
Environmental Women: Rachel Carson and Her Fellow Activists

by

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Abstract: Rachel Carson is one of the few women who achieved such great fame as an environmentalist that she remains a much-cited name in both historiography and public memory. She was by no means the first scholar to deal with toxic chemicals, but she managed, like few others, to bring the topic to the attention of the wider public; and not just in the short term but with an incredible long-term effect. It is important to explore Carson's singular achievements and her impacts on the environmental movement. At the same time, it is necessary to situate her person and her accomplishments in an overall view of environmental activists and discourses. Her precursors, her companions, and her descendants must be integrated into an integral context of human-environment relations and environmentalism. This requires links between transfers, discourses, and networks. This paper offers a first step in this direction.

The repressed

Rachel Carson (1907-1964) is one of the few exceptions who, as a woman, achieved international fame in her fight for the protection of the environment. In 2017, Verena Winiwarter, a renowned environmental historian, highlighted this bias and argued: "So many of them have been forgotten. Collectively, we remember Rachel Carson and perhaps Alice Hamilton, and that's about it" (Verena Winiwarter and Ruth Morgan 2017)¹. After a lecture she gave on "Women in the history of our environment", she realised that too many women's environmental histories re-

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¹ All of the German-language quotations in this paper have been translated by the author, Katharina Scharf.

main yet to be written and that she was incredibly sad and angry about the story she had told, a story that has not been written (Ibid.).

In German-speaking and European environmental history, and especially in the history of environmentalism, the category of gender as well as the participation of women are almost completely excluded or only sparsely dealt with in a few sentences. In Germany and Austria, there is a very extensive and rich environmental history in general, but this history has a serious void, and that is the aspect of gender and especially the role of women. This exclusion of women is based on outdated traditions and narratives of historical scholarship that need to be challenged.

The situation looks somewhat better in the Anglo-American research landscape, where there has been a solid and increasing examination of the link between nature, environment, and gender, especially since the programmatic works of Carolyn Merchant and others (see, for example Donna Haraway 1991; Sherilyn MacGregor 2017; Carolyn Merchant 1996; Virginia Scharff 2003a) and there are also studies on women pioneers in environmental history for some countries, regions, and time periods (see, for example Mary Joy Breton 1998; Robert K. Musil 2014; Nancy Unger 2012). Even here, Virginia Scharff laments environmental history's "gender blindness" or "sex secret in which "human" all too often simply means "male" (Scharff 2003b, 11). There is still a male, heteronormative mainstream in environmental history, where women's actions are considered too banal to actually matter in the "big" (his)stories. It is puzzling that environmental history, one of the most innovative fields of historical research, covering an immense breadth of social reality and more than once having proven its political relevance, is biased this way. A broad body of literature simply tends to neglect women's contributions.

This makes it all the more gratifying, of course, that several good studies are devoted to Rachel Carson (see, for example Ellen Levine 2008; Dieter Steiner 2014; Karen Stein 2013). She is certainly one of the few exceptions who receives attention in historiography, and whose *Silent Spring* (2000), as the "bible of environmentalism", simply cannot be omitted. But there is still much potential to situate her and thoroughly include her in environmental history, as well as to relate her to other women's biographies and networks all over the world. Rachel Carson was no exception; she was one of many women who contributed to the world of ideas about human-environment relations and environmental protection.

At this point, it should also be emphasised, in accordance with scholars such as Glenda Sluga and Nancy Unger, that fundamental women's research or basic research in women's and gender history is still and once again necessary (Glenda Sluga 2014; Nancy Unger 2014). On the one hand, there is no sufficient data base for women's biographical research, at least in historiography and especially in environmental history. This has been and continues to be a significant shortcoming in light of the claim of comprehensive historical research. On the other hand, it is a matter of questioning and rethinking existing histories. Women are, of course, not at all a homogeneous group, but the study of women's contributions enables analyses of gendered power relations, spaces of action, gendered images and discourses.

es, femininities and masculinities, as well as sexualities, in the context of human-environment relations².

Identifying as many and as diverse people as possible with their ideas and effects is crucial for the history of environmental protection. Only then can environmentalism be fully understood in its historical and contemporary contexts. With this in mind, this paper, focusing on the not-forgotten Rachel Carson, concentrates on two central aspects: On the one hand, Rachel Carson as a role model for other environmentalists and her book *Silent Spring* as an influential piece; on the other hand, Carson as part of a group of scientifically motivated female environmental activists rather than a singularly outstanding individual.

In this paper, the emphasis is on European women. This illustrates the global impact of Carson's influence and the transboundary shared experiences of women environmental activists. Certainly, numerous other women could and should be added to these initial examples from a global perspective.

Admonishers

One of the strongest motifs of human-environment relations was and is health concern, for one's own health and that of one's children and future generations – which already came into play in the hygiene movement and the life reform movement of the 19th century and later reached a peak, especially in the anti-nuclear movement of the 1970s. The awareness that humans are part of their environments, which they shape and which affect their own health and survival, had already grown in the 19th century. Divided into countless individual motifs and movements, it was not yet a homogeneous environmental movement. But many were aware of the interdependency between the health of nature and the health of the human body. This resulted in many admonishers and concerned people who dedicated themselves to the protection of their environments, as Rachel Carson did later on.

The issue of toxins, fertilisers, pesticides, and growth regulators was already present at the beginning of the 20th century, after the First World War. Concerns about inferior food quality and possible health hazards were a key impetus for the development of organic farming. Women pioneers in organic farming took advantage of the new educational opportunities that opened up for women and attended horticultural schools, studied, and obtained doctorates that enabled them to pursue professions in the natural sciences, horticulture, or agriculture. Many of these women had not only professional pursuits in mind but also greater social change (Heide Inhetveen and Mathilde Schmitt and Ira Spieker 2021; Gunter Vogt 2000).

One admonisher, who can be included in this category, is a German scientist and writer: Maria Anna Mayer, better known as Annie Francé-Harrar (1886-1971), was a lateral entrant to science (Inhetveen and Schmitt 2021, 111-127; Andreas Hirsch 2016). She was born in Munich and initially frequented the artistic milieu but was interested in many different things. She also worked as a writer under the

² In this context, I take women's self-identification as a starting point. This means that all people of all genders and all sexualities who identify themselves as women belong to this group.

pseudonym Annie Harrar. A fateful encounter was her acquaintance with the Austro-Hungarian botanist, microbiologist, and philosopher Raoul Heinrich Francé (1874-1943) in 1916. He was already a renowned scientist and had defined soil-biological terms such as “edaphon”³ or “biotechnology”. Annie became a staff member at the Biological Institute and eventually a work colleague and life partner. The couple married in 1923 and remained together throughout their lives. The starting point and basis of Annie’s activities was her husband’s research. However, it was the combination of extraordinary scientific qualifications, philosophical inclinations, literary as well as artistic talents, and a commitment to the sustainable future of the people that led to an outstanding couple’s achievement.

Annie was a freelance writer and naturalist. During her lifetime, she wrote 47 books, some 5,000 articles for newspapers and magazines, and gave more than 500 lectures and talks. In 1950, she published her best-known work, *The Last Chance – For a Future Without Misery (Die letzte Chance – für eine Zukunft ohne Not)* in which she pointed out the destruction of the soil and thus the basis of humanity’s existence, as well as ways out of it. So, she wrote:

But there is a way. We just have to take it. It is viable, it is not too difficult, and it brings back that balance without which life on our planet cannot sustain itself. If we replace humus with humus to a sufficient extent and finally order the irresponsible loss economy of our waste raw materials appropriately, this means a restoration of the interrupted cycle of matter (Annie Francé-Harrar 2010, 650).

The book was well received, and Albert Einstein, with whom she was briefly in contact, even promised to distribute the book in the United States, as he “sincerely admired this creation” (quoted in Inhetveen and Schmitt 2021, 117).

Annie was also an early critic of contemporary beliefs in progress, predicting that man would have to suffer for “ruining continents, levelling mountains prematurely by erosion, shortening rivers, and creating vegetation-free zones of failed soil renewal” (Annie Francé-Harrar 1962, quoted in Inhetveen and Schmitt 2021, 123). However, she did not limit herself to gloomy prophecies of doom but always suggested possible solutions, like the reform of agriculture by using natural fertilizers. Above all, the Harrars were concerned not with the academic end in itself but with applying their knowledge in the world, particularly in agriculture.

Annie Francé-Harrar was thus one of those early admonishers of environmental destruction. The warnings focused on the historically documented anthropogenic destruction of topsoil, the sole food-giving humus, through erosion and soil washing. Women admonishers who practised scientifically based activism, such as Francé-Harrar and Carson, clearly left their mark on public perception of the environment. They have lost none of the relevance of their message today. And above all, they offered concrete solutions that, although not necessarily implemented universally, have at least left their impressions on many people. Annie Francé-Harrar and her writings, for example, are starting to get attention today because the issue of soil obviously seems urgent. Especially for the topic of soil, soil quality, and organic-biological farming, Carson was an important presence. The connections between pesticides and their effects on soil, insects, and birds, which she unravels in

³ Edaphon: the totality of organisms living permanently in the soil.

Silent Spring, were important impulses for many women in organic farming. Her ground-breaking writing unquestionably set the tone for the scientific community. At the same time, with her fame, she could be helpful to other women as a source of impetus to be heard. *Silent Spring* and the thought of the birds' silencing moved, for instance, Austrian environmental activists and pioneers in organic farming of the 1970s. Of course, Carson's book was not the only one to have an impact, but it was a piece in a mosaic with many other books and people in the fight for a more responsible relationship with the environment⁴.

Science as field of activity and activism

Supposedly small actions have the potential to trigger social change. Activist behaviour outside the big political arena and forms of participation declared unimportant can have a decisive impact on social and political change (Deborah G. Martin and Susan Hanson and Danielle Fontaine 2007). Even if it is just one scientific book or one person's commitment to a singular cause like organic farming, it can have a wide impact. Especially for women, who for a long time remained excluded from many political spheres or had their access made immensely difficult, other forms of activism are crucial. The historical inclusion of women's spaces of action offers immensely fruitful research outcomes. Studies in recent years have documented the participation of thousands of women in the sciences since antiquity, contrary to the long-established historiography of a supposedly purely male profession. This disproportion is slowly being addressed by a history of science that integrates gender-specific structures, actors, and discourses (see, for example Ulrike Auga et al. 2010; Ruth Watts 2007). Especially for the study of activism, a broader perspective is needed. After all, science is a central link to human-environment relations, environmentalism, and activism.

In a broad sense, environmentalism can be understood as "any activity that sought to reform existing modes of human interaction with the natural world" (Frank Uekoetter 2011, 9). Referring to activists in this context includes all individuals who actively and purposefully advocate for a nature or environmental protection cause. Individual forms of activism, such as the onetime, local resistance against a power plant, play a role alongside collective and mobilising manifestations of environmental consciousness as (new social) movements or civil society, as well as institutionalised forms such as party politics. Activist engagement can take place in different social spheres of action, be it in science (there is a close connection between science/scientists and environmental concerns), in art and culture (literature, for example, is a central field of action for activists since the 19th century), or in politics (e.g., but not only party politics).

However, this also means that many of the women, especially in academia, did not see themselves as activists at all but saw themselves solely in the exercise of their profession. From a retrospective view, they are to be regarded as activists. Their activist potential is also evident, for example, in the transgression of limitations. Women fought for their position in science and, at the same time, trans-

⁴ Based on personal conversations and interviews with Austrian environmental activists.

gressed its boundaries. As Joni Seager points out, “Carson was a trained biologist. She understood the norms of science, and then stepped, self-consciously, beyond those normative borders” (Joni Seager 2017, 37). As a woman scientist in the 1950s, Carson was “simply by her presence, [...] out of step with the scientific mainstream” (Ibid.). To be able to assert oneself in the male-dominated world of science and environmental policy, it took special assertiveness and perseverance for science and specific concerns.

An example of a woman who, like Carson, dedicated herself to the protection of nature in a scientific manner was the German geologist and glaciologist, Edith Ebers (1894-1974). In 1942, she demanded: “Protect our environment!” (Edith Ebers 1942). She reflected on the relationship between humans and the environment as a unit and argued:

We are aware, however, that the most tremendous environmental change caused by man is the technical transformation of the landscape, which is assuming alarming proportions in our days. [...] Let’s ask ourselves: are we really able to cope with these environmental changes? [...]. Because recognising that an environment is an entity and having the necessary respect for this fact must be the starting point of all action within the framework of the environment. [...]
It would be absurd and reckless to assume that all this would ultimately pass by without leaving a mark on the great world of animal and plant organisms, our fellow creatures, as much as [...] on ourselves [...] (Ibid., 47, 49).

Edith, daughter of Hermine Knote and Karl Heirich, was born in Nuremberg in 1894 and studied geography and geology at the universities of Heidelberg and Munich from 1913 to 1919. She received her doctorate in 1925, one of the first few women to do so. Altogether, she wrote about 120 publications, many of which were addressed to a broad public in order to awaken a love for nature and for her homeland in the Alps (*Alpenvorland*). Throughout her life, she made herself known in word, writing, and practise as a campaigner for the beauties of nature, landscapes, and environmental protection (Helmut Vidal 1979).

After the war, in 1947, she emphasised the importance of scientific conservation⁵. The construction boom of hydroelectric power plants and traffic arteries, which started in many places due to strong economic growth after the end of the Second World War as well as tourism development, led to serious environmental concerns and the endangerment of protected plants and animals, especially in the Alpine region. In this context, Edith Ebers opposed large-scale constructions and the destruction of the Alps (especially their geological monuments). In this respect, she mainly saw a responsibility on the part of the scientific community.

In 1952, she was the main initiator of the founding of the International Commission for the Protection of the Alps (CIPRA) (Wolfgang Burhenne 2011/2012). As the representative of the Federal Nature Conservation Association in Bavaria (*Bund Naturschutz in Bayern*) and IUCN (International Union for Conservation of

⁵ During the Nazi period, she worked for Alwin Seifert in the General Inspectorate for German Roads on issues of nature conservation in Alpine road construction. Her exact role and positioning in National Socialism are not known to date, but they must of course be critically considered in a biography.

Nature and Natural Resources) founding member, she invited people to a meeting in Bavaria in May 1952, which became the founding meeting of CIPRA (*Commission Internationale pour la Protection des Régions Alpines*). For a long time, however, this significance of Ebers and her work in CIPRA remained unrecognised and suppressed, and it is only in recent years that she has been remembered. Ebers also saw CIPRA as an opportunity for scientific exchange in order to combat the “large-scale attacks on nature”.

For the Alpine region, for example, which she valued so highly, she also demanded “wilderness areas”, in which no encroachments should be allowed and “pure nature” should be preserved. She also undertook a trip to the United States, for example, where she became more familiar with the regulations for the protection of wilderness areas. She planned a nature reserve across several Alpine countries, which was, of course, a difficult undertaking. At the age of eighty, in 1974, she took part in an international symposium on the future of the Alps in Trento, where the topic of high alpine protected areas was discussed. A few days later, she died during a field trip (Gertraud Sanin 2002/2003).

In the second half of the 20th century, many committed women who campaigned for environmental protection issues had their roots in science. Originally, it was simply scientific work that gave rise to activist potential. A connection that can also be traced in Rachel Carson’s life.

The fact that these life stories must not be viewed in a one-sided, idealising manner is evident in the case of National Socialism, when many of those women who were not persecuted benefited from the racist policies of the Nazi regime. Many women knew how to use their opportunities. Eleonore or “Lore” Kutschera (1917-2008), for example, an Austrian environmentalist, who later became known as “the” root researcher in Austria, was a committed National Socialist who profited from the Nazi system (Lisa Rettl 2021). At the same time, she was one of the protagonists who paved the stony path for women in academia for subsequent generations, and out of this scientific career, she campaigned for plant protection. From the beginning of her career, she also displayed the courage to think outside the box and swam against the tide of preconceived scientific opinions. She was also particularly concerned with putting her scientific findings into practice and bringing them to the attention of the agricultural community. Her early commitment to environmental protection should also be emphasised at this point. Within the framework of publications and expert reports, she was particularly concerned with the effects of airborne pollutants (Monika Sobotik and Roland Albert 2008).

Such a close look at biographies in their respective historical contexts is necessary to trace a differentiated and not just idealised picture of environmental activism. The motives behind why people campaign for the protection or conservation of nature and the environment are quite diverse. Right-wing, racist ideas can be found not only in National Socialism, but also in the supposedly left-wing environmental movement of the second half of the 20th century and are still represented in, for example, eco-fascism. Here, racist, xenophobic, and also biologicistic thinking (e.g., in relation to gender images) play a central role.

Emotions and Politics

The question of who needs protection and why, be it people, nature, the environment, or (non-human) animals, is a highly emotional matter. Central aspects of Carson's scientific approach were "humility, a sense of wonder, and a certainty that 'man' could not and should not control nature. [...] Humility was embedded in her ecological message that we are all part of nature – and that our efforts to put ourselves outside of natural cycles (or, more likely, above them) will backfire" (Seager 2017, 37). Carson was by no means a naive or romantic idealist; she was well aware of the limited scope of these terms. But she was also a keen observer and open critic of the responsibility of the supposedly neutral sciences in this matter. But with this commitment to emotion, she made herself open to criticism in the male-dominated, supposedly non-emotional, objective sciences. In the history of the sciences, the suppression of emotions was a starting point for being taken seriously. An understanding of science in which the perception of the beauty and marvel of the world had a place did not fit into the conservative image and served opponents to discredit Carson as a romantic, non-serious scientist, namely as a woman. The critics were almost all men and used highly gendered images. A central accusation was that of emotionality, "lacking the kind of cold, rational risk assessment required of modern applied science" (Michael B. Smith 2001, 737). Typically, the critics reverted to the personal level, discrediting her as a spinster and dismissing her unmarried status as a deficiency and an indication of a lack of competence.

So, when Rachel Carson published her ground-breaking work on plant toxicants, her critics reduced her to her sex, which alone made her untrustworthy, and she was subsequently labelled with all sorts of descriptions, such as hysterical, hypersensitive, and also being a witch (Maril Hazlett 2004). This also stems from the fact that the concept of nature can be quickly understood essentialistically and is used in a derogatory way, where the gendered image of the witch, who is close to raw nature, is usually being used. Being called a witch was and is a popular means for toxic masculinity to degrade and discredit women. This is also evident at present, for example, in the denigration of the young climate activist Greta Thunberg (in social media). Rachel Carson's ground-breaking work, with which she stung a hornet's nest of powerful people and institutions, comprehensibly triggered resistance from them and corresponding gendered images. History is full of such examples. On the one hand, this illustrates power relations and gender images anchored in society – for example in science – on the other hand, it means that criticism must always be considered in terms of gender. In politics and science, emotionality is usually linked to gender images.

An example on a smaller scale: The German biologist and conservationist Ingeborg Haeckel (1903–1994), granddaughter of the famous naturalist Ernst Haeckel (1834–1919)⁶, was called a witch by her opponents. But Ingeborg simply turned

⁶ Ernst Haeckel was not only the founder of the concept of ecology, but was also considered a fierce eugenicist, an ideological leader of Social Darwinism, and a pioneer of so-called racial hygiene. So, it remains to be asked which of these foundations were passed on to Ingeborg.

the tables and reinterpreted the designation “the moss witch” (*Mooshexe*) as an honorary title, which she proudly wore.

Since Ingeborg was, especially as a woman, confronted with few opportunities to gain a foothold in academia, she decided on a career as a teacher. She eventually took over the management of a higher school for girls. She was an environmental educator from the very beginning. Her motto was that only those who understand plants and animals and the laws of their coexistence can protect them. She was passionately committed to the conservation of the local natural landscape and became a pioneer of environmental education. She argued: “*I am committed because I want to preserve this unique nature and these great natural biotopes at all costs. And I want our descendants to be able to experience it as well*” (Ingeborg Haeckel 1984). She was honoured by fellow campaigners and received several awards. She was less concerned with the big picture and focused all her energies on the local natural landscape that was important to her. She was also by no means a woman without weaknesses or frictions, but her biography illustrates how much local protest can achieve and how important environmental education is for future generations (see, for example Gerti Fluhr-Meyer 2009; Franz Schötz 1996).

The motive of preservation for future generations, for children, is thus in the foreground, and it links to the theme of emotions and care. In the concern for humans, non-human animals, nature, and the environment, the concept of care comes into play, because the totality of the interrelations between living beings and their environments is always tied to activities of care (Susanne Schmidt and Lisa Malich 2021). And it is precisely the ideas of a nature or environment to be protected and preserved that served to legitimise and consolidate gender stereotypes, such as the claim of a female care ‘instinct’, which could be transferred to all living beings and later contributed to the figure of the woman as a ‘natural environmental carer’ (Melissa Leach 2001). The aspect of care and health also brings in one of the strongest motifs: maternal care. Rachel Carson also referred to the image of nature as a mother, and in *Silent Spring* she addressed the question of poisoning, which already starts with new-borns and children. Toxins and radioactive radiation became a central concern of the environmental movement of the 1970s. Pregnant and breastfeeding women, in particular, saw themselves as a particularly vulnerable group. These real burdens of mothers in caring for their children must not be overlooked; however, biologically or essentialistically instrumentalised images of a maternal responsibility for all life does not do justice to this and is misused. To this day, the image of the mother (e.g., Mother Earth, Mother Nature) has a strong symbolic power, which is continuously used by environmental activists and illustrates the complex entanglements of nature, environmental thinking, and gender, as well as the essentialist idea of a primordial connection between women, motherhood (care) and nature. The reduction to maternal care was also a means of minimising women’s activities. This alone does not do justice to the broad spectrum of political and activist ambitions of women. Despite these ambivalences, however, the image of the “naturally” caring and motherly woman remains a world of imag-

es that is indispensable in human-environment relations and is a consistent element of environmentalism. The ideas of femininities, masculinities, motherliness, and caring have to be integrated into the history of the environmental movement.

Conclusion and prospects

Rachel Carson is remembered nowadays, often from an idealised perspective, as a pioneer, a heroine, and a fighter for the protection of people and their shared environment. Her book *Silent Spring* has been called the “bible of the environmental movement”, Carson herself the “mother of the environmental movement”. There is no doubt that her contemporary influence was remarkable and that she had to assert herself against vehement opposition. It is not surprising that this headwind from the powerful reverted to discriminatory gender images, but it does illustrate deep-seated gender ideas and social power relations. These were particularly striking in the field of science, which actually represented a central field of action for many women environmentalists and offered them a starting point and stage. But the sciences in particular were and are strongly gendered in terms of structures, discourses, and actors. The accusation of emotionality, the image of the spinster and witch – these are recurring elements that are shared by many female comrades-in-arms, such as Ingeborg Haeckel or even Greta Thunberg, and thus again point to structural and discursive discrimination. The devaluation of women scientists and activists, as well as women who raised their voices, is exacerbated by their erasure from history. It is only through recent studies and efforts from women’s and gender history that women’s participations are being revived, and environmental history is thus also being rewritten. Only now is attention being paid to women like Edith Ebers, who co-founded an international commission to protect the Alps, or Annie Francé-Harrar, who fought for a rethinking of the way natural resources are treated. Rachel Carson is certainly a leading figure in this in many ways, in that she became a role model, but also in that she had to be given attention throughout the historiography.

The singular insights and short biographical examples have already shown very well that Rachel Carson should not only be considered an exceptional phenomenon or solely in her biography but in the contexts of human-environment relations, environmental protection, and their gendered frameworks.

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