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Editorial

"A WORLD CAN ONLY BE STOPPED BY ANOTHER WORLD"

Tomás Sánchez Criado

As some of you might already be aware, in the last weeks one of STS main disciplines, anthropology–or at least its English-speaking versions–imploded in a social media earthquake of giant proportions. The trigger for this have been a number of allegations of systematic exploitation and power abuse regarding *HAU: Journal of Ethnographic Theory's* Editor in Chief. But the turmoil went way beyond this case, and quickly opened up a series of debates: both on the generic problems of academic institutions to deal with these issues, and a series of other reflections on the Open Access publication ecology (since another of the issues regarding HAU is its alleged transformation into a pay-walled journal after signing an agreement with Chicago University Press).

Interestingly, what came to be called in the social networks #hautalk unfolded into what could be called 'a fractal socio-technical controversy,' exploding exponentially in all directions, and opening up all kinds of academic issues:[1] Gendered and racialized power structures undergirding academic relations of prestige and credibility; precarious infrastructures of scholarly societies and work practices; the fragility of the ecology of open-access journals; or the problematic appropriation of indigenous knowledges in the journal's naming and branding. In sum, a true event revealing in a cascade of reflections many problems of our academic ways of being in the world. Not for nothing, some have been addressing it as the #metoo moment in the discipline. However, following it, I was aware that this was not just a matter for anthropology but for many other social sciences, including STS, across the world. In fact, I was constantly reminded of these powerful words by Sara Ahmed, also written very recently:

> *"What was hard was the complicity, the silence. The institutional response to harassment – don't talk about it, turn away from it, protect our reputation whatever the cost – was how the harassment was enabled in the first place. To be silent was to be part of the institutional silence."*[2]

In that blog post, Sara Ahmed, now an independent feminist scholar and former Professor in Gender Studies at Goldsmiths', goes back to why she resigned from her position: "in protest at the failure of my college to address sexual harassment as an institutional problem." Since then, intervening in those spaces has been turned into her primary concern, discussing in her blog and publications at length the issues and problems of how institutions deal with complaints of sexual harassment–together with other violent conditions deriving from gendered and racialized power structures. As she has forcefully put it, our academic environments, because of the role of hierarchy, prestige and power structures are extremely ill-equipped to deal with situations like these.

What can we in STS do about them? These are the main series of concerns that our contributors to a new installment of STS Live are addressing and raising: In this issue, different pieces chart out the impact that recent activist phenomena such as #metoo and #blacklivesmatter in the English-speaking-sphere, or #niunamenos and #vivaslasqueremos in the Spanish-speaking one might be having in our discipline and our modes of accounting or describing

1 You can find a summary of the events here. Also, the *AllegraLab* and *Anthrodendum* blogs have been publishing a series of essays on the topic, discussing (1) open-access infrastructures –such as Ilana Gershon's 'The Pyramid Scheme' or Marcel LaFlamme, Dominic Boyer, Kirsten Bell, Alberto Corsín Jiménez, Christopher Kelty, and John Willinsky's 'Let's Do This Together: A Cooperative Vision for Open Access'–, discussing issues of power abuse–such as in Emily Yates-Doerr's 'Open Secrets: On Power and Publication'–, or addressing the colonial remnants of the discipline–such as in Zoe Todd's 'The Decolonial Turn 2.0: The reckoning'..

2 S. Ahmed (2018). 'The Time of Complaint'.

it. From essays containing ethical proposals and reflections to concrete approaches to intervention[3] the corollary of the works here contained is, as I see it, that "a world can only be stopped by another world."[4] That is, that beyond merely engaging in these matters in our everyday life, or as our STS topics, our discipline and scholarly networks should be involved in creating the conditions for such a world to start happening in the here and now of our departments, meetings and journals.

Shall we? Yes, #wetoo.

3 In line with resourceful projects such as USVreact (Universities Supporting Victims of Sexual Violence: Training for Sustainable Services).

4 'Un mundo sólo se para con otro mundo' a sentence written by Spanish poet María Salgado, and compiled in *Hacía un ruido*. Madrid: Contrabando (2016). The translation into English was done by Luís Moreno-Caballud, who dwells on the poem in his book *Cultures of Anyone* (2015, Liverpool UP).

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STS Live

We-too? Sexism, feminism and STS

Celia Roberts

At the moment, here in the UK at least, it sometimes feels like we're living in a time warp. Suddenly, the gender pay gap is front page news again. My undergraduate students are getting agitated about the gendered division of domestic labour and presenting papers about how their mothers (born in the 1970s) have had to sacrifice their chances for careers to look after their children. Like their mothers before them, these students are struggling to see their way forward, knowing that they should be able to 'balance' work life with having a family, but having little idea how to do this. At the same time, thousands and thousands of women, and some men, are testifying to their experiences of endemic sexual harassment at work and in public spaces online. Everyday sexism has been documented in minute detail and survivors – both well-known and not – have come forward to accuse perpetrators at the highest levels of society of unacceptable and violent behaviour.

Feminism, to put it bluntly, despite having been so powerful, sometimes seems to have achieved so little. Like my students, I regularly find myself caught in a 'Groundhog Day' horror at the ubiquity of entrenched global sexism. There is so much complex work left to do.

So, what might STS do to contribute? I'd like to make three suggestions.

Fit our own masks before helping others

Let's first try to sort out our own institutions by openly and clearly addressing issues of inequality and diversity. How are we doing on these matters at EASST Council and in our Departments and Research Centres? Here at Lancaster University, we have worked hard on achieving diversity amongst the keynote speakers for the 2018 EASST conference, but we have not audited sessions: does it matter if we have single-gender panels (see #allmalepanel)? What does the spread of age and academic levels look like, and are we making space for scholars and ideas from the global South? Will ethnic, sexual and other minorities feel safe at the conference? How might the way we all behave at the conference make some people feel less than welcome? Should we adjust our practices to help those who identify as neurodiverse, for example? What assumptions do our ways of working make about bodies and minds that might make academic life disproportionately difficult for some and/or affirm and entrench wider patterns of discrimination and inequality?

We also need to think about the journals we edit and review for. Whose work are we publishing and whose gets rejected (in relation to feminist publishing, see Connell 2015; Roberts and Connell, 2017)? What kind of work are we willing to review and when and why do we say, 'No, sorry, I can't.' For our own writing, similarly, who do we read and cite? And, hugely importantly, what texts and case studies or examples do we teach (see the 'Why is My Curriculum White?' campaign: www.dtmh.ucl.ac.uk/videos/curriculum-white/)? Thinking critically about how our practices of selection and citation become naturalised can be hard work, but it's usually rewarding and can open up rich avenues of learning and inspiration.

Contribute our skills and knowledge to academic and public debates on sexual violence

Feminist technoscience studies (FTS) has a long and rich history of exploring sexism in science, medicine and technology design and use. We have, in my view, a huge amount of expertise, empirical, conceptual and methodological, to contribute to academic and political efforts to address sexism wherever it occurs. Most significantly perhaps, FTS has clarified the ways in which non-human actors are enrolled in the networks of practices that materialise discrimination in all its forms. More specifically, there is huge scope for more FTS projects on the rise of social media politics (both feminist and anti-feminist); and on the multiple ways in which sexism remains entrenched in both public and private forms of work. More broadly, STS has expertise to offer in the analysis of social media networks and internet materialities that are of great relevance to analysing #Metoo and other hashtag and online campaigns.

Engage with feminist debates on sexuality and subjectivity

Current debates on sexual harassment bring up challenging questions about responsibility, aggression, sexuality, guilt and shame. There are strong debates in online and other media about the best ways to document and address experiences of violence, sexual abuse and harassment and about whether the #Metoo movement ameliorates or exacerbates harm for individuals and for society more broadly. Individual testimonies clearly help us know and demonstrate the multiplicity of harassment forms. Many commentators argue that the accumulation of such reports creates much-needed understanding of the patterning of abuse and harassment; that through collecting stories, we can come to know better who is more likely to suffer abuse within particular institutions such as universities and other work places. But publically naming individuals – victims/survivors and perpetrators – is a fraught business, both legally and socially. Online spaces facilitate rapid reactions and counter-reactions and can fuel aggressive backlash, in both individual and more organised forms. The intensity of hatred voiced online raises real concerns about people's psychological and physical safety.

To understand the enduring nature of sexism we need viable theories of how sex/gender and sexuality are enacted in and through us as humans. STS has made serious contributions to knowledge in its focus on human-non-human relations, but typically this has been at the (deliberate) expense of paying attention to processes of subjectification and desire. Institutions, practices, materialities, policies, discourses are all hugely important in the production of sexism, but so are subjectivities and relations between people. To gain traction on sexual violence, harassment and discrimination we also need to address the (inter)subjective dimensions of gender, sex and sexuality. There are extensive and wonderful feminist literatures on sexuality, pleasure, shame and violence (see for example Cvetkovich, 2003; Probyn, 2005; Nash, 2014; Berlant and Edelman, 2014) that might really take some STS scholars out of their comfort zones, but which may, in conjunction with more materialist accounts (see for example, Terry, 2017; Race, 2017), provide real traction in thinking about current problems of sexual violence and harassment, enabling us to loosen sexisms' seemingly locked-on grasp on all our lives.

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#Metoo & feminist activism in India

Mehroonisa Raiva, Salla Sariola

When the #metoo campaign spread globally, women in India also used social media to make visible that they had been harassed, sexually and otherwise. The campaign made evident what everyone knew but had not quite witnessed the scale of. Moreover, the #metoo campaign sent verberations through India's feminist movements in unprecedented and dramatic ways, questioning key ideas of the movement, and means of mobilisation. Solidarity and sense of unity were at stake.

India's feminist movements have a long and vibrant history, and violence against women has been a key theme in mobilisation, at least since the earliest colonial upper-class women's movements that politicised sati, widow-burning, in the 17th century, as part of a colonial move to socially legitimise British imperialism of regions covered by the then East India Company. While 'the woman question' was also at the heart of the struggle for independence, Hindu nationalist movements adopted oppressive casteist and patriarchal notions regarding gender and sexuality, continuing to subject women to excessive control in the name of honour and protection. Sexual harassment, 'eve-teasing' as well as using extreme violence to reinstate male power over and possession of women remain common in households, public spaces, and politics still today, as the 'Delhi Rape' in 2012 attests to. Contemporary topics around which feminist, queer, and women's movements have mobilised include e.g. right to sexuality, caste discrimination, environment and deforestation, sex selective abortion, and women's health to mention a few. The various campaigns and movements were not always run by activists but also grew out of personal experiences of injustice and discrimination.

Sonora Jha and Alka Kurian claim that feminist movements in India were leading 'a new kind of social media-based 'fourth wave' feminism, well before the recent feminist resurgence in the US', evident in e.g. the #pinjratod and #whyloiter movements that aimed at questioning restrictions on women's mobility and violence in public spaces.

(https://thewire.in/gender/metoo-campaign-brings-the-rise-of-fourth-wave-feminism-in-india)

Hyperlink for #pinjratod https://twitter.com/pinjratod?lang=en

Hyperlink for #whyloiter: http://whyloiter.blogspot.com/

To the extent that these movements made explicit important dynamics about sexuality, vulnerability and desire, we cannot conceptualise #metoo as a 'global movement' in any simple sense. What we have are various - quite different - articulations that seem to be singular because of the hashtag function. We behave as though it is a singularity and generate the affect of collective action, when these are actually manifestations of quite different political moments in quite distinct conditions.

Two things come to mind. Moira Donegan argues in The Guardian (https://www.theguardian.com/news/2018/may/11/how-metoo-revealed-the-central-rift-within-feminism-social-individualist) that #metoo articulates what she calls a 'social feminism', and that the feminist detractors of the hashtag articulate an 'individualist feminism'. Whether this actually makes sense in the context of the UK, the US and parts of Europe is unclear, but such a claim might make sense in deeply individuated societies where neoliberalism is the organising principle. In the Indian

context, to make such an argument would be absurd. The #metoo campaign, based on Mehrunisa's ethnographic fieldwork on student politics in India before, during and after the #metoo moment, supported by Salla's discourse analysis on the social media content, is precisely the push to alienation, to individuation, to the return to individual injury as the origin of political action. This has undermined collective action and the intimacies that animate and hold women's collectives together.

The second thing that comes to mind is how the #metoo campaign in India relates to the articulation of female sexual agency and desire as political, as central to a feminist understanding of the structures of patriarchy. Let us do this by reference to another older campaign that claimed the position of 'global' - the Slut Walk. In its articulation in Canada, and then in other parts of the west, the primary disassociation being made was between female sexual desire and sexual assault - it was a movement against 'slut shaming' and an articulation of the right to be sexual itself. When the same campaign articulated in the streets of cities in India, this crucial element was inverted - it was as though about the demand to be seen as asexual, rather than as sexual. It became more a 'I should be able to dress as I want without being sexualised' and sexualness itself articulated as violence. The same form then articulated almost oppositional ideologies - one the affirmation of female sexual agency, the other, its radical erasure. These dynamics are activated by the central role that social media has in the campaigns on violence against women which had profound implications on feminist activism at large.

Online platforms as controversial spaces of resistance

In October 2017, a California-based lawyer with South Asian roots started a post on her facebook page with names of predatory academic men who had sexually abused students. She invited other victims and third party witnesses to contribute to the list and her blog states that this was done to warn students about academic men who might be their teachers and professors and to prevent further harassment. Currently the list runs to 70 names of highly positioned men across colleges and universities in India, as well as in Europe and America. Names are provided in full with affiliations. The description on the page states that all cases have been discussed with the victims as testimonies of the experiences.

'The List' breaks silences around sexual and other harassments and makes cases, that are more often than not systematic violations, public. The names on the list span over decades and people on it have often been gossiped about as public secrets but which rarely led to institutional reprimands.

The List quickly became the subject of extensive comments on blogposts and social media debates. It was welcomed by many, but was also target of criticism by well-known feminists in the country. A response was published on Kafila blogspace signed by fourteen feminist women stating their concerns of naming perpetrators without explication of what happened. They worried that "anybody can be named anonymously, with lack of answerability". The signatory feminists stated that they remained committed to strengthening formal procedures and principles of justice. When there "are genuine complaints, there are institutions and procedures, which we should utilize", they stated.

Hyperlink for Kafila

https://kafila.online/2017/10/24/statement-by-feminists-on-facebook-campaign-to-name-and-shame/

The debate polarised quickly, and anyone asking critical questions or disagreeing was deemed to be a rape apologist. While we do not suggest that violations did not occur, the subsequent discussions, and the conceptual coupling of sexuality and violence, left no space for the possibility of female sexual agency, or even impulse in consenting adult relationship, across professional hierarchies. The

debate hovered around a notion of consent, and the erasure of its very possibility in conditions where parties to the transaction are located in structurally unequal positions vis-a-vis each other. Nivedita Menon's otherwise well-thought through piece (https://kafila.online/2017/10/28/from-feminazi-to-savarna-rape-apologist-in-24-hours/)also fails to recognise the problem with this. In relation to the question of relationships between students and teachers, and the attempts to formulate codes vis-a-vis these, for instance, she says: '...We are in effect taking the position that in such a situation, the consent of the adult woman to intimacy of whatever kind with a man of her choice, is somehow tainted, that her consent is not to be taken seriously.' The question of appropriate behaviour is now reduced to whether the woman gave her consent and nowhere is it possible to imagine a woman capable - not of consent, but of sexual desire and sexual agency. This resonates with a longer term move towards a deep conservativism, a discomfort with the sexual per se and a failure of Queer feminism to maintain the possibility of right to pleasure, to desire, and to sexualness in political terms. Now, it is as though to speak of the sexual is only possible to speak of violence. Or rather violence is the only idiom remaining for speaking of the sexual in political terms. The point here is that while #metoo in other contexts might not be 'sex negative', in the Indian context this is precisely the effect - the reduction of the sexual to violence, the erasure of the possibility of negotiation with power.

Digital landscapes of feminist activism - note for STS

While the case would provide a lot more for the analysis of gender, sexuality, caste, and hetero- and cis-normativity, in this commentary we want to focus on three most crucial points of inquiry vis-a-vis STS. The first should be clear by now: that there is a need to recognise the shift in the role of the digital for feminist activism. From a point where the digital formed one increasingly important part of the political landscape, of the materiality of political action, and political subjectivity, in the aftermath of the #metoo movement, we see what might be considered the mechanism of enclosure - whereby rather than being one part of the landscape, the digital becomes the landscape itself. Here we have a situation where politics is contained within the digital, and the only political subject that remains legible is the digital subject. The affect and intimacy of embodied collective action is not simply diminished in its significance - it is evicted from the newly sequestered realm of the political itself. With this comes the fact that the conditions of political subjectivity in the digital is overdetermined by the logics of the digital - of which there are many elements.

Second, the logic of the digital is that of binary opposition: one is either 'with us or against us'. There is no space between or beyond these positions and all articulations must be fixed in one or the other position. Those that fail to perform are nevertheless pulled in and fixed through the twin logics of 'silence is complicity' (and therefore evidence of being a rape apologist), or 'silence is the evidence of oppression'. Perhaps never before has this logic been more clearly articulated than around the #metoo campaigns.

Third, stemming from this logic of binary opposition is the reduction of politics to condemnation and/or outrage. This is best thought of in relation to Katariina Kyrölä's contemplations on the politics of affect, where she argues that today the only way to feel good is to 'feel bad'. It is almost nostalgic to now think of feminism as a space for dissensus, for thinking together and contestation, for the coming together of a range of different experiences and positionalities so as to act on the varying manifestations of patriarchy. That space has been closed - at least on the digital, it seems. This has unfortunate implications for movements that are committed to reimagining politics in the form of horizontal, deliberative democracy, which recognises that a politics of consensus is necessarily one of hierarchy and which develops a politics of dissensus, of diversity and debate. A politics of condemnation is in this sense antithetical to horizontal, deliberative democracy. And, so, we find the condemnation of those feminist groups that espouse this form. Having 'failed' to make statements in support of The List, and condemning the feminists who questioned it, - for a statement of condemnation

is not possible when there are multiple perspectives arising from multiple locations and experiences - these groups are themselves immediately condemned as being elitist, upper caste etc., as being assimilationist, for failing to be 'radical'.

This, in turn, affects the dynamics in these groups themselves as the status of their members comes to be somehow tainted by this 'failure' - thereby erasing the work done in terms of embodied, on ground collectivisation, the painful and tiring processes of working through conflict and crisis on the ground, the passion for direct action - of behaving as though the world we demand is already here.

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Violet spots against sexual harassment in the University: an activist collective response from Spain

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26th April 2018, 15:00. A bunch of students and some academic staff, female and male, enter a classroom at the Faculty of Political Sciences and Sociology at Complutense University in Madrid. Smiles and waves are exchanged, occasionally nervous, while we sit in circle around the diaphanous space, as seats and tables have been pushed against the walls. After a while the group divides up in four, and each small group moves to a corner of the room. There, the groups prepare, using the technique of the theatre of the oppressed (Boal, 1974), everyday scenes of harassment at the University, and also the typical responses we tend to offer, both as co-students and academic staff. Body is placed on first line to generate a fiction where to rehearse possible solutions. Laughter, tears, and the so often felt outrage draw again in a sharp way while we revive scenes that have passed through our skins. Scenes that bring both shivers and disgust, and the memory of the impotence that we've felt all too often. Emotions that get stuck in our chests yet become political, all the while open to collective reflection. Together we learn from our own experiences of harassment and not the least from the way we've failed to give support. The feeling of being together and thinking together makes anger return to us as a political tool, transforming "silence into language and action" (Lorde, 1984:40): *¡Escucha, hermana, aquí está tu manada!* [Listen, sister, here stands your pack!]. At the end of the meeting -a workshop on support strategies to sexual aggressions, sexual harassment, and harassment towards LGBTQI people-, the recently self-made *chapas* [pins] of the violet spot that we are collectively building are distributed among the volunteers. Through the low cost, low tech, analogical technology of the violet *chapa* [pin], we become mobile violet spots accessible to anyone requiring the support of the Somosaguas Violet Spot.

Fig. 1: Picture of the violet spot chapas [pins]. Courtesy of the author

Somosaguas Violet Spot is an activist, non-institutional network of self-help, collective support that denounces sexual and LGBTQI harassment and sexual aggressions. The collective is formed by academic staff, students and administrative personnel alike, and was recently created in our Faculty. It has been mobilised to counter the absence of effective responses from the academic institutions to the issue of harassment in our University.

The Violet Spot have drawn strength from international mobilisations that make visible and denounce sexual harassment and sexual aggressions prevalent in the media and in the social networks worldwide in the last year – although many of them have a less well known story. #MeeToo in the English speaking world. #NiUnaMenos in Argentina and Latin America. #TomaFeminista, the feminist occupation of Universities in Chile against sexual harassment this May. #Cuéntalo, along with the mobilisations against the outraged trial and sentence in the collective rape case known as "La manada" [the pack], as well as the massive demonstrations of the 8th of march and the success of the feminist strike [#HuelgaFeminista #8M] in Spain. All of them are part of a new feminist global mobilisation wave that move online and offline crying out #YaBasta [#Enough].

The sexual harassment support workshop and the Somosaguas Violet Spot were born with the objective of making the University community as a whole responsible for the vulnerability, discomfort, violence and harassment that gender and LGBTQI people face in University campuses, whereas very often responsibility of the abuse seems to fall back into the assaulted person. We demand institutional responsibility, but we tried to go beyond the current Sexual Harassment and LGBTQI Harassment Protocol at Complutense University passed on 20th December 2016. The protocol treats accusations as isolated and exceptional, instead of recognising them as part of the "organisation culture" of the very institution, as Sarah Ahmed pointed out in her entrance on Sexual Harassment at her blog feministkilljoy, of 15th december 2015. Yet the protocol, now held as an institutional device, is the direct result of ongoing student mobilisations against sexual harassment at Complutense University in Madrid (UCM) initiated in 2013. An example of this mobilisation is the action that took place at the UCM Chancellor's Office under the slogan "Nos desnudáis. Protocolo de acoso, ¡ya!" [You strip us. Harassment protocol, now!].

The protocol was achieved, but it participates of the institutional inertia, more interested in protecting the institution than the person denouncing, thus provoking revictimizations, invisibility and lack of institutional support. We could have bitterly asked ourselves with Sara Ahmed if the protocol has become a "mechanism of non-performativity": "when naming something does not bring something into effect or (more strongly) when something is name in order not to bring something into effect" (Ahmed, 2017: 106-107).

Following Ahmed's (2017) image, academic institutions -even apparently progressive ones- are part of a "brick wall" that reproduce inequality, and to take out one single brick of the wall requires of an almost heroic effort. #AllMalePanel has raised the issue of lack of female visibility in the Academia and how it very often works as an Old Boy's Club, were women, LGBTQI, non conforming gender, racialized and functionally diverse people seems to be perpetually "out of place". "*Quiero ser libre no valiente*" ["*I want to be free, not brave*"] was one of the slogans we sang in the different recent feminist demonstrations in Spain. Yet, setting up a sexual harassment complaint at University enhances insecurity and vulnerability. Not only because you need to testify again and again, but also since your testimony will be continuously put into question, as it is identified as an attack to the institution in the first place.

Providing evidence becomes, then, a key issue. "Matters of fact" become questionable biases constructions, or even "unfortunately misunderstandings" too seriously taken. One word against another. Yet, maybe, as Latour (2004) suggested we could move away from "matters of fact" to "matters of concern", bringing

Fig. 2 and 3: Pictures of the Sexual Harassment clothesline. Somosaguas Violet Spot, May 2018. Courtesy of the author

to the fore the collective effort in sustaining current state of affairs in academic institutions and also assembling together the complex connections held to sustain the lives and bodies of the people harmed within institutional walls. Yet to make of sexual harassment a "matter of concern" is still not enough. We need to think about the *assembled work of care* required to *sustain our lives* (Puig de la Bellacasa, 2012; Tronto, 1993). To transform *matters of fact* into *matters of care* (Puig de la Bellacasa, 2011). Life entangles in strings that hold us as we also held them, both sustaining it and letting it go (Stengers, 2011). *String figures* using Haraway's words that urge us to "cultivate response-ability" through a "collective knowing and doing, an ecology of practices" (Haraway, 2016: 34)

Thus, to resist collectively we have set our particular "string figure". A rather ordinary clothesline at the entrance of the Students University Cafe. A clothesline to make visible sexual harassment. We have invited all passers-by to peg their own stories of harassment on the clothesline, as a washing out display to give presence to situations usually identified as absent. We wanted to wash out the silence that seems to ghost the university conjuring isolation into collective action. The narratives, many times dismissed as unreal, impossible to proof, take space and become visible, to be claimed as "matters of concern" (Latour, 2004). But the string that holds them together entails a collective effort and learning process. Both the clothesline and the Somosaguas Violet Spot are *strings figures*: collective caring devices both held by us but that hold us mattering care in particular ways to respond to the unavoidable demand of "staying with the trouble" (Haraway, 2016).

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Fig. 4: Group picture

Members of Somosaguas Violet Spot, and of the Project of Teaching Innovation: To Make Learning, To Learn Making: Learning-Service Communities on Gender Discomforts at University (I and II). Ph.D. students in the doctoral programs of Sociology and Social Anthropology (Marta), Journalism (Syra) and Feminist and Gender Studies (Irene); M.A. student at the M.A. in Sociocultural Analysis of Knowledge and Communication; and assistant professor of Sociology at Complutense University of Madrid and STS feminist researcher (Carmen).

The invisible violence: Lessons on challenges and tactics from the Chilean feminist movement

Martin Perez Comisso, Patricia Peña

"No! No! No is no! Which part do you not understand?! The N or the O?!"

Chilean Feminist Protest

Fig 1 http://www.t13.cl/noticia/nacional/bbc/la-marcha-en-topless-contra-la-violencia-machista-y-a-favor-de-la-educacion-no-sexista-en-chile

Sharing is a fundamental practice of care (Buehler et al., 2015) and is even more necessary to understand cultural challenges such as the current feminist movement and its implications in Chile. This local movement denounces the phenomena of gender inequity and violence and the patriarchal culture. The figure of a masked young women exposing her nipples is an iconic image of the protests in May and June 2018 in Chile (see image 1), taking over buildings, media and public spaces.

Universities are at the core of this movement, institutions where the movement has raised demands of basic social values related to respect for and the equity of women's social roles in Chile.

We could assume the protest was a result of the daily violence experienced by Chilean women: subtle institutionalized harassment, sexist education, the lack of women in high-ranking positions, wage inequality and the endangerement of women's lives by a culture that insufficiently punishes rape. The Chilean feminist movement has also become a place where women share affection and experiences among themselves and with others.

In this contribution, we extend the reflections and experiences articulated by the Chilean movement to the STS community (see also, Pérez Comisso, 2018). The social commitment of feminist movements focusses on the structural inequity of gender, which we refer as „invisible violence". Practices, perspectives and experiences in STS can learn from this social movement to incorporate strategies to confront invisible violence in scholarly experience. Violence is a complex and under-examined phenomenon, due to the subjectivity of its definition. Gender violence is difficult to describe when it's not lived, due to the diversity of subjects and cultures. The feminist social movement challenges us with a main question: *Can we know what we cannot directly perceive?*

Knowledge as experience is a form of power. Scientific knowledge based on the production of verifiable evidence is a primary concern for STS scholars. This knowledge is found inside black boxes that we need to access and analyze to discover its power dynamics. But violence seems difficult to recognize in current research culture and practices. From the feminist movements, we can recognize the requirement to make evident the violence, including experiences so extreme that humans typically try to avoid. The current feminist movement in Chile offers us four resources that make visible the invisible violence that we want to highlight: non-sexist education, sorority caring, the eradication of harassment culture and empathy.

Making Violence Visible

The first strategy is non-sexist education. This refers to a set of academic transformations intended to avoid stereotypes in our research and learning and to provide visibility and knowledge of topics and questions produced by and of interest

Fig 2 Photo by Patricia Peña, feminist march June 6th, Santiago Chile

to women, as well as promoting the use of inclusive language and practices in educational context. Francesca Bray (2007) illustrates this situation by acknowledging stereotypes: „Men are considered to have a natural affinity with technology, while women are supposed to fear it or not". These stereotypes are reproduced in the classroom as well as conferences and publications. A challenge in our field is to identify biased practices and transform them. It is a challenge to incorporate gender symmetry outside of actor-network models and to perform it in everyday learning.

A second strategy is sorority caring. Despite recognizing the contribution that gender studies have made to our field for a long time (Rose, 1997); dominant approaches have yet to incorporate the practices of feminist thought. We understand that positionality is not enough to inspire sorority behavior. The communality of interpersonal trust, support and comprehension provided a safe place for the members of the sorority, creating a care circle. The behaviors of feminist protestants in Chile (#OlaFeminista), Argentina (#NiUnaMenos, #AbortoLegalYa) or the American #MeToo don't require explanation among their participants because their members connect through a collective feeling. This behavior happens in highly aware communities that recognize common experiences despite the inherent diversity of their members. Observing these elements in our behaviors, we could promote academic support networks in our practices and help to transform the experiences of STS scholars in more positive ways from a community grassroots perspective.

A third lesson in eradicating the harassment culture is the importance of not remaining silent. We refer to harassment as a multifaceted set of practices not limited to sexual harassment, which include several oppressive behaviors such as hierarchical mistreatment, disrespect, institutional injustices and abuse of power.

Image 3 Photo by Patricia Peña, feminist march june 6th, Santiago Chile

These situations are common in academic life as well in gender violence because harassment is naturalized in several cultures. The feminist movement shows us that direct action is the only of confronting the harassment culture.

Denounce, protest and don't be silent, a crystalized culture must be broken. Chilean feminists shout, "My body is not to be touched; my body is not for sale. My body is to be defended", to exemplify how women fight against abuses. In STS recent examples also raise concerns about racial misrepresentation (Mascarenhas, 2018) and the abuse of power in hierarchies (as in the case of #HauTalk), but explicit personal and institutional action is still required to eliminate harassment, at least, in our scholastic communities.

Finally, a transformative insight from the experience of the feminist social movement must be incorporated into STS practices, namely Empathy. We define empathy as a personal skill used to connect with the feelings, thought or attitudes of another person. This is a key issue in feminist movements, which allows women in these social movements to acknowledge their internal diversity (class, nationality, race, age, privilege, etc.). Lack of empathy reproduces a shared blindness about gender inequality and despite long term feminist studies and movements the status quo remains in insensitive communities. A seminal case in arousing gender empathy in STS was the study of household magazines by Ruth Schwartz Cowan (1976). In this study, she overcame the dominant commercial perspective about the electrification of the domestic space, as well identifying an (until that moment) unrecognized industrial and intimate revolution taking place inside the houses of American middle-class housewives. With the techniques of a historian of technology Schwartz Cowan emphasized this cultural transformation, and the condition of women, making visible this fundamental industrial phenomenon. Feminist research is about seeing through our practices, reflecting on our social and intellectual blindness, to be able to observe the invisible.

Begin for yourself, begin for the other.

Making violence visible is necessary to confront its pervasive nature. As we have learnt from contemporary social feminist movements and from our own tradition of feminist STS, we cannot keep violence encapsulated, ignored or nuanced in black boxes. Nuance is disallowed, not only because it can blur theories (Healy, 2017) but because it can even dissolve the limits of the acts of violence presented in our (research) life. For this reason we propose that exercising empathy is a way to start revealing the realities of systematic violence, particularly that which we do not experience every day.

An active and dialogic engagement is required with these emerging tools, methods and methodologies (non-sexist education, sorority caring, the eradication of harassment culture and empathy) that contemporary feminist movements have highlighted in their protests. In our view, to implement a new ethos of care inspired by the feminist movement and the experience of women (that surround us in the field) we can begin actively practicing empathy in our practices and our assessment of evidence. In the challenge to improve individually and as an academic community, to see things that we otherwise have no direct experience of, Empathy and dialogue will empower us. Those of us who have the privilege of not perceiving some of this violence have a responsibility to learning the consequences of our own blindness through empathy with others.

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The Cosmoethics of New Rights Movements

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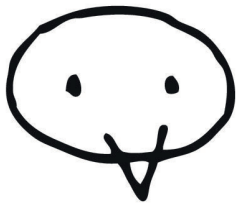
First of all, I'm not going to explain #metoo, Black Lives Matter, and other new rights movements. They speak for themselves. Their aims and their voices are pretty clear. I'm not looking for what lies behind them. I want to describe what lies ahead of them. I believe these movements and battles are a first wave of a forthcoming storm. I think its main feature is an unlimited proliferation of claims on self-sufficing existence. I mean the following:

We can, of course, put these movements into the familiar framework of human liberation. They can be legitimately viewed as a next step in the long history of fight for human rights, human dignity, and human equality. But there is something more in them. This is a fight not only for the rights of oppressed groups and persons. The stake is much higher: they open an existential Pandora's box, they pave the way to a new world where every individual, human as well as non-human, can claim its right for being and worthiness independently of its qualities. We are witnessing the birth of the new ethics suited not for the habitual world of human-human (or human-animal) relationships, but for all imaginable and unimaginable kinds of associations between any monads: humans, animals, plants, rivers, technological artefacts, viruses, planets, gods, anything. #metoo and Black Lives Matter, as the most consistent and charged contemporary initiatives, show that racism, sexism, ageism, nationalism, and all other forms of oppression hidden underneath the modern societies are based on a particular bioethics that makes this oppression possible. This is essentially human bioethics, that justifies not only the supremacy of males, whites, etc., but also the domination of humans as the masters of nature and the only beings that can be active, not just reactive or passive. This ethics creates the opportunities for oppression by providing those who have power with the principle of irreducible differences between monads. #metoo, Black Lives Matter, and other new rights movements suggest that new ethics are coming, ethics that are not based on the principle of difference. This ethics knows no Other, only singularities that can enter into relations with other singularities. They have no qualities. They have no form. They are unary beings that live a bare life reduced to the raw fact of existence. Such kind of ethics is best suited for those who want to have an opportunity to make associations irrespective of who or what can be part of these associations. In a sense, new rights movements build a new language that will be used by humans and non-humans to describe their connections. This new language has two properties: it is not owned by the humans and it is able to describe the endless possibilities of action inherent in any being. That is why so many people is afraid that soon we will live in a world where anyone will claim its own rights: from women to babies, from ants to elephants, from sequoias to mushrooms, from robots to pets. These people are right in their fears: the coming ethics makes no distinction among the actors that are entitled to claim their own rights. Henceforth any act of oppression will be met with resistance predicated on the direct monadic existence.

So, new rights movements teach us two lessons. First, the old lesson of solidarity in the face of those who deny your dignity, restrict your action, want to make you feel inferior to them, take whatever they want from you, and try to keep you silent. The significance of this solidarity cannot be overstated. This is the eternal source of new forms of communication and communion. Only those that share



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the same experience of oppression can have force to produce assemblages of unexpected nature. In the future post-human condition this resource of solidarity will be as important as it is today. The second lesson concerns the new ethics, cosmoethics. This ethics undermines the established connection between living and power that Foucault has described as biopower—understood not as technology of governmentality, but as a way of making any monad a conduit of particular human interests. It is this biopower that made Weinstein possible. Cosmoethics will put an end to this biopower by removing any barriers to the configurations of humans, animals, plants, minerals, and stars that can be created if we cease trying to produce any associations through a kind of short circuit fueled by humans' craving to take an exceptional position in these associations. Such cosmoethics is not based on a maxim made universal law, that is, the maxim of talking, creating the world and others in this world by spoken word. It is based on listening. Only listening to other monads can show us their properties and possible lines of association with them. One of the monads is Earth. If we want to find out how to create a new kind of association with it, a kind of association that will not be predicated solely on the "humanization" of nature, we should learn from #metoo, Black Lives Matter, and other new rights movements, because they provide us with the glimpses of a future cosmoethics that will set the rules for non-destructive alliances between humans and non-humans.

STS Multiple

Centre for Gender & Science

Marcela Linková

The Centre for Gender & Science was established as a research department at the Institute of Sociology of the Czech Academy of Sciences in the middle of 2016, after fifteen years of building its research, policy, and advocacy engagements at the EU and country levels. Its research profile focuses on 1) research careers from a gender perspective; 2) the impacts of neoliberal transformations in the public sector, especially in research, healthcare and social work; and 3) history and current multiplicity of medical practices.

The Centre for Gender & Science became an independent research department at the Institute of Sociology of the Czech Academy of Sciences, a non-university institution, in the middle of 2016, after fifteen years of building its research, policy, and advocacy engagements at the EU and country levels. While our research profile has expanded in recent years, we continue to focus on the various ways in which the research system and research careers are gendered, against the backdrop of changes in research governance and the organisation of research.

Science and Technology Studies was viewed with misunderstanding and perhaps even some disregard during our university studies in the late 1900s and 2000s, and although the number of scholars in this research area has slightly increased, we remain a small lot. Similarly, until recently the Centre was the only body concerned with gender in research and higher education. This means that we started off with an amazing opportunity to create something new in 2001, when Marcela—then not yet even enrolled in a doctoral programme—was assigned to lead the Centre. But it also presented the amazing challenge of having to work without direct intellectual guidance and leadership.

The Centre was established in 2001 in direct response to European actions aimed at advancing gender equality in research. The European Commission set up the Helsinki Group on Women and Science (later Gender and Science) in 1999 to receive advice from member states and associated countries, and in 2000 the Czech representatives at the Ministry of Education decided that they needed a support facility to tackle the issue. Grant funding for support and coordination actions from the Ministry has continued to be instrumental to the Centre's existence over the years, as has important funding from successive European Framework Programme projects.

From the start the Centre profiled itself as a site of research, support, and advocacy, an infrastructure of sorts, before infrastructures became recognised and funded. Over the years, we have accomplished real changes. Soon after the Centre was established we recognised that the eligibility rules of the grant schemes for early-career researchers at the two major funding agencies in the country, the Czech Science Foundation and the Grant Agency of the Czech Academy of Sciences, were problematic, as applicants had to be under 35 years of age. The customary three-year parental leave on top of a 28-week maternity leave meant that this age limit prevented many women researchers from applying. There was not much resistance to replacing the age limit with maximum 4 years since PhD completion (and the four years did not include the time spent on maternity leave). Other issues,

however, were more difficult to change, such as the possibility to interrupt a post-doctoral grant for maternity/parental leave if the grant has just a PI and no team. Because negotiations with the president of the Czech Science Foundation did not yield any results, we submitted a complaint to the Ombudsman in April 2012, who confirmed all our claims in his report published in January 2013 and raised additional ones. We have continued to work with the Czech Science Foundation and have negotiated other changes. Today, PIs returning from parental leave automatically regain their status as PI after having transferred it to another person for the duration of the leave.

We have cooperated on and negotiated with the Czech Ministry of Education on various issues, most notably on the collection and publication of statistics disaggregated by sex. In 2009, at our suggestion, the Ministry instituted a life-time achievement prize for women researchers, which comes with a financial award. The idea for the Milada Paulova Award arose after we reviewed the awards and prizes conferred in the Czech Republic and found there were no women laureates by the country's most prestigious awards. The aim was to show that there are women in many disciplines who clearly bear scholarly comparison with their award-winning male peers. We recognize that this approach does not address the core problem of men continuing to receive prestigious prizes but it was one that the Ministry was willing to entertain as less controversial than practically all the other proposals we were making.

Apart from gender, science and research policies, we have also been engaged in providing expertise and doing policy-relevant research on other topics of social relevance. Since 2014, we have been the Czech partner in FRAnet, providing expertise on human rights issues to the European Agency for Fundamental Rights (FRA). In 2017 we started collaborating with two NGOs and a number of Czech municipalities with the aim of designing, testing, and gradually implementing an integrated system for providing quality housing for everyone and minimising homelessness, a growing problem in the country. We consider such activities to be an integral and refreshing part of academic work, especially for a non-university research institution that is always at risk of falling into the trap of having an isolated scholarly agenda.

Fig. 1 Marcela protesting reforms - a photo from one of the protests organized by Veda zije! (Science is Alive), an association of researchers formed in 2009 in protest against the planned R&D reforms

1 We received funding for the project, GENDERACTION. For more, see www.genderaction.eu.

2 A workshop was organised recently on 'Perilous Knowledge: Gender and Sexuality Scholars at Risk in Europe' to address the threats. Also see Verloo (2018).

Even some colleagues at our home institution, the Institute of Sociology, have received some of our actions as somewhat controversial. For example, when we filed the complaint with the Ombudsman against the Czech Science Foundation, some colleagues at the Institute were concerned that this would damage the Institute in the competition for grants. Needless to say, this did not happen. In 2016, we vocally opposed an exhibit of photographs of nude and semi-clad women, some with racialized undertones, in the Library of the Academy of Sciences during a Science and Technology Week, the country's largest science festival aimed at the general public and especially children and teenagers (Cidlinská, 2015). This turned into a huge controversy that stayed in the media for two weeks (for more, see Nyklová and Fárová, 2018). Again, the unwanted attention and our engagement in a public debate on a controversial issue created tension and resistance among some colleagues. Despite this we have never been forbidden to engage publicly and the controversies have served to advance a debate at the Institute about the role of researchers and, specifically, social scientists in society. It is also important to note that we have managed to embed our activities in European policies and actions, and in an international context, which has helped to justify the work we do.

Undoing the European 'lagging behind/catching-up' script for comparative research

If the European policy for gender equality in research was behind our inception, success in getting EU funding from Framework Programmes has buttressed our efforts to build our position at the Institute and more broadly in the Czech research community. It has also been crucial for our scholarly maturation and project management expertise.

As early as 2004 Marina Blagojevic Hughson (Blagojevic, 2005; Blagojević, 2009) developed a critical framework for analysing the position of Central and Eastern European (CEE) countries on the semi-periphery and its implications for knowledge-making processes and the epistemic authority of CEE scholars. This critical approach was supported by the work of the Commission's Enwise Expert Group, which worked between October 2002 and December 2003 and delivered its final report in January 2004 (Blagojevic et al., 2004). This group looked specifically into the position of women in research in Central and Eastern Europe and provided some counter-intuitive explanations to the dominant frames of women's discrimination in academia. The most notable was the link between public funding for research and the share of women in research, which complicated the assumption common at that time that higher proportions of women in research are indicative of greater gender equality. The so-called honeypot indicator showed that women are disproportionately more represented in fields and disciplines with the lowest investments in research and that women tend to be well represented in countries with low investments in research.

Despite Blagojevic's and other voices, the EU policy script is to date one of lagging behind/catching up where less experienced/advanced countries are to catch up with the more experienced/advanced ones through various support mechanisms such as mutual learning, training, and exchanges of good practices. Despite the shortcomings of this explanatory framework, it is the one we strategically adopted when applying in 2016 for a Horizon 2020 project to build a policy forum to foster gender equality in the European research area.[1] In response to the call we had to explicitly adopt the less/more advanced framework, but we also wanted to challenge the assumption that 'more advanced' countries in the EU do not encounter resistances and obstacles in relation to gender equality policy. We therefore included actions where these countries can share their experiences of obstacles and resistances and their particular materialisations, and we will continue to focus on how both implementation and resistances get made, materially and discursively, in our partner countries. At a recent debate that was part of the conference 'Gender and Neoliberalism in Academia' organised by the Department of Political and Social Sciences at the University of Milano, the panellists—Mieke Verloo, Marina Cacace and Marcela—discussed the need to develop a comprehensive comparative framework that would allow us to theorise the current situation, including the growing attacks on gender and feminist scholarship and scholars in EU countries.[2] A linear narrative of progress clearly is not very useful.

KNOWING: BUILDING EXPERTISE AND PEER SUPPORT FOR STUDYING THE GENDERED GOVERNANCE OF SCIENCE

On other occasions, we have focused our analytical attention on this framework of lagging behind/catching up. From 2006 to 2008 the Centre coordinated the FP6 project KNOWING (Knowledge, Institutions and Gender: An East-West Comparative Study). Here we could bring to fruition the evolving research questions and topics we had been working on since 2002. Thanks to KNOWING we could start to explore the timescapes and policyscapes of university and research reforms, interrogate some clichés, including the catching-up argument, and get nuanced insights into the myriad ways in which research work and careers are gendered. It also gave us vital intellectual sustenance and the foundation for our long-standing collaborations, especially with the Department of Science and Technology Studies at Vienna University and particularly with Ulrike Felt.

International collaboration and particularly the KNOWING project were thus unsurprisingly very important for our further development, as we had a highly supportive and collaborative consortium that included Ulrike Felt in Vienna, Anne Kerr, and Lisa Garforth (at the University of York at that time), Susan Molyneux-Hodgson (then at the University of Sheffield), and Helen Longino (from Stanford University). International engagements continue to be crucial for our scientific development and we were very excited to be invited to become a member of RINGS, the International Research Association of Institutions of Advanced Gender Studies.

The KNOWING project was essential in yet another way for steering the course of our research agenda. The research design involved an ethnographic study of two research sites in each of the participating countries, one in the biosciences and the other in the social sciences. The biosciences institute to which we managed to negotiate access was undergoing a transformation when we approached it. This was perfect timing for our study! Although a new law had entered into force shortly before that, which changed the status of institutes of the Academy of Sciences and necessitated changes in practices and procedures, this was completely overshadowed by the internal transformation that the institute had embarked upon with a vision of global excellence, both in terms of academic aspirations and collaboration with industry. This opportunity to study up close the process of transformation and its impacts, intended and unintended, allowed us to develop some of the theoretical framings we continued to explore later. One of these was the shift from a dynastic to a dynamic research organisation (Linková, 2014). Another was the modes of organising research and the gradual shift from

Fig. 1 NKC + Falk - several members of the center with nuclear physicist Katerina Falk at a visit to ELI Beamlines with a mentoring programme for secondary school women students

science as knowledge-making to science as enterprising and their co-existence (Stöckelová, 2009; Stöckelová and Linková, 2006). However, we also always sought to look, with symmetrical lenses, at developments and transformation in the social sciences (Stöckelová 2012; 2014) that usually get much less attention in STS and are left to introspection.

Current research profile

Our research focus today is spread across three strands: First, we study research careers from a gender perspective with a focus on early-career researchers, academic mobility, dropping out of the academic research path, work-life balance and family policy, and sexual harassment in higher education. Second, we examine the impacts of neoliberal transformations in the public sector and the ways managerialism, quality control, assessments and marketization play out in research and innovation, healthcare and social work. Third, we study the history and current multiplicity of medical practices in their material, economic, embodied, and geo- and bio-political dimensions.

In our study of research careers, we employ both quantitative and qualitative approaches. In 2018 we are in the process of completing a large-scale study on working conditions and job satisfaction among researchers in different disciplines at public research institutions, the Czech Academy of Sciences, and universities. This includes the first representative survey of more than 2,000 researchers. Over the years we have examined the different professional and family trajectories of senior and junior women researchers and discovered that while parenting and family commitments are today a crucial bottleneck in career advancement, before 1989 the impact of motherhood was much smaller and was overshadowed by the impact of political developments (the invasion of Warsaw Pact armies in 1968, the subsequent political purges in the universities in 1971-1972) (Vohlídalová, 2018). We have studied international mobility and discovered that, contrary to the common assumption, international mobility existed before 1989, in periods of political thaws, and it was more common in the natural sciences. We have also studied academic couples in the context of linked lives and showed that Czech women researchers are often in the position of tied stayers and tied movers, which negatively impacts their careers (Vohlídalová, 2017). Another line of research looks into the reasons people abandon an academic career. The job precarity related to grant funding and a points-based research assessment system, which pushes researchers to do things for the sake of themselves, not to develop field knowledge, are the two most important reasons for this; even among women researchers, the obstacles to combining work and family is only the third most important reason cited for leaving academia (Cidlinská and Vohlídalová, 2015). Our research into sexual harassment in universities, which included a representative survey and qualitative interview-based study, revealed a 67% incidence of gender harassment and an extremely high degree of uncertainty among students in terms of what constitutes sexual harassment and what action they can take to protect themselves (Vohlídalová, 2011).

Our second strand of research examines processes of managerialism, quality control, and assessment in three public domains: research and, newly, healthcare and social services. Contrary to some findings abroad we have established that the introduction of managerialist principles and quality control have not been imposed top down by state administration, but, at least initially, were supported and endorsed by researchers themselves, in particular in the natural sciences (Linková and Stöckelová, 2012). We have also looked into the coping strategies that researchers develop to manage research assessment (Linkova, 2014) and explored the moral and geopolitical interconnections between predatory publishing and established publishers (Stöckelová and Vostal, 2017). Important for our considerations were the geopolitical and disciplinary aspects of publishing (Garforth and Stöckelová, 2012; Stöckelová, 2012). We also looked into the transformation of the research system (the gradual shift from dynastic to dynamic organising), the coexistence of different modes of organising, and the ways researchers deal with these changes and manage incoherences in the system (Linková, 2014). Related to our concern with research assessment is how excellence is defined (Linková, 2009). We discovered that researchers and research managers have

highly gendered notions of excellence and what constitutes an excellent researcher (Linková, 2017). In their opinion, the two main exclusionary mechanisms are the parenting commitments of women and women's lack of vision compared to men. A related research interest lies in the ways in which gender equality policies are enacted in Czech and European research. Using the concept of the 'policy of inactivity' (Veselý and Nekola, 2007), we looked into how research managers, policymakers, and politicians exempt themselves from any responsibility for addressing gender equality concerns (Tenglerová, 2014). Examining material and discursive practices, we charted the expansions and contractions in the making of gender equality in Europe and the strategies used to steer gender equality towards the business case (where gender equality is made to matter by paying off) and what consequences this has (Linková 2013; Linkova and Cervinkova, 2011; Linková, 2011). We recently compiled all our research interests into a single book with the goal of setting the local developments in the international context (Vohlídalová and Linková, 2017).

Our third and latest strand of research is concerned with medicine, healthcare, and related technologies of the self. More specifically, since 2015 we have investigated the interfaces between biomedicine and complementary and alternative medicine (or CAM) in the Czech Republic, most notably Traditional Chinese Medicine (TCM), homeopathy, and various bioresonance therapies. Using ethnographic and archive materials, we look into the ways in which these alternative notions and enactments of body, health, and disease have, since the 1960s, coexisted with biomedicine in diagnostic and therapeutic practices, everyday self-care routines, and in research, development, and innovation (e.g., of various CAM electrical devices). Contrary to usual media depictions, more interesting processes are taking place (around CAM) than simply conflicts, ignorance, or the one-directional subjugation of CAM to biomedicine. The reality of medical pluralism is much messier. We studied various translations and integrations of CAM into official conventional medicine – e.g. 'medical acupuncture' (Stöckelová and Klepal 2018a; Stöckelová and Klepal 2018b) – and also documented how the development of CAM after 1988 actually contributed actively to the biomedicalisation of post-communist healthcare (Klepal and Stöckelová, forthcoming). We are now working further on the blurry boundaries between biomedicine and CAM to show how CAM can and does actually re-shape conventional biomedicine.

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In Search of the Geopolitical and Epistemic Relocation of Czech Social Sciences

Tereza Stöckelová

How to avoid the 'catching up' framework and participate in contemporary scholarly and political debates as they happen? This is a key issue for the social sciences and societies today in Central and Eastern Europe. Now that the myth about the West being a source of ready-made solutions has been shattered, CEE scholars need to work towards making conceptual and theoretical contributions that draw on the specificity but avoid the essentialisation of the Eastern geopolitical and epistemic location.

After the transformation of the political and economic regime started in November 1989, the country – Czechoslovakia and later the Czech Republic – was searching for a way to articulate its own geopolitical, as well as its epistemic, location. While 'capitalism' was not the preferred option of the majority of the population (people favoured more a 'mixed economy', as was revealed in a rare public opinion poll on this issue in the early 1990s), the consensus about heading 'West' and 'back to Europe' prevailed as the desired geopolitical direction. Importantly, this consensus was shared across social classes and regions in the country.

This new situation was of course reflected in and by the social sciences, which have played an important role in this relocation process of the country. Some social scientists and philosophers – who had been part of official research institutions or active in political dissent – became new MPs or even members of government (these were in most cases economists), others worked (part time) contributing commentary to major newspapers, and yet others obtained expert positions in various public bodies. In academia, an influential stream of 'transition research' was established, concerned with issues of the country's 'distance' and 'delay' behind the developed West and with what was the best course of action to 'catch up'.

The 'lagging behind/catching up' framing was interesting for and supported by a number of Western scholars and foundations and opened up opportunities to publish work or take up research fellowships abroad (i.e. at Western universities and academic centres). The interest in this 'country in transition' from some Western scholars drew to some extent on their pre-1989 connections in socialist Czechoslovakia, which they had viewed as a laboratory in which to test the (failings of) socialism (Bockman and Eyal 2002). Conversely, many Czech scholars who had emigrated from socialist Czechoslovakia to the West made their careers in part by providing testimony directly from that 'lab'. In post-1989 collaborations, the Czech social sciences were then to deliver the data that were to be incorporated into conceptualisations and theories developed in Western academia. And in the wider field of public policy-making and debates, many existing policies were dismissed as socialist and abandoned, with the help of international experts and local ones, newly trained in the West. Interestingly, as Jehlicka and Smith (2012), for example, have argued with respect to practices of self-subsistence and community agriculture, some of the policies and practices dismissed as supposedly "socialist" in the Czech Republic have meanwhile come to be viewed and supported as largely innovative in the West.

The catching-up framing was not without criticism. Feminist researchers and activists in particular had been uncomfortable since the early 1990s with being 'lectured' on women's emancipation and gender equality. They highlighted genuine local histories of women's rights (the implementation of which in many respects preceded developments in the post-WWII West). However, catching-up framing embraced by the Czech social sciences remained ascendant. In some respects, this was convenient for local scholars, who could use this framing, for example, to position themselves legibly within EU research consortia. While the place of Czech members of these consortia may have varied, it was definitely difficult for a Czech participant to get out of the position of being a kind of pupil whose role is to supply data on a 'backward/underdeveloped' country and who herself is supposed to learn the standards of good social research (Stöckelová 2016).

This is not to say there was not much to learn from our Western colleagues. European ideas, initiatives, and resources supported and drove many useful domestic developments, including the support for critical and activist streams of social research. However, the unquestioned equating of quality with the 'West', as was witnessed with respect to the criteria used in research assessment, had negative consequences, such as a drift away from locally relevant social research (Stöckelová 2012; for evidence of similar phenomena in Spain, see López Piñeiro and Hicks 2015). In wider social contexts, the uncritical promotion of the West promulgated in the mainstream media and political debates, along with the unequal distribution of opportunities across the country's regions and social and professional groups to benefit from EU funds surely contributed to the currently very high level of Euroscepticism in the Czech population (CVVM 2018).

No contribution without convolution

As female researchers who entered academia in the new millennia, we definitely belong to a class, generation, and gender that hugely benefitted from the alignment with the West. We have participated in a number of EU projects where we have learnt a lot; and by publishing in impact factor (Western) journals we have managed to secure relatively stable jobs and recognition for what mainstream Czech social sciences would deem our slightly 'weird' research agendas. This author is indeed writing this essay during a research fellowship at the Copenhagen Business School, supported by an international mobility grant provided under the EU Operational Programme Research, Development and Education. We feel at home in Europe, as citizens and researchers. However, for us this primarily means that we want to contribute something original and valuable to international debates, which are still largely centred in the West, but are hopefully moving towards becoming more provincialized (Lin, Law 2014; Law, Lin 2017; Stöckelová, Klepal 2018), with less clear-cut borders, centres, and peripheries. To achieve this, we need to appreciate the unique localised experiences that exist in the society we live in, without, on the one hand, seeing the difference as indicative of backwardness in relation to Western Europe or, on the other hand, essentialising it as something incommensurable with the West. This is, of course, more easily said than done.

We have taken two steps in this respect. The easier one, at least conceptually though not necessarily politically, was to reshape the way we relate to the West in domestic discussions. This is what we have been striving for ever since the KNOWING project.[1] The internationalisation (i.e. Westernisation) of research has been seen as a desirable aim for science since the 1990s – first by a group of, mainly, natural scientists (many of whom had experience abroad in the 1990s or even before 1989) and later by policy-makers and in research policies. This largely manifested itself in the imperative of IF publication as an unquestioned proxy for quality. Western academia tended to be idealised as a utopian place where quality science is produced and research policies work smoothly to support excellence. These policies were referred to as a model to be imitated, and were imagined as a source of ready-made solutions to adopt. With this image paving the way, quantitative, IF-centred research evaluation started to be implemented in the 2000s. When, a little later, players in local industry succeeded in influencing research

1 KNOWING was a project conducted within the 6th Framework Programme with partners from the AT, CZ, FI, SK, UK (project no. 17617). For more information, see the preceding text in this section.

policies and evaluation frameworks in favour of 'applied research' and 'innovation', to the detriment of more fundamental research projects in universities and public research institutions, the academic community protested by pointing to local parochial interests and, again, citing Western standards (Linková, Stöckelová 2012). All sides in this dispute, however, kept referring to the West as a model, and international actors, such as Technopolis Group, were invited to serve as supposedly disinterested and most competent arbiters. The dispute then was basically over different interpretations of Western research policies, which were imagined by all as unproblematic.

We set out to elaborate a different position. Based on our research experience from the KNOWING project and current STS literature, we have been well aware of many problems, tensions, and struggles that exist in Western academia and we looked for and experimented with various ways in which to make these a part of the Czech debate. Our book, published in as outcome from the KNOWING project, titled *Czech science in flux: the ethnography of making, administering and enterprising knowledge in the academy* (Stöckelová 2009), is intended to do just this: to situate Czech developments and disputes over research policy within the context of wider international questions and struggles. In 2009 we also organised a half-day conference in the Senate of the Parliament, where we invited our British colleague from the KNOWING project, Lisa Garforth, to give a keynote – not on the ideal British model but on the problems and tensions surrounding research assessment! However, we were (then) regarded as too junior and perhaps too (female) gender-marked to attract serious attention from senior policy-makers and research managers. Even today our mission is an ongoing exercise, and, somewhat paradoxically, the biggest impact is still made by 'importing' senior Western scholars to talk about problems (we have hosted, for example, Paul Wouters and Sarah de Rijcke, Alan Irwin and Maja Horst or Barbara Adam). It is only recently that the Czech academic community started to acknowledge (with the help of such initiatives as the San Francisco declaration and the Leiden Manifesto) that the West is not a source of ready-made solutions or salvation but is a dynamic space of experimentations and struggles that we have no other option but to join.

The second, more difficult step has to do with developing analytical languages and research strategies that can actively engage with (Western) social theory and conceptualisations in critical terms, while avoiding the traps of the supposed incommensurability and essentialisation of our location (which, in our view, to some extent happened to Law and Lin (2014) when they tried to draw 'lessons from a Chinese Medical Practice' for STS; for more on this, see Stöckelová and Klepal 2018). This requires steering clear of grand explanatory schemes (about Socialism, Postsocialism or even Totalitarianism, as well as Democracy and Capitalism) and meticulously attending to the empirical specifics of and similarities and differences between various socio-material, political, and discursive terrains. Applying symmetrical analytical vocabularies to supposedly incommensurable realities is a classic strategy of actor network theory (and after), and this strategy definitely proved useful in our studies.

But this is not enough. Our aspiration has been to derail and rephrase some of the social sciences' established concepts in the light of our empirical material and also to perhaps come up with new ones, which would not, however, thereby lose their potential to speak to international audiences. Speaking from one of the 'other epistemic places' (Garforth and Stöckelová 2012), we tried to critically reappraise the notion of immutable mobiles (Stöckelová 2012). We argued that science policies and science studies largely share an understanding of scientific knowledge and objects as immutable mobiles, and an analysis of research assessment in a non-Anglophone country and its effects on the social sciences can shed new light on this shared notion. The preference for immutable mobiles in assessment regimes pushes social scientists to publish in specialised, usually Anglophone journals, which can have the effect of diminishing the local relevance of the knowledge they produce and contributing to the global convergence of societies (Stöckelová 2012).

We also sought to relate a conversation about the phenomenon of 'predatory publishing' in so-called 'developing research systems' to the ongoing debates about and concerns with the research assessment, publication productivity, and audit culture that currently preoccupies Western academia, and argued for the need for translocal and inclusive open-access collaborations and initiatives extending beyond the West (Stöckelová and Vostal 2017). Most recently, based on our study of complementary and alternative medicine (CAM) in the Czech lands in the 20th and 21st centuries, we also reconsidered the notion of biomedicalisation. We argue that the CAM practices we examined can play a pioneering role in advancing some of the processes described as 'biomedicalisation' by Clarke and colleagues (2003, 2010) and that the concept of biomedicalisation may thus be misleading in how it explicitly links significant transformations in current health-care practices to biomedicine alone (Klepal, Stöckelová, forthcoming).

It is interesting to observe that such efforts resonate in some ways with wider political developments in the country. After years of a deadlock between two rather extreme, though in fact passive positions of either preaching for or rejecting the EU (with the rejection side receiving a huge boost from the recent 'immigration crisis'), the current Prime Minister set out to articulate a different position and relationship to the EU – one of actively engaging in and shaping the EU's agendas. Such an active stance and sustained efforts aimed at the sensible use of incoming EU funds, which would clearly benefit a wide share of the population, are the only long-term and robust ways of getting away from Czech Euroscepticism. We indeed believe that articulating a location outside the dichotomy of either 'catching up with the West' or essentialising 'our' Post/Socialist (Czech or Central European) difference and claiming exceptionalism is crucial not only for intellectual reasons but also in wider political terms.

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Cherish, not Perish

Platypus
THE CASTAC BLOG

The Provocations of the Platypus

Ian Lowrie

The platypus, *Ornithorhynchus anatinus*, is a strange critter. An egg-laying, duck-billed, semi-aquatic mammal with venomous ankle spurs and electroreceptors in its beak, the platypus is the sole member of its family and genus. Its physiology so challenged existing taxonomies that when European naturalists first encountered a specimen, they insisted that it had to be a hoax: a taxidermied amalgam of spare parts from various other species (Moyal 2004). Similarly, the Committee for the Anthropology of Science, Technology, and Computing (CASTAC) plays host to a deeply heterogeneous collection of anthropologists, media theorists, designers, and other scholars of sociotechnical systems. Their diverse theoretical commitments, methodological strategies, and empirical objects resist neat categorizations; their social networks and professional trajectories are no less singular.

When Jenny Cool, Patricia Lange, and Jordan Kraemer founded the CASTAC blog in 2012, their goal was not to prune these various weedy strands of inquiry, but rather to provide a platform for their cross-pollination and hybridization. When the team behind the CASTAC Blog decided to give the site a name, they chose *Platypus* in part

to represent the variegated character of this assemblage. Beyond a mere symbol of our own professional eclecticism, however, the platypus is also a provocation: an occasion to think through the hybridity and complexity at the heart of scientific practice itself. At the same time, it is important to remember that it is precisely this hodgepodge of seemingly disparate features that allows the platypus, and hopefully *Platypus*, to succeed within its specific ecological niche.

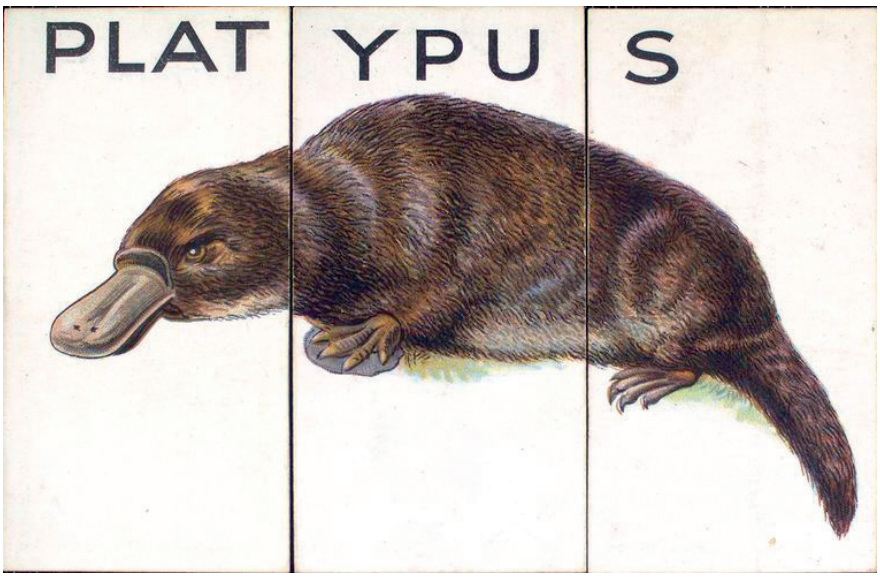

Image courtesy New York Public Library Digital Collections.

As the current Editor of *Platypus*, I have attempted to live up to the morphological and behavioral creativity of our furry namesake. Practically speaking, this has meant that I have continued to treat *Platypus* as an experimental, messy space: a test-bed for anthropologists and designers to share work in progress, try out risky new concepts, or chew over current events. However, the blog is also home to more directly curated thematic series, intervening into areas of contemporary concern ranging from posthumanism, to designing for disability, to law in computation.

These series are purposefully designed as intermittent and punctuated, carrying the conversation across months or years as their empirical objects and theoretical contexts shift and develop.

Rather than any specific conceptual agenda, the blog has always prioritized its communal function: densifying the human-to-human connections that make up any vibrant scholarly community. Our blog has thrived in large part due to the unflagging support of CASTAC and its parent organization, the General Anthropology Division of the American Anthropological Association. Many of our readers still approach the blog through the gateway of the CASTAC mailing list. Over the past three years, however, our readership has exploded beyond both anthropology and the United States, mostly driven by our social media presence: today, the majority of our readers come from outside the United States, with substantial engagement from Latin America and Europe. We have recently started publishing bilingual posts, and welcome submissions in any language alongside the blog's primary language of English.

Given the diversity of theoretical investments, professional backgrounds, and methodological repertoires of our readers and authors, the editors of *Platypus* have neither wished nor tried to enforce any sort of intellectual orthodoxy. We view our platform not as a pulpit but as a trading ground, where folks from across the globe and disciplines can meet to generate productive insights into our technological contemporary. However, despite the lack of centripetal efforts, the blog has seen the emergence and continual refinement of a surprisingly consistent approach to the study of science, technology, and computing. Rather than conceptual or methodological unity, however, our project's coherence—such as it is—seems to lie in the specific way that our community blends the practical and conceptual repertoires of anthropological and design thinking.

As a corollary of this *laissez-faire* approach to intellectual curation, *Platypus* has also quite consciously resisted elaborating any specific, prescriptive political stance, beyond supporting our individual contributors when they choose to advance their own commitments. Beyond our reluctance to risk misrepresenting the complex and various political investments of our community, there are quite simply other platforms that do political work more effectively and more precisely than our assemblage could. That said, the blog does have a specific and coherent *approach* to using academic research to intervene into political discourse. Rather than targeting interventions at the level of *either* public discourse or policy solutions, our authors have tended towards focusing on finding new, orthogonal approaches to long-standing social problems. Whether through revealing new methodological strategies, furnishing conceptual tools, or building concrete alliances, these approaches have mirrored the intellectual approach of *Platypus* in their focus on engaging the *design process* behind both technologies and policies. Rather than trying to argue over *what* should be built, we try to open conversations about how we might build sociotechnical systems in more democratic and egalitarian ways.

This focus on process and design extends to our own sociotechnical infrastructure. The founding editorial collective was explicitly dedicated to building an editorial process and publishing infrastructure that would maximize community involvement and democratic decision-making about the direction of the blog. Over the past six years, this commitment has guided the evolution of our somewhat idiosyncratic editorial ecosystem: the Editor of the blog is responsible for recruiting and supervising ten Contributing Editors (CEs), who are in turn responsible for soliciting or writing all of our regularly-scheduled weekly posts. (When we receive proposals for posts, the Editor generally works with authors directly, or directs them to the CE whose research and publishing interests most closely fits with the proposed topic.) CEs perform first-line edits on posts they are curating, before passing it on to another CE who acts as a "first reader" for argumentation and organization. The

Editor supervises this process, providing a final style and format edit, as well as directly handling the editorial duties for the thematic series.

This editorial approach places CEs, usually junior scholars, in relatively unsupervised curatorial positions that allow them to pursue their own intellectual agendas and build relationships with authors, who are as often senior scholars as they are peers. Hopefully, this structure both contributes to and reflects the primary commitments of the blog: providing a platform for coherent conversations to emerge among the multiplex strands of research and the heterogeneous social networks that make up the anthropology of technology, design, and computing. If you are interested in joining the conversation, whether as an author or a contributing editor, please don't hesitate to reach out! Unlike our namesake, we are neither venomous nor predatory.

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STS Events

Citizen engagement in science: Impressions from an international workshop on citizen science

Joke Kenens, Michiel van Oudheusden,
Gert Verschraegen, Ine Van Hoyweghen

At the international workshop "(Un)taming citizen science – Policies, Practices, People", held at KU Leuven, scholars, policy makers, and science journalists discussed and explored citizen science initiatives in Europe and Japan. As citizen science concepts and processes make inroads into science policies and institutions, they create unique opportunities for public participation in scientific research and for the democratization of science.

On December 4th 2017, under the roof of one of the oldest faculties of the University of Leuven, the Belgian Science and Technology in Society (BSTS) network organized a workshop entitled "(Un)taming citizen science – Policies, Practices, People." Inspired by the global avalanche of citizen science initiatives, workshop organizers invited workshop participants to embark on a journey through different citizen science notions and practices, switching from European to Japanese perspectives and back – and hence, to discover the vastness and multiplicity of the topic.

Drawing on the notion of (un)taming, which refers to the mutual (mal)adjustment of technology and the social, and which links to domestication theory in Science and Technology Studies (Callon, 1986), the workshop highlighted the buildup of support for, as well as the generation of controversy over citizen science in contemporary society. By asking Who and what is citizen science for?; *Which citizen science forms are amenable to taming, which are not?; How is citizen science politicized? How will citizen science fare in the near future?*, a joint group of European and Japanese scholars, policymakers and science journalists discussed the current state of citizen science and the road ahead.

Fig.1 Discussing the concept of citizen science. Courtesy of Michiel van Oudheusden.

Flexible and unruly

In their introduction to the workshop, Ine Van Hoyweghen (KU Leuven) and Michiel van Oudheusden (KU Leuven, SCK·CEN) pointed to the evolution of the multilayered EU policy discourse surrounding science-society issues. Drawing on Felt (2010), they argued that since 1989, the EU's governance style has evolved from intensifying public communication efforts towards developing an Innovation Union with citizens, particularly as Europe must now be "open to innovation, open to science and open to the world" (Moedas, 2015). In this policy perspective, citizen science can contribute to a stronger anchoring of research and innovation in society, making inroads into science policy, industry and universities. But while citizen science can be "taken up" and domesticated by established science, industry and politics, it also has an unruly potential, as citizen scientists often resourcefully "work around" established institutes to create their own practices and communities (Meyer 2013). For example, in Japan, citizen scientists measuring ionizing radiation can bring communities together to deal with radioactive pollution in ways that undermine official, institutionally-sanctioned emergency policies and responses.

Citizen science and Responsible Research and Innovation

The practice of working around established institutes contrasts with present efforts made by the European Commission to engage citizens in European research and innovation activities, through its agenda of Responsible Research and Innovation (RRI). As Phillippe Galiay (DG Research and Innovation) outlined in his talk, the EC encourages researchers and citizens "to work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society" (EC, s.d.). Considering this definition of RRI, it is not surprising that citizen's engagement is one of the five main dimensions of RRI. Despite the fact that the EC takes the promotion of RRI to heart and succeeds in grounding it in research practices in areas such as health care, the EC still falls short in mainstreaming the success. Galiay concluded that more efforts are necessary to engage civil society in the design and the implementation of research and innovation processes. Nevertheless we can hold high expectations for the future of citizen science in Europe, as the 3 OS strategy (Open Innovation, Open Science and Open to the World) (Moedas, 2015) and the prospect of the ninth research framework program are proof of the EC's commitment to engage with citizen science.

Fig. 2 Phillippe Galiay (DG Research and Innovation in the European Commission). Courtesy of Michiel van Oudheusden.

Through his presentation, Galiay made clear that the EC is eager to invest in citizen science participation. But why is citizen science being promoted by the EC and how does it connect with public engagement more broadly? In his talk, Hadrien Macq (Université de Liège) entertained these questions. Drawing on empirical research, including interviews with EU policymakers, Macq situated the emergence of policy discourses on public engagement within the broader political-economic context. Confronted by a perceived legitimacy deficit and influenced by the 2000 Lisbon Agenda, which takes knowledge production and innovation as the key drivers of EU's future, the EC took initial interest in public engagement as public dialogue. However, due to the financial crisis, research and innovation was increasingly recognized as a solution to solve economic and societal challenges. Within this setting, the RRI approach facilitated the incorporation of societal actors into research and innovation processes. Macq locates this transition as concurrent with the inauguration of the new Commissioner for Research, Science and Innovation, Carlos Moedas. His blueprint of science and innovation in the EU requires an even higher level of transparence and inclusiveness, thus attributing a substantial role to public engagement and promoting citizen science. In short, Macq pointed out an important evolution in the valorization of public engagement, from enriching decision-making towards a more active role in the production of knowledge and innovation.

Science for or by citizens?

Even when crossing borders it is clear from Yasuhito Abe (Dōshisha University)'s presentation, that citizens and scientists in Japan and Europe share some common challenges and questions. For example, what do we mean by citizen science? Does it comprise science for citizens or by citizens? And how to deal with the social responsibility of data production and representation? Abe pointed out that citizen science, particularly in the field of radiation monitoring, has undergone dramatic changes over the last decades. Already after the 1986 Chernobyl accident, Japanese citizens launched projects to measure radiation. However, the advent of the Internet and new media have opened up opportunities for citizens that did not yet exist in the time of Chernobyl. Their impact on the organization of citizen science in Japan becomes clear after the Fukushima accident. Surpassing spatial and temporal boundaries, the scale of data-based networked citizen science has become ever larger. Initiatives such as Minna no Data Site form platforms for organizations to organize themselves and to increase standardization in measurement methods across Japan. While creating alternative spaces to engage with science, citizens are using their data to make scientific claims, so that we are now confronted with the question of how we should perceive these claims. Notwithstanding that citizens see their data as scientific, Abe argues that data alone do not constitute a valid scientific claim (Abe, 2015). On top of this, Abe questions whether data production or participation alone is enough to reestablish trust among stakeholders in Japan and elsewhere. Elevated and more open forms of communication are direly needed.

While Abe contended that communication between stakeholders is key, the next speaker, Joke Kenens (KU Leuven, SCK·CEN), argued that a willingness to take citizen science as an opportunity to learn might also be paramount to improving relations. Citizen science initiatives in radiation monitoring are manifold and are spreading across the globe, creating a global network of grassroots measuring citizen science initiatives. They represent a diversified group of people, who are committed not only to measuring radiation in the environment and food, but also to providing information to wider publics. By taking these measurements into their own hands, they are showing us alternative ways to deal with scientific and strategic uncertainties, to create open data, to look at science as a problem-driven endeavor. In sum, they are laying down their own tracks, irrespective of official procedures and institutional constraints. As it has become ever easier to measure radiation via apps on a smartphone or computer, researchers, experts, and government officials would do well to seize the moment to engage with citizen scientists and create an environment in which all learn.

Fig. 3 Yasuhito Abe (Dōshisha University). Courtesy of Michiel van Oudheusden.

Everyone a scientist

Do developments in Japan suggest that all citizens are, or can become, scientists? Liesbeth Gijsel (EOS Science Magazine) drew attention to this question by introducing the online platform www.iedereenwetenschapper.be ("Iedereen Wetenschapper" - "Everyone a scientist"), the only one of its kind in Flanders and the Netherlands. The platform gathers local and international citizen science projects into one location to create an overview of existing projects. Today, it counts more than 200 participants and attracts a young public (60% aged between 18 and 34). It serves as a resource for citizen scientists and interested others and seeks to inspire scientists to start their own citizen science projects. By sharing their expertise in the field of science communication, EOS has created a tool that potentially strengthens citizen science and expedites its institutional uptake.

What's next for citizen science?

So what does the future hold for citizen science? In a concluding reflection, Gert Verschraegen (University of Antwerp) provided us with a glimpse of future prospects. One could argue that citizen science is making its way into a rising number of institutions and closely aligns with RRI and Open Science policies. However, when looking deeper into the origins of citizen science, one can outline some further developments as well as tensions to expect in the coming decades. Verschraegen pointed to two traditions, which have shaped our current understanding of public involvement in science. One is the movement to *democratize science*, which insists on deep public engagement, initiatives taken by citizens, and tackling problems and concerns typically neglected by policymakers (Irwin, 1995). The other is the longstanding, but recently revived, tradition of conducting scientific research with the participation of volunteers who are not professional scientists. Here citizens and scientists work together, but the main focus is on answering scientific issues or gathering data. Most contemporary citizen science initiatives in Europe lean towards this second lineage, also because this tradition is better supported and funded. Verschraegen argues that although citizen data collection projects may yield important scientific results, science projects developed and designed in cooperation with the community have far greater potential to raise public understanding and can have a bigger socio-political impact. Acknowledging and addressing this tension between forms of citizen engagement in science will certainly help to seize the window of opportunity that is being created today.

Fig. 4 Gert Verschraegen (University of Antwerp). Courtesy of Michiel van Oudheusden.

Notwithstanding the short timeframe of the workshop, it entailed an exciting journey through space, time, opportunities and hopes thanks to all those who participated. In conclusion, citizen science remains a difficult notion to define. Yet, even as we scratch the surface of what it means, or could mean, citizen science is gaining acknowledgement from different institutions, and seen as a potential bridge between science, technology and society. To face the challenges and to fully exploit the potential inherent in citizen science initiatives, we must continue to reflect on, and learn from, existing initiatives, probe their many forms, rationales, and agendas, and inquire into their possibilities and limitations.

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KCE2017 Event Report
Interdisciplinary perspectives on social-ecological transformations

Juan Francisco Salazar, Manuel Tironi

Knowledge/Culture/Ecologies International Conference (KCE2017), the fourth meeting of the Knowledge/Culture series developed by the Institute for Culture and Society (ICS) at Western Sydney University, was held in Santiago de Chile the 15-18 November 2017 and was organised in partnership with Pontificia Universidad Católica de Chile, the Millennium Research Nucleus on Energy and Society (NUMIES) and the Centre for Conflict and Social Cohesion Studies (COES).

In this brief report we want to summarise the main discussions and conversations provoked in and by the conference, and to transmit –if at all possible—the feeling of community, relevance and excitement invoked by the event, rare in times when academia is beleaguered by the logic of competition and productivism.

A knowledge experiment

A total of 320 papers were presented by a range of humanities scholars, scientists, not-for-profit actors, activists, maker communities, and art practitioners from over 179 institutions and 32 countries. The conference was structured around 6 key themes (socio-territorial conflicts and social cohesion, hybrid ecologies of the Anthropocene, energy ecologies and infrastructures, urban ecologies and everyday life, decolonial political ecology and post-capitalism, ecological imaginaries, experimentation and design ontologies) and included workshops, performances, a postgraduate students workshop, a mixed media exhibition space, and film screenings.

In a unique experiment of interdisciplinarity, KCE brought together participants from STS, political ecology, anthropology, geography, and the environmental humanities, to think aloud together how the "ecological" has undergone a major renewal in many academic disciplines and socio-technical experiments and forms of governance. Keynote speakers were carefully curated to precisely celebrate and engage with a polychromatic definition of ecology.1 A central goal of the conference was to examine ongoing socio-ecological transformations and explore the possibilities of generating knowledge practices that help us understand their developments and complex effects.

The discussion revolved around a series of deeply emergent issues along the lines of what Arturo Escobar termed a "pluriverse of socio-natural configurations". These discussions entailed the recognition of our ontological amalgamation with geo-atmospheric conditions, chemical forces, geological vitalities and other inorganic powers to the point where our sense of coexistence has extended beyond how "life" has been traditionally defined –but also the political, and often contested ways in which these amalgamations are known and produced.

Link to the 20-min documentary of KCE:

https://www.youtube.com/watch?v=mFpL3ob4JmM&feature=youtu.be

One argument, presented albeit in different ways by a diversity of participants, was the notion of "relationality". Contesting conventional equalisations of relationality to "agreement", several participants showcased how expanding more-than-human entanglements do not always play with the orchestrated melody of their composers. Here the Anthropocene emerged as a key site of enquiry. On the one hand, many presentations indicated the importance of challenging the (in) visibility and (in)cognoscibility of the Anthropocene beyond geological strata and planetary limits, visibilising the ways exploitation, subordination and inequalities are inscribed in geoformations. On the other hand, KCE was also an opportunity to stress the need of going beyond the "social" for engaging with the Earth, as an attempt at recognising our vulnerability and dependence on the inhuman. Finally, and highly relevant, the conference made clear that these discussions are taking place from different theoretical, intellectual and activist domains, and not only in academic circles.

Open debate saw interesting conversations and dialogue to resist those who argue that considering new ethical modes of care necessarily contribute to a "gigantic operation in the de-politicisation of subjects", where ecology becomes a new opium for the masses (Badiou, 2008). Strong arguments were also posed by several colleagues who reminded us of the important and urgent need to confront, and take distance from, some overly flattening topologies of relationality when necessary. This is most important when considering how new conflicts over the ownership, use and value of nature and the more-than-human show how these issues are intertwined in complex imbalances of power/knowledge and corruption linked to extractive economies, inequalities and environmental suffering. While these conflicts arise in response to the emergence of predatory formations, they also allow the creation of new platforms of social and socio-environmental cohesion, new ethics of care and responsibility, new forms of environmental justice and of conceiving the rights of nature that, in turn, instigate a new politics based on new ways of coexistence.

A range of perspectives were also clear in highlighting the intricate and pervasive ways through which forms of colonialism are still perpetuated in social, economic and ecological interactions, as a structural process that forms our relationship with ourselves, with other humans and with earthly powers and beings. Notions such as popular ecologies, community economies and ecologies, post-colonial ecologies, environmentalism of the poor, and solidarity economies were mobilised to reclaim the plurality of ways in which people involved in emancipatory politics around the world are contributing to the decolonisation of environmental knowledge. In Latin America, new and thought-provoking epistemologies and cosmopolitics have emerged in the last decades, including the *Buen Vivir* and the *Sumak Kasway*, and, in a more academic circle, the notion of 'Amerindian perspectivism' (Viveiros de Castro 1998). These perspectives propose new ways of conceiving projects, worlds and lifeways. Indeed, as Eduardo Gudynas discussed, in the last two decades Latin America has offered a wide and diverse range of interactions between knowledge and ecologies, showing both substantial innovations and unexpected setbacks, hope for change and disappointments about the results. The political capacities of this debate are crucial insofar as they bring together emerging notions and social movements from the North, such as degrowth, commonalities, ecofeminism, and a variety of transitional initiatives, together with debates more specific to the South, such as current struggles over the *Buen Vivir*, the rights of nature, ancestral reclamation, and civilizational transitions.

Another central discussion across KCE was the possibility of empowering new modes of exploration for more sustainable futures. Despite the tabloid media representations of the ecological crisis as catastrophe, the potential of creative methods and artistic and digital practices seems to be, now more than ever, relevant for thinking and creating new socio-ecologies and ways of engaging

1 Marisol de la Cadena, Vinciane Despret, Arturo Escobar, Katherine Gibson, Eduardo Gudynas, Gay Hawkins, Noortje Marres, Natasha Myers, and Erik Swyngedouw.

with and designing for sustainability. In this regard, we were pleased to see a large number of presentations on cinema, literature, digital games and music, together with the very interesting audio-visual programme curated specially for the conference.[2]

More amply, KCE was rich in discussions and propositions for opening design speculation, experimentality and prototyping as probes into more just and democratic environments.

This brief summary does not make justice to the multiplicity of conversations propelled in and by the conference. But as a concluding remark, it is important—actually fundamental—to bear witness of the particular type of "academic event" that KCE rehearsed. Agreements were not always reached, and differences – political, theoretical, methodological—abounded. Different sensibilities, different matters of care and concern, different way of defining relevance and urgency. But a sense of community enveloped the conference. Community not as the formation of a coherent and closed amalgamation of peers, but as the empowerment of a collective space for intellectual exchange. Nothing more, and nothing less. Maybe it was its size (300 participants) that allowed for an intimacy-without-being-suffocating, or it was perhaps the urgency of the stakes at play, or the novelty of conversations between traditions–between posthumanism and political ecology, feminism and STS, postcoloniality and design studies—that actually rarely encounter, but KCE left on participants and organisers a sense of having witnessed an unusual experiment in knowledge production. And more importantly, as we retrieved from many conversations, a sense of *joy*: the sheer pleasure of crafting a time and a place, outside the predatory logics of competition that the university is succumbing to, for debating interests, feelings and matters in an open, caring and challenging way. Perhaps the best news of KCE

2 In addition to this audio-visual programme, there were several collective works presented by groups of artists, cultural producers and researchers and a one-day flone/drone workshop with Haitian migrants in the nearby town of Melipilla.

is that it produced a particular affective economy, one marked by excitement and cordiality, that is not usual to find in our academic arenas. And this was perhaps the most important political interruption congealed by KCE. Paraphrasing Marisol de la Cadena, KCE was a conference, *but not only*.

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"How to do research with Science and Technology Studies?" Workshop report on the empirical impact of STS.

Andreas Wagenknecht, Astrid Wiedmann,
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The workshop "How to do research with Science and Technology Studies?" held at the University of Siegen, 26-27 October, started with the supposition that in the field and during fieldwork, concepts of STS often become 'black boxes'. They work like self-evident tools and their specific performativity goes unrecognized, for example how they restrictively regulate the research process, prevent observations and structure empirically based theory production. The different contributions of the workshop reflected upon the research done with and performance of empirical-theoretical concepts and thus tried to open the black box of STS research practices and projects. It became relevant to discuss methodological devices that account for the heterogeneity of research objects, the challenges these devices impose on fieldwork practices and how STS can be better characterized as a certain way of thinking than a fixed method.

Initial considerations

In "after method" John Law acknowledges the multiple and non-neutral ways in which research methods create and fabricate knowledge. He points out that methods in research practices "not only describe but also help to produce the reality that they understand" (Law 2004: 5). Hence, a strong emphasis lies in the question of how the social world and research methods shape themselves in a mutual way. Case studies in Science and Technology Studies (STS) of various disciplines in the humanities display how methods, theory and the empirical world come together (Law 2015). In addition, as Latour showed in numerous studies, knowledge production is based on blackboxing the instruments of knowledge production (Latour 1999). The question is: does that hold for STS studies too? And if so, a whole range of new questions can be raised: how do such studies account for their own instruments of knowledge production – and not take STS and its self-reflexive capacities for granted? What are the implications of Law's and Latour's arguments for concrete STS research projects? More precisely, how is empirical work shaped by theoretical concepts of STS? And the other way around?

In STS itself lies the opportunity to put methods under investigation and not merely take them for granted. Therefore, the workshop was initiated to debate about the possibilities and impossibilities, the implementations and blind alleys, the do´s and don'ts, the implications, failures and attempted solutions to challenges of empirical research using a STS framework. Furthermore, the workshop originated in the impression, that throughout stages of the research process, concepts eventually become black boxes themselves. So the participants set out to examine how STS concepts shape the world of research, assembling theoretical

concepts, research practices and empirical data. Supported by the University of Siegen's Locating Media graduate school, the workshop focused on this and engaged basic methodological reflections about how to do research with concepts like boundary objects, actors, assemblages, immutable mobiles, multiple bodies, and others. One is compelled to consider whether and how these theoretical concepts are translated into empirical strategies, as well as what the consequences and challenges are for field work, data collection, interpretation and representation. The core aim of the workshop therefore, was to investigate the relations of empirical work and abstract theoretical concepts that have emerged under the banner of STS.

Besides young researchers from diverse academic backgrounds working with STS, Estrid Sörensen (University of Bochum) and Ignacio Farias (Technical University of Munich) participated as keynote speakers, both deeply involved in debates about STS. In addition, two experts in ethnographic methods of the "Media of Cooperation" research cluster at Siegen University, Cornelius Schubert and Ehler Voss, fostered and moderated the discussions. All contributions shared an interest in reflecting upon the implementation of empirical-theoretical concepts rather than to undertake new exegeses of STS's canonically formulated principles. Different approaches and projects were grouped together, calling attention to the broad thematic and methodological range of STS case studies: from ethnographic to historical research, tube mail to Big Data, Uganda to Lithuania, software to desks to bodies.[1]

1 For the entire program check: https://stsworkshopsiegen.wordpress.com

Making objects with concepts

One part of our discussion was about the idea that even though research starts with clearly defined concepts and research objects, this clarity never lasts for long. However, in the process of fieldwork and through the methods in use, things start to shake, concepts and objects become blurry, and another order of things emerges. This assumption leads to the questions: how is the research object constituted by methods and concepts? How can we accomplish and shape different perspectives on the same object? Or rather simply, what, where, and how is the object of research? How does one find anything at all in a chaotic diversity of impressions and ideas?

Starting from the premise that usually there is more than one side to an object of research, we asked, how to take this multiplicity and heterogeneity into account? And what are the possible consequences? For example, patient autonomy can be reconstructed by choosing different conceptual approaches as Annekatrin Skeide pointed out. As the body is conceptualized as a present and fixed state of embodied subjectivity (in phenomenology), or as a constantly enacted, materially related and situated entity (in material semiotics), together the diverse perspectives illuminate the heterogeneity of the phenomena and enable the reconstruction of controversies about how patient autonomy is embodied. The empirical narrative then includes multiple perspectives, instead of one that explains everything. Integrating diverse theoretical frames in order to represent the diversity of the research object, shapes the research object as multi- and not one-dimensional. Regarding this, a related aspect is the non/coherence (Law 2007) of the research object. How, for example, some water cooling device shapes local interactions and the access to resources differently, depending on where the device is enacted, as Christiane Tristl reconstructed. To make this relationship comprehensible, it's essential to locate the research in different areas and at different sites, consequently generating the object as a non-coherent, non-fixed entity. It is clear from the above that both, multi-perspectives and –sitedness, critically analyse assumptions like the coherence of a device, and instead highlight multi-dimensional as well as controversial meanings and socialities. Both also bear the possibility of coming across different narratives associated with the object, to estrange the object and to build and map counter-narratives. In conclusion, STS typically tells stories in the manner of "it's not like that". But every researcher has the task to deliberately decide, what story s/he writes and to demonstrate how s/he came upon the story.

In her keynote Estrid Sørensen presented such an approach by focusing on the issue of multi-sitedness as well. In her research on media harm and its diverse socio-material configurations, she developed the method of multi-sited comparison (Sørensen 2010) to understand and determine similarities, differences and patterns across field sites. To account for this, STS should not only focus one single object/entity/site (as a big strand of research has), but instead explicitly reconstruct an object through different sites. This shows how research practice, methods or methodologies construct these sites and multiply perspectives. Therefore, she argued for a general methodological shift in order to allow more than one research object to be present and talk about it in a wider context. Finally, such an approach has the side effect to overcome micro-macro-discussions when combining micro-studies with Ludwig Fleck's idea of thought styles (Fleck 1980) and to situate findings as constitutive for or as representative of a culture.

What is an actor and how to follow?

Another way to account for multi-sitedness is to combine research methods with Another way to account for multi-sitedness is to combine research methods with different time logics. Migle Bareikyte and Laura Meneghello presented insights and data from their research on infrastructures of communication: tube mails in hospitals and internet in Lithuania. In their accounts, multi-sitedness is constituted by the differences of diachronic, historical and synchronic ethnographic research practices, and therefore different narratives about the objective can be brought to light. Combining methods with different time structures imposes the

challenge to make comprehensible, that different questions are asked about the same object as it changes through time. How can data from archives and interviews with employees be assembled and arranged, related and compared? In an archive, relevant material is mostly stored in a visual way, and in interviews there is a logic of narrating and looking back from the outset of the present. The diverse, sometimes contradictory views on the matter, are constituted through different time logics. Combing those in a non-hierarchical dialogue does not only account for how meanings attached to technologies change, but also makes it possible to see what is absent or present in the one or the other perspective. To accomplish such a task, it is necessary to take both, archive and interview, seriously in their own dynamic and structure, as an object of its own, not as a non-neutral resource.

Building on this, we discussed some very basic questions that a couple of research projects stumbled upon: How to find and follow relevant actors or objects? How to handle dis/continuity as well as in/visibility of actors? The contribution of Astrid Wiedmann showed that following is a demanding and not self-evident practice: actors appear and disappear, are visible then become invisible, are at times upfront and then hidden in the background, may dissolve completely, constantly withdrawing from sensual captivities, hidden behind screens and interfaces. Hence, the famous maxim "follow the actor" (Latour 2005: 12) was critically discussed, as it is resting upon acts of defining and assuming constant entities throughout time and space. In a research field, this can lead to uncertainties about defining and finding the 'right' actors and leave no chance open for new impressions or unexpected actors. More generally, actors are no stable entities, but have multiple states and shapes (Law/Singleton 2005). Furthermore, 'following' as a practice is based on assumptions about the continuity and visibility of something stable to follow, which showed to be contradictory and non-instructive for areas like software research and development aid. The reflexive capacity of STS in general allows for reflecting one's practices, such as being critical about the very possibility and sense of following actors through time and space.

STS as approach not as application

In his keynote, Ignacio Farías underlined the open character of actor-network theory (ANT). Hence, ANT, in his view, is neither a fixed set of concepts nor of methods. Referring to Michel Callon, he defined ANT as an "open building site" where a certain empirical sensibility and conceptual work are mediated and combined. Thus, ANT could be understood as a particular way of doing concepts or seen as an "intellectual practice" consisting of inquiring, writing and intervening. He illustrated this point with his research about the techno-juridical controversy around the failure of the tsunami warning system in Chile in 2010 (Farías 2014). Farías also questioned the famous ANT-maxim 'follow the actor'. Instead, he described ANT as an intellectual practice of 'following the inquiries' of actors in situations of uncertainty.

Against this backdrop, the performativity of conceptual work comes to mind again. Research maxims like 'follow the actors', or 'describe, don't explain', 'be symmetrical', 'make a mess' tend to also restrict empirical sensibilities. Therefore, they regulate the research process, barricade observations and basically structure empirical based theory production. To fully evolve STS' potential, concepts and research practice must be critically reflected upon and applied not as a dogma. They should be deployed in a flexible manner in specific situations in the field of investigation, arranged to tell other stories and opening new questions. Based on this, the workshop concluded with the idea that STS is not a technique or an instrument, but an approach with a strong emphasis on self-reflexivity.

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Circling the Square: Re-designing nature-cultures in a changing urban climate

Felix Remter, Ignacio Farías, Regine Keller

In November 2017 the workshop ‚Circling the Square: Re-designing nature-cultures in a changing urban climate' took place at the Technical University of Munich. An international group of scholars from STS, landscape architecture, anthropology and design set to explore conceptual and political strategies to turn societal imaginaries of urban public squares upside down. Circling the square, we argued, is necessary to unleash the potential of these spaces and of certain design strategies to ensure urban sustainability and ecological conviviality in the Anthropocene.

Urban planners, architects and designers are increasingly confronted with highly complex socio-ecological dynamics and challenges. Urban metabolisms and energy consumption patterns have made a major contribution to the current planetary catastrophic situation we live in. At the same time, urban environments have become both, extremely vulnerable to heat island effect, extreme weather events and climate change and an ecological refugium of sorts for species that are losing their habitats due to agrochemicals and monoculture deserts.

In this context, public squares play a central role in current efforts to meet such paradoxical socio-ecological challenges. In Germany, the context we know best, many cities are currently developing and implementing all sorts of projects to measure and optimize the "ecosystem services" in and around public squares. The challenge, however, and this is the premise of our interdisciplinary project '100Places M: The implications of the heat island effect for urban design'1, is not just a techno-scientific one. Addressing current transformations of urban natures-cultures necessitates a radical revision of the epistemic and political premises of the ways in which urban squares are conceived and (re)designed.

Hence the workshop 'Circling the Square' proposed to explore an alternative ontology of squares. In his introduction, Ignacio Farías introduced the perspective of 'circling the square' by invoking Walter Benjamin's opposition between the monumental and regularized squares of Hausmann's Paris, and the 'tiny hidden squares' of Paris, 'lucky accidents in the urban landscape', which for Benjamin had the potential for becoming the future Gardens of the Hesperides.

Benjamin's veiled critique of the square of modern urbanism can be related to the reimagining of squares as key nodes of a networked city that need to be designed as both, centers of redistribution for flows of populations and also as centers of representation; key spaces in which the highly differentiated metropolis could be integrated, functionally and symbolically. At least since then, modern imaginaries of squares are shaped by profound divides between nature and culture, the technical and the social, the public and the private; places in which technological infrastructures are to be held invisible, and where "nature" has to either fulfill ornamental function or provide "ecological services".

The alternative Benjamin invoked was one of squares where the tree leaves would glow as Golden Apples illuminated by gas-burning streetlamps – squares that are not designed but the result of 'architectural improvisation'. So, if these 'lucky

1This project is led by Regine Keller, professor of landscape architecture and public space at TU Munich, and Ignacio Farías, professor of urban anthropology at HU Berlin (former TU Munich), hosted by the TUM Center for Urban Natures and Climate Change and funded by the Bavarian Ministry of the Environment and Consumer Protection.

Fig 1 Participants of workshop 'Circling the Square' at Oscar von Miller Forum, Munich. November, 2017.

accidents' would represent the future of public space, then this is one where natural, technical, human entities come together in surprising ways; squares that also resemble orchards. Indeed, by invoking the Garden of the Hesperides, Benjamin wasn't just celebrating the rural, the agricultural, as an urban public space, but also speaking of presents of Gaia to be protected, and cultivated.

The image was an invitation to escape the modernist deadlock of imagining realistic fixes to overwhelming challenges and provide a different ground to flock together, to *circle the square*. By sharing projects, experiences and reflections, the idea was to attempt what seems impossible: to reimagine the public squares of our cities beyond the modern constitution and explore alternative conceptualizations of urban squares and/or approaches to designing within socio-ecological assemblages.

The figure of *circling the square* had three attributes we wanted to fathom in weaving together interdisciplinary concepts and methods.

The more-than-human scale

We asked ourselves how to move from the 'human scale' to the 'more-than-human scale' when exploring, problematizing, re- designing and intervening into public squares.

This should begin, as anthropologist Felix Remter (STS, TU Munich) noted, by reassembling 'life between buildings'. The quote is from Jan Gehl, an architect acclaimed for his efforts at recovering the human scale in contemporary urbanism. But what about the non-human scale? What about the stressed trees, empathic scientists or squatting honeybees Felix has been encountering in various squares of Munich? What about the wild boars that appropriate playgrounds, shape the cultural identity and trigger controversies about bow hunting in a peri-urban neighborhood of Barcelona that anthropologist Anibal Arregui (Univ. Vienna) is following ethnographically? In practice, Anibal argued, the square is already circled, for in every single engagement with it, inhabitants are forced to think eco-politically. Accordingly, the challenge is, as also Felix Remter put it, to make more-than-human relations a matter of design.

But how? What would that entail? As design researchers Li Jönsen and Sissel Olander (Academy of Fine Arts, Copenhagen) suggested, this would require designers to experiment with artefacts and their own bodies in order to attempt to experience urban space as animals, such as urban pigeons and slugs. Even by failing to become such animals, designers would be better equipped to imagine ecologies that support beneficial relationships between humans and nonhumans. Yet, as designer Martín Ávila (Konstfack, Stockholm) reminded us, response-ability is not just about cohabitation. Response-ability might also be a matter of killing

Fig 2 Circling the Workshop

ecologically. Martín presented the scorpion trap that he designed for showers' sinks in Argentina; traps that are aimed to establish a relationship between humans and scorpions, even if this ends up with the latter as a corpse.

Three issues became thus evident: first, designing more-than-human relationships is about carefully designing the limits of cohabitation – who might be sacrificed, which perspectives cannot be embodied. Second, cohabitation is less about intentionality than about how different entities modify each other. And, finally, that paying attention to the more-than-human life of squares might also require us to look at spaces that do not count as squares for us, but might do so for bees or scorpions.

The semiotic-material politics of squares

Do squares have politics? If yes, how to move from a representational understanding of the square as a stage for political expression to a performative one, where the square is the issue, the problem, the very source of politicization? So, how do squares politicize?

One important thread of discussion involved the experimentation with how to make infrastructures and natures present in squares. According to architect Uriel Fogué (elii and University Madrid), it is through making visible the technical infrastructures that users can relate to the squares' complex political ecological entanglements. His project 'Urban Trees' consists of interactive technical devices that invite square users to generate electric power to illuminate and water the square by cycling at the tree. Based on this, Fogué proposed two key principles for design interventions: first, the need to move from the 'nudging' of users to interventions that require the 'care' of users. And, second, the need to treat squares as laboratories, accepting the possibility of failing to enroll users as care givers. These two principles resonate with the idea of biophilic design presented by urban planners Sruti Venkatakrishnan and Nicole Porter (University of Nottingham). Working with

the emotional attachments humans have to nature, biophilic design would call into question the functionalism underlying green infrastructures and ecosystem services and propose experimenting with different ways of making nature present in the squares.

The question of how the materialities of squares are made present is not just a matter of urban design, but also one of visual representations. Inspired by Alexander von Humboldt's notion of cosmos, landscape architect Lisa Rathjen (TU Munich) presented an extremely exhaustive method of photographing single architectural elements of a square and creating visual compositions with hundreds of images that give a sense of both holism and fragmentation. The philosopher and psychosomatic doctor Martin Dornberg (University Freiburg) and the media artist-scientist Daniel Fetzner (Hochschule Offenburg) invited us to a radical encounter of bodies, matter and thought in a garbage city through digitally deformed 360° video. Through this interactive media-ecological meshwork they offered a 'wild topology' as a less cartesian and more experiential relation to space, inspiring more embodied and experiential design approaches.

The operation of making square materialities present both for square users and in visual representations emerged in our conversations as an overt political strategy to undo the predominant distribution of the sensible in public space and to foster other modes of relating.

The farming of public life

Circling the square involves taking serious new articulations of the circular economy and exploring what happens to public life when urban squares begin to be conceived as orchards or urban farms.

For one, we quickly came to agree that the modernist notion that food production is a purely reproductive activity at odds with the emancipatory capacity of the public space is highly problematic. Instead it seemed crucial to pay attention to the excesses of public farming. The biologist and architect Eftihis Efthimiou (Decode Fab Lab, Athens) delved into the pornographic features of squares as sites of excess, surplus and desire, where everything grows with and against everything else. In such context, he argues urban farming is not to be understood as a means of production, but as a mode of farming more-than-human socialities. Along somewhat similar lines, design researcher Karianne Fogelberg (Academie of Fine Arts, Munich) explored attempts at designing food ecologies in public spaces by different designers and guerrilla activists. In this context, ecology does not refer to the relationships between people and their environments, but operates as a conceptual figure for reconceptualizing public squares as sources of hybridization. This involves going beyond conventional conceptualizations of food as a matter of design to pay attention to processes of becoming with food, thus again insisting on the cultivation of something more than food.

Similarly, the ornamental use of greenery in landscaping public squares was problematized as a missed opportunity to transform squares into spaces for becoming with and learning about changing urban natures. The urban gardener Kevin-Lee Kersten (Berlin) presented his adaptation of permaculture as a design principle for adaptive and productive public squares that is based on the notion that there is no nature, but only functions, vectors, forces. Telling the story of the Holzmarkt in Berlin, he described a highly situated and reversible design process that requires a constant learning from and working with the human and other-than-human forces shaping the space. The designer Gaja Mežnarić Osole (Studio Trajna, Ljubljana) invited us to learn from the 'invasive' Ailantus tree as a practical research tool for questioning how and with whom to collaborate. Conventionally, invasive plants are framed as causing damage into environments with huge economic consequences. However, many invasive species are pioneers in regenerating destroyed environments. Introducing also the case of a nomadic square, where bees produce ailanthus honey, Gaja shifted our attention to the capacities of (often uninvited) invaders to circle the square and build a diverse web of public life and exchange.

Towards a circling the square manifesto

At the end of the workshop, we sat down, first, in groups and, then, in a plenary to discuss three questions: 1. How to conceptualize an urban square, 2. Which kind of guidelines do we need for urban squares, and 3. How could we sensitize urban administrations for our agenda. Allow us to do injustice to the rich discussion and highlight three answers to these questions:

1. A square is many things:

- a place for becoming aware of the "more than human": animals, climate, estate
- a meeting point of strangers
- a space with a border (or sometimes without)
- a starting point
- an infrastructure or an inhabitable black box
- a space for protesting and demonstrations
- a habitat for all sorts of critters
- a space where unexpected things happen
- a space of encounter
- a place where concerns arise
- a productive space
- what a government authority says it is!!
- an interface for hyper-objects
- a cosmo-political event

But, more importantly, a square never comes alone. It is always a bunch of squares coexisting side by side. Hence, rather than having to articulate or coordinate the long list of multiple, sometimes even contradictory versions and definitions of what a square is, we could stick to and even radicalize their heterogeneity. Squares are prototypes of natures-cultures. They are less than one, always unfinished, incomplete. But they are also more than many, as they entail uncovered potentials, not yet actualized becomings.

2. Squares in the plural should become at least three things:

an archive of modes of relating, retaining the richness of urban natures-cultures

an experimental setting for systematically exploring potential rearticulations of the worlds we inhabit

a cosmo-political demonstrator sensitizing its participants to their own entanglements

3. Circling the square, let's be realistic, requires only one thing:

a good selling strategy: exploring the equivocations in the current policy discourses, while keeping all the above in the fine print.

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EASST Activities

STS Interventions into Green Futures A report on the EASST funded workshop organized in Poznań, Poland

Aleksandra Lis, Agata Stasik

The workshop Making Futures: Green alternatives and STS Interventions", which took place on 24th and 25th November 2017 in at the Adam Mickiewicz University Poznań, Poland, was the result of an exchange of ideas between senior and junior scholars in STS, both from Western and Eastern Europe. This exchange happened via e-mails between Luigi Pellizzoni's (University of Trieste), Les Levidow's (Open University, London), Ingmar Lippert (IT University of Copenhagen) and Aleksandra Lis (Adam Mickiewicz University in Poznań) in the autumn of 2016. The four researchers did meet before at a number of conferences and events so they knew each other's interests and publications. They have all worked on issues related to the environment, climate change and innovations, taking on various perspectives, examining different cases and using different methodological tools. However, in one way or another, they all position themselves in the field of STS. The particular questions about "what is green?" and "what kind of socio-technical realities are brought about by various green visions?" came from Luigi and Les. Ingmar and Aleksandra added a new challenge to it and asked whether STS has methodological and theoretical tools on offer to address them.

The decision to hold the workshop in Poznań, Poland, was motivated by the will to enable an exchange of ideas between Western and Eastern European scholars in STS. In Poland, it is difficult to speak of an STS field as such. There are several scholars doing research on socio-technical systems, controversies, and science who are scattered across different universities. There is a group of philosophers and sociologists from the Nicholas Copernicus University in Toruń who identify themselves with STS – mainly theoretically. Krzysztof Abriszewski from Toruń was the first Polish scholar to introduce actor-network tradition in a thorough and reflexive way to the Polish academic community in social sciences and humanities. In 2014, the EASST Conference was organized in Toruń, which clearly showed the raising ambitions of that centre. Adam Mickiewicz University in Poznań is another place were philosophers, sociologists and anthropologists are inspired by STS concepts. Both Toruń and Poznań reach out to other places, for example Warsaw, for fruitful collaborations. One of the successful examples is the cooperation between Aleksandra Lis from the Mickiewicz University in Poznań with Agata Stasik from the Koźmiński University in Warsaw on controversies around fracking. There is also a growing number of STS-friendly scholars, mainly sociologists and anthropologists, who do research on environment, climate change and health. The application for the EASST fund to organize the workshop was seen by the Polish STS academics as a chance to engage in interesting discussions, to meet scholars from outside as well as inside of Poland.

The workshop organizing team found it important to discuss the following issues: (1) various visions of 'green future' and alternative socio-technical realities which could be enacted in these visions, (2) uncertainty that is inherent in any kind of future-making practice and (3) the potential of STS interventions for building, stabilizing, imagining, and operationalizing futures. Politically, the objective was to question the predominance of techno- and market-fixes as solutions proposed to address environmental challenges mainly by the Western/Northern experts, policy makers and business actors. One of the recent manifestations of this mainstream type of thinking is eco-modernism articulated well in the Breakthrough Institute's *Ecomodernist Manifesto* (Adafu-Adjaje et al., 2015). The document was written as a response to the challenges of the Anthropocene – the new geological era distinguished from the Holocene by acknowledging the role of human beings as a geological force. The solution advocated in that document is to stabilize

climate change with the use of social, economic and technological powers to maintain economic modernization while protecting the environment. Two other reports written in a similar spirit are the Accelerationist Manifesto (2013) and Inventing the Future: Postcapitalism and a World Without Work (2015). While the former sees capitalist 'acceleration' as a way to get out of environmental problems, the latter proposes to intensify development of technologies to 'free us from biological and environmental constraints', as well as from conventional work. All the abovementioned perspectives assume the possibility to de-couple economic growth from environmental degradation and see techno-science as one of the main remedies. The workshop in Poznań was meant to become a space for critiquing such assumptions, deconstructing them and reflecting on other possible options, like community-based innovation, non-action or solutions that are based on other types of cosmologies, often seen as non-scientific or non-rational from the Western/Northern perspective.

Twelve abstracts were accepted but in the end, only nine papers were presented. They were ordered into three sessions: (1) scales and scale-making, (2) promises and temporalities, and (3) infrastructures and their actors. As each paper had an assigned reviewer, all participants benefited from detailed feedback. Additionally, Ingmar Lippert delivered a keynote speech on conceptual and methodological perspectives for studying how environmental assessments rely on practices of defining baseline conditions. The talk was titled: "Dispositifs of green futures: certainty and tactics in baselining environments". Ingmar proposed to reflect on the ways in which green futures are prefigured in baseline accounts in environmental monitoring and assessment infrastructures. The Foucauldian notion of the dispositif was used by Ingmar to help him explore both the simultaneously semiotic and material problematization and configuration in such environmental accountability infrastructures. In the first part of his talk, he explored recent discursive dynamics about greening economies, including the Sustainable Development Goals (SDGs), ecosystem services and natural capital, green infrastructures and capitalist acceleration. He concluded that one of the requirements for knowing presences and pasts are environmental baselines. In the second part, he turned to participant observation and his informal interview-based engagement with agents who are tasked to account for the greenness of recent pasts to ground claims about the greenness of futures both in the present as well as in an imagined future. His work was to analyze mundane environmental data practices in such accountability work as well as tactical and reflexive engagement by these practitioners of environmental accounting, monitoring and assessment.

The workshop closed with a presentation of two local artist photographers who are experimenting with visual representations of humans' future outside of the Planet Earth. They showed short films comprised of various visions of the

outer-space shelter, food, mobility and agriculture from the popular culture. Their own work is an attempt to artistically communicate research on extra-terrestrial technologies carried out in Poland. Surprising to themselves, this kind of research projects are often messy and resemble more a home-based tinkering than a high-tech work in hyper-modern labs. They related their observations to the workshop's questions and tried to reconstruct visions of the future life that the humans may lead outside of the planet Earth – the possibilities and limitations of making human lifestyles look the way we know them now. The implied visions brought about many further questions: whose visions are they? To what extent are the material conditions for life outside the Earth known and to what extent are they imagined? Who produces knowledge about them and who imagines them? Whose cultural values are embedded in these visions? The presentation of two photographers also provoked questions about differences and similarities between STS and artistic fields. It was interesting to observe how some participants tried to fit the artists' narrative into their scholarly perspective – by taking the artists as objects of STS research or by encouraging them to adopt a more critical perspective on techno-scientific development.

The critical perspective underlined in the call for abstracts dominated workshop conversations as the participants kept on questioning various techno-scientific fixes proposed by business, policy-makers or experts. The optimism of technological modernization was put into doubt – both in the participant's presentations as well as in the discussants' comments and questions raised by the public. One of the workshop goals was to foreground alternative visions of the future and solutions to environmental challenges and that has been accomplished by several speakers. The workshop was a very pleasant event both intellectually and socially. Thanks to the EASST funding, the participants were offered food and accommodation as well as a partial allowance for travel (upon request). This made it easier for junior scholars to come over to Poznań. In the evening of the first workshop day, everybody joined a dinner at a local restaurant. The food, wine and conversations were good and the day ended at the main Christmas market in the city.

Summaries of the presentations

In his presentation, Les Levidow critically scrutinized the concept of green economy, the idea coming from 1980s which tried to reconcile sustainable development and economic growth. Based on the comparative analysis of Green Economy Initiatives by UNEP and the World Bank, or Green Economy Coalition promoted by i.e. nature-conservation groups and Environmental Justice Movement linked to other social movements, Les traced how specific policy initiatives differently co-construct the "green" and the "economy", but also the "nature" and the "society", and, as a result, build different stances toward contestation or accommodation of power by actors dominating the current system.

The paper by Kostas Latoufis from the National Technical University of Athens and Aristotle Tympas from the National and Kapodistrian University of Athens dealt with the Wind Empowerment Movement that emerged inspired by Hugh Piggott's small wind turbine design manuals and the practical hands-on construction courses offered by Hugh Piggott. Kostas and Aristotle not only showed how the design travelled through the manuals but also considered the mid-70s development of small wind turbines in Scotland to be a key episode in the development of modern small scale electricity producing wind turbines.

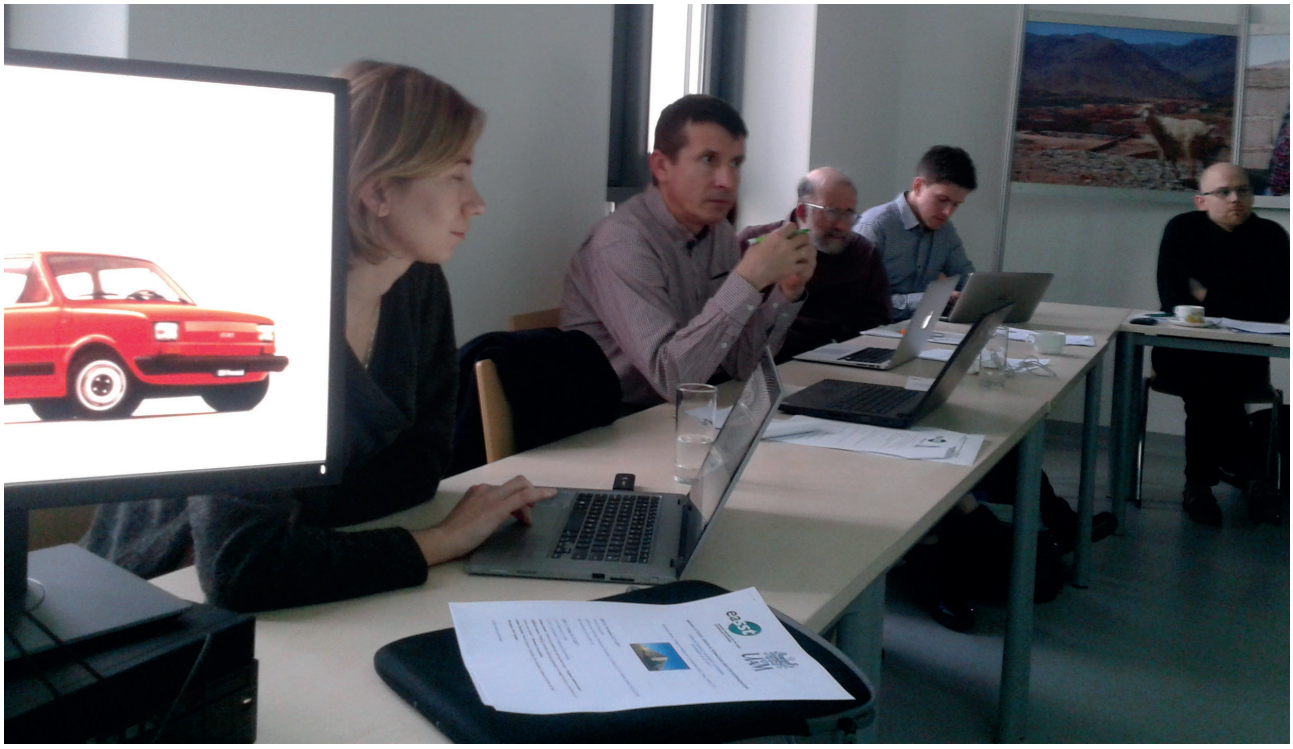
Adam Choryński's paper focused on other aspect of community-based actions connected to climate change and energy choices. He analyzed the factors influencing resilience of small towns and local municipalities in the Western Poland in face of the more and more common extreme weather events caused by the changing climate. The research was based both on the analysis of official data as well as in-depth interviews. In his presentation, Adam focused on theoretical tools he wants to apply to understand this phenomenon. He discussed the policy arrangements approach (Arts et al. 2006; Liefferink 2006), different modes of governance, and various understandings of innovation in adaptive strategies,

focusing especially the role of knowledge for building resilience. Discussants of Adam's paper were very helpful in proposing ways in which STS perspectives could be applied to his work, in particular in order to understand the processes through which various concepts, such as, for example, resilience are historically constructed by institutions.

A wonderful theoretical paper on the alternatives to techno-scientific visions of the future was given by Luigi Pellizzoni who proposed to discuss several concepts, such as "pre-emption", "messianic time" and "socio-material entanglements". In an inspiring talk, Luigi share his reflection on a new research agenda for STS which could articulate and address pre-emptive politics as a politics of time that prevents any actual change. Finally, he asked whether the idea of 'inoperosity' could underpin a research agenda for STS aimed at articulating the possibility of a different science and technology at large. As Luigi explained: "Inoperosity does not mean contemplation or resignation, but a non-purposeful, non-instrumental mode of living and acting, capable for this reason of suspending the apparatuses of domination and exploitation." A lively discussion followed, where participants questioned the concept of inoperosity on the basis of that in the modern societies actors are socialized to operate with the concept of efficiency and to create visions, goals and instruments with short-term goals.

A big question mark was put by Aleksandra Lis from Adam Mickiewicz University in Poznań and Agata Stasik from the Koźmiński University in Warsaw with regard to the future vision that stands behind development of an electric vehicle (EV) in Poland. In the conditions of Poland's electricity production heavily depending on coal, greening of the transport system with EVs seems to be at least an ambivalent project. The new object, which at the moment is still at a design stage, can thus be classified both as "green" and "black", and its ultimate quality and status will depend on the capability of various actors to stabilize a desired vision. The two STS researchers from Poland critically examined the government's discourse on electromobility as well as the first steps to construct a Polish EV for a wider public.

Roberto Cantoni's paper scrutinized another energy project as a case of technopolitcs. The Moroccan megaproject of solar energy, Desertec, was presented by Roberto as a process of downscaling solar energy from transnational to national



Workshop participants (from the letft): Agata Stasik, Piotr Matczak, Les Levidow, Adam Choryński, Ingmar Lippert.

contexts. He analyzed how technological choices regarding energy technologies contain multiple rationales: scientific, economic, political, social, and environmental. Drawing on the contribution of Gabrielle Hecht, he stressed that preferences for megaprojects over microprojects are rooted in political visions of Moroccan techno-political elite's and discussed the uncertain future of the "solar diplomacy".

Other theoretically minded contributions came from Jeroen Oomen on the "Holistic ecomodernism and resistant reality" and from Siddharth Sareen and Stefan Bouzarovski on "Bridging concepts: Applying a geography of energy transition to the empirics of urban solar uptake". Jeroan focused on the question of environmental degradation and its relation to scale. While environmental problems usually arise locally, solutions are sought for at larger scales. According to Jeroen, it is within this tension, the tension between the large and the small, between the dominant narratives and the lives of the marginalised – whoever and wherever they may be – that STS may be used to unearth some of the deeper assumptions underlying the ecomodernist plight.

Sid and Stefan asked about the possible contribution of geography to the study of solar power uptake. By focussing on (de-)territorialisation and Haarstad's and Wanvik's (2016) work to analyze assemblages of unstable energy landscapes as possibilities, the authors proposed to attend to constituent empirically-researchable elements. Unpacking such elements produces a relational understanding of power inequities determining energy transitions. Animating the dialectic of (de) territorialisation with bridging tools like institutional assemblages and networks, accountability relations, and shifts in materiality, helps to arrive at empirically-embedded accounts of the stakes for key actors involved and the political nature of the legal and built environments that modulate energy transitions.

Andrzej W. Nowak discussed the consequences of the concept of the Anthropocene for the existing knowledge structures. His gloomy, apocalyptic vision of a disaster which looms on the horizon was received with a mixture of outrage and surprise by the workshop participants. However, despite the pessimism, the main question asked by Andrzej was how the contemporary societies can create knowledge structures outside of the capitalist system and how can the non-capitalist archives be mobilized to create new social orders in a post-apocalyptic context. This philosophical reflection preceded the presentation of the local artists which, by contrast, provoked the participants to brightly look into the post-Earth future.

To sum up, most of the presentations and following discussions touched upon the topics of eco-modernism and the stabilization of new technologies as part of technopolitcs. The critical approach dominated all discussions. Even though, no new concepts were coined, it seems that the workshop gave the participants the best that STS has on offer – the attitude to re-construct the underlying assumptions behind green visions and to de-construct them by asking whose visions those are and whether the solutions proposed by particular actors can really make them come true. Apart from the critique, the workshop also provided the participants with examples of alternatives to the mainstream techno-scientific development. The most inspiring alternative vision was the one of community-based power production and the analysis of it, which showed that alternative designs do not need big capital in order to survive throughout time and space changes. The diversity of participants, in terms of their theoretical perspectives, experience and nationalities as well as the analyzed cases created a lively space for exchange of ideas and intense discussions. The workshop was also an important source of inspiration for the growing STS community in Poland.

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