How the other half lives: A reflection on Tivers (1978) from a physical geographer's point of view

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This is a reflection on Tivers' (1978) paper from a physical geography point of view. I discuss four elements of the original paper: the increase in women in the field of geography, fieldwork, family role, and “everyday sexism.” Alongside this, I provide a reflection of my own experience as a UK physical geographer over the last 40 years and discuss the major changes over that time.

KEYWORDS
feminist geography, fieldwork, physical geography

1 | INTRODUCTION

This is a reflection on Tivers' (1978) paper from a physical geography point of view. Much of what I have to say will apply equally to human geographers and other academic women; however, within this brief paper I am discussing my experience in the UK. I am a glacial sedimentologist who works on modern and Quaternary glaciers, as well developing sensor networks to monitor remote cryospheric environments. I will begin with my own reflections on how the world of physical geography has changed for women since 1980, and then go on to relate the experience of physical geographers to the main points discussed in Tivers (1978). It is worth stating here that the overall number, career opportunities, and well-being of women within the discipline have improved since 1978, but there is still a long way to go.

There are four elements from Tivers' (1978) paper that relate to physical geography that I am going to discuss: (1) the increase in women in the field of geography, (2) fieldwork; (3) family role, and (4) “everyday sexism.”

2 | “MOST GEOGRAPHERS ARE MEN”

Since 1978, the number of women postgraduate students, researchers, lectures, and professors has increased (Hart, 2007; Maddrell et al., 2016; Maddrell et al., 2019; McDowell, 1979; McDowell & Peake, 1990). The latter shows that in 2016, 39% of UK geography academics were women. The number of women postgraduate students rose from 31% in 1978 to 50% in 2012/13; and the number of women professors rose from 4% in 1978 to 21% in 2012/13 to 25% in 2016. However, women are still disadvantaged with the move from postgraduate/postdoctoral researcher to a permanent academic post (“leaky pipeline”) and in equality of promotion (especially for women with caring responsibilities; Maddrell et al., 2019).

It is not just numbers, but it is also important that women have a role in shaping the discipline. Gay-Antaki and Liverman (2018) show the rise in women authors of IPCC reports from 2% in 1990 to 22% in 2013. In the two largest physical geography study groups of the RGS (Quaternary Research Association [QRA] and British Society of Geomorphologists [BSG]), the numbers of women executive committee members have been slowly rising (with the QRA currently 64% women), although the number of women presidents and vice presidents for both is low (15%). Similarly, improvements...
have been made in the American Geophysical Union (one of the largest earth science organisations), which traditionally had few women in senior roles. At the moment it has both a female President and CEO and the council is made up of 61% women. However, it is also important to remember many successful women are not as visible as their contribution deserves (Wellenreuther & Otto, 2016).

It is vital to recognise women in the past, not to reward as “heroic” as pointed out by Bracken and Mawdsley (2004), but to make sure they are a key part of any study of the history of physical geography as a whole (Burek & Higgs, 2020; Hart, 2007). In a world of surnames, it is important that academics highlight women researchers in their field, both current and from the past (Maddrell, 2015; Mott & Cockayne, 2017). The visibility of women as a key part of geography sends an important message to the whole community (Figure 1).

Another important change has been the “feminisation” of physical geography. While in previous generations women tended to “hide” their femininity in an attempt to blend in, over recent years there has been a positive celebration of
womanhood in their choice of clothing, hair styles, and behaviour, as women begin to feel more accepted within the discipline. Numerous researchers have argued how everyone is an “actor” in their everyday lives by their choice of dress, with women being constantly judged by their appearance (Goffman, 1967; Gregson & Rose, 2000; Worth, 2016). There has been a shift in physical geography from a “uniform” of outdoor clothing (the range for women has also dramatically increased) to a greater freedom of clothing choice. The pioneer fluvial geomorphologist Katherine Boswell was described by a male contemporary as “an outdoor type, always wearing tweed skirts, ribbed stockings and walking shoes” (Wagstaff, 1996). However, the “freedom” of clothing also has its problems, as discussed above.

Increased numbers of women in the discipline have led to an awareness (and reduction) of the more toxic aspects of macho culture such as bullying and sexual harassment (in all their different forms). This has led to a much better working environment for everyone.

3 | FIELDWORK

Although Tivers (1978) doesn’t specifically mention fieldwork, this has been a topic of discourse concerning feminist geography. One main change since 1978 is probably the awareness that fieldwork needs to be inclusive: the gendered “hyper masculinity” described by Nairn (1996) has been questioned and there is an understanding that family commitments or disability need to be accommodated. However, examples of bad practice are still all too common (Maddrell et al., 2019; Maguire, 1998).

Maguire (1998) asked “why is physical geography unappealing to women?” Her answer is that “Physical Geography has had a perceived allegiance with science, itself a traditional gendered discourse (Keller, 1985; McEwan, 1998; Rose, 1993),” and “its association with the field and field-based research, again areas with a gendered tradition (McEwan, 1998; Sparke, 1996).” Although some elements of this are true, my own experience with fieldwork has always chimed closer to the “muddy glee” of Bracken and Mawdsley (2004).

I would argue physical geography is very appealing to women, and that fieldwork can be entirely positive. It relates to empowerment. The opportunity to plan and control your own fieldwork is the key. Participation in fieldwork may vary in
duration, level of physical exertion, and location throughout a career, and in addition, there are parts of physical geography that do not involve as much fieldwork as others (remote sensing, laboratory research). My experience is that women students enjoy fieldwork in an inclusive environment. Women students often lack confidence concerning their fitness, but usually there is no actual difference in fitness between men and women.

As for the science being a gendered discourse – this is not necessarily bad. Women with scientific backgrounds have been traditionally pushed toward the “lighter” sciences such as physical geography and environmental science and yet some of the most important scientific issues today relate to these very “lighter” science subjects, i.e., climate change, pollution, etc. The active engagement of women and girls in these subjects (both socially and academically) is vital for society. Women have always been a key part of the environmental movement (Breton, 2016; Kimball, 2019; Resurrección, 2017), and it has been argued that it will be women who will bear the brunt of the results of climate change (Demetriades & Esplen, 2010; Djoudi et al., 2016; Nagel, 2015).

4  |  FAMILY ROLE

Tivers (1978) discussed the family role of women in society and human geography research, and there are related issues associated with family life and physical geography. In the past, it would have been difficult for women academics to have a family, first because of the marriage bar of the early 20th century, then later because of social expectations, the availability of childcare, or simply the knowledge that the time for both a career and being a mother was impossible. As one senior single childless women academic once said to me “There was hardly enough time for my research, there wasn’t time for a family as well!” Without the free support often provided by wives for their husbands’ career, women academics rarely had a “choice” of a family.

The result of this is that there are still few women professors with a family. Many physical geographers have the additional problems with fieldwork. This will be especially difficult with remote locations, or on ships, when extended time away is required. This is one reason why the number of women doing research in Antarctica is still low. Hence, the changing patterns of fieldwork (location, duration, nature) over an academic career. On the positive side, the increase in women in the workforce as a whole has been accompanied by improvements in childcare and changes in social expectations about men’s family role. This has meant that more men are now affected by the problems of long-duration fieldwork, and there is less stigma about discussing these issues and any potential solutions.
One huge change since 1978 is an awareness of sexism within the academic world. It is still prevalent, but in more subtle form, i.e., “everyday sexism” (Maddrell et al., 2019; Todd, 2015).

Tangible efforts have been made to improve women's working conditions. The American Geophysical Union (AGU) for example has a very strong anti-harassment message, with potential awardees for prizes having background checks, and the hiring of a diversity officer. Attendees at conferences are provided with the space to report harassment (whatever the severity) and records are kept. These are all positive steps towards ensuring that this antisocial behaviour is not tolerated.

However, there is still “systematic bias in evaluating the sexes” (Leslie et al., 2015; Reuben et al., 2014; Wellenreuther & Otto, 2016). There is still bias against women in conference presentations (Jones et al., 2014; Schroeder et al., 2013).

There is no doubt that there have been significant improvements since 1980. Women now make up far greater numbers at postgraduate, staff, and professor level. But there are still problems for postdoctoral researchers trying to make the move to a lectureship. Although maternity (and paternity) provision is better, trying to meet “targets” as a young parent is very difficult, and many women feel unable to speak out about it.

The nature of sexism has changed. There is no explicit ban on women going to Antarctica, and extreme sexist language and behaviour is socially unacceptable. Instead there is a culture of “everyday sexism” where women are worn down by constant undermining, having to work harder for the same rewards, and the unspoken (but real) extra burden of childcare or parent care. In many departments there is still a macho culture where there is an “arms race” of publishing and grant success, rather than departmental success through group support.

I have had the opportunity to carry out fieldwork in many amazing glacial environments. When I had a family, I was able to take the children with me on fieldwork. I stopped doing fieldwork in more remote environments such as Svalbard because of the danger from polar bears. Instead, I worked in more accessible environments such as Iceland and Norway, where the glaciers are of equal scientific interest. An important part of my career has been networking support that I received from women in other science disciplines. I was an active member of the University of Southampton Women in Science and Engineering Group (WiSET). This supports women's promotion and mentoring, as well as hosts an annual Campbell Lecture, which celebrates women and science. This networking group gave me enormous support, through an understanding that our problems were similar (whichever the discipline), and gave me the confidence to believe we could produce real change. There are many signs of a positive cultural change within the discipline. A few years ago I was the external examiner of a PhD student who had just started a job at British Antarctic Survey (BAS) and was about to go “down south.” After the viva, all her female friends (from BAS) joined her in celebration. Such a situation would not have been possible in the 1980s. Also there are far more women attending and giving talks at conferences, and sometimes there is even a queue for the “ladies”! Young women can imagine a career for themselves in physical geography and enjoy the company of other women. Back in 1990s I was the only woman on the QRA executive committee; now the majority of the committee are women!

There have also been big changes in the glacial environment in the last 40 years. The number of women in glaciology has dramatically increased, and there are some interesting initiatives such as “Inspiring girls expeditions” (http://www.inspiringgirls.org/) to encourage more girls to choose glaciology. However, at the same time the glaciers have been dramatically retreating as temperatures warm (Figure 22) and we must all play our part in trying to reduce CO₂ emissions.
scholarly authorship (West et al., 2013), and invited journal articles (Conley & Stadmark, 2012); more stringent criteria are used to measure women's qualifications in grant evaluation panels (Leslie et al., 2015; Wenneras & Wold, 2010; Wold & Wennerås, 1997), weaker letters of recommendation for postdoctoral fellowships (Dutt et al., 2016), and women still receive smaller grants and fewer nominations for awards (Cho et al., 2014). There is also a worrying new trend of “blaming” women for their own lack of progress through the system, suggesting it is women's lack of confidence in putting themselves forward for promotion etc., rather than the systematic discrimination against them (as described above).

Other authors have stressed that the attributes that enable success in science are still seen as negative characteristics for women. West-Eberhard (in Wellenreuther & Otto, 2016) argues that positive traits such as “determined, motivated, persistent, stubborn, rebellious, irrepressible or independent-minded” become changed into negative descriptors when applied to women such as “pushy, strident, aggressive, selfish, obnoxious, mannish, unbecoming and less mentionable words.” Similarly, when women work in a team, they rarely get the credit they deserve (Wellenreuther & Otto, 2016), “a male scientist with a well-developed network of collaborators is often judged to have excellent management skills, while a woman in the same position is more likely to get her independence questioned” (Qvarnström et al., 2016, n.p.).

Numerous researchers (Herrmann et al., 2016; Holmes et al., 2015) have stressed the role of positive role models to help women progress through their careers. Shen (2013) argues the importance of seeing women with children in science leadership positions. Similarly, the importance of mentors and networking have been highlighted (Hawkins, 2018; Maddrell et al., 2019), especially the Earth Science Women's Network (ESWN; Hastings et al., 2015).

6 | CONCLUSION

Things have moved on a long way since 1978, but as I have addressed in this reflection, there is still a long way to go. At every step of the academic ladder women experience “everyday sexism,” that extra burden, that “mountain of molehills” (Rosen, 2017), which slows women down, whether its reviews, promotions, prizes, or appointments. Comments from McDowell still ring true, “it is a common view among the geographical establishment that the remedy for women's non-involvement in the power structures as their lack of representation at senior levels is seen to lie within their own hands… I believe this argument denies the structures of male power that confront women and inhibit their participation” (1990, p 324). There is still progress to be made, and it is hoped this will be at the speed of an ice stream rather than a cold-based glacier!

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