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Circulating Silence. The Reaction to Rachel Carson's Book *Silent Spring* (1962) in Scandinavian Gardening Magazines

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Abstract: This article examines the reception of Rachel Carson's book *Silent Spring* in Scandinavian family gardening magazines. In Sweden, Norway and Denmark, family gardening associations were broad organisations with significant social impact. They were the most important arenas for transfer of scientific knowledge and values on gardening, linking plant protection experts, producers and sellers of gardening chemicals, horticultural advisors and the general public. Thus, these associations and their magazines influenced many social groups that had common interests in non-commercial gardening as part of their everyday life. In practice, these family gardening magazines were heavily dependent on the income from garden chemicals advertisements. Consequently, their editorial policies and plant protection technical advice were deeply rooted in the post-war ideals of chemical agriculture and horticulture. These ideals were pursued and applied everywhere—even into the tiniest allotment and family garden. Scandinavian countries and their gardening associations have many similarities and some differences between them. This makes them an interesting case for comparison. The gardening magazines of Sweden, Norway and Denmark show quite a few similarities in the way they first pretended to ignore Carson while spending much effort countering the possible effects of her message, and in the way they retrospectively engaged with her book. There are, however, quite interesting differences in the way the national garden associations, their magazine editors and the magazines' pesticide experts handled the publicity generated by *Silent Spring* on the harmfulness of garden chemicals.

Keywords: Rachel Carson; gardening; pesticides; DDT; gardening associations

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Introduction

Some writings change the world. In retrospect, this may seem obvious. However, at the time of publication and its immediate aftermath, this is not always so clear. One such revolutionary writing was the work of American biologist Rachel Carson, *Silent Spring*, that was published in 1962, and shortly afterwards in many other languages including the Scandinavian ones: Norwegian, Swedish and Danish, in 1963.¹

Silent Spring ignited a global movement that changed humans' relations with nature. Not overnight, not alone, and not without massive and fierce opposition. Today, Rachel Carson's name is associated with environmental organisations, important research institutions, museums, awards, websites, and schools.² Carson's book dealt with the serious and unintended implications of widespread pesticide technologies, for nature, species, ecosystems, the environment and for human health.³

¹ Rachel Carson, *Silent Spring* (Boston: Houghton Mifflin, 1962). Scandinavian translations in Swedish, Rachel Carson, *Tyst Vår* (Stockholm: Prisma, 1963); in Danish, Rachel Carson, *Det Tause Forår* (Köbenhavn: Gyldendal, 1963); in Norwegian, Rachel Carson, *Den Tause Våren* (Oslo: Tiden, 1963). On Carson's biography, see Linda Lear, *Rachel Carson. Witness for Nature* (New York: Henry Holt and Company, 1997).

² See among others: <http://www.rachelcarson.org>, <http://www.carsoncenter.uni-muenchen.de/index.html>, <http://www.silentSpring.org/about-us>.

³ Many historians and other scholars have since then investigated and published on pesticide history and practices, pesticide politics and controversies and also the legacy of Rachel Carson within the field. Among these studies are Frank Graham, *Since Silent Spring* (Boston: Houghton Mifflin and Company, 1970); John Sheail, *Pesticides and Nature Conservation. The British Experience, 1950-1975* (Oxford: Oxford University Press, 1985); Robert van den Bosch, *The Pesticide Conspiracy* (Berkeley: University of California Press, 1989); Pete Daniel, *Toxic Drift: Pesticides and Health in the Post-World War II South*, annotated ed. (Baton Rouge: LSU Press, 2007); Thomas Dunlap ed., *DDT, Silent Spring, and the Rise of Environmentalism, Classic Texts* (Washington: University of Washington Press, 2008); Claes Bernes and Lars Lundgren, *Bruk och Missbruk av Naturens Resurser: En Svensk Miljöhistoria* (Stockholm: Naturvårdsverket, 2009); Naomi Oreskes and Erik M. Conway, "Defeating the Merchants of Doubt," *Nature* 465 (2010): 686-7; David Kinkela, *DDT and the American Century: Global Health, Environmental Politics, and the Pesticide that Changed the World* (Chapel Hill: University of North Carolina Press, 2011); Frederick Rowe Davis, *Banned: A History of Pesticides and the Science of Toxicology*, illus. ed. (New Haven: Yale University Press, 2014); Harri Siiskonen, "Silent Spring and the Nordic Agricultural Magazines," *Scandinavian Economic History Review* 50 (2011): 7-23; Harri Siiskonen, "Dödsrisker och Komersiella Interessen i Kampen mot Kvickrot i det Finska Jordbruket," in *Å Selge Liv og Død. Kommersielle Strategier og Kulturuttrykk i Markedsføringen av Død og Dødsfrykt*, ed. May-Brith Ohman Nielsen, 46-62 (Joensuu: University Press of Eastern Finland, 2014); May-Brith Ohman Nielsen, "Kverk Krekene! Strategier for å Selge Liv og Død Til Norske Hageeiere 1945-1975," in *Å Selge Liv og Død*, ed. Nielsen, 12-45; May-Brith Ohman Nielsen, *Små Paradiser: Hager Gjennom et Århundre* (Kristiansand: Portal Akademisk, 2015); Michelle Mart, *Pesticides, a Love Story: America's Enduring Embrace of Dangerous Chemicals* (Lawrence: University Press of Kansas, 2015); Graham A. Matthews, *A History of Pesticides* (Boston: CABI, 2018); José Ramón Bertomeu Sánchez, "Introduction. Pesticides: Past and Present," *HoST – Journal of History of Science and Technology* 13, no. 1 (2019): 1-27; Anne Jorunn Frøyen, "Influencing for Results: Bees, Beekeepers and Norwegian Pesticide Legislation," *HoST – Journal of History of Science and Technology* 13, no. 1 (2019): 28-50; May-Brith Ohman Nielsen, "Syntheticising Scandinavia: The Introduction

Ursula Franklin defines technology as not simply tools or a system of tools, but all the ideas, beliefs, practices and social organisation the tools are integral parts of, the very “way we do things around here.”⁴ Pesticide technologies are exemplary in this respect and should be studied with this approach. Thus, when Carson’s book criticised the effects of eco-toxic chemicals, like dichlorodiphenyltrichloroethane (DDT) and other pesticides, it was not only an objection against certain chemicals and spraying equipment. Rather, it was a systemic critique of “how things are done” and the practices, knowledge, beliefs and values that dominated the widespread use of pesticides as pest control tools in agriculture, horticulture, forestry, gardening and public space management.

Silent Spring was an international bestseller, and the book was translated into many languages. It is widely acclaimed as the major spark for the modern environmental movement and the accompanying global and ecological perspective.⁵ Although organisations, individuals and initiatives on nature protection and environmental consciousness existed prior to 1962,⁶ *Silent Spring* extended these nascent ideas into the realms and spheres of unprecedented public and political attention by illuminating on the specific and large-scale harmful effects of pesticides on human bodies and wildlife. And it did so across borders.

Gradually, this revitalised and reorganized environmental movement gained momentum, attracted other prominent writers and scientists and placed environmental concerns and awareness on the political agenda in many countries around the world.⁷ This wave was building

of Synthetic Pesticides to Scandinavian Gardens, 1945-1952,” *HoST – Journal of History of Science and Technology* 14, no. 1 (2020): 113-59; Anne Jorunn Frøyen, “Fyll Jorden og Legg den Under Dere”: Jordbruk, Gift og Natur i Norge Frå 1875 til 1995 (Kristiansand: University of Agder, 2022); Sabine M. Clarke and Richard J. Brown, “Pyrethrum and the Second World War: Recontextualizing DDT in the narrative of Wartime Insect Control,” *HoST – Journal of History of Science and Technology* 16, no. 2 (2022): 89-112. See also Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011); Naomi Oreskes and Eric Conway, *Merchants of Doubt. How a Handful of Scientists Obscured the Truth ion Issues from Tobacco Smoke to Climate Change* (New York, Bloomsbury Press, 2010); Soraya Boudia and Nathalie Jas, ed., *Powerless Science?: Science and Politics in a Toxic World* (New York: Berghahn Books, 2014); David K. Hecht, “Constructing a Scientist: Expert Authority and Public Images of Rachel Carson,” *Historical Studies in the Natural Sciences* 4, no. 3 (2011): 277-302; David K. Hecht, “Rachel Carson and the Rhetoric of Revolution,” *Environmental History* 24, no. 3 (2019): 561-82.

⁴ Ursula Franklin, *The Real World of Technology*, rev. ed. (Toronto: Anansi, 1999), 11-2.

⁵ This is a step of development from the “classic” nature-conservation organizations with their emphasis on the protection of specific endangered species and “untouched” scenic landscapes. See also references in the notes above.

⁶ See for instance Libby Robin, Sverker Sörlin, and Paul Warde, eds., *The Future of Nature: Documents of Global Change* (New Haven: Yale University Press, 2013); Paul Warde and Sverker Sörlin, “Expertise for the Future: The Emergence of Environmental Prediction c. 1920–1970,” in *The Struggle for the Long-Term in Transnational Science and Politics*, ed. Jenny Andersson and Eglė Rindzevičiūtė, 38-62 (New York: Routledge, 2015); Joachim Radkau, *The Age of Ecology* (Cambridge: Polity, 2014).

⁷ See footnote 4.

up in Scandinavia too.⁸ *Silent Spring* was translated into Swedish, Danish and Norwegian in 1963, one year after its original release.

Rachel Carson's original book in English, its reception, its impact on scientific debates and social practices, has received the attention of many scholars and is well documented.⁹ The book was met with fierce opposition by the pesticide industry and advocates of pesticide technologies within agriculture, gardening, forestry, departments of agriculture and agriculture education. This opposition took many forms, from direct, explicit, and fierce attack on the author and others who shared her concern and perspectives, to covert defamation campaigns, lobbying against researchers and legislative reforms involving restrictions on production and use of the most toxic and harmful pesticides. The complexity of means and methods to discredit Carson and her work, as well as her supporters, have been documented by Oreskes and Conway, Jas and Hecht, among others. Researchers like Mart have shown how the public attention around Carson's book and the subsequent restrictions on some of the most toxic and popular pesticides did not result in reduced sales and use of pesticides altogether, neither among general consumers nor among family gardeners, but merely shifts in pesticide product consumption. Pesticide habits, and the knowledge and tools involved, continued almost as usual in the decade after *Silent Spring*, despite its wide readership, public recognition, and political attention. There seemed to be social realms immune to the concerns Carson raised and resilient to change.¹⁰

However, there are fewer studies on the reception of *Silent Spring* outside the US, among the general public and within significant and relevant interest groups. This study investigates the arena of Scandinavian family gardening and it uncovers other means and methods used to counter Carson and the possible effect of her message upon an arena where pesticides were part of widespread practices. These arenas also deserve investigative attention because Carson had a twofold concern: addressing the large-scale politics of global pollution and corporate power

⁸ Scandinavian countries also had organizations, some dating back to around 1915, and concerned individuals and groups with a longstanding commitment to the protection of nature, but they all gained a new momentum from the mid 1960s onwards. See for instance Anna Kaijser and David Larsson Heidenblad, "Young Activists in Muddy Boots: Fältbiologerna and the Ecological Turn in Sweden, 1959–1974," *Scandinavian Journal of History* 43, no. 3 (2018): 301–23; Jonas Anshelm, *Det Vilda, det Vackra och det Ekologiskt Hållbara: Om Opinionsbildningen i Svenska Naturskyddsföreningens Tidskrift Sveriges Natur 1943–2002* (Umeå: Umeå University Press, 2004); Bredo Berntsen, *Grønne Linjer: Natur- og miljøvernets historie i Norge* (Oslo: Unipub, 2011). Among other widely read Scandinavian writers was Rolf Edberg, who published his book on the global ecological crisis simultaneously in Sweden, Denmark and Norway in the fall of 1966. See David Larsson Heidenblad, "Ett Ekologiskt Genombrott? – Rolf Edbergs Bok och det Globala Krismedvetandet i Skandinavien 1966," *Historisk Tidskrift* 2 (2016): 245–66.

⁹ Lear, *Rachel Carson*; Mart, *Pesticides*; Davis, *Banned*; Siiskonen, *Silent Spring*; Graham, *Since Silent Spring*; Oreskes and Conway, *Merchants*; Boudia and Jas, *Powerless Science*; Hecht, "Constructing a Scientist."

¹⁰ See above footnote 3.

and the effects of this infrastructure on everyday lives of consumers and experts at the local scale. For the average Scandinavian family with a garden, this was a question of what people should do, or not do, in their own small garden.

Scandinavian cities and towns experienced extensive suburban expansion and home building in the 1960s consisting mainly of family houses with gardens. The relative space covered by gardens, compared to land used for large scale agriculture or forestry, was different in these three countries. Denmark was overall agrarian; Sweden was agrarian in the south while forestry dominated the north; in Norway, mountainous landscape, fjords and arctic areas restricted cultivation to approximately two percent of the entire land area. How people treated this land, the plots they and their family lived on, was significant, both for human health and for the environment.

This article examines the reception of *Silent Spring* amongst Scandinavian garden organizations and amateur/family gardening magazines, magazines that were also widely read and used by professional gardeners. Books circulate and so do the general perception, discussions, and contestations on environmental knowledge. This article argues that a critical study of the reception of books on pertinent global issues can be a helpful conceptual windows to get insight into prevailing thought within new knowledge systems that challenge and question traditional values and practices on “the way we do things around here” also across the Scandinavia borders. By studying dissemination of knowledge and beliefs in wide reaching publications and membership organisations with a distinct instructional purpose, we may learn more about how knowledge, or the opposite—silence, often paired with ignorance circulate and of the historical preconditions for both.¹¹ This paper engages with the fundamental question of what happened on these arenas when Rachel Carson’s *Silent Spring* was published and translated into Scandinavian languages. This study shows that keeping silent about *Silent Spring* was a major strategy in all Scandinavian gardening associations’ magazines. But this strategy, as we shall see, was combined with numerous indirect attacks and more sophisticated means of enforcing the mindsets and practices that supported the wide use of pesticide technologies and toxic chemicals. Furthermore, editorial shifts, minor as they were, only came after major shifts in the national policies of nature protection and subsequent restrictions on a number of the most toxic pesticides.

¹¹ For a current discussion on the theme of circulations, see Sverker Sörlin, “Användning och Cirkulation. Kunnskapshistoriska Reflektioner om Naturbruk och Textkultur,” in *Sann opplysning? Naturvitenskap I Nordiske offentligheter Gjennom Fire Århundrer*, ed. Merethe Roos and Johan Tønnesson, 509-32 (Oslo: Cappelen Damm Akademisk, 2017). For a more elaborate study of changing ideas in Norwegian family gardening, from the late nineteenth century until the early twenty-first century, see Ohman Nielsen, *Små Paradieser*.

Scandinavian Garden Magazines as Historical Agents

Throughout the nineteenth century and until the days of the internet, magazines were the most important sources of knowledge on subject specific issues for large groups of the population. They were also important arenas for dissemination of scientific, scholarly and expert knowledge for the general reader. Magazines on topics like gardening, health, literature, housework, social issues, technology, wildlife, education, popular history and many more, were also the broadest arena for contact between experts and amateurs. They informed their readers on who the experts were within the various fields and thus contributed significantly to their position as authoritative disseminators of knowledge, ideas, norms and practises around “how we do things around here.”¹² Gardening magazines were typical in these matters.¹³

Magazines are historical agents. Scandinavian gardening magazines published by gardening associations were typical, and served many functions:

- They offered knowledge;
- They shared approaches and world views;
- They promoted values;
- They formed identities and imagined communities, both among the editors, writers and the readers;
- They established, legitimated and preserved knowledge hierarchies;
- They set agendas;
- They ascribed significance;
- They gave instructions, promoted and guided actions.

The reception and reactions to books that present new knowledge and ideas to the public and stakeholders in influential magazines is very important. Magazines can serve to amplify, promote, enhance or attack, misrepresent or ignore, and sometimes even hide the knowledge and ideas in dissident books from the public. This is, and has been, of huge significance for

¹² Jahn Holljen Thon, “‘Den Første Gang’: Edda og Tidsskrifthistorien,” *Edda Nordisk Tidsskrift for Litteraturforskning* 100, no. 3 (2013): 201-6. For Scandinavian studies of dissemination of scientific knowledge, including some studies of journals, see Ohman Nielsen, “Kverk Krekene”; sections in all chapters throughout Ohman Nielsen, *Små Parader*; Merethe Roos and Johan Tønnesson eds. *Sann Opplysning? Naturvitenskap I Nordiske Offentligheter Gjennom Fire Århundrer* (Oslo: Cappelen Damm Akademisk, 2017); Sverker Sörlin, “Anvending och Cirkulation.” See also Andreas Daum, “Varieties of Popular Science and the Transformations of Public Knowledge: Some Historical Reflections,” *Isis* 100, no. 2 (2009): 319-32.

¹³ Ohman Nielsen, “Kverk Krekene”; Ohman Nielsen, *Små Parader*.

books that present new knowledge and ideas on environmental issues. No book has been more significant on this than *Silent Spring*.

Magazines that are produced and published by membership associations are especially effective in shaping public opinion. The bond between the editors and the readers is clearly defined by voluntary membership, common and mutual sympathies and a quiescent readership which is far removed from the critical scrutiny of an open media platform. These magazines are often the most important platforms of communication within the organization. The editors are often elected by the general assembly or appointed by the board, and thus held positions of trust within the associations. Editorial positions in principle and vital matters were not supposed to seriously contradict or compromise the association's program, the basic views of the majority within the organization, the organization's best interest, and substantial sources of income.

It is reasonable to assume that the readers of membership magazines of organisations dedicated to practical purposes in areas like gardening, magazines people at this time read to receive knowledge and practical instructions, were more likely to follow the advice of the editors and the instructions or recommendations of the various experts that wrote for the magazines, or at least to do so to a higher degree than readers of other types of magazines.¹⁴ In the case of the Norwegian gardening magazine, both during World War II and in the two post-war decades, practical instructions feature as the most popular content. The yearly supplement to the February issue, *Minneliste for Hagedyrkere*, the garden calendar leaflet on what to do, when and how in your garden, usually sold in three times as many copies as the regular issues.¹⁵ This was a type of garden calendar, in the form of a "reminder" for gardeners on what should be done at different times of the year. On the other hand, as members of an organization, readers could also be more willing to give written feedback, ask for advice, and even voice their protest if they disliked the policy or position advocated in the magazine. In the spirit of transparency,

¹⁴ The argument is not that people in general, or these readers in particular, were marionettes that did what they were told. Rather that people who buy a cookbook, a booklet with knitting instructions or a textbook on how to breed queen bees, grow tomatoes, keep chicken or get rid of rodents, would be more likely than others to follow the recipes, instructions and procedures outlined in these publications. Thus, the content of these publications and the methods they prescribe have impact beyond publications with more general content and readership. This may also be assumed for those purchasing or subscribing to magazines with gardening instructions, which were the main content of gardening magazines until the mid 1970s. Ohman Nielsen, *Små Paradieser*; Ohman Nielsen, "Syntheticising Scandinavia."

¹⁵ This instruction-based reader contract between the editors and members of the gardening magazines in Scandinavia, was strengthened during World War II and the post-war years due to the import problems and the food supply situation. The authorities encouraged the population to grow more food in their own gardens and cooperated with garden associations to promote this and to instruct on how to do it. In Norway, where the supply situation was especially dire, the association and its magazine were heavily involved in the campaigns for increased self-supply and education of home-growers. These campaigns more or less took the form of directives from the authorities. This type of instruction-based communication, in various forms, was typical in the following decades. For more on this, see Ohman Nielsen, *Små Paradieser*; Ohman Nielsen, "Kverk Krekene."

the editors could also be expected to give some concessions to opposing views within the organization in the columns. Studying member organization magazines can also offer insights into the social, political and power relations of the organization, their knowledge cultures and world views.¹⁶

Scandinavian family gardening associations were mainly organizations of dedicated amateur gardeners. Their roots were in the popular garden movement of the late nineteenth and early twentieth century. Many professionally trained gardeners, horticulturalists and plant producers were also members, because these broad associations were older and stronger than the professional organisations for gardeners, farmers and park managers. Garden associations also employed many professionals as editors, writers, and expert advisors on different gardening subjects. Many professionals also viewed these associations, both on national and local levels, as an important audience and market for their expertise, professional advice and products. These products could be books with “guidance, tips and shared secrets” for garden amateurs on courses, tools and remedies like fertilisers, pesticides and other chemicals or seeds and plants.¹⁷

The status of the magazines as a link between professional expertise, commercial interests and amateur gardeners was problematic for an objective engagement with pesticides and family gardening. This was because chemical companies and the sellers of pesticides and herbicides were by far the major advertisers in Scandinavian garden magazines. Between 1945 and 1972, these advertisements filled around eighty percent of the advertising space and in the “spraying season” often occupied more than ninety percent of the space. Without the income from these advertisements, the magazines would have had a completely different economic base, and subscription fees would probably have had to be significantly higher to fund the magazines and the associations. Thus, the associations ran the risk of putting off members due to high fees.¹⁸ One may therefore argue that editing these membership journals against the interests of the pesticide companies was a substantial economic risk for the gardening associations. This needs to be considered when we interpret how and why gardening associations, and in particular their magazines, stuck to the gospel of postwar pesticide ontology for such a long time and thus made so many efforts to resist the possible impact of Rachel Carson and *Silent Spring*.

These organizations and their magazines were knowledge cultures. They organised and circulated changing forms of knowledge. The construction and sharing of knowledge was an essential part of their historical purpose and this was much effectively dispensed through their editorial responsibilities.¹⁹ The search for knowledge was the essential motivation for membership in

¹⁶ Ohman Nielsen, *Små Paraderis*.

¹⁷ Ibid.

¹⁸ Ohman Nielsen, “Kverk Krekene”; Ohman Nielsen, *Små Paraderis*; Ohman Nielsen, “Syntheticising Scandinavia.”

¹⁹ Ohman Nielsen, *Små Paraderis*. For a presentation of the more general interest in the history of

the organisation and the growing membership incentivised the production of a membership magazine. The Swedish garden magazine *Hemträdgården* had the motto: “As much solid garden information to as many as possible, as affordable as possible” printed on the cover.²⁰ This was the communication contract between the editors and the readers. Family gardeners read the garden magazines to receive guidance.

In their editorials, columns and commercial advertisements these magazines show, explicitly and implicitly, a blend of:

- Ontologies, worldviews;
- Theories of nature and theories of the human body and mind;
- Concepts of history, progress and the future;
- Epistemological positions that legitimized certain types of knowledge, certain rationalities and certainties while they rejected others;
- Values, both on the social and individual level;
- Aesthetics;
- Ideas of usefulness, efficiency and practical skills;
- Practical instructions or advice on doing things “right” or “wrong.”²¹

The garden magazines were among the most widely distributed publications in Norway, Sweden and Denmark because the garden associations were among the largest of the voluntary organizations. Socially, culturally, and demographically gardening was, and still is, a widespread activity in Scandinavia. Garden associations were exceptional in their broad membership base. They encompassed both men and women, older and younger through life spans and across generations, people from almost all over the country, from different backgrounds and socioeconomic situations, and with different professional identities and political inclinations.²²

Around 1960 membership figures in the major Scandinavian family garden organizations and their magazines are shown below:

knowledge among Scandinavian historians, see Johan Östling and David Larsson Heidenblad, “From Cultural History to the History of Knowledge,” *History of Knowledge*, June 8, 2017, <https://historyofknowledge.net/2017/06/08/from-cultural-history-to-the-history-of-knowledge/>

²⁰ See covers of *Hemträdgården* (1960).

²¹ Ohman Nielsen, “Kverk Kreken”; Ohman Nielsen, *Små Paradiser*.

²² Ohman Nielsen, *Små Paradiser*; Ohman Nielsen, “Syntheticising Scandinavia.”

Sweden: *Riksförbundet Svensk Trädgård*, ca. 30,000 members. Magazine: *Hemträdgården*²³
 Norway: *Det Norske Hageselskap*, ca. 40,000 members. Magazine: *Norsk Hagetidend*²⁴
 Denmark: *De Danske Haveselskaber*, ca. 40,000 members. Magazine: *Haven*²⁵

The Positions of Garden Magazines on Chemical Spraying

Although pesticides had been used in Scandinavian agriculture, in gardening and in fruit farming since the late nineteenth century, synthetic pesticides were introduced in professional as well as family gardening in the years following World War II.²⁶ The enthusiastic propaganda for DDT and other first generation synthetic pesticides spread by both agricultural and horticultural expertise and by commercial interests was heaviest and most unanimous in the Norwegian garden magazine. The Swedish magazine was also inclined in a similar direction, although with a softer and more pragmatic style of advice. In the Danish magazine, the advice was less unanimous during the early years, and the readers were also encouraged to stay with older remedies, and even to be a bit “relaxed” when confronted with a few lice or black spots on fruits and flowers. However, from around 1950, Danish family gardeners were now being advised to spray their apples five to nine times each season, and to spray their other plants routinely too. Experts’ instructions to the members and readers of the Norwegian garden magazine recommended nine sprayings for apples and five for plums, pears and berry bushes. The magazines, through a series of editorial pieces, hyped on how pesticide technologies were intrinsically intertwined with the story of progress and the future.²⁷

Each of the Scandinavian countries had their national expertise in the fields of plant diseases and plant protection, and they communicated their advice through the garden magazines. They vigorously urged the public through strong moral incentives. Around 1952, all the Scandinavian countries established national legislation on poisonous substances in plant protection and adopted the same principles. The pesticides were classified into four different categories according to their known acute toxicity. National plant protection institutes were responsible for the testing of different products to check that the substances had the declared properties against different pest, weed and fungi and that the containers were labelled properly, consistent with the main contents. Instructions for safe application and safety measures to be

²³ The title *Hemträdgården* means “The Home Garden,” i.e., the private family garden. Sweden had more garden organisations than Denmark and Norway. Both the professional fruit growers and the park conservationists had their own organisations, and member magazines, like *Fruktodlaren*, and some areas of Sweden had for a while separate organisations and magazines, like *Täppan*, the magazine for the Skåne area gardeners. *Täppan* was merged with *Hemträdgården* around 1960.

²⁴ *Norsk Hagetidend* translates “The Norwegian Garden Magazine.”

²⁵ *Haven* translates “The Garden.”

²⁶ Ohman Nielsen, “Syntheticising Scandinavia.”

²⁷ Ohman Nielsen, “Kverk Krekene”; Ohman Nielsen, “Syntheticising Scandinavia.”

observed by the users to prevent accidents were also a requirement in the labelling. Norway, Denmark, Sweden and Finland also cooperated on some of this work. This included bilateral information sharing and joint meetings organised by the Nordic Council of Ministers and Nordic Toxicology meetings. By the mid-1950s, all the Scandinavian countries had state appointed committees for toxicology matters in their Departments of Agriculture.²⁸

Throughout the post-war decades, garden magazines developed a strong expert instructor/amateur follower discourse. Within this editor/reader contract, *Norsk Hagetidend*, *Hemträdgården* and *Haven* communicated through imperatives on plant protection and pesticide use. They depicted and named all possible pests and vermin in great variety and number as enemies of the gardeners. They also conscripted military imagery and depicted the fight against pest as a war, and this was succinctly expressed in their slogans: These are the problems! Face them! Confront them and deal with them! These are the chemicals science has produced to solve these problems! Use them correctly! Follow the instructions! When the plant protection experts “talk to you,” you must pay attention and act!

Magazines presented the pesticide expert as a person who was speaking from the exalted rostrum of science. The phrase often coined was: “The Plant Protection Expert’s Column,” “The Fruit Grower’s Column”—both in the Shell commercials, or “The Plant Doctor’s Column” used about the plant protection experts in *Hemträdgården* and *Haven*. This way a lot of prestige was invested in both the magazines’ stand on pesticides and in the plant protection expert’s standing in garden organisations.

Swedish, Norwegian and Danish garden magazines displayed both similarities and differences in the years prior to 1962 and in the way they reacted to the challenge posed by *Silent Spring*. In 1962, between ninety percent and seventy percent of the advertisements in these magazines in Norway and Denmark respectively were from producers or sellers of poisonous chemicals. This had been the case since around 1948.²⁹

***Hemträdgården*, the Swedish Garden Association’s Magazine**

Hemträdgården, was in 1945-1950 somewhat conservative and reluctant towards the new synthetic pesticides. In the years 1950-1962, however, the Swedish magazine advocated strongly for chemical spraying of fruit trees, berries, vegetables and decorative plants.³⁰ Instructions for spraying of apples trees are among the easiest to compare across geographical borders and technological regimes. Instructions for Swedish gardeners during the 1961-62 season for apples

²⁸ Ohman Nielsen, *Små Paradieser*; Ohman Nielsen, “Syntheticising Scandinavia.”

²⁹ Ohman Nielsen, “Kverk Krekene.” See also Ohman Nielsen, “Syntheticising Scandinavia.”

³⁰ Ohman Nielsen, “Synthetizising Scandinavia.”

recommended two winter season sprays and “at least” four to six summer season sprays. The substances recommended were sulphur, DDT, Lindan, Malathion and others. Typical for the instructions in *Hemträdgården* was the use of the first person plural: “How do we spray this summer?,” “Our spraying season,” “Our defence in the garden”, “This is how we spray properly,” “Spray-time again!”³¹

Hemträdgården’s approaches to *Silent Spring* became evident in a series of direct and indirect counterattacks. The 1962 October issue declared a “Wonderful harvest,” except for “some black spots on the fruit because we did not have time to do the ten sprayings we ought to have done.”³² In February 1963 the message was: “Spray-time again!” This annual message had usually been illustrated by men posing with spraying equipment. In that year, however, it was illustrated in a new way by photos of women presented as mothers spraying and photos of children eating apples. That issue also listed all the chemicals the gardeners “needed” to use throughout the season and advised the readers to get hold of these immediately.³³ This urge to hasten people’s pesticide purchases for the entire season was new. It may have been triggered by the short time frame available before Carson’s book was to be published in Swedish. The follow up was a rhetorical question painting threats of the stone age and primitive fears as the alternative to spraying: “Shall we really continue to spread poison in our gardens?”; “The alternative is to go back 3000-4000 years. Those times were no less dangerous!”³⁴

This precipitated a series of heavy-handed attacks on Rachel Carson and her book, an unprecedented editorial reaction in the thirty years of the Swedish gardening magazine. The attack continued for two volumes and rejected Carson as being emotional, unscientific, alarmist, biased, unpragmatic and unethical. They argued it was clear that chemicals had saved the world and were still doing so.³⁵

No critical voices on the utility of pesticides technologies were admitted to the pages of *Hemträdgården*. The magazine did not invite discussion but performed some rhetorical “discussions” themselves with *fait accompli* conclusions. The plant protection experts kept up their recommendations and the magazine made use of a variety of covert and overt editorial means to influence Swedish gardeners. From 1965 onwards, however, some editorials encouraged gardeners to be cautious with chemicals and to use less toxic alternatives for their own safety.³⁶ There was, however, no self-reflection on the magazine’s moral responsibility and

³¹ See for instance *Hemträdgården* (1961), 5, 42, 45, 65, 114; *Hemträdgården* (1962), 5, 16, 48, 104. See also Ohman Nielsen, “Synthetizing Scandinavia.”

³² *Hemträdgården* (1962), 111.

³³ *Hemträdgården* (1963), 47, 53.

³⁴ *Ibid.*, 47.

³⁵ *Ibid.*, 83.

³⁶ *Hemträdgården* (1965), 3, 37.

culpability for the prevailing large scale use of pesticides in home gardens. Nevertheless, from as late as 1968, pesticide experts in *Hemträdgården* still portrayed DDT and Lindan as the “no doubt most effective” remedies against common pests, but, as they put it, today “often replaced by newer chemicals.” A true euphemism.³⁷

***Norsk Hagetidend*, The Norwegian Garden Association’s Magazine**

The Norwegian garden magazine *Norsk Hagetidend* was a major mouthpiece for chemical modernity and worldviews between 1945 and 1962.³⁸ The use of DDT and other poisonous and harmful pesticides had been challenged by a Norwegian female entomologist, Alfild Løken, in *Norsk Hagetidend* several times in the years between 1945 and 1962. But her articles and views were fiercely rejected and even ridiculed by the magazine’s experts commenting on her texts in the magazine.³⁹ Although the use of most of these harmful chemicals (introduced in the 1940s and 1950s) were restricted during the 1950s and 1960s, the plant protection experts in *Norsk Hagetidend* remained adamant and incorrigible. Despite the overwhelming evidence, they did not rethink their ideas on chemical pollution and pest control technologies for family gardens.⁴⁰ The discussion among plant protection experts was conducted within rather closed circles and the chemicals were approached and assessed substance by substance.

Norsk Hagetidend never mentioned Rachel Carson or *Silent Spring* by name, although it is clear from sarcastic innuendoes that both the magazine editors and the plant protection experts knew the book, its basic concepts, perspectives and its wide impact.⁴¹ Keeping silent about *Silent Spring* and not informing the readers about the extensive and persistent harmfulness of pesticides or herbicides to their bodies outside the limited and controlled confines of labelling safety instructions (“How to use it correctly”) was the main editorial and science communication strategy in the Norwegian garden magazine.⁴² The reigning experts in *Norsk Hagetidend* stuck to their recommendations on the continued use of persistent and heavy poisonous chemicals like DDT and Lindan until these chemicals were forbidden by law in amateur gardens in 1970. The editors and experts of the Norwegian garden magazine were insistent on their narratives using apologetic-aggressive methods to coerce public opinion through personal and professional attacks on alternative voices.⁴³

³⁷ Ibid., 31; *Hemträdgården* (1969), 4.

³⁸ Ohman Nielsen, “Kverk Krekene”; Ohman Nielsen, “Synthetizising Scandinavia.”

³⁹ *Norsk Hagetidend* (1948), 190, 191.

⁴⁰ Ohman Nielsen, “Kverk Krekene.”

⁴¹ This is the same strategy observed by Harri Siiskonen in his study of the reception of *Silent Spring* in Swedish and Finnish agricultural magazines, Siiskonen, “Silent Spring.”

⁴² Ohman Nielsen, “Syntheticising Scandinavia.”

⁴³ *Norsk Hagetidend* (1972), 308; *Norsk Hagetidend* (1973), 113.

In a belated discussion of the issues raised by Carson and coming almost a decade later, *Norsk Hagetidend* set up straw men as their opponents and presented these as “hysterical, exaggerated and emotional voices in the media,” or dismissively referred to them as “news of so called scandals.”⁴⁴ This editorial strategy was carried out through a strong and omnipresent meta-narrative in *Norsk Hagetidend*, a narrative that could not be reconciled with the insights that Rachel Carson and *Silent Spring* represented.

Compared with the other Scandinavian garden magazines *Norsk Hagetidend* certainly lagged behind in the process of changing awareness and the increased concern over issues of health and environment. The magazine and the gardening associations’ communication to its members and the general readership clearly played a conservative role and the columns in the magazine showed continuity in recommending the indiscriminate and extensive use of chemicals in small gardens. The Norwegian pesticide experts and the editors in *Norsk Hagetidend* also attacked the critics and the environmentalists for being unethical, disingenuous and adopting double standards. *Norsk Hagetidend*’s experts routinely blew the discussion out of proportion by switching the focus to other levels where it was harder for garden amateurs to discuss the issue or to challenge the experts’ competence. The arguments were structured into seemingly self-evident but fallacious statements like:

- DDT and other pesticides have saved millions of lives, fed the world and prevented starvation;
- DDT combatted malaria. WHO confirmed that DDT saved millions of lives in developing countries;
- Everything is poisonous, the dosage decides. Confining the discussion to plant protection shows ignorance;
- There are many poisonous and dangerous things in the garden, plants for example;
- The critics have double standards. People use medicine and health remedies themselves, like anaesthetics and modern surgery. Would they live without this themselves? Would they deny medicine to their children? Pesticides are medicine for plants;
- Restricting pesticides will reverse progress entirely, and bring us back to the Stone Age;
- Without the use of pesticides food will be expensive, rotten and look ugly.

Eventually, new and more socially and professionally up-to-date attitudes appeared in the columns of *Norsk Hagetidend*. However, they did not follow from major editorial conversion

⁴⁴ Ibid.

but from a gradual generational editorial and contributors' shift in the years between 1972 and 1980. The new generation of advisors and contributors had often been students at the time when *Silent Spring* was published. Although the book was not part of their curriculum and training, these younger professional gardeners were relatively more informed about the environmental risks posed by pesticides and subsequently more amenable to Carson's perspectives and professional influence. The Stockholm Conference and declaration of 1972 and the subsequent establishment of the United Nations Environment Program, as well as a new Norwegian government department of environmental protection in 1972, first lead by botanist professor Olav Gjærevoll, also served to change many mindsets and give authority to environment causes and arguments.⁴⁵ By 1975, most of the major pesticides from the post-war years were restricted or up for restriction, often with exception for the uses in plant nurseries and greenhouse production.

Criticism of chemical excesses and poisonous practises did not seem to have triggered the same reflexes of personal prestige in this post-Carson generation. The debates on pesticides and Carson's book ran high outside the columns of the garden magazines where the issue was not taboo.⁴⁶ From the middle of the 1970s onwards, *Norsk Hagetidend* told the entire meta story of progress and chemicals in a different way.⁴⁷ However, the editors and their experts conveniently "forgot about" the old version in the same way that the post-war generations kept silent on other unpleasant issues and experiences. This was yet another way that the silence around *Silent Spring* was perpetuated in the communications of the gardening associations.

***Haven*, The Danish Garden Association's Magazine**

The Danish garden magazine, *Haven*, followed the same change in policy and recommendations as the Swedish *Hemträdgården*. The group of plant protection advisors in the largely agricultural Denmark and in the Danish magazine were more numerous than in Norway and in the Norwegian magazine. This made both the subject orientation of the Danish experts and sum of advice given to Danish gardeners more diverse than what was imparted to the Norwegian

⁴⁵ Ohman Nielsen, *Små Paradieser*, 266-74.

⁴⁶ The search system for newspapers in the Norwegian National Library came up with 435 newspaper articles mentioning Rachel Carson between August 1, 1962 and August 1, 1964, the majority in October and November 1963, when the Norwegian edition was published. The list includes all the major national, regional and local papers of all political shades, however with a clear overrepresentation of papers associated with the labour movement, social democrats and left side parties, and a similar underrepresentation of papers connected to the agrarian movement and the former Agrarian party (now named *Senterpartiet*). Ongoing discussions and repeated articles were more typical for the larger newspapers.

⁴⁷ Ohman Nielsen, "Kverk Krekene"; Ohman Nielsen, *Små Paradieser*, 266-300.

gardeners. In the first years following World War II, the Danish *Haven* even presented a few voices telling the readers to be “relaxed” about “a few lice” in their garden.⁴⁸

Haven and *Hemträdgården* also occasionally published articles on how to make garden compost and on how to use organic supplements for chemical fertilisers, something the Norwegian magazine never did, not even once, prior to 1972. A special feature of *Haven* and the Danish gardeners was their apparent enthusiasm for wild birds visiting their gardens. According to the columns of *Norsk Hagetidend*, Norwegian gardeners apparently wanted most birds to spend the cropping season in the endless Norwegian forests. However, there were hardly any natural forests in agricultural Denmark, so family gardens were generally seen as safe havens for birds, away from giant tractors and other machines of commercial farming, and *Haven* enthusiastically presented a “garden bird” species in most issues. This cultural difference might have impinged upon the reception of *Silent Spring*. A spring without bird songs was one of the alarming scenarios Carson presented as both a direct and an accumulated effect of the extensive use of pesticides.

From 1951 onwards, however, the Danish magazine became much like their Norwegian peer. *Haven* now advised its readers repeatedly and every season to use highly toxic pesticides and fungicides to spray their apples up to ten times a year, or at least four to six times if they wanted to be regarded as responsible gardeners.⁴⁹ From 1960, *Haven*’s messaging was that amateur gardeners who did not use pesticides or were sceptical of pesticides suffered from *personal* ignorance of modernity and modern chemistry. For instance, in the spring issue of 1960, the editors of *Haven* used patronising and condescending phraseology such as “Are you afraid of chemicals?” “We need to ‘talk openly’ about pests and disease in efforts to cajole gardeners into using pesticides.”⁵⁰

In *Haven* there was no direct mention of Rachel Carson and *Silent Spring* in 1962. However, the September issue featured an unprecedented, fierce and general attack on the “nursemaid gibberish” and “hysteria” that circulated in the Danish press, and “news of so-called scandals.”⁵¹ This was the first time ever that *Haven* referred to the general press or a social or political issue under public debate.⁵² It is obvious which news stories they were referring to, but the editor of the Danish gardening association’s magazine did not want the members to be informed either

⁴⁸ Ohman Nielsen, “Syntheticising Scandinavia”; *Haven* (1945), 43; *Haven* (1946), 55, 74, 106, 123; *Haven* (1947), 59; *Haven* (1948), 65; *Haven* (1949), 50, 79.

⁴⁹ The advice in these matters was given by *Statens Forsøgsvirksomhed for Plantekultur* (the state test institution for plant-culture). *Haven* (1951), 56, 315; *Haven* (1952), 53, 86, 122, 135.

⁵⁰ *Haven* (1960), 129, editorial.

⁵¹ *Haven* (1962), 130.

⁵² Except for direct messages on garden supplies and pest attacks, especially during World War II.

about the existence of the book or its author. For more than three years, *Silent Spring* was treated as “the book whose name must not be mentioned.”

The main editorial counterattack also followed the same massive but indirect strategy. New and regular columns like “Pest-attack of the Month” and “Enemies of the Garden” were introduced. These were intended to raise awareness and shame the reader on the ubiquitous threats of pests in their own family gardens and enhance members knowledge on the necessity to fight and confront these enemies in every garden.⁵³ An important feature of these new articles was a series of enlarged microscope photos and close-ups of insects, fungus and plant viruses multiplying. One of them, titled “From Another World,” was featured on the cover page. These enlarged microscope photos were very expensive to produce and print with sufficient quality. Who initiated their production? Whether it was the magazine, the plant protection experts or the chemical industry is unclear. These photos were presented as the scientists’ definitive evidence that plant pest were a real problem and proof that “real enemies” were undermining growth, prosperity, comfort or “coziness” in the family gardens. Exertive and robust catchphrases like “Go away pests!” and “Spraying pays off!” were also recurrent motifs in the messaging of the magazine. This new offensive started with four specially printed “pull-out sections” for the readers to save as a separate leaflet. The leaflet featured sixty photographic examples of plant pests and diseases and information on how to fight them with chemicals.⁵⁴

As a side story to these “know the world of your enemies” stories the plant protection experts in *Haven* also regularly urged the readers to follow the rules and regulations set by the authorities, the government and experts on which chemicals to use and how to use them. Attention and compliance to the instructions on the product label was paramount. Readers were encouraged to be careful and “know what you do and why you do it!” This follow the label and follow the law strategy was the principle the magazine’s experts kept repeating. When the authorities introduced new restrictions, the magazine adapted its advice accordingly without explaining to the gardeners why the previous advice was no longer valid or recommended to its followers. Thus, beyond acting as a smokescreen to conceal their retreat and having their authority challenged, the absence of self-criticism and acceptance among the experts in the garden magazines had another problematic side. It did not disrupt the knowledge *status quo* on the use of pesticides amongst their readers by discouraging them from using older chemicals at hand.⁵⁵

Apparently, the gardeners’ associations and their experts took no initiative on this. They were reluctant even when invited to debate the issue. Neither the original nor the Danish version

⁵³ The new column was announced in *Haven* (1962), 247, and it continued throughout the 1960s.

⁵⁴ See for instance *Haven* (1963), 11, 60, 142; *Haven* (1964), 71, 144, 172. *Haven* (1964) also ran similar articles on weeds and herbicides, see 166.

⁵⁵ See for instance *Haven* (1961), 121.

of *Silent Spring* was mentioned in *Haven* until the middle of 1965, when the magazine got a new editorial board. In their first issue they printed a letter from a reader asking for comments on the problems of poisonous chemicals in gardening. The editorial response bore witness to a new policy and framed it urgently: “This is a delicate issue, and we need to discuss it, and this is why we print your letter.” They also invited others to comment.⁵⁶ The same issue finally printed a review of *Silent Spring*, a reprint from another magazine, *Tolvmannsbladet*. However, the review was critical of Carson’s authority and also of the Danish introduction, written by Professor Knud O. Møller, who recommended the book. The reviewer called the book “clever propaganda, perhaps even necessary propaganda,” because it would make people more cautious when applying chemicals. The review concluded that Carson’s book could only result in two good things: more research and stricter control of the regulations by the authorities and a more careful reading of poison labels by the public.⁵⁷

After new debates over chemicals in food and gardening in the Danish media in 1965 and 1966, the *Haven*’s editors adopted an additional strategy, which was presenting the use of chemicals as a matter of choice, “individual taste,” aesthetic preferences and “personality” rather than an issue of poison, pollution, safety and protection of the environment. Late in 1966 *Haven* told Danish family gardeners that it was a “question of emotions, personality and knowledge,” if they chose to use DDT or other chemicals or not. Thus, personality, emotions and aesthetic sensitivity could not be argued with.⁵⁸ Interestingly, when skilled gardeners enquired on how to keep a healthy garden “without chemical sprays,” the experts rejected this and maintained that the crucial issue wasn’t not using chemicals but not using them “wrong” and to “follow the rules.” The rules were depicted as God given laws of nature when, in fact, they had made the rules themselves.⁵⁹

In 1968, a new series of books on plant protection written by *Haven*’s experts was released and also published as a series of articles in the magazine. This took the form of a new editorial campaign to make readers have a broad knowledge on plant pest and diseases. They presented chemicals such as DDT, Lindane and Malathion as positive remedies to “help” the gardeners. These chemicals were soon to be restricted or reserved for professional use only. In the meantime, gardeners without a “personal problem” with scientific knowledge and chemistry, could get guidance.⁶⁰

⁵⁶ *Haven* (1965), 12.

⁵⁷ *Ibid.*, 12, 20, 146.

⁵⁸ *Haven* (1966), 244.

⁵⁹ *Ibid.*, 393, 397.

⁶⁰ *Haven* (1968), 59, presents the book *Plantesygdomme og Skadedyr* by Mogens H. Dahl, published by the Danish professional gardeners’ association, and the book *Giftnævnens Oversigt Over Klassificerede Bekæmpningsmidler* (1967), published by the Danish state’s poison commission. See also articles in *Haven* (1968), 113, 220, 260, 269, 310, 319, 364.

The international Year of Nature Conservation, 1970, marked a turning point in Scandinavia with regards to the official and general approach to environmental issues. This is very observable in the garden magazines. However, this shift did not inspire any conspicuous self-reflection over the moral responsibility and culpability for the prevailing situation. *Haven's* first issue in 1970, however, for the first time attributed the environmental shift and the debate over the issue of “chemicals in our gardens” to Rachel Carson.⁶¹ This was the second time her name was mentioned in *Haven* in eight years. Five years earlier, she had been characterized as incompetent, emotional and deeply unethical.⁶² In the opening issue of 1970, the wording was different:

It all started with Rachel Carson's book *Silent Spring*. It continued with a hectic press campaign. The results were that many people had their sense of responsibility sharpened and even more people became aware of a new responsibility. All reasonably thinking humans today understand that uncritical use of chemicals must be avoided.⁶³

In light of the history of the Danish gardening magazine and the Danish Horticultural Society, this was a huge concession. However, the carefully crafted praise of Carson's contribution reserved a significant semantic and practical space for the “conscientious” and “critical” use of chemicals and maintained the scientific authority of plant protection experts.

From 1970 and especially from 1972 onwards, *Haven* presented articles on biodynamic gardening and biological methods against pests and plant disease alongside advertisements for chemical garden remedies and articles on how to fight plant problems and weeds the chemical way.⁶⁴

Conclusion and Discussion

Technology is “the way things are done around here.” Pesticide technologies are typical examples of prescriptive technologies. The Scandinavian magazines together with similar journals within the field of agriculture, forestry, as well as journals for professional gardeners within greenhouse gardening and horticulture, were important arenas for these prescriptive regimes. Sweden, Norway, and Denmark revised their legislation on pesticides shortly after Rachel Carson's book brought the subject of harmful pesticides into the international limelight. However, these legislative revisions mainly focused on approval procedures and not on banning these

⁶¹ *Haven* (1970), 4.

⁶² See above.

⁶³ *Haven* (1970), 4.

⁶⁴ See for instance, *Haven* (1970), 311, 352: One of the readers donated a subscription of the magazine *Biodynamisk Dyrking* to *Haven's* editors and a collection of the 30 previous issues that had been published, so the editorial board could educate themselves on these issues. *Haven* (1972), 35, 113: The magazine still contains a large number of advertisements for pesticides, fungicides and especially herbicides.

substances. During the 1960s, the use of some of the strongest poisons, like endrin, dieldrin, aldrin and chlordane, all substances that Carson criticised, were either forbidden or restricted to a minimum in these countries.⁶⁵ From 1970, DDT, aldrin and dieldrin were not permitted for use in family gardening and agriculture in Norway. During the 1970s and 1980s, however, professionals could apply to the agricultural authorities for use of many of the forbidden toxic substances in exempted spaces such as plant nurseries and greenhouses. Similar restrictions were passed by the other Scandinavian parliaments. These changes were never commented upon in the garden magazines except for small notices informing members that, for instance, DDT could not be bought next year, or that a favourite chemical “nowadays is often replaced with the newer.”⁶⁶

Scandinavian gardening magazines appear as strong advocates of excessive chemical spraying in the years 1945 to 1963 and beyond. For almost a decade thereafter, these magazines also appear as fierce antagonists against not only Rachel Carson’s book and her warning about harmful pesticides, but also against other voices within the gardening associations who shared Carson’s concerns. The attitudes of the gardening magazines and their editors lagged significantly behind the general development and articulation of these questions in the public and political arena. Thus, it is reasonable to assume that the garden association magazines played a conservative role in the spread of new knowledge and concern over pesticides and in the slow transition towards more environmentally friendly gardening among Scandinavian professional and family gardeners.

This is of historical importance because these magazines, owned by broad membership organisations, sent to numerous subscribers, sold at most magazine stands and found at any public library, were significant historical agents in the field of gardening. For people owning family gardens and who sought knowledge and instruction about how to garden it, these were the main and constant providers through the season, and over decades. The professional gardeners in this field set standards in the industry through their practice. But the impact of the organized amateur gardeners of Scandinavia were also wide with regards to both the combined space they cultivated and because their inclinations impinged on many more arenas. They were voters, consumers, parents, educators, neighbours, neighbourhood carers and trendsetters. A significant amount of the garden chemicals distributed in Scandinavia were administered by them, and the harmful effects would be felt by them too. The knowledge, norms and attitudes that the plant protection experts and magazine editorials offered them in their main arena for

⁶⁵ It was, however, possible to apply for exception in special cases. Many chemical substances that were restricted or forbidden in horticulture and agriculture were legal for almost a decade longer in commercial forestry. Harri Siiskonen, “Dödsrisker och Kommersiella Intressen i Kampen mot Kvickrot i det Finska Jordbruket,” in *Å Selge Liv og Død. Kommersielle Strategier og Kulturuttrykk i Markedsføringen av Død og Dødsfrykt*, ed. May-Brith Ohman Nielsen, 46-62 (Joensuu: University Press of Eastern Finland, 2014).

⁶⁶ Siiskonen, “Dödsrisker.” See also Ohman Nielsen, “Kverk Krekene.”

information and the identity forming of amateur gardeners must have had a significant impact on them. Why should small-scale family gardeners not be the most concerned and the most relevant audience for Carson's message? Why and how did the editors of their organisations' membership magazine decide that they were not concerned or should not be concerned?

Only around 1973 did the editors of Scandinavian gardening magazines revise their position on pesticide advice to their members and readers with respect to the use of pesticides in family gardens. These editorial revisions appear as slow and reluctant adaptations to the general development of knowledge and attitudes that we can observe among experts in politics and in the public, and within environmental organizations at that time. These broad changes in political attention made The Council of Europe declare 1970 as *The European Nature Conservation Year* and motivated the celebration of the first *Earth Day* in that same year. These changes also gained further momentum and led to the establishment of departments of environmental protection, environmental protection agencies, new legislation on environment protection and revised school curricula in the different countries. In 1972, the Stockholm convention and the establishment of the United Nations Environmental Program paved way for subsequent global and national environmental initiatives.⁶⁷

Gradually, these developments influenced the advisory and editorial outlook within the gardening associations and the gardening magazines. From around 1973, Scandinavian gardening magazines advocated that chemical spraying was only to be done if there was a problem and was supposed to be the last solution. In addition, the least toxic substances had to be used and family gardeners were encouraged to "accept a few lice and beauty-spots" on their plants and not be "hysterical about insects."⁶⁸ This was a much convenient way of balancing up the pest protection concerns of family gardeners against commercial gardeners, who were exempt from much of the restrictions on pesticide use on professional grounds.

From this time on, Scandinavian gardening magazines and the leaders of Scandinavian gardening associations also seemingly recognised that one might be a knowledgeable, competent,

⁶⁷ For more about this general development outside the field of gardening, see May-Brith Ohman Nielsen, *Norvegr: Norges Historie*, 4 vols., Vol. IV: *Etter 1914* (Oslo: Aschehoug, 2011), 201-7.

⁶⁸ In *Haven* this turn towards recognizing the need for more concern for not harming "nature" in plant protection can be seen from 1972 onwards. See for instance the big article on biological pest control by Jørgen Jørgensen, *Haven* 1972, 35, on insect control by birds, and Th. Thygesen, *Haven* (1972) 113. Even some chemical advertisements told people to pay attention to nature, like advertisements for Radar, *Haven* 1972, 166. The annual series on plant pest and diseases and how to fight them were gone in (1972), and in 1975 *Haven* told the readers to accept "to lose a few garden plants now and then because they did not do commercial gardening." *Haven* (1975), 158. *Hemträdgården* (1972), autumn issue, 6 article: "Människan och hennes miljö," printed opening speech by landshövding Rolf Edberg on Riksförbundet's national summer conference. See also Ohman Nielsen, "Kverk Krekene."

conscientious and eager amateur gardener without adhering to the post-war gospel of the chemical industry about the salvation of the earth through synthetic poisonous chemicals.⁶⁹

The present study, however, also opens up further analytical avenues of research and suggests that these findings are relevant beyond this study. In their defence of the use of persistent or the most toxic chemicals, none of the Scandinavian gardening magazines argued their case with reference to national or local conditions. Their arguments were almost always generalised and abstract. This often blew the issue out of proportions and made it a rhetorical hydra. However, the concept of “personal choice” made it possible to circumvent this argumentative tangle that seemed stuck on demarcation of authority and lack of dynamic exchange. It would be interesting to find out if, and how, these features were present in family garden magazines in other countries too. The knowledge circulated in garden magazines were at this time of a particularly instructive type, thus the decision to promote or prevent the spread of harmful pesticides in the surroundings were probably more influenced by this practical advice arriving monthly in the members mailboxes, libraries or local magazine stands, than by more distant and general discussions.⁷⁰

Rachel Carson and *Silent Spring* challenged the pesticide industry and their chemical worldviews, the unethical sides of agribusiness and humans’ right to lord it over all living things and to destroy nature. Carson introduced the concept of ecology to the general public. She challenged weak politicians and introduced a wide audience to the frauds and mental masks of positivist ideology.⁷¹ Thus Carson also profoundly questioned authorities and the way they legitimized their authority through the top-down use of expertise and professional rhetoric.

Scholars like Oreskes and Conway, Lear, Hecht and others have documented the direct, open and covert attacks from the pesticide companies, their advocates and lobbyists, on Carson herself and those who shared her concern and worked to change attitudes, practices and legislation. This study, however, demonstrates how resistance to Carson could play out on a different type of public arena where the main strategy was to counterattack her message without explicitly mentioning her and draw unnecessary attention to the book. Here, Carson and *Silent Spring* were treated as not worth mentioning, while many efforts were obviously undertaken to strengthen and diversify the traditional messaging of the plant protection authorities and the pesticide industry.

Family gardening is generally perceived as a feelgood arena, where participants seek peace and avoid conflict and fierce rhetoric. In Scandinavian gardening magazines, the most eye-catching

⁶⁹ Ohman Nielsen, “Syntheticising Scandinavia.”

⁷⁰ Ohman Nielsen, “Kverk Krekene”; Ohman Nielsen, *Små Paradieser*; Ohman Nielsen, “Syntheticising Scandinavia”; Frøyen, *Fyll Jorden*.

⁷¹ Lear, *Rachel Carson*.

exception from this pattern were the editorial, plant protection experts' and commercial campaigns against insects, weed and fungi. In *Silent Spring*, Carson portrayed this rhetoric and imagery. Many eager family gardeners in Scandinavia were women, and many gardeners were probably also concerned with possible harms to the environment.

Neither the general editor-readership contract, nor the internal sentiments within the gardening associations and their local clubs were served by open and misogynist attacks on Carson and her book. Thus, a more mixed, refined and indirect strategy was pursued to promote "business as usual" in these arenas. The fact that the book was published in Danish, Norwegian and Swedish six to twelve months later than the original's arrival in the US may be part of the explanation for this choice of strategy. In the US, as Lear, Hecht and Oreskes and Conway, among others, have shown, some of the fierce personal attacks on Carson from the pesticide industry, like calling her hysterical, emotional, unscientific and completely mistaken, backfired. They contributed lots of attention and skyrocketed sales.⁷² The risk of possibly backfiring effects of direct and personal attacks on Rachel Carson were certainly to be considered on the arenas of Scandinavia's most dedicated family gardeners, of which many probably were nature lovers, and a high number were women. Direct attacks on Carson could backfire and send even more of them off to the bookstores. Expanding the readership of *Silent Spring* could further backfire against the pesticide industry and pesticide authorities. Moreover, it could also backfire against the gardening associations and put off members and subscribers, so they would seek knowledge elsewhere and the associations would lose money and support. The overall result might be that family gardeners would buy less pesticides. This is probably why different, more indirect, strategies were chosen on these arenas if the objective was to maintain "the way we do things around here."

Silent Spring challenged the ontology of pesticide authorities, experts, companies and their advocates, and the means by which they imposed their worldview on farmers, gardeners, politicians and the general public and served to guide "the way we do things around here." Scandinavian gardening magazines and the gardeners associations were microcosm of this larger picture. They were situated on the other side of the world from where Carson collected most of her experience and empirical material, yet they were deeply involved in the practices and mental habits Carson criticized. Worldviews were at stake in this debate. These ontologies to a large extent appeared to dominate the very conception of the issue of humans' relation with chemicals, and with pesticides in particular. This is why the theme of *Silent Spring* was far more provocative and challenging for Scandinavian gardening magazines, their experts and editors, and also their economy, than we may realise today.

⁷² Oreskes and Conway, *Merchants*, 220; Lear, *Rachel Carson*; Hecht, "Constructing a Scientist." See also the references in note 3.

Competing interests

The author has declared that no competing interests exist.