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Women in marine science: The efficacy of ecofeminist theory in the wake of historical critique

BY SAM PERRIN AND RAPTI SIRIWARDANE-DE ZOYSA

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Abstract

Ecofeminism at its simplest is the combination of ecological and feminist principles with a strong grounding in social movements. As in the case of most philosophical paradigms and socio-political agendas, it has also been the subject of criticism from feminists of diverse schools of thought since its conception in the 1970s. As the offspring of a social movement as diverse as feminism, this is not unexpected. As it came to prominence in the seventies, an era in which second-wave feminism flourished, it shared many of the same criticisms. It was seen as vague and poorly defined, often only explained as the sum of its parts, and also as appealing mainly to white, middle-class women. It also struggled with criticisms of essentialism – in this context the notion that "woman" (in its singularity) shares an affinity with nature and is therefore better positioned to speak on its behalf. These criticisms and conflicts have, however, helped ecofeminism to evolve into a conceptual framework, grounded in ecological principles and feminist theory combined with local perspectives. Pressing forward, we examine the value of this conceptual framework through surveying a selection of diverse female marine scientists based in Germany, and show that ecofeminism is a valuable scholarly lens through which to view contemporary forms of androcentrism and of gendered discrimination in the marine scientific community, among others.

Keywords

essentialism, marine science, gender, ecology, knowledge production

Contents

I. Introduction

Ostensibly as a brand of feminism that combines ecological and feminist principles, ecofeminism has come under fire from feminists since its inception in the 1970s. Whilst many transdisciplinary strains of thought are hindered by differences in research methodologies, language and demographics (Nowotny, 2006), criticisms of ecofeminism have instead tended to focus more on the sociological side of ecofeminism (including its definition) in relation to second-wave feminism, and its links to essentialism. In this paper, we will show how these critiques have shaped ecofeminism over the last four decades.

It is worth noting from the offset that these conflicts will not follow what could be considered a 'traditional' assessment of ecofeminism. Karen Warren has oft-listed eight to ten interconnections between women and nature that tend to be discussed by ecofeminists, including empirical, historical, socioeconomic and linguistic (2000). Diversion in thought on each of these interconnections has provided grounds for conflict before, and as such each could be focussed on in their own right. However, we will focus our attention on issues which trace their way through ecofeminism's history, the conflict arising from which has had a significant impact on how ecofeminism defines itself today.

Before introducing some of these conflicts, let us look in overview at the social theory that informs the sociological discourse of ecofeminism – *feminism* itself. Since its formation, feminism has faced intense scrutiny from outside its borders, yet has been the subject of as much scrutiny from inside those same borders. Criticisms range from those levelled at second-wave and cultural feminism in the seventies (to be addressed in Section 1) to the controversy surrounding recent international campaigns; one only needs to look at the backlash sparked in certain sections of the feminist community by actress Emma Watson's 2014 speech at the UN headquarters to observe such criticisms . It should therefore come as no surprise that ecofeminism faces similar critiques from many feminists, and even from many ecofeminists. As Warren writes, "the umbrella term 'ecofeminism' refers to a plurality of positions, some of which are mutually compatible and some of which are not" (2000). For instance, Marxist and radical feminism share a wealth of tenets, many of which mutually inform each other, and this is also the case with the ecofeminist strain of both theories. On the other hand, White feminism and intersectional feminism are often at crosspoints, many of which parallel eighties ecofeminism and modern ecofeminism (to be addressed in Section 3).

Keeping in mind that Warren refers to ecofeminism as an "umbrella term", the first section of this paper will look at the conflicts which arose in the eighties as a result of simply trying to define ecofeminism. We will address the vagueness of many initial attempts to derive a suitable definition, and the flaws of many of these definitions in simply defining ecofeminism as the sum of its parts. We will explore the views of feminists who would maintain that ecology was already an intricate part of feminism, and saw (and in some cases still do) ecofeminism as hypocritical and tautological, even as "an insult" (Cameron, 1989), and contrast – and in some case parallel – this with the views of ecofeminists who saw ecofeminism as a higher form of feminism; feminism taken to its logical conclusion (Birkeland, 1993).

Section 2 takes us beyond defining ecofeminism to its conception and early years. Starting from Francois d'Eaubonne's coining of the term (1974) to its roots in second-wave/cultural feminism, we will continue to the criticisms that ecofeminism suffered as a result of its association with brands of feminism that were considered unrepresentative of many women worldwide. We will look at the subsequent divergences and further sub-theories that this caused, and the claims that this diversity did not weaken,

but strengthened ecofeminism, and how it led to the positioning of ecofeminism as a conceptual framework, capable of being used as a lens for issues both local and global.

Section 3 will focus on the problems presented by the association of ecofeminism with essentialism, essentialism in this context being the portrayal of "woman" as having a deep connection or affinity with nature, and thus more capable of speaking and acting on its behalf (Buckingham, 2004; Fulfer, 2008). This is perhaps the most crucial and divisive of the conflicts we will introduce here. Whilst Section 2 focusses on issues for the most part resolved in ecofeminism today, essentialism is a concept which has, and continues to, plague ecofeminists since the 1980s. Against this context, we will explore cultural ecofeminism's alleged painting of woman as one with nature, and radical ecofeminists pointing this thinking out as the very train of thought which ecofeminism ought to combat. Essentialism is an issue which addresses the very fundamentals of ecofeminism, and even led many feminists concerned with the environment to avoid the term altogether (Biehl, 1991). As such, this section will look at the anti-essentialist debate in greater detail.

Section 4 will then serve to highlight the relevance of ecofeminism through a qualitative survey that captures the narratives of eight female scientists spanning the marine sciences, many of which were once perceived as male-dominated fields of research. Participants went into detail on the nature of their gendered experiences in the diverse professional positions and countries in which they have worked. By highlighting the differences in interpretations of gendered experiences across a wide variety of countries whilst also demonstrating common themes throughout these experiences, we will emphasise the value of ecofeminism as a conceptual framework through which to analyse and act on gender discrimination.

Our goal in summarising these divisions in ecofeminism is to show how it has reached its present form, and what that present form is - not in spite of, but because of, the criticism it has faced from inside and outside of its borders – its value as a scholarly lens, and where it could possibly look to for inspiration and inclusive plurality in the near future.

II. Section 1: Troubled Origins – Defining Ecofeminism in its Infancy

…for my part, the very word ecofeminism has by now become so tainted by its various irrationalisms that I no longer consider this a promising project.

Janet Biehl, *Rethinking Ecofeminist Politics* (1991)

Francois d'Eaubonne was a radical French feminist, who first used the term 'ecofeminist' in her *Le feminisme ou la mort* (Feminism or Death) in 1974. She initially used the term to describe the similarities between man's degradation of the environment and its degradation/oppression of women. As the founder of the Ecology and Feminism movement, ecofeminism as a portmanteau essentially became the marriage of the two movements (Roth-Johnson, 2013).

From here stems one of the two problems with the term that we will focus on – the perceived lack of a concrete definition for ecofeminism. Three quarters of the attendees at the pre-conference meeting of the National Women's Studies Association Ecofeminist Task Force reportedly said they were attending

simply to figure out what ecofeminism was (Vance, 1993). Many 'school-book' definitions of the term simply equate it to the sum of its parts and move on; Mary Mellor's introduction to *Feminism and Ecology* consists of four consecutive sentences which only served to establish ecofeminism as a marriage of ecology and feminism (1997).[1] As former social ecologist and prominent critic of ecofeminism Janet Biehl wrote in *Rethinking Ecofeminist Policies*, seventeen years after D'Eaubonne first used the term, "no sustained book-length account of ecofeminist theory has yet appeared." (1991)

The problem in defining ecofeminism with any level of complexity relates to the complexity of the theory itself, in both its roots in feminism and the environmental movement. First, let us address feminism itself – in essence the belief in equality spanning the spectrum of gender[2]. We say in essence, because when one goes any deeper one runs into deep-seated philosophical, ethical, conceptual and methodological divisions within feminist theory. As already stated – and to be addressed in detail later - these same conflicts exist within ecofeminism. If we continue from Karen Warren's earlier quote, "All ecofeminists agree that there are important connections between the unjustified dominations of women and nature, but they disagree about… the nature of those connections" (2000).

Secondly, ecofeminism arose in the midst of a range of environmental and social movements. Whilst Mellor's (1997) aforementioned introduction acknowledges its roots as simply being in the green and feminist movements, Greta Gaard's first words in *Ecofeminism: Women, Animals, Nature* surmise ecofeminism as having risen from 'peace movements, labour movements, women's health care, and the anti-nuclear, environmental, and animal liberation movements' (1993). Considering every movement that played a role in ecofeminism's formation produces a range of views on so wide an array of subject matter and plays into a variety of different sociologies, was it wrong to frame ecofeminism as the sum of its parts? Since Biehl's *Rethinking Ecofeminist Politics*, there have been comprehensive summaries of the ecofeminist philosophy, Warren's opening chapter in *Ecofeminist Philosophy* amongst them. However, these summaries themselves admit that there is no singular ecofeminist perspective (2000).

Yet should this pluralism be considered a weakness? Linda Vance postulates that ecofeminism reflects the diversity of women's experiences, and that each perspective of ecofeminism is informed by race, gender, sexuality, upbringing, class, ethnicity, religion, and other intersectional identity markers (1993). Chris Cuomo even goes as far to parallel the health of diversity in ecofeminism with that of diversity in an ecosystem (1998). Biehl's criticism of the contradictory nature of ecofeminism perhaps ignores that a definition too standardised would exclude others from a social movement that should remain inclusive. Biehl herself has been criticised by multiple writers for ignoring the works of ecofeminists like Val Plumwood and Warren, who are inclusive of different branches of thinking in their definitions (Cuomo, 1998). Indeed, the flexibility of ecofeminism has made it a useful conceptual framework to transplant into different cultures and societies, as we will see in Section 4, and has been positioned as such by ecofeminists, as we will see in Section 2 (Siwila, 2014; Warren, 2000). Yet Biehl's view on this diversity are again, extremely critical, praising diversity of opinions, yet claiming that ecofeminism is "so blatantly self-contradictory as to be incoherent" (1991).

1 "Ecofeminism is a movement that sees a connection between the exploitation and degradation of the natural world and the subordination and oppression of women. It emerged in the mid-1970s alongside second-wave feminism and the green movement. Ecofeminism brings together elements of the feminist and green movements, while at the same time offering a challenge to both. It takes from the green movement a concern about the impact of human activities on the non-human world and from feminism the view of humanity as gendered in ways that subordinate, exploit and oppress women."

2 Itself marginally controversial – think Germaine Greer's rejection of transgender women in 2015.

So perhaps, for want of more precision that seems to elude the very definition we are discussing, we can break this sub-conflict into two counter-discourses – those that see the vagueness of the term as a weak point, and those that see it as strength of the theory, while highlighting the vibrant diversity of its subscribers.

The second problem with the term lies not with what ecofeminism stands for independently, but its nature as an extension of feminism. Chaone Mallory (2010) provides a simplified explanation of the term, presenting the 'feminism' part of the term as that concerned with the power relations at play in society, and the 'eco' prefix as a reminder that these power relations extend to the natural world as well. Yet whilst many feminists concerned with ecology believe – in accordance with ecofeminists – that the two are already linked, they do not believe that ecofeminism is necessary, as ecology is already a distinct part of feminism (Doubiago, 1989; King, 1989). In a scathing attack on ecofeminism, Anne Cameron branded the term itself "an insult to the women who put themselves on the line, risked public disapproval, risked even violence, and jail" (1989).

Janis Birkeland's views share a similar premise – that ecology and feminism are inseparable – albeit with a very different conclusion (1993). She describes the 'eco' prefix as taking feminism to its logical conclusion, noting that some varieties of feminism centre around humanity, a tenet not widely shared by ecofeminism. Whilst Cameron's view of the prefix is that it presents a more palatable alternative to feminism – where feminism is seen as too confrontational – Birkeland positions ecofeminism as even more accusatory of the patriarchy, and therefore harder to come to terms with for those 'masculine-identified greens who cannot handle feminism' (1993).

Ecofeminism's initial vagueness in defining itself exacerbated this problem. Without a concrete definition or set of guidelines to fall back on, how could ecofeminism posit itself as necessary? And with such a diverse set of viewpoints, can one refer to it as singular? The answer came with Warren and her colleagues' earlier mentioned definition, of ecofeminism as a flexible philosophy, rather than as immovable theory.

III. Section 2: The Second Wave – Dualism and Diversity

Wholesale rejections of the ecofeminist project are characteristically inattentive to differences among examples of ecofeminism, and exhibit a tendency to lump various kinds of theories together under the umbrella of an unnuanced critique (and then press 'reject').

Chris Cuomo, *Feminism and Ecological Communities* (1998)

Whilst the word 'ecofeminism' emerged from D'Eaubonne's text, the movement itself arose naturally in the mid-1970s with the rise of the aforementioned ecological and feminist movements. As already stated, it was only natural that ecofeminism should initially be informed by the feminist movements it grew in the midst of, namely cultural and second-wave feminism. Second-wave feminism, which had shifted away from suffrage and focussed on dismantling workplace inequality and increased female political representation, would not begin to ebb until the early eighties, and so it makes sense that ecofeminism would share some of its flaws and blind spots.

Likewise, since criticism of second-wave feminism naturally stemmed from the third wave, so did many criticisms of ecofeminism. One argument was that ecofeminism initially classified 'woman' as a single category – largely white and middle-class - disregarding the experiences of women of other ethnicities, sexualities and classes. This gave rise to the term Western ecofeminism (Agarwal, 1992), which persists today. This argument was paralleled by third-wave feminists in the early nineties, categorising some second-wavers as white, urban, middle-class feminists. Maria Lugones even went so far as to accuse white feminists of having "simply and straightforwardly ignored difference" (1991).

This perceived dualism was further complicated by the influence of the environmental movements that initially informed ecofeminism. Reactionary activism to Three Mile Island and the animal liberation movements was primarily both female and western-centric (Culley & Angelique, 2003), and as such ecofeminism would naturally be initially focussed around particular interpretations of issues prevalent in predominantly Euro-American spaces[3].

Defence of this earlier perceived dualism centred around the counter-argument that whilst those oppressed may show remarkable diversity, the same basic framework of oppression has always been used against them (Warren, 2000). Janis Birkeland (1993) wrote that criticisms of ecofeminism's dualism were simply a misconception, a poor understanding of ecofeminism's positioning of patriarchal dominance over nature and 'woman', thereby leading critics to perceive women as uniting against this as a 'homogenous whole'. Birkeland's argument rests on the fact that men of all classes, cultures or nations oppress the environment, women, and other minorities in some way, leading to a common shared experience between the oppressed (1993). Interestingly Ynestra King (1989) wrote almost in defence of dualism itself, in framing ecofeminism as celebrating non-male diversity, and acknowledging that shared suffering indeed brings women together, through direct oppression or as a result of the degradation of their local environment.

Nevertheless, since the early nineties, 'Western ecofeminists' have taken more care to acknowledge and make room for potential bias in their perspectives. Karen Warren (2000) compares this initial lack of inclusion of other viewpoints to our understanding of an ecosystem; in the same way that if we are to understand women we must appreciate their diversities, if we are "to care about social meanings or structures that function to exploit or destroy natural environments we must have some level of understanding of their operation in particular cases of endangered species, deforestation, and harmful domestication of wild mammals." As such, Warren's *Ecofeminist Philosophy* is prefaced with her admittance that she can only present her view of ecofeminism as based on her experience as a white, Western female. Her visualization of ecofeminism (Figure 1) highlighted the need for local perspectives in order to broach differences in viewpoints (2000). We will highlight this in Section 4 by using Warren's representation of ecofeminist philosophy as a lens through which to observe the experience of women in marine science.

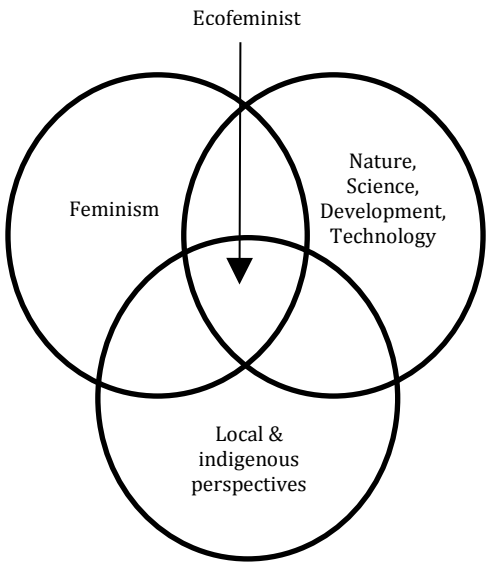

Figure 1: Karen Warren's visual representation of ecofeminist theory (2000).

3 Indeed, past literature has often associated women's activism against such issues as representative of their role as carer. This gendered essentialism will be explored more in Section 3.

Additionally, the concept of the 'other human Others' has worked its way into ecofeminist dialogue. The Other sought to encapsulate plural groups of society that were not necessarily female, yet oppressed, and suffered similarly from the degradation of nature; the poor, children, animals, and members of the LGBTQI community (Warren, 2000).

Yet criticisms of dualism as a basic tenet of ecofeminism persisted into the nineties, with claims that most ecofeminism still maintained a western bias, and could not necessarily be translated to the rest of the world (Wha, 2011). Huey-li Li's *A Cross-Cultural Critique of Ecofeminism* addresses the issues inherent in theorising that the connection between woman and nature was similar across cultures, postulating that whilst ecofeminism is based on the connection between woman and nature, a culture of 'reverence of nature' in China has not stopped the oppression of woman (1993)[4].

Other versions of ecofeminism have arrived to fill the gaps left by Western ecofeminism. Theological ecofeminism, third world feminism and eco-womanism number amongst further offshoots which have arrived to complement, and in some cases argue against, Gaard and Warren's more 'mainstream' versions of ecofeminism. Certain strains also began to incorporate postcolonial, decolonial and queer theories into ecofeminism. Not all have been met with positivity; some ecofeminists see certain strains as having produced poor or weak theory, in some cases contradictory to what feminism itself stands for (Cuomo, 1998).

In conclusion, we turn again to the issue of diversity addressed in Section 1, and the criticisms of ecofeminism as diverse to the point of being rife with contradictions, and ecofeminism's defence - maintaining itself as a social theory which is strengthened by its diversity. Indeed, the aforementioned variations in cultural perspective – perhaps theories in themselves - led some ecofeminists to postulate that ecofeminism was not an inconsistent theory, but a conceptual framework, able to be applied to a range of societies and cultures. This is exactly how Warren's earlier diagram positions ecofeminism; a product of integrating both ecological and feminist principles, as well as local perspectives.

IV. Section 3: The Essentialism Debate

In the wake of [feminist conflicts in the 1970s and 80s], for many essentialism became anathema and anti-essentialism de rigueur, and the critique of essentialism amounted to a pejorative slur on the inadequacy of one's feminist politics.

Niamh Moore, *The Rise and Rise of Ecofeminism as a Development Fable* (2008)

We turn now to a topic we have skirted until this point, as it is considerably more divisive, and perhaps the conflict we will address here which most actively discouraged many ecofeminists in the eighties and nineties from even associating themselves with ecofeminism. Whilst criticisms of the narrow focus of ecofeminism eventually encouraged other strains of ecofeminism and arguably strengthened it as a conceptual framework throughout the eighties, the essentialism debate had nearly brought ecofeminism to a grinding halt a decade later. Biehl notes that many of her colleagues at the time took care to eschew even mentioning the term in their work at the time, for fear of discrediting it (1991).

4 Though in light of recent historic and contemporary Chinese environmental policy this may warrant reconsideration.

Essentialism encapsulates the notion that certain characteristics or experiences are necessary to categorise an individual; in this case, it is woman's association, even affinity with nature that defines her as 'woman' (Fulfer, 2008). Essentialism in ecofeminism goes beyond the shared oppression of the nature and woman by man to suggest that it is woman's affinity with nature, their shared role as mother and carer of the earth's population, that qualifies them more directly to speak on nature's behalf (Buckingham, 2004). It also speaks to the ecofeminist characterization of man as culture, and woman as nature. This is nothing new; philosophers as early as John Locke and Georg Hegel characterized woman as inferior by paralleling them to the chaos of the natural world, in opposition to the ordered rationality brought about by man (Sydie, 1987). The notion of essentialism refines and inverts this somewhat, and in an ecofeminist context, presents woman as a spokesperson for the earth.

It is understandable to have seen essentialism as ubiquitous, at least indirectly, in multiple strains of early ecofeminism. During the eighties, it was still coming to fruition, and by the admission of many prominent ecofeminists (and as we have already seen in Sections 1 and 2), still searching to define itself effectively (Warren, 2000; Cuomo, 1998). Spiritual and cultural ecofeminism – perhaps the best defined of the various *ecofeminisms* at the time - seem at first glance to almost revolve around the concept. Both are the progeny of cultural feminism, which position woman as different from man in nature as well as biology. Spiritual and cultural ecofeminism, therefore, portrayed woman as close to, almost as being one with nature, often in a seemingly religious or mystical sense (Tomalin, 2008). Somewhat ironically, Anne Cameron's aforementioned 1989 text is a perfect example of this. Her piece essentially describes the formation of the earth as told from a Canadian First Nations mythological perspective, with the creation of First Mother, made of the Earth, giving life to all of humankind (1989). Susan Griffin's *Woman and Nature: The Roaring Inside Her*, is a similar account of woman's interconnectedness with the earth (1978), and further literature connecting women and nature in this way stretches to far before the advent of ecofeminism. Indeed, essentialism was highly visible in ecofeminism at first glance.

With the waning of second-wave feminism throughout the eighties, criticisms of essentialism flourished. In the context of ecofeminism, these criticisms largely centred around accusations of its ties to essentialism, and to its conception of 'woman' in general (Moore, 2008). Biehl wrote that ecofeminism "situates women outside of nature altogether, associated with a mystified notion of 'nature'", and is "a force for irrationalism" (1991). Cuomo summed up the critiques as implying that if woman is closer to nature, then there must exist features essential to women, which then plays into the hands of the patriarchy and damage the position of women. Cuomo herself admitted that certain passages of text from noted ecofeminists are easy to interpret as essentialist (1998). More recently, Melissa Leach (2007) criticised ecofeminism as popularising the figure of woman as a 'natural environment carer' throughout the period, and even accused ecofeminism's influence on world policy with helping to appropriate women's labour in environmental conservation projects.

Many ecofeminists took issue with their colleagues for perceived essentialism and the propagation of this alleged affinity with nature. Yet more - even on the cultural/spiritual side - have been rejecting calls of essentialism for decades. Most counter-critiques lambasted detractors as poorly founding their views and ignoring pivotal texts by ecofeminists at the forefront of the movement, as well as the diversity of the ecofeminist perspective. Furthermore, even when views were well-founded, the response was often to simply reject ecofeminism's entire premise as opposed to rejecting certain of its tenets (Moore, 2008; Gaard, 1993; Cuomo, 1998). Warren (2000) labelled the rejection of ecofeminism due to its essentialist ties as a patriarchal style of thought. She and many others point out the nature of the connection between women and nature as being a product of oppression from culture – the domain of man – and

not the cause of it. If women have certain characteristics attributed to them, it is because culture has made it so.

Other ecofeminists decided to accept certain tenets of essentialism with caution, and whilst perhaps not whole-heartedly agreeing with them, taking care to integrate such patterns of thought into their own theory. Cuomo (1998), in her analysis of a particularly spiritual passage from the work of Charlene Spretnak, points out the importance in distinguishing between 'mother' and 'woman'. Many works construed as essentialist indeed draw a connection between nature and the maternal figure, however Cuomo notes that to assume that a woman is not woman without being a *mother* is the real problem here, and itself a facet of essentialism (1998).

Likewise, cultural and spiritual feminists – so often criticised before the discussion even reaches essentialism - put many criticisms from even their fellow ecofeminists down to misunderstandings of their work. Both American writer-activists Spretnak and Starhawk's defences of spiritual ecofeminism state that it has very little to do with mysticism or goddess worship – that the spiritual transformation they encourage simply means a shift in the basic values of society, from one that worships Riane Eisler's metaphorical blade, to one that worships her chalice (Spretnak, 1989; Starhawk, 1989). Put differently, in Starhawk's words, a shift "away from battle as our underlying cultural paradigm and toward the cycle of birth, growth, death and regeneration" (1989). Positioned as such, it is certainly less esoteric.

Essentialism therefore remained at the forefront of these debates well into the nineties. Yet we would suggest that these criticisms forced ecofeminists, in defending themselves, to more explicitly define their theory. In retrospect, these criticisms and the almost two decades of refuting them allowed a well-defined conceptual framework of ecofeminism to emerge, one that rejected essentialism and explicitly defined the relationship between women and nature as a result of their concurrent and related oppression by man.

V. Section 4: Gendered Science – Narratives of Women Marine Researchers

In the three sections of this paper thus far, we have detailed the manner in which ecofeminism has been more explicitly defined over the years, and is now a useful conceptual framework for taking a gendered approach to ecological issues. For this final section, we will demonstrate the value of ecofeminism as a scholarly lens, having conducted qualitative interviews with eight female researchers in diverse disciplines spanning the marine sciences. As mentioned in Section 2, whilst peripheralised social groups form a remarkable diversity, the same basic "framework of oppression" has been used against them (Warren, 2000; Birkeland, 1993). Through the experiences of eight female and predominantly cis-gendered scientists, we will demonstrate differences in attitudes to gender across different geographical contexts, and that despite a variety of ages, biographical histories and academic experience, all women directly and indirectly experienced this framework in some form. We will also point out various parallels in these experiences with some of the critiques of early ecofeminism, and underline why Warren's modern conceptual framework of ecofeminism is such an important lens to use, particularly in combatting the aforementioned oppression in the practise of science and knowledge production, often invoked in neutral post-gendered terms, at least in certain spaces of the Global North.

Our respondents, drawn from across four coastal and marine research institutes in Germany were aged between 26 and 41, with the majority coming from the so-called Global North. Seven of the eight were from either Western Europe or North America, with one exception being from Colombia. They have work experience in the fields of marine and coastal ecology, geology, fisheries biology and behavioural economics among others, in a combined total of 27 countries. Four are Master´s students, enrolled in either a Master of Ecology or Marine Ecology at a German University. The other four comprise PhD candidates and postdoctoral researchers affiliated to a range of different German research centres focusing almost exclusively on marine and coastal topics. Questions were sent in by email, with subsequent clarification of any ambiguities also communicated via email. The questions focussed on gendered experiences in their academic lives, with attention paid to noting the gender make-up of institutional structures, and interpretations of the experiences. For the purposes of teasing out any differences across levels of education and age, we have included both age and stage of academia at time of response in this paper. The complete survey questionnaire can be found in Appendix 1. For the purpose of anonymising our participants in this paper, pseudonyms have been used.

From the outset it is worth noting that all of the respondents but one had experienced gender discrimination and sexual harassment directly in some form, and to differing degrees. Nancy (36, UK national, Post-doc) noted that in Martinique and Colombia, unwanted attention from males was common, whilst Alice (37, Canadian, Post-doc) had been sexually propositioned by the head of a department she worked in. Hailey (25, UK, Master's student) was told she had been employed on a project as "something to look at", whilst Aisha (41, Canada, Post-doc) was advised that she may not be "cut out" for field work in palaeontology as the work was not 'romantic'. Carolina (31, Colombia, Master´s student) was given the distinct impression she had to act and dress differently to be taken seriously as a woman, and Vanessa (28, Germany, PhD candidate) and Natasha (26, UK, Master´s student) were both treated with a lack of respect and disregard for their opinions because they were women on multiple occasions by male colleagues during group meetings and discussions.

Whilst many of the above experiences vary in nature, there was a general trend noted by many of the respondents of greater respect and better opportunities for men in the fields of marine research, from generalisations. For example Nancy remarked that "in many cases male scientists seemed to be given much more opportunities or included in more important meetings" to smaller incidents, as Alice noted:

> *"In Germany... twice it's happened, for example when there is a board with photos of people at the institute, or name cards on doors, female postdocs don't automatically get a 'Dr' before their name... The male postdocs automatically do."*

It is worth noting that all respondents who noted this trend were over 30. This may be a product of times changing, however two of the respondents over this age recalled past incidents which occurred when they were younger that they did not, at the time, realise were associated with gender. Alice noted:

> *"There is, I believe, a general heuristic that males are better at quantitative pursuits than females. For example, if I am correcting someone in class, it can take a great deal of effort to demonstrate and convince them, and I have seen male colleagues convince other people much more easily with a lighter 'burden of proof'—or the corrected individual takes it upon themselves to find the mistake."*

Likewise, Aisha noted that as a former PhD student in Australia, she "felt that I did not have as much of an opportunity to direct, plan or lead the field excursions as my fellow male colleagues (also PhD

students) did. We were all close in age and experience, more or less. The dominant (outspoken) personalities in our workgroup were male (my supervisor as well) and were somehow were left in charge of many research logistics and planning of the research that we carried out jointly."

These stark examples of gendered essentialism contrast somewhat ironically with early interpretations of essentialism in ecofeminism, which supposed that women were better qualified to speak for Nature as a result of their natural affinity with it. This irony is furthered by the notion that men seem to be favoured in a profession which purports to aid the natural world, being given more leadership roles, whilst women are relegated to what Thorne in 1975 termed "shitwork" (Culley & Angelique, 2003). The only case of the sort of essentialism that ecofeminism supposedly suffered from was noted by Aisha:

"The geology/palaeo teaching department was nearly 100% male at the professor level. In the field of palaeontology, research on dinosaurs was considered "big and sexy" at the time … unfortunately the field was/is dominated by males… After I finished my degree, I once had an opportunity to carry out volunteer fieldwork. I recall once that my supervisor at the University of Alberta (a professor of vertebrate palaeontology of about 65-67 years of age) once told me that I may not be cut-out to do palaeo field work, he had said something about it not being a romantic type of work."

Whilst this may seem like blatant essentialism, Aisha further noted that she thought "he was implying that as a female it was too difficult for me. All of his graduate students were male."

However as mentioned, younger respondents did not feel this general level of discrimination as keenly. There were even mildly contradictory opinions. Stephanie (25, German, Master´s student):

"It is probably the common perception that one might not get taken seriously enough as a young woman in science. I must say, however, that I have never been confronted with a situation in which I wasn't taken seriously. In every country I have been accepted and even acknowledged with a lot of trust and attention regarding what I am studying/doing."

Whilst some of the younger students did note that they had not experienced as much direct discrimination, all noted that - in at least one developed country they had worked in - whilst there was a 50/50 split amongst Bachelors and Masters students in their departments, senior positions were overwhelmingly dominated by men. As Carolina noted -

"During my Bachelor studies in Colombia I noticed that in both courses, most of the professors were men, however most of the students (>50%) were women… it is a confusing message, where did all the women go? Why aren't they teaching in the same proportions? It is not different at the Masters I'm currently doing in Germany, most of the professors are men, and most of the students in the class are women… although I'm not always thinking about that, I'm subconsciously thinking, that I have to work harder, study more, in order to be able to compete with men for future positions."

We now turn to the differences across countries that some respondents remarked upon between their experiences across different cultures and countries. In Section 2, we noted the importance posited by Karen Warren of using local and indigenous perspectives as an extra scholarly lens when investigating gendered scientific issues, the value of which is clear upon hearing the following experiences, beginning with Nancy's:

"In Thailand, Maldives, Zanzibar and Fiji I was better to cover up. In Martinique and Colombia, attention from males was common. In the United Kingdom, Belgium, Netherlands, Singapore and in

some way Germany it was the olds boys' club. In America there seemed to be a greater understanding of the issues of gender politics and the issues that woman faced - this was/is non-existent in Europe."

Whilst more obvious differences between attitudes to gender in developing countries and developed countries were made by several respondents, the divide between North America and Germany was also noted by Alice:

"In Germany, I have heard a lot of gendered jokes by principal investigators. For example, about transgender people, or sexist jokes such as about how women can't do math. When I protested (laughingly, so as not to be labelled as disagreeable) I got a 'oooh oh no watch out, she's from North America, they always make trouble about sexism etc.'"

As mentioned, different forms of gender discrimination were noticed in non-OECD/majority countries; three respondents noted that they had to cover up around men during work projects overseas, and one noted that during teaching experience, students were markedly less attentive when a female teacher was present. Many noted that local female employees had less rights and were scrutinised against different and highly selective moral strictures in comparison with their male counterparts. The examples that were provided ranged from not being able to drink at the workplace while the men did so, to other social expectations such as the pressure to marry and care for children.

Similarly, whilst unwanted advances were noted in parts of the so-called Global South, Alice asserted that "every female scientist [she knows] had been propositioned by a male superior in academia or in the workplace". Hailey also recalled that whilst she was working in the field in Wales, she was told by one of the staff that she "had only been employed as something to look at". So whilst the institutionalised gender discrimination described here may not be as immediately shocking as the widespread and apparently acceptable normalisation of gendered roles, values and behaviour experienced by others outside of the Global North, it is still highly prevalent.

There are, however, patterns amongst the eight researchers, despite their varied experiences, and many forms of discrimination which remained pervasive across cultures. When comparing Nancy's observations of unwanted attention from males in Martinique and Colombia and Alice's assertion that most, if not all, females in academia receive sexual advances, parallels draw themselves. The insult Hailey received in being told she was employed as "something to look at" in Wales is a natural extension of the urge that Nancy felt to cover up in the Maldives and Zanzibar. The same can be said of the difficulties Vanessa had in effectively communicating with many male professors, and Carolina's issues with disregard for females when teaching in Kenya, or Aisha being directed away from team leadership roles, not discounting the women that many respondents met in other countries who had been forced away from regular employment to household or production duties.

The importance of acknowledging the lack in these experiences of the essentialism which ecofeminism was criticised for and subsequently shook off in the eighties and nineties is also important. Ecofeminism's rejection of the notion that it suggested women are better qualified to 'tend the earth' seems justified here, as there was little evidence of women being put in charge of 'caring' tasks. Indeed, the main evidence of essentialism here seems to be that they are not associated with leadership, echoing Culley and Angelique's assertion that men produce, and women reproduce (2003). It seems crude that the aforementioned framework of oppression that has been applied to both women and the earth should still be applied here, in environmental science.

Bearing this in mind, ecofeminist theory as a combination of ecological and feminist viewpoints combined with awareness of geographical context offers a nuanced lens through which to observe and understand the experiences of those surveyed here, highlighting the flaws in the supposedly post-gender Global North's scientific community by drawing parallels with the so-called Global South. Furthermore, we call for more varied and in-depth engagement on the complex racialised, gendered, classed and intergenerational lifeworlds of trans and cisgendered women across diverse scientific disciplines and academic milieus, a topic of interest that has more often been the precinct of gender and feminist scholarship (Niemann, 2012). The responses and added comments of the respondents - and their manifold untold stories - certainly warrant further enquiry, however such analysis goes beyond the scope of this paper.

VI. Conclusion: The Way Ahead

Understanding past and present divisions in and critiques of ecofeminism, as well as the counter-arguments to these critiques allows us to examine how ecofeminism has come to define itself, and how it has come to persist as a relevant social theory. Despite considerable criticism from feminists outside of the movement, and a wealth of at times contradictory viewpoints within, ecofeminism has endured well into the second decade of the twenty-first century. Early critiques of ecofeminist's essentialist ties died off, as the critiques forced ecofeminists to elucidate their theories, strengthening their rhetoric. Yet even now that the essentialist debate is an issue mainly relegated to the eighties and nineties, a diverse range of viewpoints remain, some admittedly quite divergent.

Yet we would suggest that ecofeminism is only as diverse as the people who question, advance and utilise it, and as such, no less pertinent because of these perceived divisions. In this manner, Karen Warren's (2000) positioning of ecofeminism as a conceptual framework remains highly relevant. Using ecofeminism as a framework to be applied in light of varied local perspectives does not necessarily need to have such stringent guidelines as many other offshoots of feminism, as demonstrated. We would further argue that ecofeminism is no more diverse than feminism itself, the relevance of which should be considered beyond reproach.

Yet we would also argue that in moving forward, ecofeminism as that same conceptual framework may need an established methodology as diverse and inclusive as its definition for addressing the problems that it identifies so well in aspects of everyday life, from knowledge production and political power to sexuality, reproductive rights and much more. As stated, ecofeminism tends more towards the radical side of feminist ideology, yet it needs to be able to work within while reflexively critiquing structures of power and privilege - including their own- in order to transform them. Our hope remains that as previous critics of ecofeminist divisions have encouraged ecofeminists to produce dialogue that advance their movement, while contradictions in methodologies are at the same time readily acknowledged.

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Disclaimer

In order to safeguard the anonymity of all respondents, first names and specific spaces of origin and fieldwork/research sites have been altered, to the extent possible. The participant pool was drawn from four marine and coastal institutes across Germany. During the course of writing and before its publication, a complete draft of the paper was shared among our qualitative survey participants in order to elicit their feedback on the representation of their individual narratives and collective experience(s).

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Appendix 1

The following is the survey as it was presented to all 8 respondents.

Project Summary

As part of a working paper on ecofeminism with the ZMT, I'm looking at the experiences of female students/researchers in marine science, and any challenges they faced as a result of their gender. The section to which these interviews will contribute deals with the varying perspectives of ecofeminism in interpreting gender equality, and will hopefully demonstrate varying interpretations of gender-based challenges in the world of marine research by female students/researchers.

Questions

What is your age and nationality?

In which countries have you been involved in marine research, as a student, intern or employee?

In these countries, what were the gender demographics of your immediate work group?

In any of these countries, have you faced any challenges which you felt arose as a product of your gender? If so, please describe.

In any of these situations, was it made explicit by other parties that these challengers were a product of your gender?

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Authors:

Sam Perrin[1], Rapti Siriwardane-de Zoysa[2,3]

Contact:

1. Norwegian University of Science and Technology University Museum, Trondheim, Norway; sam.perrin@ntnu.no
2. Leibniz Centre for Tropical Marine Research (ZMT), Bremen, Germany; rapti.siriwardane@leibniz-zmt.de

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Fahrenheitstr. 6
28359 Bremen
Germany
Tel: +49 421 23800 21
Fax: +49 421 23800 30
Email: contact@leibniz-zmt.de
www.leibniz-zmt.de