "Rat control reduces the risk associated with biological threats for human health and animal breeding". Further photos visible at the bottom of the page depict content including a modern grain silo and factory interiors (probably for food production) designed using advanced technologies. All the photos are characterised by a similar, "aseptic" style, in light tones with striking filters portraying highly technologised facilities and interiors.

Solinex is a brand with a similar aesthetic for its visual strategy. The rat control tab on its website is illustrated with four photograph. Next to the text "Monitoring of rat control and removal" is a photo of a group of people in a business/corporate setting looking at charts on a board and engaged in heated discussion. The text "Ad hoc rat control procedures" is illustrated with a photo of a rodent in a loaf of bread, presented in a "cute" style. The text "Rat removal in agriculture" is complemented by an image depicting ears of wheat against a blue sky. Meanwhile, "Untypical services" (which include rat extermination with gas) is illustrated by a photo of a middle-aged man in a light, modernly arranged warehouse interior. The white helmet, tie and notebook in his hand imply that the man is either an engineer working in an innovative company or its owner. The texts accompanying the photos tell us that the company employees are available "in a situation of sudden threat, when a rodent invades the area of a factory, house or apartment" and that they react instantly ("in pest control emergency mode"). It is also emphasised that "for complicated services we implement new technologies and unconventional, custom-made solutions".

453 J. Williamson, *Decoding Advertisements. Ideology and Meaning in Advertising*, London–New York: Marion Boyars Publishers, 1978.

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Both messages are based on a minimalist, ascetic aesthetic evoking cleanliness and sterility as well as unequivocal technological associations. Rodents are excluded from the sphere of visibility, and if they do appear, they too are included in the aestheticising style. One might expect the photographs to illustrate the sectors of industry in which the company is involved. Yet the information that Solinex also offers rat control services in private homes, as well as the lack of a logical link between the first photograph ("brainstorming" corporate employees) and rat control practices, suggests that there was a different objective behind the choice of these illustrations. I would argue that, as with the strategy of "greenwashing cruelty", this is another example of a strategy of diverting attention from the practices of killing animals by illustrating them with photographs evoking associations with new technologies, creativity, modernity and innovations. In this narrative construction, rat control becomes a techno-sanitary operation ("the pest control emergency service"), part of the biological risk management discourse. Both websites employ a fashionable, minimalist style and are based on neoliberal jargon. But the stress on the technological aspect of rat control services can also be found on sites featuring a completely different aesthetic (cf. Eko-DeDeD), suggesting that it is characteristic not only of large companies using the services of external PR agencies.

Nevertheless, a characteristic phenomenon can be recognised: amateurish-looking websites (in terms of both aesthetics and textual content) are more likely to employ traditional communication models such as a confrontational/militaristic narrative, building an atmosphere of danger and macabre humour. They almost always use an image of a rat, albeit depicted in diverse ways. Most of these images are aestheticised, usually portraying domestic rodents, frequently in a "cute" aesthetic, in stark contrast to the texts calling for their extermination. A clear relationship therefore emerges: the more a firm is trying to build an image as a modern business (usually reflected in the minimalist aesthetic), the more likely it is that either no image of a rat will be used, or it will be an extremely aestheticised depiction. The brutality of rat–human relations and the rodent's portrayal as a menacing monster can be observed more often on websites with a 1990s aesthetic. Although I do not have access to information on when specific pages were designed, I would therefore hypothesise that the phenomenon of disembodiment and technologisation of the rhetoric describing rat control practices is a progressive process that has intensified in recent years.

One further trend can be observed in the advertising contents on pest control websites: blunt portrayal of the brutality of the act of killing. Some companies post photos on their sites documenting their work. These are usually found in a separate tab ("You can see what our work entails in the photo gallery below"), although in one case a photo of a dead rat in a feeder can be seen on the home page. Gruesome images of dead animals are often juxtaposed with an object

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showing their size (e.g. car keys). In one photo, a dozen or so dead rats can be seen arranged in a row resembling the spoils of a hunt. Indeed, this communication strategy seems to have a similar function to hunting trophies, as evidence of efficacy and efficiency. Alongside the image is a photo of a "cute"-style rat figure standing on its hind paws and holding a teddy bear in its front paw. The juxtaposition of the "sugary sweet" little rodent and the macabre photo was no doubt intended to have humour value, breaking the cruelty of the earlier images.

This strategy, exhibiting cruelty as something self-evident and also as evidence of efficacy and professionalism, is employed mainly on websites that give the impression of having been made by the rat exterminators themselves. They do not use the services of external companies, which would probably suggest that this kind of strategy might be controversial.[454] They can therefore be treated as more honest, closer to the original pest control discourse and the views of the owners of companies in the sector (for whom a photo of a dead rat is a commonplace and uncontroversial sight) than the unified and schematic neoliberal narrative. However, the materials I analysed suggest that this is an increasingly rare phenomenon, pushed out by a more "progressive" aesthetic disembodying rat control and masking its brutality. To a certain extent, this process can be expected to correlate with increased public sensitivity to cruelty to animals, and consequently with growing awareness of the people responsible for this content that blunt and direct portrayal of their deaths might be uncomfortable even for clients interested in implementing rat control procedures. If this research intuition is correct, the euphemisation of rat extermination would therefore be a response to controversies in the public perception of these practices.

This does not entirely account for the phenomenon of eliminating the cruelty of rat control from marketing content, and thereby, indirectly, from the public consciousness. I believe that the "blind spot" of rat extermination is a direct consequence of the consolidation of the "pest control package", ensuring that anti-rat rhetoric operates in a different discursive dimension from practices of population control for other problematic animals in cities (such as pigeons, wild boars or free-roaming cats). The inclusion of rat control within the concept of "DDD" means that it is symbolically excluded from the nature management discourse.[455] This phenomenon, which I also highlighted when analysing the

454 It is beyond the scope of this study to ascertain the public reception of pest control companies' advertising strategies, and particularly whether their display of dead rats influences decisions about the choice of a company.

455 It is symptomatic that many scientific, popular-science and educational publications on urban nature management do not mention brown rats at all, although they are the species that generate the greatest damage and are subject to the most intensive extermination. One might even get the impression that the authors of such publications "forget" that this species also belongs to the urban ecosystem. One example of this phenomenon is the book

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rhetoric of the communist period (cf. Chapter 3), has intensified along with the assimilation of neoliberal marketing jargon. As a result, the rat extermination rhetoric operates in a completely different context and uses different tools from those concerning environmental management. This rhetorical dissonance can be expected to deepen amid the increasingly strong "green technologies" discourse in which the pest control community apparently wishes to function.

Zwierzęta konfliktowe w miastach (Conflict Animals in Cities) by Krzysztof Dudek, Leszek Jerzak and Piotr Tryjanowski (Górzów Wielkopolski: Regionalna Dyrekcja Ochrony Środowiska w Gorzowie Wielkopolskim, 2016), which consistently overlooks rats. I would therefore argue that this lack of interest from the scientific community cannot be ignored; it is a key factor permitting the symbolic status of this rodent as a non-animal to be established.

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Chapter 5.
"A Craft Like Any Other?" Rat Exterminators on Their Work

"Rats are there for a reason": The urban ecology of rats and humans

In this chapter we will hear from the people directly involved in rat extermination – the employees and owners of pest control companies. I analyse how this professional group perceives the animals and the practices of their eradication. I focus especially on the rhetoric they use to describe their work. In particular, I am interested in the extent to which this coincides with the official communications they use when recruiting clients for their services.

Let us start from the most general issue: the ecology of urban rats and humans. My interlocutors were quick to criticise the currently dominant forms of environmental management in cities, noting that it is human actions that encourage population growth in rats, which are then exterminated. Some of them also reflected on interspecies human–rat relations, problematising or even challenging the dominant narrative on rats as a species expanding into human habitats.

Rodent extermination in spaces covered by permanent monitoring – such as superstores, food processing plants and hospitals – is usually persistent as a result of legal regulations. The same applies to residential buildings, where the emotions of residents ensure that campaigns remain constant. But it cannot always be said of rat control in public spaces. The people I interviewed often complained about the ad hoc and uncoordinated rat management campaigns conducted by municipal authorities, usually lacking long-term planning. The complicated ownership situation of urban spaces, resulting in the sense of them being "no man's land", often tends to blur responsibility, making it difficult to implement a cohesive rat control policy. This particularly concerns areas that do not directly belong to the city, but to subsidiaries or private owners. As a result, frequently it is only on paper that the twice-yearly rat control drives planned in most cities take place. Practically all my interviewees thought that the lack of a coordinated policy for controlling the city rat population caused a drastic increase in the scale of the problem. They particularly highlighted the public

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procurement law, which leaves administrative bodies with their hands tied by forcing them to give rat control contracts to the companies offering the lowest price, regardless of the quality of service. One interviewee also pointed out that calls for tenders include numerous ambiguities and errors: the emergency, not permanent nature of commissions, the lack of a person responsible in the municipal authorities for receiving applications (resulting in delays), and the lack of guidelines on the efficacy of methods used and clarification of how poisons should be distributed to guarantee safety standards for humans and non-target species.[456] A common argument among the informants was that in order to be effective, rat control of urban spaces should be continual, and not limited to one-off operations.

The policy the interviewees called for encompasses above all preventive actions, meaning design and management of the urban space to make it unfriendly to rats. This could help to stabilise their population at a specific level safe for humans. I did not encounter any support for absolute eradication of these mammals from cities. The reason for this was not just the impossibility of doing so, but also the belief that the disappearance of the species could disrupt the ecological balance, as "nature doesn't like a void".[457]

Although my interviewees differed on many issues, they were united on one: the growth of the rat population is a consequence of poorly thought-out human actions. They particularly highlighted excessive consumption and inadequate waste disposal, causing a proliferation of animals feeding on leftovers. It is worth noting that this diagnosis is in line with the causes of expansion of rats identified by scientific publications (cf. Chapter 1). Here are a few example statements pointing to this problem:

> Poles don't think of cooking soup for two people – they'll cook for 10. And then they throw what's left into the sewer. All thanks to us. Thanks to us being slobs. Separating waste is beyond us. Shopping for food is also beyond us, because Poles are taught that the fridge should be so full that the shelves break. And then when it goes out of date, they throw it in the bin and we invite creatures to come and feed, and reproduce while they're at it.[458]

> To make savings, loads of restaurants throw their food waste in the municipal waste. As a result, out the back of all restaurants there are packs of rats feeding that have something to eat. Apart from that, of course, people also leave a mess, so they throw unfinished hot dogs or hamburgers just anywhere, and practically the whole centre is moving after dark, especially around yards and waste disposal areas, because it's just a gold mine for rats.[459]

456 Informant 4, interview, 10 May 2017.
457 Informant 11, interview, 26 June 2017.
458 Informant 6, interview, 12 May 2017.
459 Informant 4, interview, 10 May 2017.

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> The main reason [for the growth of the rat population] is the fact that people don't throw the food they have left, their food waste, into closed containers, but throw it outside in plastic bags, sometimes torn. You often see that at rubbish bins, that they don't put them into the bin, but lay it down, with the bag burst and some rubbish, lettuce… That's natural food that rodents feed on in nature. That's the first thing. The second thing is […] feeding birds from balconies. Throwing bread. […] The birds peck out the soft part from the slice, and the crust remains. Our citizens from the sewers are waiting for it. They come out at night. And then we have calls to the administrations saying, "We have rats running around by the building!" That's the main reason: humans. Simply humans.[460]

In these quotations, we should note three issues that my interviewees see as key factors encouraging the growth of rat populations. The first is buying, and subsequently throwing out excessive quantities of food products. The second is inadequate waste management procedures: pouring away leftovers into the sewage system (the main habitat of city rats), unsuitable waste disposal containers (open bins, plastic bags that can easily be bitten open) and throwing away uneaten leftovers in inappropriate places. Finally, the third problem they cited concerns feeding animals (in this case birds). All these phenomena result in food leftovers being introduced into the urban environment, and consequently, create an environment friendly to rats.

The problem of throwing away food seems especially worth emphasising as it is a question raised increasingly frequently in the public debate on responsible consumption. Usually in such discussions, the environmental (and ethical, especially in the case of products of animal origin) costs of such behaviours are accentuated. I believe that emphasising the link between food wastage and rat population growth may offer a new, important argument to this debate. The paradox is that rats are usually accused of causing large food losses, mainly as a result of eating and contaminating grains and other products kept in storage. Too seldom, however, is it noted that waste food at the final stages of the food chain (by retail chains and individual clients) is what encourages population growth among these rodents.

The interviewees also identified the connection between feeding popular urban animals and the expansion of rat populations. This issue is worth underscoring, since, while the environmental costs of food wastage seem to be recognised in the public discourse, feeding animals is often regarded as a positive, as a form of bond between humans and nature. Where doubts do arise concerning this phenomenon, they usually concern the question of whether the products offered to birds and mammals in cities are suitable for their welfare. However, my interlocutors' views on this phenomenon are more critical. What is

460 Informant 14, interview, 6 July 2017.

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especially surprising is that they question the widespread belief in the preventive role of cats (especially those fed by humans, which is currently commonplace[461]) in preventing the proliferation of rodents. This is because uneaten remnants of their food are eaten by rats, resulting in population growth:

> They say nowadays that where there are cats there are no rats. […] That's not true. In fact […] the biggest problem was getting rid of rats without harming cats at the same time. So that proves that they were capable of living alongside one another and doing fine.[462]

> I saw these little houses for cats left outside. There was a bowl. The bowl was used by cats, by pigeons and by rats. This far away [he gestures], half a metre, there were burrows made by rats.[463]

> If someone feeds a cat outside their gate, they feed rats. But "the poor little cats", right? I like cats – so I don't come across as some kind of extremist, I like animals in general, and I'd be happy not to use any chemicals, if it was possible to make people realise that prevention is important, and if that kind of culture developed in the country, the problem would be much smaller than it is right now.[464]

It is worth noting that the role of cats in controlling the rat population is also a controversial one in the specialist literature. The prevailing view is that that, while the presence of cats not fed by humans might to a certain extent have a preventive function, those that are fed are unlikely to be interested in prey as uncertain as a rat.[465]

But the problem is a much deeper one. The "green" trends in contemporary urban planning often encourage solutions that, by creating cities friendly to popular animals, at the same time create a rat-friendly space. I am referring to such ideas as "wild", permaculture gardens, unmown lawns, open compost heaps, or indeed feeding programmes for city mammals and birds. In the Polish industry debate, Wiktor Protas, who is affiliated with the PSPDDD, highlights this issue:

> First humans concreted everything they could. At a certain point they noticed that this might not be that great for us. And then the trend of developing green urban spaces emerged, with urban agriculture, vertical gardens, social energy and other ecological solutions. Except that all these activities lead to formation of habitats that are very favourable to various species of animals. And *Homo sapiens* doesn't fancy sharing the common space and food stocks with intruders. Somehow it doesn't occur to us that there's a contradiction. Parks without insects, birds, rodents or other animals? We want

461 Most cities even run schemes to support free-roaming cats, in which free cat food is distributed to informal carers (or animal welfare organisations representing them).
462 Informant 2, interview, 24 April 2017.
463 Informant 12, interview, 26 June 2017.
464 Informant 4, interview, 10 May 2017.
465 Cf. e. g. T. Kolbuszewski, E. Rokicki, "Profilaktyka i zwalczanie gryzoni", op. cit.

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> to live in the forest, but we don't want to be bothered by the creatures whose habitats we've just invaded.[466]

The author identifies an important problem. The debate on "eco-cities" is dominated by an Arcadian narrative concentrated on an idealised vision of nature and displaying those aspects viewed positively in the public perception.[467] However, the ethical costs of such a policy, resulting in an increased rat population, and thus, indirectly, also a higher level of extermination, are displaced from the discourse owing to the symbolic exclusion of rats and the fight against them from the context of nature management. Perhaps the only ethical alternative to "sterile" cities would have to be acceptance of the presence of rats in the human environment, although this would be difficult to achieve for epidemiological, psychological and cultural reasons.

Interviews with two representatives of the management staff of a large pest control company in Poland might give an insight into how suitable prevention might look in the context of control of the city rat population. When they refer to prevention, my interlocutors do not mean permanent distribution of poisons, but activities limiting the expansion of populations of the rodents and rat-proofing of buildings:

> The whole thing is not about dealing with pests. Because dealing with pests itself, in the sense of using chemicals or various procedures that are less or more categorical, is actually just putting out the fire. But how pest control companies should work is that they should make companies and society aware that our role is to create as unfriendly an environment as possible for the development of pests. Meaning ensuring correct sanitary conditions, correct waste disposal, all those things related to production so we don't have to use the chemicals later. […] It's a bit like with smoke detectors. They're for telling you when a fire starts. And the companies that deal with protection against pests should mainly be about monitoring and combatting all the inflammations, reacting to the sources of the problem. And not undertaking operations of mass extermination of animals because there are so many of them that nobody knows what to do with them.[468]

> In the near future, the basis of pest control companies' work will not be fighting pests, but sharing information on them, on how to protect a building to make it unfriendly to rats, and not just buildings, but even whole cities. It's a question of how much a pest control company will be able to share that knowledge and thereby get that kind of

466 Wiktor Protas's blog: protas.szczecin.pl/blog/ (access 3 April 2018).

467 I decided to check how many times and in what contexts words describing animals appear in the flagship publication on the idea of "green cities", Timothy Beatley's *Biophilic Cities*. I found that apart from one page where the author focuses on this subject more closely, the word "animals" is used only 13 times, mostly in such clusters as "plants and animals" or "animal species". The words "cats", "pigeons" and "rats" do not appear at all. T. Beatley, *Biophilic Cities. Integrating Nature into Urban Design and Planning*, Washington: Island Press, 2011.

468 Informant 4, interview, 10 May 2017.

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> listener. […] It's not a question of curing a sick person, but making sure that they don't get sick. More and more pest control companies are interested in being effective not necessarily in super-combat, where you have a million rats and exterminate them all. Those days are past, and we know that this kind of operation will be weak because the problem will soon come back, and we're not actually able to eradicate the rat species from the surface of Europe and the world. So only actions that will prevent rats from reproducing and make rats get out of there and be one of many pests that operate somewhere in the environment because they have to, but won't be in such large numbers where humans live.[469]

The development of the rat population is described here using the metaphor of a "fire", and extermination as "putting out the fire". It is also notable that medical metaphors frequently crop up in this discourse, with the animals becoming "inflammations" and their killing perceived as "curing a sick person". Within these metaphors, the prevention my interviewees called for becomes a "smoke detector" or, to stick to the medical narrative, prophylactic healthcare. While the use of the fire and sickness metaphors in the context of growth of the animal population can be seen as problematic, the message behind it seems important for creating an alternative, more balanced form of rat control. It is especially worth noting the changing role of pest control specialist highlighted by the interviewees, from people performing acts of mass killing of animals to qualified experts sharing their knowledge on ways of preventing the presence of unwanted species in the human environment. This knowledge should concern not just ratproofing specific facilities, but entire cities, i. e. supporting urban planning, architectural and waste disposal solutions in making the urban environment unfriendly to rats. This proposal should be seen as important and useful for further discussions on changes in practices of exterminating these animals. But it is worth remembering that such a solution would require not only a systemic change in rat population control practices (especially coordination of preventive activities at public administration level), but also a profound change in public attitudes.

Opinions on the role of humans in the development of the rat population were not confined to criticism of ongoing administrative activities and residents' behaviour. They were also sometimes accompanied by deeper reflection on the expansion of our species. One interviewee said: "If those rats had been left in peace in the field and we hadn't gone with construction into the fields, their natural environment wouldn't have been violated, and it'd no doubt be different".[470] This view attributes responsibility for the existing problems not to rats, but to humans. According to this logic, it was not rats that expanded into human

469 Informant 5, interview, 10 May 2017.
470 Informant 14, interview, 6 July 2017.

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property, but vice versa – humans annexed the rat's habitat, laying the foundations for interspecies conflict. This statement does not consider the agency of the species, and specifically the fact that rats are a synanthropic species which has lived in the vicinity of humans for centuries and actively sought them out. It seems, however, to be an interesting example of the problematisation, and even reversal of the dominant, confrontational narrative of the rat–human relationship. And it is not an isolated reflection. Another interviewee sketches this vision of the human–rat ecology:

> Rats go about their lives in one environment, and us in another. And we meet in the shared environment that affects us all. […] And, as long as we don't get in each other's way, that's great in this ecosystem. When we do, as conscious humans we want to get rid of something that is … "It's in our place!" I always ask whether they're in our place, or we're in theirs.[471]

Cities are portrayed here as a space where the human and rat habitats intersect. Both species function here on an equal footing, as organisms populating the same ecological niche. Rats are "in our place" as much as we are "in theirs". Statements of this kind by no means question the sense of exterminating unpopular animals, but seem to weaken the dominant anthropocentric perspective. This is replaced by a narrative which views rats and humans as two equivalent species competing on equal terms for resources and space.

Some informants also expressed the view that rats, apart from causing damage and threats to humans, may also play a certain positive role in the urban ecosystem. They particularly emphasised the rodents' role in waste disposal, arguing that this makes them an important element of urban metabolism:

> It [the presence of rats] bothers us, but it might not bother the whole ecosystem. Because the rats are there for something. They're there for a reason. They get rid of leftovers, eat something, remove something. Try telling me that a rat is just a rat. No. They operate somewhere in the ecosystem, somewhere they have a role in the chain.[472]

Other informants called rats "orderlies"[473] or "cleaners".[474] Although this narrative is not dominant and in no way changes the overall negative appraisal of human–rat coexistence expressed by participants in the study, its presence is worth noting. This is because it counterbalances the dominant discourse, by putting the presence of these animals in the city in environmental terms and reincorporating them into the domain of nature.

471 Informant 8, interview, 8 June 2017.
472 Informant 8, interview, 8 June 2017.
473 Informant 20, interview, 24 April 2018.
474 Informant 11, interview, 26 June 2017.

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Despite emphasising the epidemiological threats caused by rats, at times my interviewees also problematised this issue. One stated: "They spread diseases, but the question is: where do these diseases come from? Because if someone with TB throws away leftovers and a rat eats them, it will catch TB and spread it".[475] This statement concerns a very important issue. As with the quotation concerning food wastage, it emphasises the role of humans as being jointly responsible for the problems that in common discourse are attributed to rats. Without denying the role of these animals in transmitting infectious diseases, it breaks the dominant narrative model which sees the rat, as a vector of disease, as "guilty" of spreading pathogens among humans. This is because although the model of transmitting infectious diseases transgresses the species boundaries in both ways – humans can be infected by rats to the same extent as rats by humans – the dominant narrative seems to suggest that this is a one-way phenomenon: the rat "attacks" the human with dangerous pathogens. I see this reductionist approach, with the animal as the aggressor and the human as victim, as one of the main sources of the aversion to these rodents. The above quotation replaces it with an alternative reading based on interspecies transfer of pathogens, with both sides as vectors and simultaneously individuals exposed to infection.

All the people I spoke to offer, to a lesser or greater extent, a full "pest control package", meaning disinfection, disinsection and rat control services,[476] frequently supplementing them with other services such as cleaning, installation of bird netting, disinfection of homes after deaths or deodorisation. Furthermore, in recent years companies are increasingly taking on assignments involving population control of wildlife entering cities. One interviewee with close ties to the PSPDDD told me that he sees this as one of the main fields in which the Polish pest control industry will be active in future.[477] Although this trend remains marginal, I regard it as important. The shift in Polish DDD companies' operations towards what is referred to as pest control in the English-speaking world (potentially resulting in the sector being divided into firms dealing with control of "pests" and those offering typical sanitary services) might help to break up the "pest control package". This could mean rat extermination practices being reintroduced into the area to which I believe they should belong, which is that of nature management.

475 Informant 20, interview, 24 April 2018.
476 Although disinfection services are usually the least popular among clients, who often perform them themselves.
477 Informant 17, interview, 17 May 2018.

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Contract killers: Working in the pest control sector

I would suggest now examining the rhetorical strategies used by rat exterminators to describe their work. These are representatives of a profession that I refer to, following Everett Hughes, as "dirty work".[478] I am particularly interested in two questions: the public perception of rat exterminators' work and the narrative strategies that they use to describe killing animals.

An issue of the *PSPDDD Bulletin* from 2012 cites the following story from the life of one rat exterminator. One time, driving his car, he was stopped by the police. After checking his documents, they asked him what he did for a living, to which he answered, straight-faced, "I am a contract killer". The consternation on the police officers' faces gave way to smiles after the hero confessed that he in fact worked as a rat exterminator.[479]

Interviews with other people in his profession usually reveal a similar ambivalence. On the one hand, they admit that they are "rat murderers", while on the other this declaration is usually tinged if not with humour, then with a certain distance. Even if most informants do not declare an overtly guilty conscience caused by killing animals, they usually feel a moral ambivalence towards their work. The interviews also contain references to the low prestige of the profession, while they also emphasise that the work is essential and socially useful. But we should also note the diversity of attitudes within the group. I met people exhibiting both strong objections of a moral nature towards the work they do (including one person admitting outright that for this reason they no longer want to do it) and those giving the impression of having no such reflections and only emphasising the dangers caused by rats and the need for defending against them.

I will begin this analysis with how rat exterminators describe the public perception of their profession. Some of them clearly refer to how outsiders react to their work and what attitudes towards work in pest control this might demonstrate. One informant tells the following story:

> I am on a trip. Abroad somewhere. I inadvertently own up. I see this [makes a face expressing disgust]. They won't even shake my hand. Half a year later I get a phone call: "Ms X, do you still do that?" "Yes." "Christ, great! Could you come, I have a rat, it came out of the toilet!" I say: "Now I'm good? And half a year ago I was yuk?" But I go there. Until someone is affected by the problem, they say it's "yuk". But when it affects them, they say: "Christ, how great that such people exist!"[480]

478 E. Hughes, *Men and Their Work*, Toronto: Collier Macmillan, 1958, cf. also E. Hughes, "Good People and Dirty Work", *Social Problems* 1962, 10/1, pp. 3–11.

479 T. Bakuła, "Jestem płatnym mordercą", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2012, 1 (68), pp. 43–46.

480 Informant 11, interview, 26 June 2017.

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This quotation has a tripartite structure. In the first part, the informant describes a new social situation in which she found herself (a trip abroad) and the negative reaction of other participants on hearing about her job. The middle section sees a narrative twist: the person previously expressing distaste at the informant's work finds herself in a new situation (a rat in the toilet), leading her to revise her previous reaction and request the narrator's help. The third part comprises a comment that is an attempt to attach meaning to the story: only confronting the problem of the presence of rats gives the ratcatcher's work the appropriate status ("When it affects them, they say: 'Christ, how great that such people exist!'"). The story is therefore based on a model of rejection ("They won't even shake my hand") and symbolic restoral to society ("Do you still do that? […] Christ, great!"). At the same time, rat extermination is described using expressions and linguistic constrictions which might characterise the shame or even taboo surrounding the profession: "do that" (to describe extermination), "the problem" (rats), "these people" (exterminators). The narrator "inadvertently owned up" to her profession, which could indicate anticipation of social disapproval. It is also worth noting the emotional nature of the statement, expressed using non-verbal methods: the reaction of the people she was speaking to, indicated with a disapproving face and loud, emphatic rhetorical questions. This might characterise a rhetorical strategy aiming, on the one hand, to emphasise the rat exterminator's negative social status, and on the other, to attach a higher status to this profession by emphasising its social utility. The linguistic constructions used ("I inadvertently owned up", "they won't shake my hand") also reveal the informant's recognition of aversion to the ratcatcher's profession as something shameful and undesirable. This is neutralised, however, by the situation in which the acquaintance from the trip found herself a year later (with a rat at home), as the interviewee emphatically points out.

This is not the only statement that expresses an affirmative relationship to the work while also acknowledging its controversial nature in society. Similar narratives appeared in many interviews: rat extermination as interesting, well-paid and socially useful work, and yet not enjoying sufficient social prestige. The following quotation is symptomatic of the construction of an identity narrative for the profession:

> Well, they don't exactly treat us like bank clerks. […] For example, when I started doing this job, many people laughed. But as a result, my life is in a better place than it was then. Because I deal with it professionally. If you also like what you do and start to get some benefits from it … We also did it not just for money, but to help someone. We are happy that we can help, it's not the same kind of service as with a bank.

A long digression follows, in which the narrator talks about his previous work in a bank. He sold mortgages there, including to people with a poor credit score,

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which he admits gave him an ethical dilemma. In the context of his previous work, he sees his current job as a rat exterminator as a positive change:

> Someone has a problem. We come and solve their problem. It's a win-win business. I also believe in karma to an extent, so what we give, we get. We leave some positive energy. We try to keep the client informed and maintain positive relations. Perhaps the media should write about how this work is necessary and normal. To respect this profession.[481]

This statement is significant for several reasons. First, the interviewee noticeably uses business-corporate language to describe his work ("I deal with it professionally", "win-win business", "we try to keep the client informed and maintain positive relations"). This is an attempt to place rat control in the capitalist imaginary. At the same time, as in the first interview quoted, he highlights the social utility of this work ("We are happy that we can help", "We come and solve his problem") as well as an explicitly expressed aspiration for social ennoblement and respect ("the media should write about how this work is necessary […]. To respect this profession"). Secondly, we should note that the statement consistently disregards the killing of animals. The corporate language blurs this dimension of the work, meaning that the rodents become an abstract, disembodied problem to solve (incidentally, a similar narrative mechanism also appears in the previous interview, albeit disrupted by the presence of the rat in the toilet, "embodying" the phenomenon that is described). What are present are concepts of spiritual provenance ("karma", "energy"), which place animal extermination in the domain of "positive energy". A third notable aspect is the narrative device juxtaposing the figure of the exterminator with the bank worker. In terms of social prestige, these professions are entirely incompatible: whereas a bank clerk enjoys social esteem, the rat exterminator is often treated with contempt ("many people laughed"). The full statement (passages from which are quoted above) indicates, however, that the narrator's decision to quit working at the bank and start a pest control business instead is viewed as a positive one not only in financial terms ("My life is in a better place than it was then") but also ethically: he regards the work in a bank, preying on people's naivety, as immoral, but rat extermination as a "win-win" business, with not only profit as the objective, but also helping people.

Another informant, who began working in pest control in the 1980s, recalls that at first his heart was not in it and he did this job only because it gave him greater opportunities to support his family than as an engineer, the profession he had trained in. With time, however, his attitude to his work began to change.

481 Informant 7, interview, 23 May 2017.

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> I come for the second or third time to the same building I've done before and suddenly: "A fine job you've done here! It's been peaceful up to now. I didn't think that was possible". And you hear that two or three times and suddenly you change your attitude to what you do, as it actually helps people, they are satisfied and treat you with respect. […] My men [employees] say the same, by the way. And I also have feedback from the other side, what clients say about their engagement and work. So if somebody is aware that they do something well, that it suits others and they say that, this can really bring satisfaction.[482]

The belief that rat control is a form of providing help again appears here, forming a framework for creating a professional identity. Extermination work serves people, and consequently brings the narrator satisfaction. His attitude to the job, which he was previously unconvinced about, was changed by the positive reaction of clients. The job satisfaction is therefore relational, appearing as a consequence of the positive resonance the informant and his employees encounter as a result of going about their duties. As in the previous interview, we see the concept of respect here, which can be regarded as a key element in building an affirmative identity narrative for this professional group.

At the same time, I would suggest that declarations about the social utility of the work might also have a compensatory function. Performing a profession that brings about death makes it necessary to adopt a specific cultural script. For rat exterminators, emphasising the social utility of their duties might be the most readily accessible alternative to the script of the cynic killing animals purely for profit. If this intuition is correct, the "utility" model in the rat control narrative would be a kind of safety buffer protecting the speakers from succumbing to the cultural stereotype of the "contract killer". I also favour this interpretation because, in many interviews, declarations of the usefulness of the work appeared directly alongside expressions of ethical doubts. This gave the impression that my interviewees wanted to justify their ethically controversial actions by noting that even if killing animals is not morally neutral, it is a kind of "lesser evil", which should be regarded positively in the final reckoning.

It is important to stress, however, that not all the informants displayed an affirmative attitude to their duties. Some of their statements contained a different, more negative narrative on rat control work. This was usually associated with recognition of the ethical ambivalence of exterminating animals. Below I quote a statement from one interview that is particularly cognitively valuable. It features several rhetorical strategies aiming to dismantle the cognitive dissonance associated with work in the rat control industry:

> INFORMANT: It's a peculiar line of work. Not everyone chooses it. I wouldn't choose it today.

482 Informant 13, interview, 6 July 2017.

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> GJ: Why not?
> INFORMANT: I've seen too many deaths of the animals, suffering that we cause them. Except I tell myself in a way that it is a kind of defence, so we have the right, because they're invading our territory. But I also compensate for it, because for example I haven't eaten meat for years. I kill here, but score points there [laughs].[483]
> You need to have a strong mind to do this [rat control]. It's hard to get away from it, […] if we say "no", the creditors will eat us alive at some point. But we definitely need to make the people who want to do this kind of job, and are young, realise that over time people's horizons broaden. And they might begin to have a problem with murdering in this way, that the creature gets stuck, it will suffer, and we take short-cuts to make the client more satisfied so they'll be more likely to recommend us. I think you need to be quite a mentally strong person to destroy another species. […] It would be hard to promote this profession by telling young people that it is wonderful, creative, and you can develop. A trade like any other, bringing satisfaction only in that sometimes you have to work out a way to solve a problem. But you're not left with anything. You won't build a house and admire it, you won't make a beautiful cup. You just destroy and destroy.[484]

This statement is notable for the discursive construction establishing killing animals as an action with a negative value attached in moral terms, while also creating a complicated system to rationalise it.

On the one hand, the narrator emphasises the destructive dimension of his work and the lack of tangible effects that might bring satisfaction beyond a sense of short-term problem-solving. Similarly to the article from the *PSPDDD Bulletin* quoted at the beginning of this chapter, here the word "murder" is used to refer to rats, which has strong emotional connotations (and is traditionally not used in the context of interspecies relations). But whereas the word "killer" in Tadeusz Bakuła's text functions within a set, culturally determined phrase, which is at least partly humorous in this context, in the quotation from the interview "murderer" has a literal meaning, accentuating the emotional resonance of the statement. The job of exterminating rats is also compared to other professions which aim to create goods (architecture, designing functional objects), based on the antithesis of creation/destruction. Producing objects that we can later admire is contrasted with causing death, which, according to this narrative, means solely destruction. A negative value is therefore attached to rat control for two reasons. Firstly, because it is connected to causing suffering to sentient beings. Secondly, because it is an act of destruction, and not creation. Yet one gets the impression that these two dimensions are linked here, which seems to be demonstrated by the assertion that "you need to be quite a mentally strong person to destroy another species".

483 Informant 2, interview, 24 April 2017.
484 Informant 2, interview, 24 April 2017.

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On the other hand, this discursive construction employs a system of moral motivations for killing animals that might echo the "neutralisation" techniques adopted by people violating the social order.[485] At a basic level, these actions are motivated by personal concerns connected to the fact that the narrator sees them as a source of sustenance which, at his stage of life, is difficult to exchange for another ("It's hard to get away from it, […] if we say 'no', the creditors will eat us alive"). This personal aspect of legitimation of his actions is also strongly located in the social sphere. When he says, "we take short-cuts to make the client more satisfied", he is referring to the widespread practice of using glue traps, which are fast and effective, but regarded as the most inhumane. This passage can be read as an implicitly expressed belief in the client's shared moral responsibility for brutal methods of extermination, connected to the phenomenon of delegating "dirty work".[486]

At the same time, killing rats is explained not only at the social level, but also in interspecies terms. It is treated as defending humans from animals "invading our territory". The "rat–human" relationship is therefore portrayed as an interspecies conflict within which the binding moral rules are suspended.

These two levels of explanations correspond with the distinction into "excuse" and "justification" proposed by Marvin Scott and Stanford Lyman.[487] An excuse is an explanation that sees the act as morally unjustified but refuses to acknowledge full responsibility for it. In this statement, responsibility is delegated to other social actors, directly (clients) or indirectly (creditors) involved in the moral decision taken by the narrator. A justification, meanwhile, assumes that responsibility is taken for an act while also questioning its morality. In this case, it is a narrative defining rat control as defence from dangerous animals.

The system of excuses and justifications employed here is clearly unstable, however. It is weakened by phrases and linguistic constructions that might suggest doubts over the legitimations used ("I tell myself in a way", "a kind of defence"). Moreover, it is complemented by a third narrative strategy legitimising the performance of the narrator's professional duties – his allusion to his vegetarianism. This does not have the characteristics of an excuse (because the narrator accepts responsibility for his actions) or justification (because he establishes killing rats as an immoral action). The declaration of refraining from eating meat is referred to as "compensating" for the work, which resonates with the psychologising narrative used in other parts of the statement ("you need to be […] a mentally strong person", "you need to have a strong mind", "over time

485 G. Sykes, D. Matza, "Techniques of Neutralization: A Theory of Delinquency", *American Sociological Review* 1957, 22/6, pp. 664–670.

486 E. Hughes, "Good People and Dirty Work", op. cit.

487 M. Scott, S. Lyman, "Accounts", *American Sociological Review* 1968, 33/1, pp. 46–62.

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people's horizons broaden"). Yet the sentence "I kill here but score points there" might also point to an aspiration to moral compensation resulting from working in an industry portrayed in the interview as ethically ambivalent. By constructing his argument in this way, the narrator "saves face" while also questioning the morality of his professional duties.

The following passage shows that the means of ethical legitimation of rat eradication can also follow completely different vectors. To understand the discursive mechanism contained in the statement, it is essential to quote the interview at greater length:

> INFORMANT: I'll tell you something interesting: I've run a business in this field for 32 years. I couldn't tell you how many rodents I've exterminated, but I've never killed a single rodent. I didn't kill them personally. I haven't killed a carp, or a chicken, or a rabbit, I haven't killed anything. I don't kill. Because I exterminate rodents. But it's the clients that tell me about the effects of the extermination. I only select the right poisons to exterminate them. […] I can take the glue trap with the mouse out, clean it, dispose of it.
>
> GJ: But what happens to it? Because you need to finish it off?
>
> INFORMANT: No. It dies slowly. It's best to pack it in a plastic bag and take it out to the rubbish bin. It can't get out of that. It will die in the container. Later they'll take it to the rubbish heap, outside the city, where the dump is, and it will expire there. It will suffer the whole time. But if we take pity on rodents, then tell me what would you do if a rat's paw for example got caught in a snap trap and it was squealing really loudly, what would you do?
>
> GJ: Put it out of its misery somehow.
>
> INFORMANT: But I'll tell you again that I've never killed a creature in my life. And I won't.
>
> GJ: Why not?
>
> INFORMANT: I don't know. I'm soft. I'm a softie. I won't kill anything. Maybe a fly if it bothers me. But I've never killed a creature in my life. My wife called the neighbour to kill a hen and had the carp [a traditional Christmas dish] killed in the shop. I won't kill. I simply won't. That's the way I was raised. And my brothers too. We'll never harm any animal.
>
> As a child I went to my grandparents for the holidays. And once in my life I saw, when my grandad told me to go outside, I was still standing in the doorway, and I saw him cut a sheep's throat. I saw him collect the blood in a bowl, a container. I bawled my eyes out, I remember that my grandma and aunt couldn't calm me down, I wanted to go home, although I was seven or eight already. And that trauma has stayed with me. I won't kill any creature, I won't hurt a person. On the contrary – I prefer to help than to harm. That's how I was raised, I'm sorry. I won't change. […] And even sometimes an employee will say, "Oh, there's a rat running around you." Let it run. It will come to the poison anyway. I won't kill it with anything. I give it attractive food. It will come and eat, and when it goes to be with God, so be it. So what for? It's just a matter of time. […] I

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> almost coexist with them. They wait until I give them food, I leave, they eat, everything is great, everything is fine.[488]

Several questions stand out in these passages. Firstly, the exterminated rodents are clearly present in this narrative – and not (or not only) as a problem to solve, but as living, feeding, suffering and dying animals, to some extent possessing subjectivity ("they wait until I give them food", "it will suffer the whole time", "squealing really loudly", "it will come and eat, and when it goes to be with God, so be it"). The narrator thus highlights the physicality and tangibility of rat control practices, which cease to be something abstract and disembodied.

Secondly, the identity of the exterminator that emerges from this narrative is firmly rooted in relations. But whereas in the earlier quotations this relationality concerned interpersonal contacts (mostly relations with clients), this story emphasises the narrator's relations with rats. They are portrayed as harmonious, based on mutual exchange ("I almost coexist with them. They wait until I give them food, I leave, they eat, everything is great, everything is fine"). Between these two spheres – stark descriptions of the death of animals and harmonious coexistence with them – there is a distinct tension. At the same time, however, the brutality of the displayed practices constitutes a paradoxical manifestation of relationality, which places this narrative in opposition to those utilising disembodied business-corporate language.

Thirdly, two important conceptual shifts can be observed. On the one hand, rat control is distinguished from killing. Whereas killing other animals (in this case – a butchered sheep) is described in a way marking the narrator's emotional involvement ("I bawled my eyes out", "that trauma has stayed with me"), different linguistic constructions are used for exterminating rats – some of them are conventional ("the effects of the extermination", "it will die"), while others are unusual ("expire", "goes to be with God"). On the other hand, putting an animal out of its misery is equated with killing, even when it is intended to curtail extreme suffering. The informant declares that he never harms any animals, but has a peculiar understanding of harm – finishing off a suffering creature counts, but poisoning it does not. He clearly differentiates between "killing" – physically ending the life of an animal with his own hands ("personally") and dealing with them using poison and glue traps ("I won't kill it with anything. I give it attractive food"). According to this narrative, the presence of a technological non-human actor in the form of rodenticide or a trap, mediating between the rat exterminator and the animal he exterminates, takes away his moral culpability.

This narrative construction has the effect of neutralising cognitive dissonance by portraying an internally coherent, upstanding individual. In contrast to the

488 Informant 14, interview, 6 July 2017.

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interviews quoted above, here there is no mechanism of justification or use of excuses, and neither is there the "compensation" employed by Informant 2. This narrator presents himself as a person of moral integrity by using a discursive construction based on the logic that exterminating rats is not killing. This mechanism has particular cognitive value in the context of the story of his childhood shock at seeing a sheep slaughtered. The narrator notes that he retains this sensitivity to human and non-human suffering even today: he will not even kill a hen as he is "a softie". The distinct and emphatic emphasis on his sensitive, good and upstanding nature is used to create a vision of a profoundly moral individual disgusted by violence.

This narrative produces a consistently affirmative vision of the work despite displaying its brutality. Yet this affirmation is based on a different level from the previous statements. In those cases, it resulted from a conviction about the usefulness of the work, and rats appeared either not at all or only in passing (the rat coming out of the toilet in the interview with Informant 11). In this statement, however, the social utility of the exterminator, although implicitly contained, is not the core of the professional ethos he exhibits. The core here is something that is either omitted or only demonstrated within the validation system in the other statements – the informant's relationship with the rats he exterminates. He needs neither justifications nor excuses, as according to the ethics that he professes, dealing with rodents is not killing – and therefore it is removed from the realm of morally dubious actions.

Although this last set of quotations seems to be a classic example of a position based on denial of the cruelty related to killing animals, the dominant statements among rat control professionals show that they understand their role as providers of a socially positive but morally ambivalent service. Most views regard the profession as important and essential, although usually not receiving sufficient social prestige. Some informants also express overt moral objections regarding their profession. I did not meet a single person who declared that taking the life of an animal brought them pleasure, or one that questioned rats' capacity to experience suffering. We can, however, venture the generalisation that the cited narratives treat killing rodents in terms of the lesser evil, the result of a higher necessity – unpleasant but essential.

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"There are some pretty drastic moments": Rats' suffering

One of my informants, asked about the need to limit the urban rat population, admitted that:

> In my opinion, it needs to be limited, but in a way that … [silence] So that we as humans don't feel too bad and can look ourselves in the mirror. If a child screams the place down and shits somewhere, what then, do you kill it? It's at that time and does what it does, you have to understand that. So with rodents, you know that … do you know? We don't know anything. I think they need to be exterminated in a way that we don't cause them unnecessary suffering, like every living creature.[489]

This statement expresses a strong ethical reflection regarding the need for causing pain and death to animals. The belief in the need to "exterminate in a way that we don't cause unnecessary suffering" appears – overtly or as an allusion – in most interviews. But the difficulty lies in determining the limits of "unnecessary suffering".

In Chapter 1, I cited studies according to which the rat control methods currently in use (mainly anticoagulants and glue traps) have the greatest negative impact on the animals' welfare compared to other methods. The questions therefore arise: 1) what awareness do people working in the Polish pest control industry have of the effect of the various methods on the rodents' welfare; 2) why are inhumane methods still widely used, and what is the reason for their popularity? I will focus on a few of the most widespread rat extermination techniques: rodenticides from the anticoagulant group, mechanical (snap, spring) traps and glue traps.

I will start with the fact that, in the industry debate, moral reflection on the cruelty of current rat extermination methods is not entirely absent. Several articles published in the *PSPDDD Bulletin* include reflections either of a strictly ethical nature[490] or concerning the suffering of rodents subjected to extermination procedures using common methods.[491] However, the impact of this rudimentary debate on rat control practices in Poland is dubious. Pietrowicz's article, for example, contains a proposal to adhere to guidelines on euthanasia of laboratory animals in rat control too. Although over a decade has elapsed since this article's publication, there is nothing to suggest that it is still being discussed, not to mention attempts to implement the proposed solutions. In fact, the op-

489 Informant 13, interview, 6 July 2017.

490 Including those of the aforementioned Tadeusz Bakuła in his article "Jestem płatnym mordercą" (I am a contract killer).

491 W. Pieczątkowski, "Humanitarnie – czyli jak?", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2009, 4 (59), pp. 22–23; D. Pietrowicz, "Humanitarne zwalczanie szkodników", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2009, 4 (59), pp. 23–25.

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posite seems to be true: the increasingly strong restrictions imposed on the use of rodenticides other than anticoagulants are resulting in increased use of the latter, while the biological or behavioural immunity to biocides from this group developing among rodents is resulting in greater popularity of glue traps.

As we recall, in the research cited in Chapter 1, mechanical traps had the least impact on welfare (cf. Chapter 1). The participants in my research expressed similar views: that this is usually a rapid and humane method of killing rodents as a result of immediate damage to the spinal cord. Some people, however, emphasised their weaker efficacy compared to glue traps and lower level of safety, especially in public places or those frequented by children. It is also worth stressing that the low impact on rats' welfare applied to well-designed traps, meaning those acting with sufficient impact force for the animal to be destroyed quickly. The design of such traps is stipulated by the Agreement on International Humane Trapping Standards. In Poland, however, this document is not in force, nor is any other with guidelines on trapping, and even the distributor of traps I spoke to considered this to be very much a negative.[492] In practice, therefore, there is no way of verifying whether a trap on sale actually causes a relatively quick death to the animal or only painful injury. Furthermore, the AIHTS guidelines themselves are also far from "gold standard". One issue of the Polish edition of *Pest Control News* cites a survey conducted by Talling and Inglis in 2009 on the time accepted by the public between catching an animal in a trap and loss of consciousness. This showed that almost 30% of respondents declared 0 seconds as an acceptable time, 26% chose 30 seconds, and just 6% said that 300 seconds was acceptable. It is this last value, however, that is the time within which an animal should die according to AIHTS.[493] Comparison of the research results with the legislation in force in the United Kingdom reveals the distance between public perception and practice. We can assume that in the Polish context this distance is even greater – owing to the lack of any binding regulations in Poland concerning the usage of traps, the time it takes animals caught in traps to die is doubtless much longer than the 300 seconds accepted by the AIHTS.

However long the death throes of rodents caught in mechanical traps last, both scientific research and the experience of practitioners show that on average they have a lower impact on welfare than the most controversial such tools – glue traps. Even the founder of the DDD Museum, an afficionado and collector of rodent traps, says that he does not use glue traps because of their excessive brutality.[494] Stories alluding to the cruelty of glue traps appeared in almost all the

492 Informant 21, interview, 3 May 2018.
493 "Pułapki sprężynowe", *Pest Control News* 2014, 8, pp. 10–12.
494 T. Karpiński, oral information, 24 April 2018.

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interviews. I therefore find it necessary to devote more attention to this method than to others.

As with other types of traps, the use of glue traps is not covered by any restrictions in Poland. This means that anybody can use them in any conditions, with no controls either on the frequency of servicing or on the methods of destroying the trapped animals. This method is also often used by rat exterminators because of its efficacy, especially when rodents need to be disposed of quickly. The safety and the "ecological" nature of this method are frequently cited as advantages. This means that it can be used in places in which the use of chemical biocides is not recommended owing to the danger of poisoning humans or other non-target species. As a result, glue traps have earned the reputation of a "wonder" method for dealing with rats wherever other methods fail. Increasingly, however, they are used not as an emergency method, but a standard solution permitting rapid and effective extermination of unwanted rodents. Moreover, unlike rodenticides or mechanical traps, the efficacy of glue traps is less dependent on animals' behaviour – the main hurdle with baits, which rats have learned to avoid. Barely noticeable glue traps are laid in places frequented by rodents. Consequently, there is no need for the animal to "take the bait" or use a feeder; it simply sticks to the glue because it does not notice it. Glue traps are therefore a method allowing the intelligence and mistrust of rats to be circumvented, thereby meaning that the animals can be exterminated more effectively than with other methods. One of my informants described vividly how this looks from a rat's perspective:

> Its paws are stuck, it turns round, the paper surrounds it and it's rolling around in it the whole time. It falls over on all sides and moves, creating a danger for humans if it's in a warehouse, because it's raging, enraged. It could bite if it manages to get out of the trap … It won't get out of the trap, because it'll be wrapped up for as long as the trap is jammed around it.[495]

According to other interviews, rats usually die in such traps from hunger, stress and thirst. The informants also mention the drastic phenomenon of rats biting off their paws and tail to free themselves from the trap. The animals' body parts (limbs, fur, skin, tails) are sometimes found on the glue boards. Such stories (second-hand information to my informants) appeared in most statements on glue traps, suggesting that they are not isolated situations:

> With some colleagues I've often seen that the rat has torn itself off, and there was a lot of blood and hair, so it escaped from the trap, but it caused a lot of pain. I don't know if

495 Informant 8, interview, 8 June 2017.

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> that's a good way. […] I once checked, I put my hand on it and it took a lot of strength to pull it off.[496]

According to a representative of a company producing glue traps, the manufacturer informs clients about recommended good practices for dealing with a caught rat, meaning the need to check traps daily and kill the rodent humanely.[497] In practice, given the lack of binding laws and definition of the concept of "humane killing", these guidelines are difficult to enforce and tend to remain on paper. My interviewees also mentioned methods for speeding up the death of a rat stuck in a trap, such as drowning, striking it with a heavy tool, and even such surprising ones as giving the caught animal an anticoagulant – a substance causing a painful death after several days.[498] The fact that this way of killing the animal was referred to as more humane than hitting it with a heavy object demonstrates a very limited knowledge of animal welfare. Some informants, however, declared that they do not finish the captured rodents in any way ("they die themselves within 12 hours from thirst"[499]). Another person, who expressed a high level of ethical reflection regarding his work in the other parts of the interview, admitted that he sent live rats to be disposed of:

> GJ: So you catch them and then what happens to those rats? They're killed?
> INFORMANT: They're killed, but we have a contract with a company that is prepared for disposal and we deliver them every so often, so when it happens, we deliver and that's it. And I don't look at it.[500]

A moment later, my informant expresses the hope that rats are killed humanely there, adding: "to be honest, I prefer not to know". The mechanism of suppressing cruelty and the inability to confront the suffering of the animal I highlighted in response to a statement quoted in the previous chapter therefore seems not to be an isolated psychological case. It could in fact be a wider phenomenon observed among people working in rodent control. By not doing anything to hasten rats' death, this kind of attitude contributes to prolonging their suffering.

As for the presence of moral objections connected with the use of glue traps, my interviewees held diverse views. Some were marked by a lack of remorse:

> I know that rats are intelligent, but the question is whether they experience pain in the same way as humans. I've never looked into it, although sometimes when I had to finish them off in, let's say, an inhumane way, they made these squealing sounds, so that certainly hurts them. Except that when it comes to squeals of rats, I'm not sensitive to

496 Informant 7, interview, 23 May 2017.
497 Informant 21, interview, 3 May 2018.
498 Informant 3, interview, 26 April 2017.
499 Informant 6, interview, 12 May 2017.
500 Informant 13, interview, 6 July 2017.

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> that. And not because I'm a brute, but just when you deal with that every day you don't pay attention to it.[501]

This quotation mirrors the way many of my interviewees think. They do not deny rats' capacity for pain, still less their intelligence, but they do not declare any pangs of conscience as a result, dismissing the brutal aspects of their work as a higher need ("either us or the rodents"[502]). This attitude no doubt derives from habit resulting from many years of working in the profession, causing indifference to the brutal aspects of their work.

Some statements, however, are characterised by the presence of moral objections regarding the use of this method. This phenomenon appeared frequently enough that it can be considered not just a marginal trend. Below are several examples of quotations that may imply such an attitude:

> There are some pretty drastic moments. […] Glue traps are very effective, but as for the humane aspect … Of course, they're permitted, they should be, but sometimes they're quite unpleasant, especially for the employees […]. We always arrange a phone call, they call and if we can, we collect them [so as not to] leave them for clients, it's not that nice a sight. Unfortunately.[503]

> We have enough humanity that normally the average person should feel something. If there was some poison that, as with insects, permeates the external structures of the insect's body, penetrates inside and kills the creature relatively quickly, that would be OK. If a mouse could, after a minute or half a minute … just fall down dead. But the problem is that unfortunately, they're just … you know, stuck on. As if you got stuck. And you can't move your arms or legs, we just breathe till we're struck down.[504]

Another informant described this method quite simply as the "wicked murder of the rat", adding "It's murdering. Any animal welfare organisation will tell you that you can't murder like that".[505]

Striking in these excerpts from the interviews is the use of strong, emotionally loaded phrases ("drastic", "wicked murder"), along with statements showing attempts to adopt the rat's perspective ("if you got stuck […] we breathe till we're struck down"). One informant referred to the idea of humanity, juxtaposed with the assertion that "normally the average person should feel something". These are, I think, important statements, as they came from people dealing with the death of animals on a daily basis, and thus, one would imagine, used to it.

Views on glue traps among the people using them are therefore highly ambivalent. On the one hand, their cruelty is recognised, emphasised and, as far as I

501 Informant 3, interview, 26 April 2017.
502 Informant 6, interview, 12 May 2017.
503 Informant 9, interview, 21 June 2017.
504 Informant 13, interview, 6 July 2017.
505 Informant 8, interview, 8 June 2017.

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could ascertain, also present in the behind-the-scenes discussions of pest control professionals. Practically every interviewee, when asked about this method of dealing with rats, immediately referred to its cruelty. But the conclusions drawn from this statement varied widely – from declarations that the inhumane nature of this method did not matter to the person in question, to expression of strong moral discomfort over their use. Despite this, almost all my interviewees, including those with radically negative views from a moral standpoint, admitted to using them in their work (at the most, indicating that they do so reluctantly). The paradox of this approach seems to result from systemic and cultural determinants. Given the complete lack of acceptance of the presence of even individual rats in the human environment (a consequence of stringent sanitary restrictions as well as the dominant emotions in society), rat exterminators are forced to use all the available methods to satisfy clients.

The most common method of killing rats, however, is anticoagulant rodenticides, which are currently practically the only rodent control biocides available for widespread use. Theoretically, a permit for registration of a rodenticide is issued in Poland if it has no unacceptable effect on the target organism (meaning that it does not cause unnecessary suffering among vertebrates).[506] In practice, this is a dead regulation as all products registered in Poland are in the group with the greatest negative impact on rodents' welfare. However, while the cruelty of glue traps is widely recognised among people in the industry, anticoagulants are usually seen as humane substances, especially when compared to other methods used previously:

> Poisons nowadays are very humane. They're anticoagulants, this loss of blood clotting causes internal haemorrhages, but they are actually painless for the rodent. Its blood pressure falls and it actually just goes to sleep. It dies painlessly. At least that's what the literature says – that it's a painless death. You see, in the old days strong substances were used that are completely prohibited today, for example zinc phosphide, although I think Fregata still makes something with zinc phosphide. That's a horrible product. I've seen rats dying after zinc phosphide. It's … it's a tough sight.[507]

> For example, one poison that was once used was called, I think, zinc phosphide. Grain poisoned with zinc phosphide. Arsenic or ANTU. I don't know how ANTU worked, but zinc phosphide I do […] although I never bought it, I don't even know who sold it, because I never bought it. I know it was there. But apparently it caused what looked like more painful deaths. As a result, when we received anticoagulants, which, according to the distributors and producers, cause the blood vessels to burst, so like … they put them

506 A. Gliniewicz, "Ustawa o produktach biobójczych", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2003, 2, pp. 41–44.

507 Informant 10, interview, 26 June 2017.

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> to sleep … Then you feel better about them. That's all I can say. [pause] So it's good that I don't have to do it myself.[508]

The informants in these interviews express the conviction that anticoagulants are a poison with a low impact on welfare. Both highlight the differences between animals dying after consuming zinc phosphide and an anticoagulant, favouring the latter. Zinc phosphide is a "horrible product", with the death it causes a "tough sight". Meanwhile, both refer to the death of a rat following consumption of an anticoagulant as "putting to sleep". One of the interviewees suggests overtly that his belief that the rodents die painlessly means that he can retain his mental comfort, without a guilty conscience ("you feel better"). Nevertheless, he expresses satisfaction that at the current stage of his company's development he can delegate employees to carry out operations ("it's good that I don't have to do it myself"), which might imply uncertainty over the humaneness of the methods used.

Several statements, however, included doubts over the low impact of anticoagulants on the animals' welfare:

> Well, these rodenticides are theoretically humane, because anticoagulants cause internal bleeding, so it's a sudden drop in blood pressure. But the question is – I don't know, I haven't had that kind of experiments on me – but is internal bleeding humane?[509]

The prevailing beliefs in the industry about "humane" and "inhumane" rodent extermination methods are problematised by the following statement:

> As soon as that kind of poison [an anticoagulant] is used, at that point the rodent gets an internal stroke, so then for three days it drowns in its own blood. So, in my opinion, that's inhumane too. So for me, the argument that a glue trap is inhumane is not quite right. Especially as, for example, it's often the case that in live traps there are rodents that die of hunger. Because when there are live traps, the client has a checklist and should inspect them every day. But if, for example, you go for one service and everything is fine, and you come a month later and see, say, three mice all dried out, you know the client didn't inspect it. That mouse, of course, has died of hunger. That's not a humane solution either.[510]

The speaker here expresses the belief that defining "humane" and "inhumane" rodent extermination methods is, if not quite arbitrary, then at least highly problematic. This is because the perception of suffering often does not coincide with its actual extent. In defending the use of glue traps, the informant also questions the sense of discussing the cruelty of animal extermination methods.

508 Informant 13, interview, 6 July 2017.
509 Informant 3, interview, 26 April 2017.
510 Informant 16, interview, 13 July 2017.

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As he points out, even anticoagulants, which are also regarded as "humane", are far from flawless in this respect, since they cause the animal to "drown in its own blood".

This interview also contains a reference to live traps, which are widely regarded as the most "humane" method. The informant notes that the rarely used traps have a very negative impact on welfare since the animals trapped in them die of hunger and thirst. This problem is also cited by the subject literature.[511] Another informant questions the humaneness of live traps, even when they are often checked and the caught animals then released far from the facility:

> What does "humane" mean? Is the stress of a mouse caught in a live trap a humane action? No. Is releasing it in an alien environment where there are other mice that could attack it a humane action? I have my doubts.[512]

These statements seem to be justifying the use of cruel methods with the argument that no way of exterminating rodents is entirely free of causing suffering to animals. Even methods widely regarded as "humane" owe this to the fact that humans are not directly exposed to the rodent's pain and stress, such as unmonitored live traps. Another informant puts it bluntly: "there is no humane killing".[513] This narrative suggests that since in any case we do not have the chance to completely eliminate animals' suffering during procedures dealing with them, but dealing with them is a necessity, that means that we should not broach the issue of humaneness when choosing methods of killing.

This line of argument disregards the fact that some techniques are more likely to cause a long, painful death than others. I believe, however, that when considering questions of the perception of how "humane" the methods used in rat control are, it is worth emphasising the distinction between cruel methods from the animal's perspective (that is those with a strong impact on its welfare) and those that are brutal from humans' perspective. As the author of one industry article noted, the method used to kill an animal should be chosen on the basis of its impact on the animal's welfare, rather than the sensitivities of the person performing the act. Although some methods of killing (such as striking with a heavy tool) might prove controversial and difficult to accept on aesthetic and psychological grounds, they usually result in quick loss of consciousness.[514] Methods that might seem "drastic" and "unethical" to observers might therefore

511 P. Mason, K. Littin, "The Humaneness of Rodent Pest Control", op. cit.
512 Informant 12, interview, 26 June 2017.
513 Informant 11, interview, 26 June 2017.
514 A. Ochtabińska, "Zalecane metody eutanazji szczura i myszy laboratoryjnej", *Biuletyn Polskiego Stowarzyszenia Pracowników Dezynfekcji, Dezynsekcji i Deratyzacji* 2004, 4 (59), pp. 22–24.

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also cause a quick and painless death, and vice versa.[515] And yet the contents of the some of the interviews might suggest that for many rat exterminators cruelty is equal to brutality. The visible suffering of animals (e.g. caught in glue traps) causes moral objections, while methods that result in rats suffering in solitude are not usually associated with such emotions. In extreme cases, this might lead to behaviours increasing animals' suffering, such as the aforementioned failure to put rodents caught in glue traps out of their misery.

Out of sight, out of mind: Rats and practices of visibility

When analysing the perception of suffering of exterminated rats, it is impossible not to address the question of invisibility – both of rodents and of the practices themselves. I signposted this problem in Chapter 4, but it is crucial to undertake a deeper analysis of the phenomenon. It is key to the development of social denial of rat control practices, and thus also indifference to their cruelty. I will demonstrate that this invisibility occurs at many levels – from the perception of the suffering of killed rats to their very presence in the human environment.

In the previous subsection, I presented statements according to which unequivocally deeming a method to be "humane" or "inhumane" is, if not completely arbitrary, at least problematic. Yet this phenomenon has an additional dimension: some methods are more likely to make the animals' suffering perceptible to humans. This was the argument one of my interviewees cited, with more than a hint of sarcasm, when questioning how "humane" anticoagulants are in the context of the discussion about the cruelty of glue traps: "In my opinion, it depends on the fact that you see it [the suffering of rats dying in glue traps]. And if a rodent just dies in its burrow from internal bleeding, which you don't see, it's humane. Just because you don't see it".[516]

The view expressed here is that the public perception of a given method as humane or inhumane depends on the visibility or invisibility of the suffering. The method is therefore regarded as cruel or "humane" based on whether the person performing the extermination is confronted with the animal's suffering, or just removes the dead bodies.

The phenomenon of invisibility of rat control therefore seems also to concern the people responsible for the animals' eradication, and thus, one would assume, accustomed to the sight of their death and suffering. It is worth remembering that the rodenticides currently used from the anticoagulant group cause death to rodents only after a few days. As a result, pest control technicians might not have

515 D. Pietrowicz, "Humanitarne zwalczanie szkodników", op. cit.
516 Informant 16, interview, 13 July 2017.

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direct contact with dying animals. But the popularity of glue traps might result in rats' suffering being partially reincorporated into the realm of visibility, at least from the perspective of the people who lay them. This often results in moral discomfort caused by use of the method. One informant says:

> INFORMANT: When we didn't have this [glue traps], I didn't have the same awareness of what we do. I did this job for years and the unpleasant taking of a life was somewhere on the side.
> GJ: Why?
> INFORMANT: Because either the trap did it for me, […] or at the moment when they ate the poisons, I didn't know when they did it, when you found the dead rodents, you didn't see the moment of dying and didn't see the whole tragedy, which … Well, when you don't see something, you don't think about it. And here, at the moment when you see that there's a live creature still stuck on and someone calls: "Oh, here it is, it's thrashing around, it's squealing!", you have to do something about it.[517]

The speaker expresses here the idea that invisibility of suffering is an essential condition for ensuring psychological comfort ("when you don't see something, you don't think about it"). Mechanical traps, which usually cause rodents to die relatively quickly (in comparison to glue traps), and anticoagulants, which result in a long and painful death for the animals, but usually in their burrows, do not confront rat exterminators with suffering in as direct a manner as glue traps, which require them to physically kill the struggling animal or to send it to be disposed of. Their presence therefore increases their awareness of the brutality of their work, meaning that the "unpleasant taking of a life" is no longer "somewhere on the side".

Since mental detachment from the animals' suffering even characterises people who exterminate rats for a living, it concerns ordinary citizens even more. Calling specialist companies out to deal with rats makes it easier for people to distance themselves from the brutal aspects of interspecies relations. Asked whether he thinks that clients are aware of the cruelty of the methods used in rat extermination, one informant replies:

> INFORMANT: They're just fooling themselves by not asking. Subconsciously they know that the rat needs to be killed somehow.
> GJ: Maybe they think it's immediate, fast …
> INFORMANT: I'm telling you: they fool themselves. Unfortunately. […] You know, it's actually a touchy subject, because it's obvious that if there's a ratcatcher, then that must mean that the rat needs to be eliminated. People don't notice that or try not to notice, or pretend that they don't see.[518]

517 Informant 2, interview, 24 April 2017.
518 Informant 1, interview, 19 April 2017.

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This quotation paints a picture of societal hypocrisy surrounding rat extermination. Clients requesting rat control services while at the same time failing to fathom the cruelty inherent in such contracts "fool themselves" and "pretend that they don't see" the suffering of animals. Other informants made similar claims: "They don't want to look at the effects. Neither dead nor caught rodents. Lots want to be sure that everything will be fine, that we're available all hours".[519] "He'd be reluctant to kill one himself, but as there's a company, it can come and sort things out [laughs]". "I don't want to see it, so I'll take it off my conscience for 200 or 300 zloty".[520]

All these quotations contain an element of seeing/visibility of suffering ("they pretend they don't see", "they don't want to look at the effects", "I don't want to see it"). In common with other violent practices against animals (e.g. animal husbandry), the phenomenon we are dealing with here is what I would call delegation of violence. This entails delegating the killing of animals to third parties in order to maintain psychological comfort (precisely what Hughes refers to as "dirty work"). We can assume that this decision to a great extent has a compensatory dimension that allows us to avoid not only the stress resulting from "hunting" for a rat, but perhaps also the ethical objections associated with killing an animal oneself. This intuition can also be corroborated by the information contained in several statements that clients often do not want to look at the results of the rat exterminators' work. The phenomenon of the invisibility of killing rats is therefore also manifested at the level of social behaviours, pointing to a far-reaching level of cultural denial of cruelty.

Yet this denial seems to have a deeper basis than a mere aversion to watching animals suffering. For the shroud of invisibility covers not only killing rats, but also these mammals' very presence in the vicinity of human developments. This phenomenon might be tied to the rat's unique status in the modern metropolis, where it is becoming a symbolic disruption of the social order (cf. Chapter 1). Awareness of the epidemiological threats results in increased sanitary restrictions, while the cultural reception of the rat as a dirty, dangerous animal liable to spread harmful pathogens establishes a "zero tolerance" principle for the rodents in the human environment. In practice, of course, this policy of ruthless extermination does not always function smoothly, especially at the level of public administration. But the dominant conviction remains that rats in areas inhabited by our species are an outrage that requires immediate steps to eradicate the animals.

There are, then, to be no rats in the human environment. What this becomes in practice, however, is that rats are not to be seen in the human environment. This

519 Informant 9, interview, 21 June 2017.
520 Informant 2, interview, 24 April 2017.

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phenomenon can be explained by the ecology of these animals, which are usually hidden away. If they start to become outwardly perceptible, that might mean that their population is large. I believe, however, that the societal emotions connected to seeing a rat in an area inhabited by humans have deeper cultural foundations that might be linked to phenomena of taboo, shame and reputation. As one of the informants claimed, "People are often ashamed. A lot of people think that it [the presence of rats] means dirt and filth".[521] One industry article discussing the merits and drawbacks of marking pest control company vehicles reads: "The opponents of branding vans point to the expectations of some clients who might feel discomfort or shame from the presence of a pest control company's vehicle on their property". The article then quotes a representative of one company, who recommends leaving words referring to rats out of company names and opting instead for a neutral name or one associated with environmental protection.[522] The sense of shame that comes from observing rats in one's environment may result from a symbolic osmosis: the negative stereotype of a rat spreads to the space it lives in, as well as, indirectly, its inhabitants.

This has a direct impact on extermination practices. A good illustration is the following answer to the question of why the interviewee uses glue traps, despite considering their use morally dubious:

> The problem is that as long as control institutions such as the health inspectorate or public opinion demand that in a pharmaceutical factory or hypermarket no one's allowed to see … Well, if there's a mouse, but nobody sees it, that's not the end of the world. But no one's allowed to see either a mouse or the effects of the mouse. You know, because there might be bacteria, and we can't have any bacteria. Also in a situation where there's an institution with a high level of hygiene or security and where there can't be any rodent. But it's not possible to make sure that one can't get in – they can always get through. So then they call us. And what am I supposed to do then? I can't play the pipe to make it leave.[523]

"No one is allowed to see" rats or mice or the effects of their activity. What is striking here is that the speaker uses a phrase potentially implying the symbolic conflation of the unwanted rodent with pathological microorganisms ("you know, because there might be bacteria"), with palpable sarcasm, to describe the animals' reception in society. But if "nobody sees it, that's not the end of the world". This statement leads to the conclusion that the current sanitary norms are excessively restrictive.[524] This might result in a situation in which animal

521 Informant 7, interview, 23 May 2017.

522 "Samochód – wizytówka czy nie?", *Pest Control News* 2015, 9, p. 12. Based on: "Your Van: To Brand or not to Brand?", *Pest Control News* 2014, 101, p. 31.

523 Informant 13, interview, 6 July 2017.

524 Other informants expressed similar views. According to one, "factories are protected as if venomous snakes were about to get inside", Informant 2, interview, 24 April 2017.

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extermination is carried out using all available methods, even if the likelihood of their harmful impact (e. g. in the form of contamination of food) is extremely low. In such situations, the animals must usually be disposed of at all costs and as quickly as possible. Glue traps appear to be the only reliable solution. My informants' statements therefore suggest that the reason for the widespread use of glue traps is not so much the preferences of rat exterminators, for whom their use tends to be associated with moral and/or aesthetic discomfort, but rather social and legislative determinants and the expectations of clients wishing to get rid of rodents without considering the ethical costs involved.

The city of Wrocław, widely regarded as having a serious rat problem, is proof that the perception of the threats associated with the rats has a distinctly sociocultural dimension and is more about practices of seeing than actual risk assessment. This city is in fact home to one of the most coordinated and large-scale operations to reduce the population of these animals – from general rat control drives held as many as three times a year to education and information campaigns. Wrocław's interest in rats intensified markedly after the flood of 1997 and the creation of a study monitoring the size of their population in the city (to date the only one of its type in Poland).[525] Only after the flood was the size of the population ascertained. According to one of my informants, a rat control professional from Wrocław: "There weren't more rats; there were even fewer, in fact, because some drowned […] The groundwater went up and they came out. And suddenly it turned out that people saw there were five times as many as there had been previously".[526]

Society's perception of the huge number of rats in Wrocław is thus a consequence of a specific phenomenon – a flood that caused the surviving animals to come out of their inundated burrows. The informant makes it clear that this event did not increase the rodent population. On the contrary, it decimated it. But what it also did was to ensure that rats, which had previously lived in hiding, came out into the daylight. Media reports and amateur videos showed surviving rats in trees, on cars and in part of the urban infrastructure, making residents aware of the scale of the problem. We can therefore assume that the idea of Wrocław being a particularly rat-infested city has a distinct historical basis and is connected to the animals' presence in social awareness. A natural phenomenon, in the form of a great flood, contributed to making the mammals present in the sphere of visibility, and thereby also to the intensification of efforts to exterminate them.

By examining the sociohistorical dimension of the perception of the presence of rats in Wrocław, I do not mean to question the existence of an extensive rodent

525 Z. Jopek, S. Klimentowski, M. Szarycz, *Badania monitoringowe określania liczebności populacji szczurów,* Wrocław: Akademia Rolnicza, 1997.

526 Informant 13, interview, 6 July 2017.

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population in the city.[527] I am also not suggesting that the problem previously went entirely unnoticed. When discussing the presence of rats in the human environment, however, it is important not to ignore the fact that it is connected not with the actual size of the animal population (which was never precisely estimated[528]), or the risk they generate (which is even more difficult to gauge), but with intersubjective cultural perception. Rats become a problem not when their population exceeds a specific risk threshold, but when their presence becomes noticeable, and thus perceived as a threat to the human community. The key in the process of designing and implementing operations to exterminate these animals, therefore, is not so much the threat they pose as the cultural perception of this threat.

It is a similar story with the perception of rats' suffering. Since this is imperceptible, and practices operate underneath a shroud of shame and silence, it is not reflected in discursive practices. The phenomenon of equating suffering with its visibility can even be observed in the statements of rat exterminators, those who are the least mentally detached from the animals' deaths. Imperceptibility therefore fundamentally organises the sociocultural practices of both the presence of rats in the human environment and their extermination.

"They were told to be afraid". Public responses to rats

Let us now look at what rat exterminators think about the threats caused by rats and the public perception of the animals. In other words: why do they think people are scared of rats and fiercely fight against them?

Let us begin with the fact that the deploring, hostile attitude towards rats is not absent in the words of their exterminators. One of my informants described his attitude to them as follows:

> I find, although it's my job, I find rats repulsive. The boys [employees] also react similarly, although they're used to it. […] They disgust me. Rats. They just cause these reflexes in me. It's less so with bugs, but especially with rats.[529]

527 Wrocław's large rat population is usually explained by the extensive system of watercourses and the specific architecture, based on a prewar network of underground reinforcements (*Festung Breslau*), giving the animals a living space.

528 My informants from Wrocław were sceptical about Jopek, Klimentowski and Szarycz's research, involving installation of sensors in the city sewer network recording every movement by a rodent: "How do we know whether the same rat ran past five times, or five different ones?"

529 Informant 1, interview, 19 April 2017.

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Opinions that "these are not pleasant creatures"[530] or that they are "filthy things"[531] also appear in other interviews. This kind of statement might deliver the most typical examples of negative stereotyping of rats as animals causing repulsion and disgust, even more so than exterminated insects.

It is important to note, however, that such views were rare in the surveyed group. The overwhelming majority of informants did not express any aversion to rats. They emphasised the animals' intelligence, although this conviction was not usually based on stories from their own experience and may well have been a reproduction of common knowledge. What is also worth noting, however, is the high number of opinions emphasising the sociocultural nature of aversion to these mammals. One participant in the research said: "This social transmission is there somewhere. I think it goes back a long time, a kind of family transmission. Because 'rats are the worst possible thing', right? That's become the cliché".[532] Another interviewee argues that:

> Rat phobia was created in humans. They don't like rats because you're not to supposed to like them. They're afraid of rats because they were told to be afraid of them. I'll tell you what: 90% of the clients I know claim that they don't like rats because they have an ugly tail. Really! They say that if they had nicer tails or didn't have a tail, they wouldn't be so ugly.[533]

Two important themes appear here which, in various forms, come up in many of the interviews. Firstly, the idea that the anti-rat sentiments widespread in society were "created". In other words, in this opinion aversion to rats is not so much a "natural" phenomenon as a cultural construct which is a consequence of specific social mechanisms and discursive practices. The whole statement leads to the conclusion that the informant sees anti-rat affect as disproportionate to the threats they cause and was secondarily created and then naturalised. This means that the social phobia directed against rats results from conformism, a culturally generated reflex but not a consequence of personal experience ("They don't like rats because you're not to supposed to like them. They're afraid of rats because they were told to be afraid of them"). The informant does not specify the mechanisms she is pointing to. I believe, however, that this statement can be treated as an intuitive recognition of the set of cultural practices of "creating the Other", to which I shall return in the final chapter.

The second recurrent theme is the motif of the rat's tail. My informants note – usually with distinct sarcasm – that their acquaintances and clients most often cite this part of the rat's anatomy as a reason for the strong aversion to the animal.

530 Informant 3, interview, 26 April 2017.
531 Informant 15, interview, 13 July 2017.
532 Informant 14, interview, 6 July 2017.
533 Informant 11, interview, 26 June 2017.

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We could debate whether emotions of this type are a consequence of the tail's "snake-like" shape. If this intuition is correct, the dislike of rats could have roots in older codes of Western culture associated with equating snakes with the underworld, or even, to cite biblical sources, with the devil. We also cannot rule out atavism from a genetically coded fear of shapes resembling snakes. What does seem certain is that the social phobia over these rodents has a markedly aesthetic basis.

In some interviews, the fear of rats' corporeality becomes downright humorous:

> GJ: Why do you think people are afraid of rats?
> INFORMANT: "Because they have a tail", as one lady told me. "Because they have teeth. Because they're unpleasant. Because they smell bad". I ask: "Have you smelled one?" "No, but they definitely smell bad". Because they run fast. I always ask: "Do they have big eyes?" "Oh, I haven't looked that closely". That's a kind of how a conversation with a client went.[534]

This quotation, in its grotesque and exaggerated depiction of the way the client of a pest control company thinks, seems to be an emblematic representation of the stereotype mechanism. The client's views are not based on personal experience, but are a cultural cliché, reproduced without reflection and constituting the core of the social phobia. The rat exterminator distances himself from this kind of narrative and clearly ridicules it. The question "Do they have big eyes?", a reference to the story of Little Red Riding Hood, places the client's concerns in the realm of fantasy and myth. The informant is therefore suggesting that he does not share this kind of phobia or see any grounds for it.

The informants were also sceptical about reports of rats attacking humans. None of my interlocutors admitted to ever having felt threatened by the animals while carrying out their professional duties. Some believed that the media were to blame for perpetuating the myth about rats attacking humans, "manipulating a little bit"[535] and "whipping up moods, causing phobias".[536] The interviewees said that when rats do attack, this is usually because of human behaviours which the rodents perceive (often rightly) as confrontational. As one rat exterminator put it, "We poach on their territory, so then they're dangerous".[537] Another argued that:

> A rat won't attack a human unless we go into its home, for instance the sewer, and scare it […] There are loads of myths about rats attacking someone. That's all rubbish, because a rat can indeed attack someone or fight if it feels threatened. But if you stand at

534 Informant 8, interview, 8 June 2017.
535 Informant 3, interview, 26 April 2017.
536 Informant 4, interview, 10 May 2017.
537 Informant 8, interview, 8 June 2017.

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> one end of the kitchen, and at the other end a rat is eating food from your dog's bowl and you don't react aggressively, the rat won't care about you. It has an excellent sense of your mood and knows if you're aggressive or not. If not, then it will even be friendly with you. Rats are not aggressive. That's rubbish.[538]

The view expressed here is that, contrary to common belief, rats are not characterised by a high level of aggression, and without provocation are unlikely to attack a human. The first sentence of this quotation is worthy of note: the informant treats the spaces inhabited by a rat, such as sewers, as its "home" and the appearance of humans there as "going into its home" and "scaring" it. I find this construction interesting as it inverts the established thinking which sees rats as "invading" the city, the "home" of humans.

The informants' views distancing them from rat phobia do not question the need for exterminating these animals. Practically all of them note that they regard regulation of the population as a necessity:

> They should be exterminated, but they multiply because of us. So if part of the population gives them food and the conditions to multiply, there need to be people who keep it in check so that it doesn't multiply to who know what numbers, because that would be a threat to humans.[539]

> If we lose control over something and don't control what we might have tethered at a given moment, then that something will just eat us up or attack us.[540]

> Every action that aimed to limit, not even eliminate, but limit the rodent population, made sense. Because if we had let it loose … […] I'm not an enemy or an opponent of rats. Rats, like any other being, also have the right to live. Except that they just reproduce a little bit too fast. They take advantage of every place, every chance to reproduce, to get food, and in doing so destroy our work.[541]

The need for exterminating rats is therefore motivated by human responsibility: since we are the ones to blame for the animals' proliferation, it is also our responsibility to deal with them. Linguistic constructions associated with maintaining and losing control are used ("keep it in check", "control", "tether", "let it loose"), with keeping control positively evaluated, in contrast to loss of it. This seems to reveal a certain level of concern regarding the possibility of "letting it loose": "a threat to humans", "it will eat us up or attack us".

The use of the Polish neutral form *to*, meaning "it" or "this" to refer to rats – as opposed to the more usual *on*, meaning "it" but also "he" – might indicate that they are disembodied and treated as an abstract, impersonal element, rather than as flesh-and-blood animals. One informant also emphasises that she is not an

538 Informant 4, interview, 10 May 2017.
539 Informant 6, interview, 12 May 2017.
540 Informant 8, interview, 8 June 2017.
541 Informant 11, interview, 26 June 2017.

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enemy of rats, which also have the right to live, "like any other being". But because they reproduce too fast, steps need to be taken to regulate their population. Noticeable in this statement and many others is the lack of negative emotions towards rats. Extermination of the rodents is rather incorporated into the narrative of controlling nature than one of a fight.

A kind of tension can therefore be observed in the informants' statements. On the one hand, rat exterminators clearly distance themselves from the social phobias surrounding rats. On the other hand, however, some of them to a certain extent adopt a fear-based rhetoric. We can thus deduce that exterminators' attitude towards rats is characterised by ambivalence, manifested by distancing themselves from the phobia, while at the same time – no doubt subconsciously – using linguistic structures characteristic of it. I suspect that this ambivalence is the result of my informants both rooting the discursive practices associated with rats in a confrontational imaginary and making a complicated, ambiguous assessment of the phenomenon. We can assume that, while they regard the level of society's phobia towards rats as exaggerated, they also recognise the threat the animals pose, expressing it using widely available and established language structures.

Some informants also expressed admiration for the mammals – their adaptive capacities, flexibility, resistance and intelligence. This stance is illustrated well by the following statement:

> I'm full of admiration for this species, in spite of everything. I don't have any phobia; it doesn't give me pleasure … to eliminate these rodents. I absolutely don't get any pleasure from it. If one gets caught. But it needs doing. But you must appreciate nature for developing a species that is so ubiquitous and well adapted to survival.[542]

This quotation expresses respect for the animals while also acknowledging the need to deal with them ("it needs doing"). The speaker makes it very clear that killing animals (which, after a distinct pause, he refers to as "eliminating") is not pleasant for him, and the repeated emphasis of this stance – adding the word "absolutely" in the second case – may imply a certain ethical reflection. Rats in this narrative are equal opponents for humans, worthy of appreciation and to which the author refers with admiration.

Finally, I would like to quote one more passage that seems extremely important in the context of the process of creating the Other. One informant, referring to his childhood experiences, creates the following analogy:

> In the population there are people who have always had to deal with rats – my grandparents did, because they lived in the countryside and rats were part of the environment. But there are also those who have heard the name rat as something pejorative, but also

542 Informant 9, interview, 21 June 2017.

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> disembodied, without its own essence. Simply a rat. Like … when I was a child, I heard that something is "Jew". I didn't know what it was, this "Jew", but that it was something pejorative, that was how it was seen in the 1960s. Only later did I find out that it's a nationality, the normal human race, the same people. But in my consciousness, it functioned as something … That I'd be ashamed of if I was, I don't know. The same with a rat.[543]

The informant highlights the lack of direct, everyday contact with rats, which we can infer to apply to people living in the city, cut off from contact with nature. This detachment results in the animal's disembodiment and mythologisation, meaning that it is no longer a living and palpable – albeit troublesome – fellow resident, "part of the environment", instead becoming a symbol of something "pejorative, […], disembodied, without its own essence". The mechanism my informant is referring to is distinctly reminiscent of the phenomenon of creating the Other in human communities – a mechanism which commonly becomes a preliminary condition for organised forms of violence towards the excluded groups and individuals. This is based on the lack of a direct relationship with representatives of the negatively evaluated group, resulting in creation of an imagined figure, filling it with undesirable characteristics, and then inciting violence.

The most interesting thing about this statement, however, is that it is not confined to the level of allusions or intuitions, but draws direct parallels with the antisemitic mechanism by comparing rats to Jews. The imagined representative of this nation from my interviewee's childhood is not so much a person viewed negatively owing to specific socially assigned characteristics, but an unclear, unspecified, yet also shameful phenomenon whose essence for a young child (as my interlocutor was at the time) is entirely untested. It seems to be no accident that the speaker uses the form "it" to refer to his then perception of the word "Jew" ("I didn't know what it was, this 'Jew'"). After all, in the imaginary he is referring to, a Jew was not "someone", but "something" – a dangerous yet abstract figure, an embodiment of a negative stereotype.

The use of the stereotype of a Jew from antisemitic ideas to describe the contemporary status of a rat is part of the mechanism of creating the rat as the Other. As in the case of Stalinist posters, also in the contemporary social perception of the animal a process takes place in which living, embodied animals (which modern city residents are increasingly unlikely to encounter) are differentiated from their imagined status, in which they become the carriers of the worst qualities. This distinction, which leads to rats ceasing to be ordinary animals and assuming the status of a phantasm, becomes the boundary condition for their ruthless extermination.

543 Informant 13, interview, 6 July 2017.

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The above analysis reveals rat exterminators' ambivalent but also highly reflective attitude towards the animals they are responsible for eradicating. Despite their practically unanimous justification of rat control practices, which are usually their main source of income, most of my informants distance themselves from the dominant social views on rats. Furthermore, a certain trend can be discerned in which the most surprising reflections on the species' role in the urban ecosystem and relations with humans came from those interviewees who have been working in the industry the longest. This might be a coincidence, but I believe that many years of daily practice exterminating animals inevitably leads people to ask questions about the purpose and point of their work, as well as to quasi-philosophical reflections on human–rat relations. The embodied experience of the people exterminating animals, which comprises dealing with their suffering and death as well as legislative restrictions and citizens' emotions, allows them to gain greater distance from the myths and stereotypes dominant in society.

This does not mean to say, of course, that the perception of rats in the eyes of their exterminators is free of stereotyping of the animal. Indeed, even my informants' positive opinions on rats frequently bear a striking similarity to the most widespread myths about the rodents (e. g. their incredible intelligence). But this does not change the fact that the image of the rat that emerges from the interviews is remarkably nuanced. It often explores the margins of the discourse, which are ignored or seldom explored in the dominant narrative on the rodent. Based on the quoted statements, therefore, we can conclude that exterminators see rats as bothersome, excessively reproducing, but intelligent and ubiquitous mammals sharing a common space with humans, as well as the subject of a myth-based, culturally generated phobia.

These views can be regarded as important for expanding the field of debate as they are based not so much (or not only) on stereotypical notions of rats, but also on practical, everyday experience. They may therefore prove useful in the process of "demystifying" stereotypes about rats and creating alternative models of relations not rooted in anti-rat stereotypes.

"Ceasefire" spaces

I will conclude by citing three stories about surprising forms of connections between humans and rats. The first concerns a relationship between humans and rats in the Royal Baths (Łazienki) Park in Warsaw, the second is about the social perception of wild rats compared to those in captivity, and the third involves the animals' presence in Silesian coal mines. None of these stories fulfils the criterion of being typical, as they are cases that deviate from the norm rather than con-

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firming it. It is, however, worth emphasising their presence and considering what cultural norms associated with relations between rats and humans are problematised in these statements. Analysing them can provide an important starting point for efforts to create alternative forms of imagining the relations between humans and urban rodents. Despite their major differences, there are distinct points where the stories meet, and for this reason they are quoted one after the other.

Story 1:

> I was once doing a job in the Royal Baths Park […] Rats there had already started living among humans, just walking around. They were eating bird food, people would come and throwing grain and the rats would help themselves to that too. And those rodents had a lot of supporters, myself included. If not for the fact that they paid me to destroy them, I wouldn't have done it. A rare occasion to watch them from a distance of one and a half metres. And do you know what fun they were having? […] Some people were against them being there, because they come with their children, because it's a threat and so on, and there were some people who thought it was a crime that they'd been destroyed. When I visited in civvies – because I did my work at night, when the park was closed – and listened to what people were saying, some of them wanted to string me up. I came across opinions that the management should have been poisoned [laughs].
>
> […] They don't want to see them, they don't want them to run across their plates, to live in their flats, but if they're in a park, for example, they treat it as a curiosity, they observe a species, feed it, even make friends with it. Some people gave the rodents names. That was what the atmosphere was like. So there were people who were outraged – photos were shown and videos put online of rats in the water swimming among the ducks. And there were also people who came specially to feed that species, and here it didn't bother them at all.[544]

Story 2:

> I had this call-out a few years ago where a lady informed me that she bred rats. "What do you mean you breed rats?" "I breed rats, but captive ones." And indeed, I went there, lovely rats. And rats from the outside were breaking into the captive ones. "These nasty black ones", and so on. I actually didn't see that "nasty black rat", but I put a number of safeguards in place, and when I was putting them in, the lady's daughter came in. "What are you doing?" I said, "Well, I'm putting in …" "I'll call the police!" And she did. The police arrived. Really! I had to explain why I was doing that at this lady's place. I say, "Because this lady reported it". Fortunately, I had it in writing that she'd reported it, safeguards and so on. And the two ladies were facing each other, daughter and mother. And the mother says yes, because she wanted safeguards. "No, because this man will

544 Informant 2, interview, 24 April 2017.

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> murder the rats too." He'll murder the rats too! So I took everything down, "Officers," I said, "Thank you very much for the intervention, I won't be doing anything here."[545]

Story 3:

> In coal mines, although there are rats there, they're not exterminated. In fact, I know people who feed those rats, they live in symbiosis with them. The miner comes for his shift and shares his sandwich with a rat, because they're needed there. They're the first to warn. They have a sixth sense and detect dangers, so rats are not exterminated there. For so many years I didn't have any calls, although I live in mining territory, to exterminate rats down below. On the surface, sure. But that's not done in the mine.[546]

All three stories show splits in the prevailing ideas about human–rat relations. In the story about the Royal Baths Park, this split appears in two places. The first is connected to the space in which rats are found ("they don't want them to run across their plates […] but in a park […] they treat it as a curiosity"). The second is located within the human community, some of whose representatives are willing to accept the presence of rats in the park, while others are firmly opposed. The ambivalence surrounding the presence of rats in the human environment is therefore based on lack of clarity over whether their presence in a park, in which they pose no threat, is similarly unacceptable to their presence in the immediate proximity of humans. In the second story, the split runs between wild and captive rats. Although they belong to the same species, the elder protagonist assigns a radically different status to the representatives of the two populations, treating the captive rats as desirable animals (and perhaps as family members), and deciding to exterminate those entering from outside. The third story, meanwhile, presents a vision of the coal mine as a special space in which the human–rat conflict is suspended. Whereas in the first two narratives the presence of rats in a space inhabited or visited by humans becomes a source of conflict (people feeding the rodents versus advocates of their extermination, mother versus daughter), the one about the coal mine portrays a vision without tensions, a human–rat symbiosis. Even if such tensions do exist (in reality, one imagines, not all miners are equally friendly towards the mine-dwelling rodents), they have been removed from the narrative, creating the basis for an (Imagined?) interspecies idyll.

The first story describes the controversies caused by the animals' presence in one of Varsovians' favourite spots for a Sunday stroll. Although the conflict between the supporters and opponents of rats is made clear, what is particularly emphasised is humans' fondness of these mammals. Interestingly, the research participant includes himself among the rats' supporters – both explicitly ("myself

545 Informant 8, interview, 8 June 2017.
546 Informant 10, interview, 26 June 2017.

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included") and by constructing a narrative ("do you know what fun they were having?"). In doing so, he makes no attempt to counter his sympathy for rats by justifying their extermination. On the contrary, he makes it clear that he took this job exclusively for financial reasons ("If not for the fact that they paid me to destroy them, I wouldn't have done it"). The informant also points out that, although he thinks that the rat population in the park could cause some damage to its ecosystem, for many years the population had remained constant without creating any particular epidemiological or economic threat to humans.[547] The rodents are therefore regarded as an integral part of the park ecosystem. Furthermore, visitors to the park were giving them names. I find this information especially valuable. The cultural process of giving names suggests something more than simple acceptance – it establishes a personal relationship, forming a symbolic inclusion into the community. We can therefore assume that in this story rats attract even greater interest than the park's typical residents such as squirrels, mallards or swans, whose ubiquity means that they seldom inspire such excitement. The presence of rats in the park becomes a phenomenon, appalling some and fascinating others.

This surprising and sometimes even positive attitude of humans towards rats settling in green spaces is not confined to the Royal Baths Park in Warsaw. The media in Łódź described a similar story a few years ago, reporting that people in the city's Poniatowski Park were feeding crisps to the rats living there.[548] I experienced similar occurrences in 2017 when observing a tree-lined square at the corner of Szewska and Oławska streets in Wrocław. Although I did not see anyone feeding the rats there, there was a lively interest in their presence, and some people (including families with children) were taking photos. It is important to note that the square in Wrocław, located in a prestigious spot around 100 metres from the Old Town Square, has a different character to city parks. This is particularly because of the proximity of housing (the square is surrounded on three sides by apartment blocks) and food outlets which back onto it. That might lead to justified concerns about the sanitary and epidemiological situation, es-

547 "In this particular case, in my opinion they did some damage as they could indeed destroy small birds and eggs. But there weren't many of them. I observed the situation […] twice over around two years for a few months. The first time there were two herds of rats. One lived by the Palace on the Isle, and the other lived by this bridge between two ponds. They had their burrows there, birds were fed and therefore there were feeders for them, so they fed together with those birds. […] And, as I said to the staff, someone could even do research there – they'd lived in the Royal Baths Park for years. And there were always two herds and never more than 20 or 30 individuals. […] It was amazing that they never built the population to huge proportions. They knew how much food there is and those two groups lived there" (Informant 2, interview, 24 April 2017).

548 "Szczury biegają po parku", *Dziennik Łódzki*, 22 June 2011, www.dzienniklodzki.pl/artykul/418256,lodz-szczury-biegaja-po-parku-filmzdjecia,id,t.html (access: 22 August 2018).

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pecially as the rat population was exceptionally high here. And yet the reactions that I observed were diverse, and certainly not limited to unequivocal condemnation.

Returning to the Royal Baths Park, the reason for the positive reactions to the rodents' presence might be the fact that the park is some distance from human settlements. It can therefore be treated as a symbolic "ceasefire" space, in which the aversion to rats is suspended and they are treated as just another species inhabiting the urban green areas. The views quoted by my informant (describing rat extermination as a "crime", calls for the management to be poisoned, and the claim: "they wanted to string me up") might suggest that the reactions of at least some park patrons were highly emotional. Moreover, the way the narrative is performed ("When I visited in civvies – because I did my work at night […] – and listened to what people were saying") suggests associations of rat control with something undesirable, carried out covertly and socially unacceptable, like a criminal offence (or even "crime"). For the people making such judgements, rats are no longer unloved pests, but a species inhabiting the park ecosystem, with which an interspecies relationship has been formed. Their presence in this specific area has thus been naturalised, becoming something acceptable and even desirable. One suspects that the same people would not be willing to accept the presence of rats in their homes. Yet the very occurrence of such a phenomenon means that rat control – at least in a space like a city park – rather than being self-evident, becomes controversial.

The second narrative also paints a picture of a "ceasefire" space. It is different from the Royal Baths Park story, however, owing to the presence of two distinct rat populations – wild and captive – to which one of the protagonists ascribes different values. The story is told using interesting linguistic devices. "Nasty black rats" were "breaking in" to the space of the "lovely" domestic rodents. The fact that the rats inhabit a specific space (home/yard) creates a division into two categories of animals: domesticated and thus accepted and desirable, and "invaders" from the outside. The symbolic differentiation of the two animal populations can be linked to a cultural model of inside/outside and a consequent in-group/out-group mechanism. The "breaking in" of free-roaming rodents to a home inhabited by beloved pets has a transgressive potential, disrupting the existing divisions. The attitude of the older woman in the story suggests that this distinction into two categories of animals – domestic and wild, pampered and undesirable – also has ethical implications. I find it interesting that a person breeding domestic rats also orders the extermination of animals of the same species. It is worth emphasising the discrepancy in the language used to describe the killing of animals – for the narrator (and, by implication, also the mother), these are "safeguards", and for the daughter, "murder".

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The controversy between the mother and daughter essentially concerns who is acceptable in the "ceasefire" space of the apartment, and on what conditions. Rodents crossing the boundary marked by humans – separating the desirable population from the undesirable one – become a violation of the status quo. As something "not in their place", they become a symbolic embodiment of the dirt Douglas refers to, which is a disturbance of the social order. On the other hand, wild rats, which often live in sewers and other places that are hotbeds of pathogens, could have caused a genuine increased risk of infecting the domestic (meaning healthy) population of their cousins with potentially deadly diseases. The mother's behaviour can therefore also be interpreted in terms of protecting the domestic population from external pathogens. This story brings to light the ambiguity of ethical decisions, allowing us to problematise the phenomenon of the multiple identities of the rat, which, depending on the status assigned by humans, can be regarded as ethically irrelevant or as vulnerable individuals.

The third story describes the symbiotic relationship between rats and humans in a coal mine. According to the informant, not only are the rodents living there not exterminated, but the miners even feed them. Although the mine rats are not fundamentally different from the rodent populations living outside (and are thus equally capable of attacking humans, infecting them with disease or causing fires by biting electric cables), these issues are ignored in this narrative. The speaker cites the reason for the "ceasefire" between humans and rats as being their role in warning of dangers. This may be true, although it seems dubious. After all, if we accept the dominant narrative about the size of the threat caused by rats, we can then ask the following questions: why are animals that are so dangerous to humans accepted in a coalmine, although the presence of their "sixth sense", and hence utility to humans, is doubtful? Do they become less dangerous and bothersome and cause less of a health risk down the mine? Can their friendly behaviour be treated as a reaction to a lack of violence from humans? A separate case study would be needed to answer these questions. Based solely on this source, however, one might suspect that this is an attempt to create a real or imagined "expanded community" in which interspecies conflicts are suspended. The anti-rat myths describing the animals as cunning enemies to humankind, thieves, pests or hotbeds of pathogens, remain on the surface, in the community that established them. The coal mine therefore becomes an alternative space where the laws operating elsewhere are suspended. Perhaps too, the subconscious notion of these rodents as chthonic animals associated with the underworld has an impact on this perception of rats in mines. Symbolically, therefore, the mine rats are in "their own" territory and do not intrude on the human-dominated space. This interview therefore provides reasons to think about rat extermination as a cultural phenomenon in which decisions to pursue rat control

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or not are dictated not by proven threats from the animals, but by arbitrary human decisions.

The stories cited here profoundly problematise the decision-making processes concerning rat extermination, demonstrating their psychological and cultural basis. Decisions on which populations of the animals should be controlled depend on various factors, only some of which are based on scientific foundations and risk estimations, with most resulting from rats' presence in an area being part of specific cultural narratives. In these specific stories, the potentially "salvatory" narratives for the rats were, in turn, a narrative about the park as a "natural" space for animals, one about pet animals,[549] and one about the underground world, symbolically excluded from human dominion.

* * *

The interviews I conducted produce a nuanced and inconclusive vision of human–rat relations. Although stereotypical thinking about the animals is not entirely absent, views challenging the established ideas about them and their relationship with humans are dominant. There is a distinct emphasis on the need to keep the population of these mammals at a level that does not pose a threat to humans. At the same time, though, most of the statements clearly breach the dominant, anthropocentric narratives. They treat rats as dangerous but equal opponents of the human race deserving our respect. This perspective is evidently distant from the disembodied sanitary narrative prevailing in advertising and the public discourse. Although the informants used both sanitary and warlike metaphors, these are not dominant. On the contrary: they described real, embodied animals – bothersome, intelligent, suffering, reproducing, sick, hiding from humans and forming relationships with them. Even if most of my interviewees did not overtly declare a guilty conscience caused by killing rats, the moral ambivalence of their work is clearly present in their statements.

The interviews also lead to the conclusion that the lack of ethical consideration of the ways these animals are exterminated is associated with two intersecting phenomena. The first is the exclusion of rats and their extermination from practices of visibility, resulting in cultural denial. The second is connected to risk management strategies, and thus restrictive sanitary norms. Inclusion of rats in the sanitary narrative establishes the principle that the end justifies the means, which becomes the basis for ruthless operations to exterminate the animals. Rats are not permitted to be seen in the human environment, and if they are, they should be instantly exterminated using all available methods. The ethical and environmental costs of these enterprises are consistently omitted from the profit

549 In this case, however, extermination of the animals ultimately ensued.

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and loss statement. We can also assume that the media are largely to blame for whipping up anti-rat sentiments. By portraying the rodents' presence in terms of shame and scandal, they actively contribute to the existing state of affairs, both on an ad hoc basis (calling on the authorities, often successfully, for an immediate "solution to the problem") and in the long term (reproducing stereotypes and reinforcing society's aversion to these animals).

The above statement is not intended to undermine the negative impact of the presence of large colonies of rats on the health and economic interests of our species. However, my interviews led to two conclusions. The first is that the cultural perception of the threats generated by rats for the implementation of extermination work is at least as important as the real evaluation of the risk they generate. One might even suggest that it is more important, as scientific estimates of the level of threat (e. g. testing the percentage of the population of the species carrying pathogens dangerous to humans) are not conducted in Poland. Furthermore, the belief in their key role in transmitting infectious diseases, though indisputable, also has a cultural dimension. This is apparently based above all on the belief, recently questioned by scientists, that the species was to blame for the spread of the Black Death in the fourteenth century.[550] The second conclusion is that these threats connected to rats are a consequence of imprudent human actions – both in urban policy and in social attitudes. Troublesome, excessively proliferating animals therefore become the victims of the opportune environmental conditions we offer them and which they eagerly seize upon. Yet this nuanced perception of relations between rats and humans, identifying numerous complex naturecultural factors causing the current impasse in efforts to deal with "the rat problem", seldom resonates in the public debate.

550 K. Dean et al., "Human Ectoparasites and the Spread of Plague in Europe during the Second Pandemic", *Proceedings of the National Academy of Sciences* 2018, 115 (6), pp. 1304–1309.

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Chapter 6.
Rat Extermination as Species Cleansing

"Deratisation" and dehumanisation

It is time now for a wider perspective on the problem. The discursive practices of rat control reflect deeper cultural mechanisms and can therefore provide valuable information on the workings of stereotypes and Othering. But before defining the theoretical model of species cleansing, we will briefly examine the relationship between "deratisation" and dehumanisation. This issue, I believe, is of fundamental importance for fully understanding the rat extermination rhetoric.

In human communities, dehumanisation of individuals or groups regarded as dangerous and threatening to the social order is a precondition for ethnic cleansing and genocide. It entails the symbolic degradation of an individual or community. This concept is usually defined as depriving somebody of their humanity or of a characteristic seen as typically human (e. g. individuality, dignity).[551] Zygmunt Bauman, writing about the Holocaust, points to one characteristic feature of dehumanisation: the technicisation of objects of bureaucratic operation, meaning the possibility of using ethically neutral concepts to describe them. Bauman argues that dehumanisation "starts at the point when, thanks to the distantiation, the objects at which the bureaucratic operation is aimed can, and are, reduced to a set of quantitative measures".[552] Dehumanisation is usually also accompanied by the linguistic stigmatisation of the "Other".[553] A common phenomenon is for the real or imagined enemy to be equated with an animal, especially one with negative cultural connotations – such as a flea, cockroach, pig, or indeed rat.

551 S. Oliver, "Dehumanization: Perceiving the Body as (In)Human", in: *Humiliation, Degradation, Dehumanization. Human Dignity Violated*, eds. P. Kaufmann et al., Heidelberg–London–New York: Springer Dordrecht, 2011, pp. 85–100.

552 Z. Bauman, *Modernity and the Holocaust,* op. cit., p. 102.

553 J. Leociak, "Przedmowa" (preface), in: M. I. Midlarsky, *Ludobójstwo w XX wieku,* Warszawa: Wydawnictwo Naukowe PWN, 2010, p. XI.

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Nick Haslam analyses these two types of dehumanisation – animalisation and technicisation – showing that they are the consequence of depriving subjects either of the features that make humans unique (differentiating them from animals) or those characterising human nature. The first phenomenon results in animalistic dehumanisation, depicting subjects as lacking culture, immoral and guided by base instincts. The second, meanwhile, is about a mechanistic dehumanisation, defining individuals as cold, passive and superficial. Specific procedures – medical or administrative ones, for instance – are often inherent in this form of dehumanisation.[554]

Despite the obvious associations, it is not only in totalitarian regimes that animalistic dehumanisation of the enemy has taken place. US propaganda in the Second World War, for example, commonly implored citizens to fight the Japanese by portraying them as cockroaches or rats. Then, after the war, the societies of the Eastern Bloc were dehumanised by depictions as unindividualised social insects such as termites.[555] Analogous rhetoric about "imperialists" appeared in Stalinist-era communist propaganda. A more contemporary example of dehumanisation of the enemy as one of the conditions for genocide is provided by the propaganda preceding the mass killings in Rwanda, in which the Tutsi were depicted as cockroaches to be destroyed. A key argument here was their supposed alienness, distinct genetic separateness, and the subsequent danger to health.[556] At a symbolic level, therefore, genocide becomes a para-sanitary operation aiming to get rid of a population group supposedly constituting a public health risk. The fact that such insinuations had no scientific basis does not diminish their role in stimulating the collective imagination and inciting mass murder.

As I noted earlier, strategies of moral depreciation of rats in the extermination rhetoric display a clear similarity with the dehumanisation processes observed in the propaganda accompanying ethnic and political cleansing. The Polish scholar Michał Bilewicz highlights the structural similarities between dehumanisation and the process of symbolic degradation of animals, calling the latter "species dehumanisation".[557] Tyler Joshua Kasperbauer expanded upon this issue, noting that an "outgroup homogeneity bias" effect, the basis of exclusion of particular social groups from the moral community, can also be observed in relations between humans and other animals.[558] This phenomenon occurs especially in the

554 N. Haslam, "Dehumanization: An Integrative Review", *Personality and Social Psychology Review* 2006, 10 (3), pp. 252–264.
555 E. Russell, *War and Nature*, op. cit., p. 186.
556 M. Lower, T. Hauschildt, "The Media as a Tool of War: Propaganda in the Rwandan Genocide", *Human Rights and Conflict Resolution* 2014, 1 (2), pp. 1–7.
557 M. Bilewicz, "Funkcjonalna dehumanizacja", op. cit., p. 213.
558 T. J. Kasperbauer, *Subhuman*, op. cit., p. 3.

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case of animals perceived as "proximity threats".[559] This is not a homogeneous group. It comprises both animals inspiring fear (predators) and those causing disgust (mainly invertebrates). In the case of rats, the two categories overlap – people fear and are repulsed by them at the same time.[560] Robin Mackenzie, alluding to Giorgio Agamben's figure of "homo sacer", proposes that of "bestia sacer", meaning the category of sub-animals. He includes here particular species or populations not covered by welfare laws. This is a dynamic category: various groups or individuals are symbolically included in the morally significant community or excluded from it depending on the socioeconomic or environmental context, and especially their usefulness to humans.[561]

In the case of rat control, however, the symbolic degradation of animals is unique. Similarly to Haslam's model, in which depriving humans of the characteristics identified with humanity was a tool of their depreciation (by equating them with an animal or machine), in rat control practices such a role is played by symbolic de-ratisation, meaning depriving rats of the specificity of their species. An interesting phenomenon occurs in Polish at a linguistic level: whereas dehumanisation is a preliminary condition for "cleansing", preceding it and laying the symbolic foundations, for rats the cleansing itself is called "deratisation". Yet the processes preceding it, as in ethnic cleansing strategies, require a symbolic semantic shift: the rat as a living animal is replaced by a negative imagined being. This shift might take place in two directions: towards **anthropomorphism** of the rat (humanising it in order to turn it into the enemy), or **pathogenisation** of the animal (equating it with dangerous diseases).

The first of these strategies, which was particularly common in propaganda in the communist era in Poland, can be viewed in terms of a mechanism of inverted dehumanisation, which is in fact a certain case of anthropomorphism. The identification of the rat as enemy involves assigning certain human qualities to the animal, but only to make it easier to apply the rhetoric of war by identifying it with categories of people with negative cultural connotations. The rodents are thus described in terms typically applied to humans ("thief", "enemy") and assigned characteristics traditionally associated with *Homo sapiens* ("cunning", "malicious", "impudent"). Rats are thus symbolically incorporated into the cultural community, but only so that they can appear as carriers of certain negative characteristics.

Anthropomorphism in rat control propaganda can therefore be treated as an ostensible ennoblement. An ennoblement as it symbolically assigns character-

559 Ibid., p. 6.

560 Ibid., p. 48.

561 R. Mackenzie, "How the Politics of Inclusion/Exclusion and the Neuroscience of Dehumanization/Rehumanization can contribute to Animal Activists' Strategies: Bestia Sacer II", *Society & Animals* 2011, 19, pp. 407–424.

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istics associated with humans to rats, and ostensible because its actual purpose is moral degradation of the opponent. Anthropomorphism in rat control thus becomes a kind of inverted dehumanisation. Just as in dehumanisation strategies the excluded human individuals are equated with animals, in the strategies of moral depreciation accompanying "deratisation" practices, rats are equated with human enemies. We are therefore dealing with the symbolic exclusion of a given group from the community (in this case that of sentient vertebrates) enabling suspension of doubt and moral judgements. Morally degraded groups are denied their individual features, replaced by an imaginary status in which they are the bearers of the worst characteristics. The objective of this process is to underline their otherness and grotesqueness, a boundary condition for recognising them as specimens without value, and thus deserving of ruthless extermination.

The mechanism of exclusion from the community is key here. In the logic of genocide, a human but symbolically dehumanised enemy is not fully human, and thus has no moral value. Zoomorphism is therefore used to emphasise the symbolic break with the human community. In rat control programmes, meanwhile, a rat is not entirely an animal, as it has no sentimental, utilitarian or ecological value for humans. In this narrative, it is a separate entity: humankind's deadly rival, a pest, a "sub-animal". Anthropomorphism is used to emphasise this break from the animal world and give new meaning to the figure of the rat: that of the enemy.

Whereas the strategy of depreciating anthropomorphisation can be observed mainly in the militaristic narrative, the sanitary and epidemiological discourse pathogenises rats. An animal displaying high cognitive capacities is symbolically identified here with disease. Incorporating rats into the sanitary narrative creates a new conceptual conglomerate organising the collective imaginary on these animals and establishing their metonymic fusion with disease entities. Rats are no longer simply unloved pests (which they have been for centuries); they are becoming a disembodied problem to solve, incorporated into the bureaucratic system of sanitary and epidemiological practices. As in Bauman's definition, they are "reduced to a set of quantitative measures", counted in kilograms of dead bodies, square metres of controlled areas or tonnes of poisons used. Degradation of rats to dangerous pathogens, along with a rhetoric of rat control as cleansing, is even more problematic in ethical terms than the militaristic strategy. For it denies the animal any of the agency that this latter strategy usually grants it by treating rats as a despised enemy, yet one possessing some measure of subjectivity.

There is, however, a fundamental difference between the strategies of degradation in genocidal programmes and rat control. The dehumanisation of genocides is characterised by the symbolic exclusion from the human community of specific individuals and groups. Rat control rhetoric, meanwhile, entails symbolic exclusion of the entire species from the animal community. In the milita-

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ristic narrative, the rat becomes "something more" than an animal as it is symbolically defined as humankind's anthropomorphic enemy. In the sanitary narrative, on the other hand, it becomes "something less", degraded to a pathogen and problem of a technical nature. In both cases, however, at a discursive level it ceases to function as an animal. Calls for "complete eradication", widespread especially in the immediate postwar rhetoric, and the emphasis on the danger that all "surviving rats might inflict" clearly point to annihilationist aspirations, even in the awareness that complete extermination of the species is in practice impossible.

This might explain why rats – animals with negative cultural connotations and demonic origins and simultaneously associated with the spread of disease and destruction of provisions – supplied such excellent material for creating the figure of the enemy. It seems to be no accident that this figure reached maturity in Stalinist propaganda. The provisioning problems of a country grappling with postwar reconstruction as well as the limited competences of the new authorities in maintaining appropriate sanitary conditions could be explained by the real or supposed economic and sanitary damage the animals caused. Brodniewicz himself highlighted this phenomenon, noting that damage by rats often provided a convenient pretext for concealing systematic theft of goods.[562] I find it justified to apply Girard's concept of the scapegoat here. In this mechanism, it was irrelevant whether that party was in fact guilty and had committed the crime ascribed to them. In many cases, the scapegoat was not blamed by chance and their connection to the acts they were being accused of was beyond question. As Girard argues, however, this was of secondary importance. For the phenomenon to occur, it was not objective proof of guilt that mattered, but the criteria of selection of the scapegoat, meaning the specific characteristics of an individual (e. g. belonging to an ethnic minority, a disease, all kinds of anomalies) predisposing them to that role.[563] Applying this mechanism to rat control rhetoric, one can argue that rats, as individuals satisfying specific criteria connected to their low symbolic status and embodying all kinds of environmental threats, provided a useful model for a victim of the processes of sanitation and modernisation. Yet their role in spreading disease and causing economic damage meant that their extermination lost the characteristics of pure arbitrariness, and consequently the use of the scapegoat mechanism was pushed out of the public consciousness.

562 A. Brodniewicz, *Ochrona budynków i osiedli*, op. cit., p. 9.

563 "The crowd's choice of victims may be totally random; but it is not necessarily so. It is even possible that the crimes of which they are accused are real, but that sometimes the persecutors choose their victims because they belong to a class that is particularly susceptible to persecution rather than because of the crimes they have committed". R. Girard, *The Scapegoat*, op. cit., p. 17.

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Mechanisms of ethnic and political cleansing in the rat control rhetoric

At an iconographic level, portrayals of rats show marked similarities to the rhetoric describing individuals and groups that were subject to a process of moral depreciation and dehumanisation in twentieth-century totalitarian narratives. They demonstrate structural analogies both with the "sanitary" metaphors appearing in ethnic cleansing and with the militaristic and civic phraseology that accompanies political purges. These two narrative models merged to a certain extent in the postwar rhetoric describing rats, as can be seen particularly in 1950s propaganda. Despite the idiosyncrasies of the propaganda from this decade, certain elements of its structure form a template that is also reproduced in later portrayals of the rodents in the rat control discourse. I will therefore trace the likely sources of the rhetorical devices for describing rats that were dominant at the time (and, to an extent, also today), demonstrating that they are grounded in twentieth-century totalitarian discourses.

The first narrative that provided a model for the immediate postwar rat control rhetoric is the antisemitic one. It is widely known that Jews in Nazi propaganda were often portrayed as rats to build the foundations for their dehumanisation. The ubiquity of this depiction turned it into a visual cliché, illustrating the grotesqueness of the propaganda that accompanied the Holocaust. As Bauman notes, "The conceptual Jew was *visqueux* (in Sartrean terms), slimy (in Mary Douglas's terms) – an image construed as compromising and defying the order of things".[564] In antisemitic propaganda, Jews were symbolically linked to chaos and disorder and seen as a menacing and destructive force threatening social stability. At the same time, however, in Nazi theory (and antisemitism in general) there is also a grudging admiration for the representatives of this people – antisemitic ideas (like those about rats) were therefore clearly ambivalent. "Cleansing" the nation of Jews also had a sanitary dimension with distinct environmental overtones. Jews were described as spreaders of epidemics and carriers of germs. Jacek Leociak quotes Himmler's telling words that "antisemitism is exactly the same as delousing. Getting rid of lice is not a question of ideology. It is a matter of cleanliness".[565] Writing about the Holocaust, Bauman uses the metaphor of weeding a garden,[566] while Boaz Neumann, describing the connections between environmental and racist narratives in Nazi rhetoric, calls

564 Z. Bauman, *Modernity and the Holocaust*, op. cit., p. 39.
565 J. Leociak, "Przedmowa", op. cit., p. XVII.
566 Z. Bauman, *Modernity and the Holocaust*, op. cit., pp. 91–92.

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the Holocaust "an ecological project".[567] The Slavic and Jewish population living in Nazi-controlled areas was referred to as alien, while Jews were described overtly as an ecological threat.[568] These analogies were not exclusively rhetorical, but also material: Zyklon B was originally used in the fight against pests, and only later to exterminate humans. As Neumann shows, this was not a chance occurrence. In the Nazi rhetoric, the Holocaust was treated as a unique kind of pest eradication.[569]

I mention this because the postwar rat control rhetoric was characterised by lingering iconographic motifs of antisemitic derivation. Their continuity is revealed by an analysis of materials produced prior to 1945. One example is the cover of *Rozwój* magazine from 1925, with an illustration by Bogdan Nowakowski depicting a horde of rats, fleeing in terror from a uniformed man driving them out of the house with flamethrowers (Fig. 20). The eagle coat of arms on the door suggests that the building in the image is supposed to illustrate Poland. Only on closer inspection does it become clear that the rats have features attributed to Jews: sidelocks, a stereotypically Jewish physiognomy and Stars of David on their hats. This is therefore a representation of "rat control", but a unique brand of it in which the object of extermination is Jews, dehumanised and portrayed as unloved rodents. The pest extermination rhetoric is therefore merged with political rhetoric – as in Nazi propaganda, treating Jews as dangerous, dirty animals to be rid of in the process of building a modern nation. The extermination of Jew-rats is presented here as cleansing the house – Poland – from unwanted specimens, as literally banishing them from the home (*ex-termino*).

Let us turn our attention to a poster advertising the Delicia poison (Fig. 21), which presents two rats with unnatural, red pupils. The colour scheme, and especially the characteristic typeface, overtly reproduces the Nazi aesthetic. The lack of date makes analysis of this poster difficult, but it probably comes from the time of the Nazi occupation. The print in the margin indicates that the poison in question was produced by "Ernst Fryberg, Delitia Chemical Factory in Delitzsch, special company for anti-pest substances since 1817". We can therefore conclude that the poison comes from Germany (Delitzsch is a town in Saxony). But it is unclear whether the design of the advert came from the German producer, or the occupying authorities, or is the Polish trader's own initiative.

This advertisement is complementary to the drawing from 1925 owing to their rhetorical opposition. Whereas the former uses narrative models about dealing with rats to express antisemitic contents, the Delicia poster does the reverse: it

567 B. Neumann, "National Socialism, Holocaust and Ecology", in: *Holocaust and Historical Methodology*, ed. D. Stone, New York: Berghahn Books, 2012, pp. 101–123.
568 Ibid.
569 Ibid.

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Fig. 20: Cover of *Rozwój* magazine with illustration by Bogdan Nowakowski, 1925. Wilanów Poster Museum.

alludes to Nazi style to transplant the logic of extermination (and the inherent emotions) to extermination of animals. This is therefore a visual amalgam merging the antisemitic narrative with that of rat control.

The postwar rat control propaganda therefore grew out of foundations in which the figures of the rat and the Jew were firmly intertwined. Even if such contents were not used intentionally, they were based on well-worn clichés formed in the interwar period and in wartime. I am not claiming that depictions of rats in Stalinist propaganda were hidden antisemitic representations, but that at an iconographic and linguistic level they represented the adoption of motifs and structures formed in racist rhetoric. What this meant included the portrayal of rats as thieves and threats to the national economy or an epidemiological

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Fig. 21: Poster – *Szczury tępi Delicia* (Delicia exterminates rats), author and date unknown. XVI 1a, National Library Documents of Everyday Life, Warsaw.

threat, or the strong ambivalence (and sometimes unabashed admiration) with which the animals were depicted. These analogies might today be barely discernible, but I believe that they were understandable to the average consumer of rat control propaganda immediately after the war. It also seems that this iconographic replacement of the Jew by the rat in postwar propaganda was not an isolated phenomenon. Zaremba analyses the figure of the speculator in postwar propaganda, noting that this was an ersatz Jew:

> One gets the impression that the "speculator" was still a Jew, albeit lacking the Semitic features, trappings, characteristic appearance, and way of behaving and talking. Above all, like the Jew, he had no human qualities […] There were public calls to "eradicate" this "vermin", and promises that this would soon ensue.[570]

The second important rhetorical tradition that shaped the framework for the phraseology of rat control propaganda after the war was the figure of the enemy in Stalinist propaganda. Following Zaremba, we can say that since the postwar

570 M. Zaremba, *Wielka Trwoga*, op. cit., p. 247.

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figure of the speculator adopted antisemitic rhetoric, that of the rat as enemy is a second-degree rhetorical appropriation (the Jew → the enemy in Stalinism → the rat as enemy). Nevertheless, I treat this mechanism as complementary to antisemitic tradition, as the second, equally significant source of the linguistic and iconographic structures shaping the postwar rat control rhetoric. This trail represents an important context for understanding the relationship between the political and the biological in the postwar rat control rhetoric. While the strategy of portraying political enemies as pests in totalitarian systems is a widely recognised phenomenon, the two-way nature of this phenomenon is something that has so far eluded researchers' attention.

Rhetoric referring to rats as the enemy had strong roots in the figure of the political enemy, common in 1950s Polish propaganda. This figure had a specific function in Stalinism, paving the way for social mobilisation towards real or invented threats, and it was also used to justify unpopular economic and political decisions, explaining failures in various areas of life.[571] In communist-era propaganda, military terminology was particularly popular, resulting in the widespread use of concepts with distinctly military overtones, with the word "battle" being used for even the most trivial issues.[572] The enemy in this narrative was easily recognisable, distinguished by repulsive physical features that reflected its negative characteristics. Smulski also points to its gender indeterminacy,[573] although a review of the propaganda materials from the period shows that the enemy was almost always male. Moreover, the enemy was often dehumanised through animalisation, emphasising its otherness and symbolically contrasted with a healthy, socialist society.[574]

At this point it is worth referring to a popular concept at the time – that of social pest, meaning something similar to social parasite. Individuals whose negligence, selfishness or instigation of enemies of the system caused them to commit acts to the detriment of society, for example damaging the national economy, were described as pests. Such actions were attributed to maliciousness and deliberate bad intentions with the objective of sabotaging the system. A pest could be a thief, kulak or poacher, although sometimes their identity was blurred at the visual level, creating an expansive category that could be filled by negative social attitudes selected on an ad hoc basis.

571 J. Wojsław, *Obraz teraźniejszości w propagandzie komunistycznej Polski lat 1949–1954. Zarys problematyki*, Gdańsk–Sopot: Wydawnictwo Uniwersytetu Gdańskiego, 2009, p. 42.

572 M. Czyżniewski, *Propaganda polityczna władzy ludowej w Polsce 1944–1956,* Toruń: Wydawnictwo Naukowe Grado, 2005, p. 174.

573 J. Smulski, "Wróg klasowy jako 'obcy' w polskiej literaturze socrealistycznej", in: *Od Szczecina do … października. Studia o literaturze polskiej lat pięćdziesiątych,* ed. J. Smulski, Toruń: Wydawnictwo Uniwersytetu Mikołaja Kopernika, Toruń 2002, p. 85.

574 Ibid., pp. 83–84.

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An example of use of the rat-as-pest stereotype to portray political sabotage is Włodzimierz Zakrzewski's poster from 1945 (Fig. 22). It depicts a rat biting at the foundations of a house, with the slogan: "Democracy builds, reactionism wants to harm". The powers of reactionaries are presented here as a rodent destroying the freshly laid foundations of the new system. Although the concept of pest does not appear at a linguistic level, the deep roots of the rat-as-pest archetype make the illustration legible for the potential viewer. If we compare this poster with the materials analysed in Chapter 3 ("'Rats are enemies of the human race'"), an interesting phenomenon can be observed. While rat control propaganda uses the stereotype of the enemy to encourage people to exterminate rats, this depiction does the complete opposite: it refers to the negative stereotype of the rat-as-pest in order to express moral condemnation of social pests. As in illustrations reproducing antisemitic contents, then, this is again an example of the characteristic feedback loop. The metaphor operates in two directions: the rat is like a Jew/social pest/enemy, but at the same time the Jew/social pest/enemy is like a rat. It is difficult to identify the source metaphor when the message is constructed in this way. At a deeper level, it seems, it is founded on cultural models of exclusion, within which an individual or group with a low status in a symbolic hierarchy is compared to an individual or group occupying an even lower place in the hierarchy. The construction of these hierarchies is a dynamic process determined by the cultural context and the aims and characteristics of the specific propaganda statement. The degradation of a particular group of people through their depiction in rat form can therefore take place simultaneously with the opposite rhetoric, degrading animals by anthropomorphising them and turning them into the enemy.

The figures of the Jew in Nazi propaganda and the enemy in Stalinism have much in common. Among their shared characteristics are the dehumanisation of individuals belonging to a particular group, the belief that their actions are detrimental to the society/nation, and their strong attachment to the sanitary narrative and the metaphor of cleansing attached to it. I decided at the outset to make a clear distinction between these narratives to emphasise the differences that characterise them. This is because, while in the Nazi narrative the extermination of Jews had a clear biological basis (it was, to quote Bauman again, "weeding out"), the rhetoric of the Stalinist purges was clearly based on the logic of the political, in which the enemy was created not only by its ethnicity, but its relationship to the system. The Holocaust rhetoric can therefore be included in the mechanism of ethnic cleansing, while the Stalinist rhetoric fulfils the criteria of political cleansing.

In the case of rat control propaganda, these two narratives have largely merged at a rhetorical level. Rat extermination is a biological operation based on the species criterion, and it is therefore quasi-ethnic. For it is not a particular pop-

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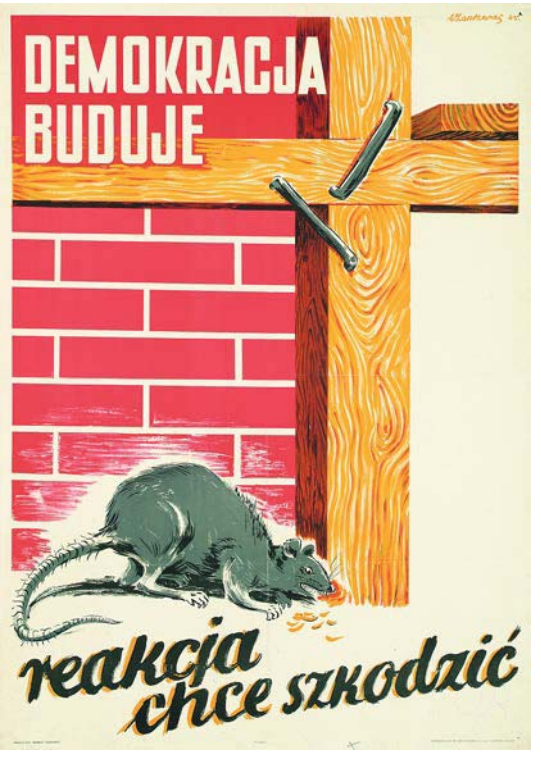

Fig. 22: Poster – *Demokracja buduje, reakcja chce szkodzić* (Democracy builds, reactionaries want to cause damage) by Włodzimierz Zakrzewski, 1945. Wilanów Poster Museum.

ulation of rats that has reached a critical level and thus become potentially dangerous to its environment that is to be combated, but rather rats in general. Rhetoric calling for the extermination of these animals expresses overt annihilationist tendencies, with their harmfulness functioning as something innate and inevitable owing to their very belonging to a particular species. At the same time, however, depictions of rats openly reproduce the rhetorical schemes used for describing enemies of the system, which is especially visible in Stalinist propaganda. Militaristic rhetoric coupled with the figure of a social pest gives grounds for the hypothesis that we are dealing with something more than just an analogy. In materials from the Stalinist era, rats not only resemble a political enemy, but almost literally become one, adopting the semantic content of political propaganda images.

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Species cleansing and the militaristic aspect of modernisation

In the Stalinist period, then, species cleansing was visualised using analogous rhetorical strategies to those used in programmes for the extermination of humans: symbolic exclusion from the community, assigning collective guilt for the problems and failures of a community (the scapegoat mechanism) and inciting people to actively and enthusiastically embrace extermination campaigns. The symbolic status of the enemy and "sub-animal" here is based on the cultural model of uncleanness. This logic, of course, has deep cultural foundations and is based on the understanding of dirt proposed by Douglas, meaning offence against the social order[575] and something out of place.[576] This species cleansing could only emerge fully in its contemporary form, however, with the emergence of a scientific, sanitary construct for this phenomenon, resulting in the complete inclusion of killing these animals in "hygienic" discursive practices.

The merging of a militaristic discourse with a sanitary and epidemiological one is more common than it might appear. Susan Sontag notes that debates on diseases frequently use militaristic metaphors such as "invasion" of a disease or the organism's "defence mechanism". Sontag argues that the main metaphors used to describe cancer derive directly from military language. Descriptions of treatment have a similarly military flavour: radiotherapy employs the metaphors of air warfare, with patients "bombarded" with toxic rays, while chemotherapy is a chemical war using poisons.[577] As a result of the inclusion of animals able to spread diseases in the sanitary narrative, the rhetoric accompanying their extermination begins to use a similar logic. As an incarnation of disease, the so-called sanitary pest becomes an object of practices reproducing the mechanisms of warfare. Russell analyses disinsection practices and military operations in the twentieth century, showing that they are largely complementary: from the propaganda level, via the institutional one, to the methods used. He also makes it clear that these analogies work in both directions: war with the enemy is depicted as a war with pests, while the war with pests is conceptualised in the same way as that with the enemy.[578] As the materials I analysed demonstrate, this rhetorical feedback loop also occurs in the Polish anti-pest discourse.

This phenomenon can be treated as a reflection of a broader mechanism associated with the dynamic of modernisation processes, especially in their socialist form. Even a cursory review of Polish propaganda prints from 1945–1957 shows that "cleansing" metaphors are widely used in the context of the fight

575 M. Douglas, *Purity and Danger*, op. cit., p. 2.
576 Ibid., p. 36.
577 S. Sontag, *Illness as Metaphor,* New York: Farrar, Straus and Giroux, 1978, p. 65.
578 E. Russell, *War and Nature*, op. cit., p. 99.

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against fascism, speculators, social pests and other phenomena perceived as negative. The language of sanitation and modernisation is therefore clearly coupled with militaristic rhetoric here. This means that the merging of the warlike and sanitary narrative is not characteristic only of the rat control discourse, although this is where it is manifested most plainly. Perhaps this is because Stalinist propaganda was dominated by a narrative about nature as a strongly antimodernist element to be tamed and exploited in the name of progress. In this rhetoric, the natural environment was repeatedly conceptualised as a dangerous opponent, a relic of the pre-revolutionary past resisting socialist industrialisation. This was why descriptions of man's struggle with nature often employed militaristic rhetoric with the objective of mobilising society and forging a sense of threat. After the Third Reich, nature became another enemy of socialist society, which could be vanquished only by unconditional capitulation.[579]

It therefore starts to make sense why **rats – animals with negative cultural connotations whose way of life meant that they broke out of the modernisation regime – delivered a useful model for the enemy figure. Within this logic, their habitats begin to be perceived as regressive and backward and the process of reconstruction and modernisation of cities is based on the premise that they should be free of rats. Socialism understood as modernisation thus becomes socialism fighting rats – a synonym of poverty, disease, the ravages of war and the backwardness of the interwar period. To paraphrase Bauman's words about genocide, we might say that killing these animals was not an act of destruction, but an act of creation – of a better, healthier and more modern society.**[580] As a species posing both a sanitary threat (a vector of infectious diseases) and an economic danger (a crop "thief"), the rat can be seen as an embodiment of the challenges the Polish state faced during the time of postwar reconstruction. The dynamic of postwar rat extermination programmes can therefore be considered in terms of a permanent clash between the human and the non-human (or the biological and the cultural) in a process of "purification",[581] and as such can shed new light on the dynamic of modernisation processes in Eastern Europe.

However, the merging of militaristic and sanitary language in the environmental discourse of the time was not confined to the Eastern Bloc, and also requires consideration of the wider context of the processes of modernisation. The mid-twentieth century witnessed a marked increase in confrontational, vi-

579 F. Gończyński-Jussis, "'Przeobraziciele przyrody'. Motyw kształtowania środowiska naturalnego przez 'ludzi radzieckich' i ich polskich naśladowców w propagandzie stalinizmu", *Historyka. Studia Metodologiczne* 2016, 46, pp. 115–133.

580 Z. Bauman, *Modernity and the Holocaust*, op. cit., p. 92.

581 B. Latour, *We Have Never Been Modern*, trans. C. Porter, Cambridge, MA: Harvard University Press, 1993.

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olent language to describe relations between humans and the environment. This phenomenon also affected countries on the other side of the Iron Curtain, especially the United States. The 1940s and 1950s were the pinnacle of popularity of unrestrained use of pesticides and a belief that man can fully master nature.[582] This process was accompanied by such phenomena as the beginnings of industrial farming and the intensive development of laboratory animal testing (some of which is today regarded as not only ethically, but also scientifically dubious). This was also the time when the concept of invasion ecology emerged, describing ecosystem relations in militaristic terms. According to Neel Ahuja, the phenomenon of managing species capable of spread dangerous pathogens, understood as biological risk management in twentieth-century US politics, has marked similarities with the country's process of territorial and economic expansion.[583]

These phenomena are a manifestation of a set of beliefs characteristic of the era within which humankind's domination over nature, often expressed using the symbols of war, becomes an instrument of modernisation and progress. The increased interest in issues of rat extermination in the 1940s can be treated as a natural consequence of this phenomenon. Both sides of the Iron Curtain also share a common feature of the propaganda accompanying rat extermination. Lianne McTavish and Jingjing Zheng show that rat control schemes in Alberta, Canada in the 1950s, like the Stalinist programmes in Poland, were based on creating the figure of the enemy based on the image of the rat. They were thus closely connected to the Cold War rhetoric, with visuals overtly alluding to American propaganda from the Second World War, when it was the Japanese who were portrayed as rats.[584]

The confrontational rhetoric used for describing rat extermination in postwar Poland is therefore the consequence of several concurrent factors. At a fundamental level, it resulted from the brutalisation of the language of public debate at this time, trading in the figure of the enemy and overusing military analogies. In a broader context, it is an outcome of the Stalinist tendency to frame nature in militaristic terms as well as the prevalence of visual and linguistic cliches of prewar and wartime origin, at least some of which have distinctly racist roots. And in the broadest context, it seems to be clearly anchored in a particular stage of development of the modernist axiology, resulting in the widespread confrontational approach to the environment and calls for its absolute subjugation to humans. The reasons for this phenomenon were, on the one hand, the general

582 E. Russell, *War and Nature*, op. cit.
583 N. Ahuja, *Bioinsecurities*, op. cit.
584 L. McTavish, Z. Jingjing, "Rats in Alberta: Looking at Pest-Control Posters from the 1950s", *Canadian Historical Review* 2011, 92 (3), pp. 1–37.

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brutalisation of the language of public debate following two world wars and then the Cold War, and on the other, scientific progress, bringing hope that the new, "miracle" products for exterminating harmful organisms (such as DDT or ANTU) would completely liberate humans from the limitations imposed by the environment. The intensification of rat control programmes in postwar Poland and the sanitary/militaristic rhetoric that came with it therefore reflected a unique stage in the development of modernity when the confrontational phraseology resulting from the war merged with the discourse of sanitation and modernisation. In the United States, a gradual retreat from this narrative can be observed from the late 1950s onwards, with the publication of *Silent Spring* usually regarded as a turning point in the process of gradual change in rhetoric on human relations with the environment. A similar change in language in Poland was dictated by the political transformations after the Thaw of 1956.

However, while the pathogenisation of rats continues to shape the perception of the animal to this day, the anthropomorphising militaristic narrative clearly waned in the late 1950s. Although the strategy of portraying rats as the enemy continues to be present in the post-1989 rat control rhetoric, one gets the impression that its function is somewhat different than was the case in propaganda in the Polish People's Republic. With its ideological weight removed, it remains solely a widespread but increasingly well-worn cliché, bandied around automatically, without reflection and often with a pronounced wink. What does have ideological weight, meanwhile – and is increasingly dominant in the rat control discourse – is capitalist and technological rhetoric, in which the animal loses its corporeality, becoming an abstract problem to solve, with the act of its killing being an almost cosmetic procedure. What I mean by saying that this phenomenon currently has ideological weight is that the narratives it produces are so deeply entrenched in the visual and linguistic regimes of late capitalism that they give the impression of being natural and self-evident, and consequently non-negotiable. This is particularly noticeable against the background of the stereotypical, hackneyed and somewhat old-fashioned narrative of war, which is clearly at odds with today's dominant, neoliberal discursive practices.

I trace the origin of this phenomenon to the concept of DDD (or pest control) taking root, before being adopted in its entirety (in the form of a "package" encompassing the fight against microorganisms, insects and rodents) in marketing language. **Inclusion of rats in the context of safety and antiseptics means that at a symbolic level they begin to operate in line with the logic of infection, establishing the animal no longer as just an unloved pest, but an abstract threat and profoundly destabilising despicable element.** This results in two intermeshing phenomena which in Chapter 4 I referred to as the technologisation and greenwashing of cruelty. These trends blend seamlessly with the dominant contemporary narratives, and are thus interpreted as neutral, resisting easy

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differentiation. Yet I tried to show that their emergence is not a chance occurrence, but a consequence of the symbolic incorporation of rat extermination into the hegemonic narratives of contemporary Western culture – an aseptic, technological narrative of exercising control over nature – as well as into the narrative of profit and profitability organising the neoliberal narrative.

In contemporary rodent control messaging, the rat is seldom the enemy, because it vanishes at a symbolic level, like the cruelty of the practices of its extermination. The conceptual compartment of pest control almost entirely conditions all the aspects of its sociocultural operation, from legislation (lack of separate legislation and procedures), via the methods used (lack of discussion on their impact on animal welfare), to the visual and linguistic level (technologisation and greenwashing of cruelty). In the aseptic, technologised late-capitalist society, rats are not only unwelcome. They are becoming unthinkable.

Species cleansing after 1989 is therefore somewhat different from the type observed in the early phases of the Polish People's Republic. That was based on strong social mobilisation and aggressive rhetoric, portraying rats as the enemy. The contemporary variant, meanwhile, is organised by a technologised sanitary discourse and neoliberal rhetoric. Yet certain aspects of the phenomenon are common to the entire period under discussion. The annihilationist logic of these practices stands out in particular, assuming that animals deserve death solely because they are members of the population of the *Rattus norvegicus* species living in the wild. Also constant is the stoking of collective fears by accentuating the threats that can be associated with the presence of these animals in the vicinity of humans. Finally, also present throughout the entire period is sanitary phraseology, within which mammals sharing pathogenic microorganisms with humans are equated with them at a rhetorical level – turning from real, living animals into reservoirs of disease.

Species cleansing: Definition and theoretical model

A brief overview of the challenges caused by the presence of rats in cities demonstrates that this is an extremely serious issue, embedded in a specific sociobiological context which I by no means intend to diminish. As the above analysis shows, however, the logic behind exterminating city rats may be indicative of deeper cultural mechanisms based on a confrontational and violent relationship to non-human life forms whose interests collide with our own. These result in deliberate or unintentional transplanting of the models organising social relations into interspecies relations, describing the latter in terms of war and/or cleansing human habitats of undesirable organisms.

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To describe this phenomenon, I use a concept introduced by Adrian Franklin,[585] ***species cleansing*, which I understand as a programme of methodical extermination of animals based on the criterium of species, founded on management of collective fears, accompanied by "sanitary", annihilationist phraseology.** This phenomenon is often associated with strong societal mobilisation (although this is not the rule) and reflects a deeper logic of modernisation.

Species cleansing is manifested in four strategies of cultural degradation of rats (Table 1) used for naturalising the animals' extermination. The strategies have changed over time. In the militaristic discourse that particularly characterised the Stalinist period, rats were depicted as an "enemy army" invading the human space, while the economic discourse is dominated by the figure of the rat as a thief and economic pest. In the sanitary-modernising discourse, meanwhile, rats are portrayed as dangerous pathogens, and so extensive was their disembodiment in the post-1989 sanitary-technological discourse that they often completely disappeared from pest control messaging. We should stress that this model is inevitably schematic. It may, however, be helpful in identifying the most important mechanisms directing anti-rat species cleansing and in defining the main types of discursivisation of the practices that can be distinguished.

585 A. Franklin, "An Improper Nature?", op. cit.

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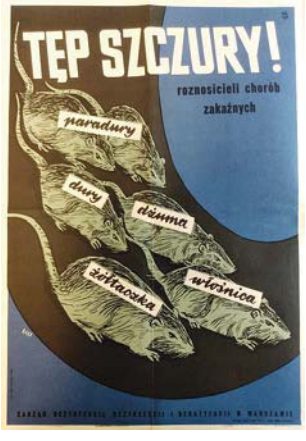
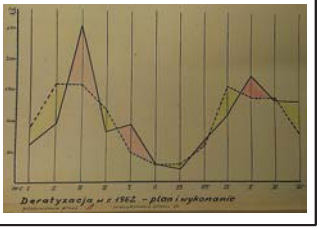
Table 1. Model of rat control as species cleansing

	FEAR – THREAT – CONFLICT ↓ **STRATEGIES OF THE CULTURAL SPECIES DEGRADATION OF RATS**	
	Anthropomorphism	Pathogenisation
	Species cleansing tools	
	Social mobilisation	Bureaucratisation
Invasion narrative (rat as lethal threat)	Militaristic discourse –> rats as enemy army [origin: war + Stalinism] 	Sanitary-modernising discourse –> rats as dangerous pathogens [origin: modernisation] 
Conflict normalisation narrative (rat as economic and sanitary pest)	Economic discourse –> rats as thieves [origin: premodern] 	Sanitary-technological discourse –> radical disembodying and euphemisation of rat control [origin: modernisation, intensification post-1989] 

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Two main ways of building the figure of the rat can be identified in rat control discourses. These are **anthropomorphism**, visible especially in militaristic and economic narratives (the rat as enemy, the rat as thief), and **pathogenisation**, characteristic of the advancing process of bureaucratisation of the extermination of these mammals (the rat as pathogen, disembodiment of the rat). Anthropomorphism of the animals is usually (though not always) linked to social mobilisation, while their degradation to a dangerous pathogen is connected to extensive bureaucratic practices. The first of these rhetorical strategies humanises rats, but only with the purpose of incorporating them into confrontational narratives of enemies or pests. The second degrades them to the level of dangerous pathogens. This phenomenon may be grounded in rhetoric designed to stoke public fears, portraying rats as spreading diseases and degraded to the level of "sub-animal", as a lethal danger to humans. In its contemporary guise, it often eschews confrontational phraseology in favour of a narrative normalising the conflict. This not only depreciates rats by symbolically equating them with pathogens, but often eliminates them from the narrative entirely to produce euphemistic, aestheticised communications.

The second distinction describes two complementary narratives within which the types of portrayal mentioned above operate. The differentiation between the **narrative of invasion** (defining rats as a deadly threat to human health and life) and the **narrative of conflict normalisation** (describing the species as a "common" pest) is at the level of escalation of the rhetoric organising them. Although the rat as a pest may also be defined as an enemy, economic narratives and the contemporary sanitary-technological discourse usually do not feature such intensive confrontational messages as in the invasion narrative. They tend to view rat extermination as something self-evident and intrinsic to the natural order of things, even if it is sometimes also accompanied by calls for social mobilisation. This phenomenon can be observed both in the discourse economising the interspecies conflict, which still has premodern origins, and in the contemporary sanitary and technological discourse. The narrative of invasion, meanwhile, adopts the figure of a state of emergency, describing rats as dangerous invaders attacking the space belonging to humans. This narrative is clearly based on managing social fears.

The proposed model is supported by historical transformations. Evidently the oldest rhetorical schema describing human–rat relations is the one that defines the animal as an economic pest (anthropomorphism/conflict normalisation narrative). Both types of invasion narratives seem to have wartime (or perhaps prewar) roots, linked to the processes of modernisation, reconstruction of the country and escalation of the language in public debate characteristic of Stalinist times. The pathogenisation/disembodying of rats in the conflict normalisation narrative, on the other hand, is the newest narrative. Although a certain level of

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bureaucratisation and disembodying of the language associated with rat control can be observed in the communist era (cf. Chapter 3 – "'Technical guidelines'"), it distinctly intensified after 1989. As the extermination of the rodents was incorporated into the neoliberal narrative of profit and profitability, this meant that rats were no longer even pathogens – they became an abstract, technical problem to be solved. This may lead to the conclusion that the invasion narrative is characteristic of the times of social upheaval (war, totalitarian regime and the resultant political cleansing) and, in its purest form, can be grounded in specific historical realities (Stalinism in the case of the materials analysed here). The conflict normalisation narrative, meanwhile, adopts more disparate rhetorical strategies and diverse phraseology, seeing extermination of the animals as something self-evident, inherent in the "natural" order of interspecies relations and normalised environmental risk management strategies.

As the above analysis shows, narratives portraying rats as the embodiment of dirt, disease and pathology, entities of no moral and ecological significance, clearly reproduce the mechanisms also observed in the policy of exterminating unwanted social groups. It is therefore justified to hypothesise that **the phenomena of ethnic and species cleansing result from a similar model of exclusion of negatively evaluated groups. The persecution of so-called pests is organised by the same sociopsychological mechanisms that also occur in interpersonal relations.**

The symbolic degradation of rats in extermination practices is systemic in nature: from their institutional organisation (e. g. the Polish Classification of Activities lists rat control services as "cleaning of buildings"), via the contemptuous way unloved animals are portrayed (no longer ordinary rodents, they become carriers of radically negative contents), to aggressive rhetoric calling for their extermination. As with ethnic cleansing, this mechanism is based on a totalising species criterion in which the very fact of belonging to a particular population of the *Rattus norvegicus* species (and specifically populations living in the wild in cities) becomes a de facto death sentence, even if the sluggishness of those responsible for their extermination results in constant stays of execution. This death sentence in rat control, in contrast to other forms of violence towards non-human animals, is not motivated by these mammals' utility for humans. Their death is therefore not a means to achieving the end of, as in other practices towards animals, obtaining food, fur or scientific knowledge. It becomes an end in itself, motivated by the effort to use all possible methods to "cleanse" a given area from the rodents. Their dead bodies are therefore not a product, but solely waste left after extermination.[586] As I have shown, this logic is thoroughly filtered

586 It is worth confronting the opposition "body as waste/body as product" with Giorgio Agamben's reflection expressed in *Remnants of Auschwitz.* Agamben argues that prisoners

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through narratives organising the collective imaginary over decades and deeply embedded in the ideologies dominant in a given period. Anti-rat purges clearly took various forms in the Stalinist period and different ones today. Yet the main mechanisms organising them remained unchanged.

did not die in the camp, but corpses were manufactured on a production line. He also notes Martin Heidegger's use of such a phrase in 1949, when he said: "Agriculture is now a motorized food industry, in essence the same as the manufacturing of corpses in the gas chambers and extermination camps, the same as the blockade and starvation of the countryside, the same thing as the production of hydrogen bombs". I believe that the status of a dead rodent's body in rat control is fundamentally not part of the narrative of "manufacturing of corpses", although there are exceptions to this rule. As I demonstrated in Chapter 2 ("The 'benchmark' and its decline"), the remains of these rodents are often treated as material proof of pest control companies' efficiency, becoming a de facto embodiment of profit. G. Agamben, *Remnants of Auschwitz: The Witness and the Archive*, trans. D. Heller-Roazen, New York: Zone Books, 1999, p. 73; Heidegger's quote is given in V. Farías, *Heidegger and Nazism*, Philadelphia: Temple University Press, p. 287.

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Conclusion.
Towards Alternative Forms of Interspecies Cohabitation

The aim of this analysis of the rat control discourse was to demonstrate the rhetorical models used in conjunction with the fight against the so-called pests, which thereby, indirectly, shaped public views of them. I showed that the portrayal of exterminated animals has a distinctly performative character, not only describing reality, but also actively creating it. At the same time, I tried to bring out the connections between the rhetorical practices and the empirical side of extermination, showing the clear feedback loop between them. On the one hand, the rat control rhetoric is deeply embedded in and reflects the material, social and historico-ideological context. On the other hand, the empirical practices of animal extermination are, at least to a certain extent, a consequence of the visual and linguistic practices that organise them.

Additionally, I demonstrated that the rat control rhetoric is strongly rooted in the discursive practices dominant in a given period. This connection itself should come as no surprise. What is remarkable, however, is the scale and multifaceted nature of this phenomenon, as well as the symbolic de-ratisation (meaning depriving rats of the specificity of their species) dominant in most of the materials I analysed. Rats adopt the semantic content of the figures and phenomena with the most negative connotations in the given historical and political context. Their ethology is present in this rhetoric only when it can provide useful arguments for reinforcing negative stereotypes and stoking social fears. **In my view, the most important findings from this enquiry are the conclusion that rat control materials clearly reproduce the narrative models present in genocidal rhetoric, describe the killing of animals as a problem of sanitation and cleanliness and incorporate it into a technologised neoliberal discourse.**

The cultural reception of the presence of rats in a city has its own unique character. It does not result solely from anthropocentrism, which defines our relationship with non-human animals. It is also the consequence of numerous overlapping naturecultural determinants: from the species' biological characteristics and the ecology of its relationship with humans, via the demonic stereotype of the rat, probably stretching back to early-modern times, to the rhet-

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orical inclusion of the animals in the economic and sanitary-modernising rhetoric. Owing to the subject of my research, it was mainly the last of these sets of factors that I focused on. I am aware, however, that the complexity and multifaceted nature of our relationship with these rodents go much further.

By analysing rat control rhetoric, I showed how scientific facts become the basis for creating narratives using extreme simplifications, while gaps in knowledge of the ecology of rats in the wild and their relationship with humans are filled in the rat control rhetoric by stereotypes and culturally reinforced fears. This is hugely significant for the impasse in which rat population control practices find themselves. After all, the problems with going beyond a logic of extermination that I highlighted in the introduction are a consequence not only of phenomena of a practical and financial nature, but also, and perhaps above all, mental and cultural limitations. If a rat at discursive level is treated as dirt and living waste, it is extremely difficult to break the extermination mechanisms. Dirt is not "controlled" or studied; it is removed.

The research reveals distinct turning points in the postwar public debate on rat control. The first comes with the inclusion of rodent extermination in the scientific discourse. Although the beginnings of this phenomenon can be traced to the prewar period, it intensified in the time of postwar reconstruction in Poland, becoming particularly strong in the 1950s. This was combined with centralisation of the industry and more meticulous, methodical selection of extermination strategies, based (at least in part) on scientific experiments. As I showed, the previously widespread national extermination drives increasingly gave way to selective operations focused on facilities particularly exposed to infestations. This was also the beginning of preventive campaigns as well as what is known in today's specialist jargon as chemical ratproofing, meaning permanent distribution of rodenticides in monitored areas. I also demonstrated that this phenomenon resulted in a gradual erasure of the brutality of rat control from the public eye. This was because, over the passing decades, mass-mobilisation rat poisoning campaigns became an increasingly marginal phenomenon, replaced by a particular understanding of prevention.

The second clear turning point resulted from the change in the political and economic system in Poland. Private firms' takeover of rat control resulted in greater efficacy of exterminators, who were forced to compete with other companies operating on the market. It also blurred responsibility and significantly complicated the pest control industry at the institutional level. The number of actors involved in rodent control grew, now encompassing hundreds of private businesses, public administration bodies, private property owners, the state sanitation authority, city police and since 2004 also, indirectly, European Union bodies. The lack of a central decision-making entity responsible for the implementation and coordination of rodent control campaigns often leads to an

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impasse in decision-making, and the need to adapt strategies to EU requirements and domestic legislation may tie the hands of individuals potentially interested in alternative forms of rat management. Moreover, the habitats of urban populations of these mammals often cover areas under the jurisdiction of several different entities responsible for their extermination. Rats' transgressive nature and failure to respect the territorial boundaries set by humans (including the boundaries of private property) are therefore neither reflected in legislation nor in extermination practices, which makes it difficult to coordinate operations.

In Chapter 6, I showed the similarities between the rat control discourse and that of genocide. A similar phenomenon is also taking place in the contemporary extermination rhetoric, although it would be necessary to conduct a media analysis to reveal the potential connections between these discourses. Nowadays too, metaphors comparing humans to pests are often used, explicitly or less so, to transmit contents dehumanising specific social groups. One example is the refugee crisis, in which people fleeing war are often described as spreaders of disease,[587] but references to rat control are also used for discrediting political opponents.[588]

I also pointed to shifts in the rhetoric on rat extermination. In the first decades of the communist era in Poland, and especially in Stalinist times, rat control was incorporated into political propaganda, with the rat cast in the role of the enemy. I identified the endurance of the rhetorical structures organising the rat control discourse in this period, demonstrating that they continued clichés with prewar roots (antisemitism) as well as postwar origins (the image of the enemy in Stalinist propaganda). Indirectly, therefore, they are part of a wider mechanism of portrayal of the Other common in xenophobic narratives. In parallel to the intensification of anthropomorphism and dehumanisation of rats, their pathogenisation can also be observed. Strongly embedded in the conceptual cluster of

587 An example is provided by a famous statement by Jarosław Kaczyński, the chairman of Poland's then ruling party, Law and Justice (PiS), from October 2015 ("After all, there are already symptoms of the appearance of very dangerous diseases long not seen in Europe. Cholera in the Greek islands, dysentery in Vienna. Various types of parasites, protozoa, that are not dangerous in the organisms of these people but can be dangerous here. That's not to discriminate against someone, but you need to check". Cf. Jagor, "Kaczyński o uchodźcach: 'Cholera w Grecji, dezynteria w Wiedniu, pasożyty …'. Celiński ostro komentuje", Gazeta.pl, 13 October 2015, https://wiadomosci.gazeta.pl/wiadomosci/7,143907,19019635,kaczynski-o-uchodzcach-cholera-w-grecji-dezynteria-w-wiedniu.html (access: 25 October 2023).

588 An example is provided by an MP from the opposition Civic Platform, Ryszard Wilczyński, from February 2017, calling for "depisisation" in a reference to the PiS party, causing a storm in right-wing media ("We will have to rebuild the state. What will come after PiS? Depisisation, just as there was denazification, decommunisation, not to mention deratisation and disinsection"). Z. P. Kossakowski, "'Depisyzacja tak jak deratyzacja'. Skandaliczna wypowiedź posła PO", TVP Info. 3 March 2017, www.tvp.info/29327616/posel-po-robert-wilczynski-zapowiedzial-proces-depisyzacji (access: 14 September 2019).

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"DDD", over time it would become the dominant paradigm in thinking about these animals, giving rise to another rhetorical shift: disembodiment of rats. No longer depicted as real animals, they would instead begin to function in the logic of infection, becoming an abstract vector of disease.

After 1989, the sanitary rhetoric was overtaken by a neoliberal logic, firmly rooted in the visual and linguistic regimes of late capitalism. As a result, rat extermination was further disembodied and even more thoroughly subjected to processes of euphemisation and aestheticisation. As I proved, these processes are so far advanced that the killing of these animals (and frequently also the animals themselves) almost completely disappears. I highlighted the widespread use of linguistic and visual clichés borrowed from corporate jargon as well as earlier linguistic shifts (the diminutive *trutka* as a portion of poison instead of the usual *trucizna*, rat control "feeders", the "economic injury level", but also a specific understanding of prevention), which mask what these practices actually entail and distract the recipient's attention.

At the same time, rat extermination has been thoroughly incorporated into the sanitary and epidemiological discourse, as I noted when analysing the rat control rhetoric in the Polish People's Republic. Whereas in the immediate postwar period, however, it was more of a recommendation (see Brodniewicz's publication cited in the introduction), today rat control is an integral part of public health protection, while rats are widely treated as "sanitary pests", whose absolute eradication has become mandatory, natural and non-negotiable. In the long run, therefore, the painstaking education and propaganda work done by the pioneers of Polish rat control and the communist state authorities has proved extraordinarily effective.

The aforementioned narratives form two phenomena particularly widespread in the marketing rhetoric accompanying rat control. I termed these the greenwashing and technologisation of cruelty. I understand the first phenomenon to mean illustrating rat control with references to an arcadian vision of nature and rhetorical incorporation of rat control practices into the "ecological" context. The technologisation of cruelty, meanwhile, is based on illustrating contents referring to rat extermination with images with little to do with it but which evoke associations of advanced technological innovations. Both phenomena are founded on a more or less conscious attempt to mask the ethically and aesthetically controversial practices of rodent control by shifting them to a different context, building positive connotations for the viewer. I also hypothesised that these are an ongoing and intensifying process in recent years.

Against this background, the reflections of the rat exterminators collected during the interviews stand out. They mostly rely on their immediate life experiences, seldom resorting to clichéd, degrading and disembodying metaphors. Even if ethical reflection is not always present, it is in these interviews that one

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can most often sense a desire to problematise the image of rats. The informants criticised the dominant forms of environmental management in cities and emphasised the role of humans in the proliferation of the animals. Despite almost unanimous justification of the need to exterminate city rodents, the vast majority firmly distanced themselves from the generally dominant stereotypes. The picture the informants paint of rats is remarkably balanced, including themes and points of view that are usually omitted in the public debate. Most of their statements clearly resisted the dominant, anthropocentric narratives and myths about rats and reflected on interspecies relations. It seems surprising and yet also symptomatic that the least obvious statements, which often in forthright and unprovoked fashion tackled difficult ethical issues, came from people dealing with rodent extermination on a daily basis.

In the course of the analysis, I tried not to lose sight of the living, embodied animals. I wanted to avoid the analysis becoming a purely theoretical disquisition with rats only as a pretext for studying the evolution of rhetorical models in the postwar public debate. Owing to the organisation of contemporary rat control practices as well as the biological specificity of the species, however, it proved extremely difficult to research the contact zones called for in interspecies ethnography.[589] Contact between the rat and the human in contemporary rat control is almost always mediated by technology – in the guise either of rodenticides or of traps. In the former case (comprising the overwhelming majority of such practices), direct contact on the rat–human line usually does not take place at all. In the latter case, it is usually exceptionally brutal, especially when glue traps are employed. The exterminator's contact with the rat – if it occurs – therefore takes the form of contact with a dead body or an animal writhing in agony. This applies even more so to ordinary citizens. Apart from people living in areas with high rat populations (which are few and far between in Poland), they rarely have the chance to see the animals with their own eyes. Usually the only sign of the rodents' presence on a property is warnings saying "Danger! Rat poison".

The zone of interspecies contact between humans and rats is therefore extremely disparate. It encompasses many actors: rats, their exterminators, rodenticides, fleas, emotional media reports, residents, sanitary regulations, areas inhabited by rodents, traps, public administration bodies, pathogens, cats, anti-rat posters and leaflets – although this is doubtless not a complete list. Following actor–network theory, we can of course recognise that every social interaction is based on an extensive network of actors. Relations between rats and humans are

589 Cf. E. Kirksey, S. Helmreich, "The Emergence of Multispecies Ethnography", *Cultural Anthropology* 2010, 25 (4), pp. 545–576; H. Kopnina, "Beyond Multispecies Ethnography: Engaging with Violence and Animal Rights in Anthropology", *Critique of Anthropology* 2017, 37 (3), pp. 333–357.

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unique, however, as they are almost always mediated. In contrast to other types of interspecies interactions, with actual direct, bodily contact (be it based on violence or on positive affect), interactions between humans and rats living in the wild very rarely involve an interaction with a live animal. They thus become more of a phantasmatic expression of social fears than an embodied life experience.

* * *

From the perspective of a pioneer of interdisciplinary research on the phenomenon of rat control, I am able to point to gaps in knowledge on the issue. The most important one results from biologists' lack of interest in the ecology of city rats. Publications on this subject are very limited (especially in Poland), and of the few that have been written, some are criticised for methodological reasons.[590] The decision-making process concerning the necessity, methods and extent of exterminating these mammals thus becomes significantly harder. Furthermore, the lack of competent experts in the field means that people specialising in the extermination of all animals, particularly insects, occupy this function.

My concentration on the rat control industry debate precluded an analysis of the media discourse, although this is an extremely important factor moulding the public perception of rats and to a great extent responsible for stoking (as well as, albeit much less frequently, mitigating[591]) social fears. It is a similar story with the figure of the rat in visual culture, especially horror, which employs the most common stereotypes associated with the genre. I also feel that it would be worth making an in-depth analysis of the social attitudes towards rats among people not involved in their extermination. My interviews with pest control professionals made me realise that the cruelty of rat control often derives from the attitudes of residents and owners of properties, which does not necessarily result from a conscious desire to cause suffering, but rather from fear, ignorance and a lack of imagination.

Animal rights activists' near-total lack of interest in the issue is another noteworthy phenomenon. Animal welfare organisations' focus on the exploitation of animals in the food industry is understandable given the enormous number of vertebrates being killed and mistreated, the major environmental threats and the fact that practices of eating animals are not (at least on the current scale) a necessity. But the order of the remaining dominant priorities in this milieu (such as circuses, zoos and publicising individual acts of cruelty to pets) seems questionable given the absence of any initiatives to moderate rat control methods – not only because of the huge scale of the operation, but also the lack of

590 Cf. reception of the studies by Jopek, Klimentowski and Szarycz, Chapter 5.
591 Cf. the phenomenon of Pizza Rat, which I describe below.

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any welfare measures. The impact of rat control on the animals' welfare, remember, is far greater than is the case with animals killed in laboratories and the food industry. Perhaps the activists' strategy is deliberate, resulting from the fact that the public response to rats in the wild cannot be expected to equal that given to charismatic or domesticated species. I believe, however, that the existence of pressure groups seeking mitigation of rat control practices (e. g. by pushing for a ban on the use of glue traps) is a necessity.[592]

Furthermore, the limited scope of the analysed materials in geographical (Poland) and historical terms (the postwar period) inevitably also made it impossible to conduct a comparative analysis of the rhetoric of the extermination of these rodents in a broader cultural context (especially in comparison with countries of the Global South) as well as over time (long-term changes in relations between rats and humans). This is something which I regard as extremely important for gaining a fuller picture of the phenomenon.

These are just a few of the most important untested trails that I have been able to identify. Undoubtedly there are many more. I hope that this book will be a significant contribution to the discussion on both the cultural stereotype of the rat and the practical solutions associated with extermination of the species.

The search for alternative narratives

I began searching for alternatives to the current relations between rats and humans with problems of a technical and systemic nature (cf. Chapter 1), because in the short and medium term these are key hurdles preventing or at least significantly hindering a change in the status quo in this area. It is extremely difficult to introduce change. Among the reasons for this are adverse legislative circumstances at EU and national level, the lack of institutional support for developing and implementing less cruel extermination methods, very limited knowledge transfer between the actors involved in these practices, unwillingness to invest in integrated prevention methods, a poorly functioning waste disposal system, bad urban planning and also the biological specificity of opportunistic and rapidly multiplying rats. Yet change is essential: not only on account of the lack of efficacy and cruelty of the methods used, but also because climate change, the proliferation of the human population and continuing urbanisation mean

592 It is worth mentioning here that a report by the organisation Charity Entrepreneurship cites rats living in the wild as one of the groups needing the greatest support from animal rights organisations. J. Savoie, K. Sarek, D. Moss, *Which Animals Need the Most Help from the Animal Advocacy Movement?*, 12 April 2018, https://www.charityentrepreneurship.com/blog/which-animals-need-the-most-help-from-the-animal-advocacy-movement (access: 16 June 2019).

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that conflicts between our species will only deepen. However, **the "rat problem" will not be solved without a profound change in social attitudes and the perception of these mammals. Yet this will only be possible with a change in the cultural narratives concerning rats, their presence in the city and their relationship with humans. This, however, will require intensive work on shaping the collective imagination.**

Unfortunately, public attitudes, especially those based on strong emotions and coupled with an entrenched system of perceptions, will not change within a few years. The stereotype of the rat, engrained in abject connotations, is a cultural amalgam fusing together the figure of a pest, an enemy, a being of demonic provenance and a disembodied vector of disease. This means that it has extremely strong roots in the cultural imaginary and is thus a mainstay of popular culture. Perhaps the reason why the particular case of rat extermination in urbanised spaces is so resistant to change is that it combines a set of ideas with both premodern and strongly modernistic origins that, while seemingly incompatible, in these practices resonate most strongly. Overcoming, or at least problematising the anti-rat myth would therefore appear to be an arduous task. Nevertheless, it is one that should be attempted because social practices – concerning both interspecies and interpersonal relations – always derive from the cultural narratives that describe them.

I have been guided by the desire to dismantle the negative stereotype about rats since the beginning of my research. My understanding of this process, however, changed considerably during the writing of this book (and the PhD thesis that preceded it). I set about the work assuming that the only way to change the social perception of these animals was to "cleanse" the cultural notions of the abject stereotypisation of the species. Getting closer to objective, scientific knowledge about rats, without culturally founded fears and prejudices, seemed to me the best way of instilling alternative approaches – and thus, indirectly, also practices – towards these animals. There is no doubt that for ideas about rats and their extermination to change, it is essential to reinforce the transfer of knowledge between scientists and other actors involved in these practices. As I have endeavoured to show, some of the views about rats in circulation, which have an impact on extermination operations (or at least make them more vicious), lack any basis in fact.

Now, however, I believe that the idea of a reset of cultural notions on this species is unrealistic. What we can do (and I am calling for) is attempt a modification of the dominant, strongly semantically loaded figure of the rat by redirecting its vectors. In other words, **I propose not so much a complete rejection of the stereotype of the species as to remodel it to emphasise its positive dimension. Intercepting the stereotype in this way can emphasise the culturally entrenched characteristics of this rodent, but remove any malevolent con-**

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notations, to portray rats as a unique and problematic but integral element of the urban fauna to which, ecologically speaking, it belongs.

The positive figure of the rat is much less prominent in culture than that with negative connotations. Yet this does not mean that it is absent. For this analysis I will cite two examples that seem particularly interesting and may prove useful for the purposes of this book.

The Rats of Tobruk, a nickname given to the Polish Independent Carpathian Rifle Brigade during the Siege of Tobruk in 1941, provide one possible example of the redirection of the vectors of the stereotype I am proposing. The at first contemptuous epithet given by the Nazi Germans was adopted by the defenders of the port as a badge of honour, and the Australian Rats of Tobruk Association commemorating the soldiers (including Poles) still exists today. A mosaic with the Rats of Tobruk emblem, visible on a monument in Mackay, Queensland, depicts a simplified illustration of a rat with the legend "The Rats of Tobruk Association", the motto "No surrender", and a jewel in the form of a crown. This evokes a sense of dissonance resulting from an interesting semantic shift: an animal with negative cultural connotations is portrayed in an overtly ennobling manner.

The origins of the Rats of Tobruk nickname are usually traced to two phenomena: the fact that the defenders assumed positions underground, especially tunnels built before the war by the Italian army, and their reuse of weapons and equipment they found to fill gaps in their own resources. The characteristic name (especially in the interpretation adopted by the defenders) may also refer to their endurance and perseverance and refusal to give in to the pressure of the German army ("no surrender"). The associations of the defenders of Tobruk would therefore be based on three characteristics attributed to these animals: adoption of the (especially underground) infrastructure they came across, use of found resources which they did not produce, and extraordinary endurance.

The second example of an interesting interception of the negative rat stereotype belongs to a different imaginary, concerning the phenomenon known as Pizza Rat.[593] A 14-second video uploaded onto YouTube in September 2015 now enjoys cult status, having been viewed over 12 million times. The rodent being filmed, a member of the enormous New York Subway rat population, has become a pop-culture hero. But it is not the video itself, depicting the rodent carrying a large piece of pizza down some stairs, that is interesting for dismantling the negative stereotype of the species, but its reception in the media. Surprisingly, most blogs, websites and social media adopted a positive and profoundly anthropomorphic approach to this mammal. Some messages (including the de-

593 "New York City Rat Taking Pizza Home on the Subway (Pizza Rat)", www.youtube.com/watch?v=UPXUG8q4jKU (access: 3 September 2020).

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scription of the film on YouTube) compared it to one of two animated rat heroes: the charismatic Splinter from *Teenage Mutant Ninja Turtles*, or Remy, the rodent chef in *Ratatouille.* The process of the animal's incorporation into positive pop-culture narratives set it apart from the millions of rats living in New York City, assigning an alternative, para-human status. As a result, Pizza Rat was made into the quintessential New Yorker, "an inspiring demonstration of the grit and determination one needs to make it in New York City".[594] One website asked: "Who among us can't relate to this determined rat?"[595] Another assured readers that Pizza Rat "was on a mission".[596] This was a "humble yet ambitious"[597] creature; a "dreamer, a hero and a better person than any human could hope to be".[598] Interestingly in the context of the figure of an enemy discussed in previous chapters, Pizza Rat is sometimes depicted in feminine forms ("her", not "it"), giving the animal a distinctly warmer image.[599]

The reasons why this animal in particular achieved meme status are complicated.[600] However, Pizza Rat contributed to the emergence of a new type of presence of rats in American visual culture, especially in social media. This does not mean, of course, that the public perception of rats has changed dramatically since the appearance of this phenomenon. These animals are still treated with great distaste, especially in New York, a city that has long battled with an enormous *Rattus norvegicus* population. Yet the phenomenon of Pizza Rat, which a few years ago caused such strong, predominantly positive emotions among New Yorkers, was not without influence on the animals' portrayal in the US media.

I have cited two radically different phenomena as they provide a good example of seizing and dislocating the rat stereotype. Both examples – the Rats of Tobruk

594 C. Bankoff, "Pizza Rat Is No Hero", *Intelligencer*, 15 September 2015, www.nymag.com/intelligencer/2015/09/pizza-rat-is-no-hero.html (access: 21 June 2019).

595 N. Casey, *Video: Subway Rat Could Use a Little Help Lugging This Pizza Slice down the Stairs*, *Gothamist*, 21 September 2015, www.gothamist.com/2015/09/21/pizza_rat.php (access: 21 June 2019).

596 L. Respers France, "Pizza Rat: Our Newest Obsession", CNN, 24 September 2015, www.cnn.com/2015/09/22/living/pizza-rat-feat/index.html (access: 21 June 2019).

597 M. Noriega "Pizza Rat: New York City's infamous rodent, explained" https://www.vox.com/2015/9/21/9366729/ny-subway-pizza-rat (access 21 June 2019).

598 T. Gilbride, "Rat Carrying Pizza Slice Will Teach You What It Means to Have a Dream", *Mashable*, 21 September 2015, www.mashable.com/2015/09/21/pizza-rat (access: 21 June 2019).

599 One humorous article even portrays Pizza Rat as the heroine of the TV series Sex and the City, dubbing it (her?) "Carrie Ratshaw". "Pizza Rat is the Only Real New Yorker", *Vice*, 21 September 2015, www.vice.com/en_ca/article/vdxzwj/pizza-rat-and-the-city-921 (access: 21 June 2019).

600 I analyse this phenomenon in the article "Four-Legged Terror or Ultimate New Yorker? Urban Rat Videos and their Media Reception", *Society & Animals*, 2011, 1–20.

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epithet and the media reception of Pizza Rat – make use of characteristics widely identified with the species, but also shift them to accentuate their positive dimension. In both cases, there is an emphasis on rats' endurance and determination as well as their adaptive capacities, manifested in the use (theft?) of all available resources, including those produced by others. As we remember from the previous chapters, it is these features that were highlighted as those most accurately describing the species by people contributing to the rat control discourse.

I am not claiming, of course, that such a semantic shift alone will be sufficient for changing the practices of controlling the city rat population. But the example of Paris, where the first public opposition (as far as I am aware) to the brutality of rat control was supported by references – serious or less so – to *Ratatouille*, seems to confirm the notion that the portrayal of the animals in popular culture and the public debate can have a major impact on society's perception of the issue.[601] Given the wealth of characteristics attributed to rats, we can consciously manage the type of contents we reproduce to strengthen or weaken the negative stereotype of the species, and thus also the extent of the associated cultural phobia. I use the pronoun "we" deliberately, as in the age of social media all active users participate in the creation of alternative histories or reinforcing existing ones. Any sharing of contents perpetuating the negative stereotype of the species fosters and strengthens social fears, while sending alternative messages helps to construct other, less confrontational narratives.

To conclude the reflections made in this book, I would like to ask a question: can we learn something from rats? And, consequently, can a remodelled figure of the rat prove useful in reimagining the place of our species "in capitalist ruins", to quote the subtitle of Anna Tsing's book?[602] Extraordinarily resistant, adapting to almost any available ecological niche, functioning well in conditions of overpopulation and almost always reborn after extermination, rats can offer a useful model for the resilience and persistence that are so necessary amid a global environmental crisis. Meanwhile, their opportunistic food consumption, feeding on human leftovers and use of existing infrastructure and others' (human) resources mean that they can be treated as the last link in the culture of excess, a "parasite" of neoliberal civilisation. I understand this parasitism both in an ecological and a sociocultural sense, in line with the model proposed by Michel

601 Interestingly, people opposing the extermination of Paris rats referred to it as "genocide". Cf. D. Chazan, "Parisians Protest 'Genocide' of Rats as City Battles Rodent Infestation", *The Telegraph*, 3 September 2017, www.telegraph.co.uk/news/2017/09/03/parisians-protest-genocide-rats-city-battles-rodent-infestation/ (access: 21 June 2019).

602 A. Tsing, *The Mushroom at the End of the World,* op. cit.

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Serres, who incidentally uses the fable of the town rat and the country rat to portray a parasitism-based model of social interactions.[603]

Perhaps, in the near future, our species will no longer be able to afford unlimited production and will be forced to reuse resources and infrastructure created by previous generations. Perhaps we will no longer be able to create and change the world, and the condition for survival will become adaptation to existing, not always beneficial conditions. Perhaps it will become essential to adapt to extreme overpopulation on a planet inhabited by ever more humans. It may also be the case that the current, unsustainable and predatory means of food production will break down. In this situation, we will no longer be able to afford to be fussy gourmets, and eating leftovers and what we today call waste will become a necessity. As well as adaptation to extreme weather conditions.

Should even some of these scenarios come to pass, we might be forced to adopt rats' strategy for our species to survive. This proposal sounds alarming and certainly prompts instinctive opposition. But is this not because we have created an abject phantasm of the rat, an incarnation of our worst fears? Perhaps by working through the extremely negative stereotype of this species we can look at it without disgust and perceive not only intelligent sentient vertebrates with many similarities to us, but also a useful model of survival in extreme environmental conditions.

In the light of the drastic climate crisis and mass extinction of species, keeping ecosystems operational is becoming a permanent battle with environmental entropy. In this situation, animals like rats seem an aberration: the more destructive the actions of *Homo sapiens* are for the planet and other species (including humans), the better they function. Global warming, food surpluses and waste, overcrowding of human populations and uncontrolled development of cities are all phenomena that foster the species' growth. The rat therefore becomes an embodiment of the most negative aspects of global turbocapitalism. It may also be the case that the aversion to the animals is partly a consequence of subconsciously shifting the blame for our mistakes onto a species that benefits from them. We can accuse rats rather than accusing ourselves.

I will conclude with one more reflection. Rats are animals that it is exceptionally easy to hate. This is because calls for their extermination, expressing extreme contempt for these mammals, are not met with any form of social ostracism. People's attitude to them may therefore serve as a good gauge of social empathy and aggression. The rodents' role in spreading disease, the overt conflict of their economic interests with our species, their nocturnal lifestyle, rapid reproduction rate and the often negative role they play in ecosystems all activate a deep-seated aversion in humans. Seeing rats as individuals deserving ethical

603 M. Serres, *The Parasite,* Minneapolis–London: University of Minnesota Press, 2007.

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reflection is therefore both difficult and essential. I hope that this book will contribute to at least a partial modification of cultural notions about these animals.

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Abbreviations of Archive Names

MZO AAN	Ministry of Recovered Territories, Modern History Documentation Archives (Ministerstwo Ziem Odzyskanych, Archiwum Akt Nowych)
DŻS BN	National Library Documents of Everyday Life (Dokumenty Życia Społecznego Biblioteki Narodowej)
GZST AAN	Regional Government Economic Association, Modern History Documentation Archives Gospodarcze Zrzeszenie Samorządu Terytorialnego, Archiwum Akt Nowych)
SPDŁ APŁ	"Deratyzacja" Worker Cooperative in Łódź, State Archive in Łódź (Spółdzielnia Pracy "Deratyzacja" w Łodzi, Archiwum Państwowe w Łodzi)
SZDDD APS	Szczecin Pest Control Company, State Archive in Szczecin (Szczecińskie Zakłady DDD, Archiwum Państwowe w Szczecinie)
WSSES APS	Provincial Sanitary and Epidemiological Station in Szczecin, State Archive in Szczecin (Wojewódzka Stacja Sanitarno-Epidemiologiczna w Szczecinie, Archiwum Państwowe w Szczecinie)
GIOŚZK AAN	National Environmental Protection Inspectorate Control Team, Modern History Documentation Archives (Główny Inspektorat Ochrony Środowiska Zespół Kontroli, Archiwum Akt Nowych)
CDDW AAN	Central Disinfection and Rat Control Office in Warsaw, Modern History Documentation Archives (Centrala Dezynfekcji i Deratyzacji w Warszawie, Archiwum Akt Nowych)
PWRN, APS	Presidium of the Provincial National Council, State Archive in Szczecin (Prezydium Wojewódzkiej Rady Narodowej, Archiwum Państwowe w Szczecinie)
MZOS AAN	Ministry of Health and Social Welfare, Modern History Documentation Archives (Ministerstwo Zdrowia i Opieki Społecznej, Archiwum Akt Nowych)
CZPM AAN	State Administration of the Meat Industry, Modern History Documentation Archives (Centralny Zarząd Przemysłu Mięsnego, Archiwum Akt Nowych)

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