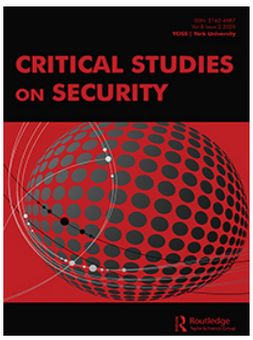

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Taking the trouble: science, technology and security studies

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ABSTRACT

A multitude of new research themes and objects, especially technological innovations and knowledge practices, have come to populate international relations and security politics. Many critical security scholars are engaging theoretical resources from the field of Science and Technology Studies (STS) to make sense of things as diverse as fake news, climate change, financial surveillance, digital images and autonomous targeting systems. This Special Issue unpacks the core challenges and benefits we see when engaging with STS to approach the entanglements of science, technology and (in)security. Embracing the notion of *trouble*, this introduction draws upon Haraway and Butler, arguing for the need to stay close to the troubles that new research objects pose to the study of security. *Taking the trouble* can thus be understood as an ethos that makes us open to new research avenues and to the importance of being attentive to how relations of power and emancipation can be established in our research processes. The focus of both the introduction and the Special Issue is on *how* STS resources might be mobilised. Overall, this Special Issue offers further conceptual, empirical and methodological inputs to the ongoing discussion about the value of STS for the study of security politics.

KEYWORDS

Critical security studies; science and technology studies (STS); security politics; trouble

Introduction

Undertaking research on security politics requires us to become attuned to trouble. The questions of what counts as (in)security, for whom, and how, are standard issues across security studies, especially within critical approaches (Huysmans 1998; Buzan and Hansen 2009). These are not only conceptual challenges, but also empirical, methodological and ultimately political ones. Once we accept that security is an 'essentially contested concept' (Buzan 1983, 6), we quickly face a proliferation of diverse research objects. The trouble is that – taken seriously – these objects and their security politics are often recalcitrant to disciplinary frameworks. This is especially the case for those research objects at the intersection of (in)security, science and technology. Thus, becoming attuned to troubles also means learning how to 'stay with' them, to borrow from Donna Haraway (2016). Indeed, contemporary issues such as fake news, climate change, financial surveillance, digital objects or autonomous targeting systems oblige us to question whether we are equipped to study them as well as how we – as (critical) security scholars – can make a difference within and beyond academia.

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Authors' note: our names are listed in alphabetical order, and we have contributed equally to the writing of this article, the submission of the Special Issue proposal as well as its editing and curating.

This Special Issue on *Science, Technology and Security Studies* discusses the core challenges and benefits we see when engaging with Science and Technology Studies (STS) to approach the entanglements of science, technology and (in)security. The focus – both in this introduction and across the articles – is on *how* specific STS concepts and ideas are valuable for the study of (in) security politics, and *how* these resources can most productively be mobilised to help formulate relevant questions and approaches to studying security critically (cf. Liebetrau and Christensen 2020; Du Plessis 2017). We thus add to a growing conversation about the potential and the role of STS for the study of international relations (IR) in general (Best and Walters 2013; Lidskog and Sundqvist 2015; Singh, Carr, and Bennett 2019) and security practices in particular (Aradau 2010; Bourne 2012; Walters 2002). Notably, this Special Issue builds upon and supplements a first wave of research that was arguably more concerned with the question of *whether* STS can be translated into IR (Barry 2013; Best and Walters 2013; Srnicek, Fotou, and Arghand 2013). Together, the various articles collected here contribute to advancing debates about *how* STS resources can help critical security studies (CSS) find new ways of seeing, questioning and exploring what is political, and what resources they offer for reflecting on how we as researchers become engaged in 'political situations' (Barry 2012, 324). Some of the articles (Monsees, de Goede, Saugmann) place more emphasis on unfolding how STS can bring conceptual resources to critical analyses of security, whilst other articles place more emphasis on how insights from the STS toolbox help foster novel empirical contributions (Lagerwaard, Rothe, Suchman). Finally, this Special Issue illustrates the value of a different, transdisciplinary approach to the exchange between STS and CSS, through the article contributed by an STS scholar, as well as in the exchanges and workshops that led to this publication.

Framing these diverse contributions, this introduction puts forward the idea of 'taking the trouble' when studying science, technology and (in)security. This motto presupposes a fragile ontology made up of diverse human and non-human actors, inescapably troubling each other. Rather than signifying the end of politics, the unavoidability of troubles invites a voluntaristic approach to, and engagement within, the state of affairs that we study and are embedded in. As other works in the field of security studies have emphasised, learning to 'stay with the trouble' is a precondition of practicing critique without denunciation (Austin, Bellanova, and Kaufmann 2019) as we 'work *with* and *within*' often problematic socio-technical systems (Kaufmann, Leander, and Thylstrup 2020, not paginated, italics in original). Drawing inspiration from feminist approaches (Butler 2006[1990]), we suggest a rephrasing to *taking the trouble*, understood as an ethos that makes ourselves open to new research avenues and attentive to the relations of power and emancipation that we can establish through our research. Brought back to the conversation about the value of STS in the study of the international, taking the trouble also means advancing the academic debate along different lines: conceptually, methodologically, empirically, and in fostering dialogue and exchange between STS and CSS. In these ways, this Special Issue highlights how there is a wealth of insight still to be gained from STS beyond the fairly narrow tropes introduced into IR so far. It also illustrates how STS' contributions to CSS are located at the level of methodology and in reflecting on the question of critique when studying the politics of security (cf. also Aradau and Huysmans 2019).

The rest of this introduction is structured as follows: The next section identifies some continuities and discontinuities in how science and technology are comprehended by security scholars – within and beyond the disciplinary boundaries of IR. Then, we briefly clarify the conceptual and political underpinnings of taking the trouble. In the fourth section we foreground the riches of STS, inviting fellow researchers to look beyond Actor-Network Theory, before unpacking some of the main challenges arising in the conceptual exchange between STS and CSS in the fifth section. We refer to the six contributions to this Special Issue throughout this Introduction, as they helped us build our argument. In the last section, we provide brief summaries of how the authors 'take the trouble' to enquire science and technology in security practices in their contributions. In the

conclusions, we briefly summarise the insights we gained through the exchanges that brought to, and accompanied, this Special Issue.

(Dis)continuities in science, technology and security studies

Science and technology are no strangers to IR and security studies. The widespread diffusion of new (digital) technologies highlights how a multitude of new objects, technological innovations and knowledge practices has come to populate international politics (Kaltofen, Carr, and Acuto 2019). Examples include critical infrastructures (Aradau 2010), machine learning (Leese 2014), biometrics (Lindskov and Jacobsen 2017), climate-change models (Mayer 2012), smart borders (Côte-Boucher 2008) and cyber surveillance (Deibert 2003). Despite the heightened interest in these and other 'things' in critical approaches to security (Salter 2015, 2016), this is not an entirely new phenomenon. Technology, science and knowledge have been longstanding concerns in IR (Biddle 1998; Buzan 1987; Eriksson and Giacomello 2006). However, technology's participation in the making of international relations – and thus in the study of IR – was largely considered as stemming from its role as instruments for social and political dynamics (Mayer, Carpes, and Knoblich 2014). That is, IR scholarship leaned towards a reading of technology, science and knowledge as mere tools, ultimately able to shift the 'balance of power' if mobilised effectively. With the exception of post-structuralist readings of the nexus between knowledge practices and international politics (Campbell 1998; Der Derian 2003), orthodox security studies tended to conceptualise technology as an added variable for power politics (Lambeth 1997). Conversely, works focusing on epistemic communities (Cross 2011; Haas 1992) presuppose a neat separation between science and politics. From their perspective, the former is a rather smooth enterprise when the latter does not interfere and, under these conditions, can inform international cooperation. Yet, this vision of science oversimplifies its inner workings, and fails to grasp 'dynamic interactions between science and policy' in world politics (Lidskog and Sundqvist 2015, 2).

From an IR perspective, the so-called 'new materialist' turn of the early 2010s brought a largely novel conceptual repertoire to bear on security studies. An increasing awareness of the central role of devices and technologies – notably drones (Holmqvist 2013; Leander 2013; Walters 2014) and digital surveillance systems (Amoore and de Goede 2012; Frowd 2014) – has led to a search for new analytical tools to make sense of a broad range of technologised security practices. In line with other dominant IR trends, such as an interest in theorising everyday politics and dispersed security practices (Adler-Nissen and Pouliot 2014; Bueger and Gadinger 2015), STS has been used for developing an 'analytics of security devices' (Amicelle, Aradau, and Jeandesboz 2015, 294), studying the 'becoming of weapons' (Bousquet, Grove, and Shah 2017, 1) and exploring socio-technical settings (Bellanova and Fuster 2013). STS is becoming an increasingly common resource in critical approaches to security studies, as recent conference panels, workshops and publications attest. This is not surprising, as critical security scholars may easily read the attention to technology, science and knowledge practices – and to non-humans – as a further stage in the double process of broadening and deepening our understanding of security. Yet, the encounter between CSS and STS is not just an additional step in this endeavour. It also introduces new methodologies, ontologies and epistemologies to the study of world politics, as well as many challenges when embarking on such a journey (cf. also Evans, Leese, and Rychnovská 2020).

With this Special Issue, we want to widen and deepen the exchanges between STS and security analyses. Alongside its ontological contributions, we also take seriously the diverse political, methodological and epistemic perspectives of STS. We engage with STS in its diversity by unpacking the political through a concern with specificity. Thus, closely examining technology or knowledge practices enables us to offer perspectives that rupture overarching political narratives and imaginaries (Jasanoff and Sang-Hyun 2015; Suchman, Follis, and Weber 2017). To a large extent, this is a way to follow up on the suggestions advanced by feminist technoscience perspectives such as Haraway's 'cyborg manifesto' (1991). As she notes (1991, 151), '[t]he main

trouble with cyborgs, of course, is that they are the illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism. But illegitimate offspring are often exceedingly unfaithful to their origins.' Thus, rather than silencing possible challenges that may emerge when exploring specific entanglements of science, technology and (in)security, we want to take the trouble of following these research objects and – through them – pose further questions about the politics of security.

The encounter between STS and IR/CSS is fruitful but not entirely unproblematic. It brings about a series of (dis)continuities within traditional and critical approaches to security studies. As the contributions to this Special Issue show in different ways, taking the trouble is not limited to researching pressing issues that shape contemporary security politics. For instance, Delf Rothe's (2020) focus on jellyfish-killing robots demonstrates that seemingly non-pressing issues may teach us a lot about the priorities of Anthropocene politics, and rationalities at play within it. At the conceptual and methodological levels, troubles worth taking are also those that emerge from the exchanges between STS and CSS. For example, when adopting a classical STS method such as the analysis of controversies, Linda Monsees (2020) shows the importance of adapting this method to carry out her situated analysis of what *security anxieties* can be read in the debates about what counts as a 'fake news' according to the German media. Similarly, when Marieke de Goede (2020) engages with Isabelle Stengers' (2019) and Annemarie Mol's (2002) approaches to critique, she foregrounds the many challenges arising from such a move. In fact, for those who see themselves as critical scholars, *thinking with* security officials whose practices may infringe fundamental rights is not an easy step to take. In sum, this Special Issue offers no simple advice on how to overcome the problems and reap the rewards. Still, we hope that readers come to know more about the multiple issues that concern current security politics as well as how a rich and lively STS literature offers a diverse set of approaches, epistemologies and worldviews.

Taking the trouble

Staying with the trouble is Haraway's onto-political invitation. Not without resonance with J. Peter Burgess' (2019, 96) argument that insecurity is 'not a contingent, remediable problem,' the notion of trouble describes a world whose nature-culture is composite and instable. Haraway (2016, 1) argues that:

> "staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings."

We interpret this to mean accepting our position at the intersection of three kinds of trouble: the trouble of the world as it unfolds before us, the trouble of realising our own limits, and the trouble of being part of multiple entanglements. As several contributions to this Special Issue show, accepting this kind of onto-political invitation requires taking some steps in new conceptual, empirical and methodological directions. For example, the digital challenges our settled understandings of what security actors are and do, with the camera being 'a central but troublesome device, hard to pin down and constantly both mastering and being-mastered' (Saugmann 2020, 132). Also, seemingly odd encounters with jellyfish and drones invite us to sit in a new 'methodological position – one that tries to be attentive to and follow nonhuman forms of agency and seeks to think with them rather than imposing one's own research agenda upon them' (Rothe 2020, 146).

In terms of politics, staying with the trouble is not about doing heroic gestures. As Haraway (2016, 10) continues:

> "[i]n the face of unrelenting historically specific surplus suffering in companion species knottings, I am not interested in reconciliation or restoration, but I am deeply committed to the more modest possibilities of partial recuperation and getting on together."

Such a seemingly modest proposal resonates with critical security studies' commitment to think about (in)securities as complex issues, involving differently heterogeneous actors, to which we can provide only partial solutions (C.A.S.E. Collective 2006, but Koddenbrock 2014). For instance, Antoine Bousquet et al. (2017, 2) have invited security scholars, in the very pages of this journal, to focus on the 'becoming of weapons' in order 'to break the deadlock between techno-fetishism and normative-polemical rejections of weapons, which together function as obstacles to a greater understanding of the significance of weapons in the making of worlds of violence and war.' Staying with the trouble supplements their approach. It involves not only studying the becoming of objects and practices fully exterior to us (as researchers and as subjects of security (Burgess 2011)), but also considering 'becoming-with' these objects and practices (Haraway 2016, 12); that is, how we co-produce and affect (in)security.

Accepting Haraway's invitation – especially *becoming-with* – is not without its troubles for security studies. It is not only about accepting science and technology as active agents in the fabric of international relations and security politics. It also means taking seriously the theoretical, methodological and political insights of feminist approaches (Lobasz and Sjoberg 2011; Shepherd 2013), notably when they insist on the researchers' responsibility to foreground those practices of science, technology and (in)security silenced in mainstream discourses. It is in this sense that staying with trouble means, epistemologically and politically, *taking the trouble*. To take the trouble is to make an effort – often an extra effort – compared to what would otherwise be accepted as sufficient by disciplinary expectations of what counts as (in)security and thus as security studies. As Annick Wibben (2016, 144, italics in original) argues, '[a] feminist curiosity [. . .] offers a method for opening security by highlighting that something happens in the security *act* even though it might not fit our accepted understandings of security.' But taking the trouble is also about exploiting the potential of trouble. In her preface to the first edition of *Gender Trouble*, Judith Butler (2006[1990]) defends the value of this term. She says:

> "[t]o make trouble was, within the reigning discourse of my childhood, something one should never do precisely because that would get one *in* trouble. [. . .] Hence, I concluded that trouble is inevitable and the task, how best to make it, what best way to be in it" (Butler 2006[1990], xxix, italics in original).

In practice, this means refusing – as Anna Leander argues (2017) – an 'applicationist' approach where some methods and concepts are just put to use as if they were a universal solution to any kind of trouble, thus accepting and respecting the specificity of each encounter. Insisting upon staying with trouble is important because it for example means appreciating 'partial recuperation' rather than conceptual blueprints, thus refusing to mechanically apply some concepts, theories and methods from one discipline to the other. Rather, taking the trouble becomes a way to appreciate the connections between STS and IR because we cannot imagine doing otherwise at a given moment on a given research topic.

In sum, the encounter between STS and IR is not without trouble. STS concepts, methods and sensitivities are attuned to the study of planetary politics. Yet, they also affect and disrupt IR and even critical security studies – its commonly accepted worldviews, and its disciplinary boundaries. Following Haraway, our suggestion is that there is value in 'staying with the trouble' – be it epistemic, ontological or methodological. From this perspective, STS enables us to approach the becoming of the world without succumbing to comfortable assumptions. Focusing on science and technology obliges us to think anew about how we care for/in a common planet and the political implications of doing so. A critical approach may thus be understood, borrowing from Butler, as a choice about how to better 'make trouble' in a situation where trouble is ultimately inescapable.

The riches of STS

We propose that one way to take the trouble is focusing on the devices, technologies, objects, knowledge and materialities that shape security. Notably, we want to highlight that understanding

ever-evolving technologies and their applications requires security scholars to go beyond disciplinary boundaries. History, ethics, law, computer sciences and media studies all bring valuable perspectives to the study of security politics. Deploying resources from other disciplines pushes the researcher away from that which feels comfortable and towards new modes of thinking, new analytical distinctions and new conceptual apparatuses. Illustrative of this is the rich literature from various security scholars who have already looked to STS when developing new analytical approaches to issues ranging from drones (Leander 2013) to stoves (Abdelnour and Saeed 2014). Our invitation, of course, does not mean abandoning CSS, but provokes an ongoing questioning of its dynamics and ontological and philosophical underpinnings. Therefore, it does imply a commitment to being curious about the value of approaching the study of security through a new lens, as a way to gain appreciation of additional dimensions. Ultimately, this brings the risk of becoming even further detached from more orthodox understandings of what IR and security studies are expected to be, what they should be concerned with, and which conceptual terms are useful. Yet, such an apprehension would be not dissimilar to the suspicions advanced by scholars like Stephen Walt (1991, 213) with respect to the programme of 'broadening the notion of "security" to include topics such as poverty, AIDS, environmental hazards, drug abuse, and the like.' Moreover, a object-driven transdisciplinary journey may trigger worries about CSS consistency. We believe the contributions to this Special Issue demonstrate how these conceptual, empirical and methodological troubles are troubles worth taking.

Acknowledging that science and technology are core aspects of security studies shows great promise. This is different from claiming that science and technology are *de facto* more important today than a few decades ago. Rather it means that recent technological developments like the internet (Carr 2015; Herrera 2002), cybersecurity (Dunn Cavelty 2013; Fichtner 2018) and new weapons (Boyle 2013; Huelss 2019) require that we pay attention to their (in)security politics. However, not all technology-focused research in security studies takes its inspiration from STS, and nor do all studies of security technologies and the intersection of science and (in)security take place within the field of security studies. In fact, STS scholars have had a long-standing concern with providing analyses of security practices and objects. For instance, in her contribution Lucy Suchman (2020) engages with Donald MacKenzie's (1990, 4) work on the 'invention of accuracy' of ballistic nuclear missiles, to unpack the discursive and practical effects of the increased automation of warfare. She thus demonstrates the value of engaging with an STS literature that, despite focusing on security, to date remains little known and mobilised by security scholars. In their chapter focusing on STS research on security practices, Kathleen Vogel et al. (2017) emphasise the increasing attention to knowledge (and non-knowledge) practices as well as the challenges of carrying out STS-informed research in the field of security. Unfortunately, STS researchers studying security pay only marginal attention to research carried out by critical security studies scholars (Evans, Leese, and Rychnovská 2020). Similarly, CSS has thus far shown limited interest and engagement with STS research focusing on security practices.

Besides STS works explicitly focusing on (in)security, we insist that STS has a lot to bring to the study of security politics. CSS researchers already acknowledge STS as a rich source of concepts and ontological approaches, but some of this work forgets the diverse 'genealogies of STS' (Jasanoff 2012). To put it bluntly, CSS has fallen prey to a narrow focus on Latourianism, which has collapsed STS as a whole into Actor-Network Theory (ANT), with the latter being understood primarily as the work of a single author, that is, Bruno Latour (1987, 2005). Latour's work has indeed marked most of the 'new materialist' turn mentioned above (Salter and Walters 2016). Our suggestion to read STS beyond Latour is not to put into question the value of ANT for the study of (in)security practices. As Pieter Lagerwaard (2020) demonstrates in his contribution, there is still much to be gained in engaging with Latour's works and ANT more generally (cf. also Bellanova 2017), and to connect them with work on 'boundary objects' (Star and Griesemer 1989). But the success of ANT within CSS risks failing to appreciate the differences and divergences within ANT (Latour 1999; Law and Hassard 1999) and across diverse STS approaches (Bijker and Law 1992). Importantly, it also

risks missing the chance to take the trouble to engage with, and thus discover, the heuristic and political potential of many other approaches such as feminist and post-colonial technoscience (see Hayles 1999; Harding 2009), those exploring the co-production of science and society (Jasanoff 2004) as well as work on the social construction of technology (Bijker 1995) and the design and deployment of large technological systems (Hughes 1987).

The conceptual exchange

The growing interest of STS in IR is also due to the fact that it speaks to adjacent trends. These trends include an emphasis on the socio-political significance of the seemingly mundane (Guillaume and Huysmans 2018; Lisle and Johnson 2019), the conditions of possibility for politics and contestation (Mandelmaum, Friis Kristensen, and Athanassiou 2016; Monsees 2019), and the need for creative methods and deeper methodological reflection (Aradau et al. 2015; Naumes 2015). Recent conceptual exchange with IR also places an emphasis on those entanglements (Bellanova and Fuster 2013; Voelkner 2011) and processes (Jackson and Nexon 1999; Passoth and Rowland 2010) that create both the 'state' and the 'international', which make them look like frictionless wholes. Advancing existing work that draws on STS to emphasise 'entanglements', Rothe's article (2020) shows how these insights are useful in developing an analytical framework through which to better appreciate local entanglements that partly consist of technology, in his case, explored through the case of jellyfish-killer robots. Rune Saugmann (2020) discusses in his contribution how entanglements joining cameras, the police, media and audiences play out in different contexts, demonstrating how the assumed factuality of pictures can be contested. This leads him to explore what it means to make claims about the agency of the digital camera. Saugmann thereby contributes to a long-standing debate in STS on the question of agency of objects. Although these questions have also been discussed in IR (Hoijtink and Leese 2019, Lindskov Jacobsen and Monsees 2019), Saugmann's original contribution highlights the need to think about what it means politically to talk about digital cameras' agency.

Indeed, methodological insights stemming from STS have been used to analyse world politics beyond the realm of science and technology. As contributions to this Special Issue demonstrate, STS can be of value for a range of themes not primarily associated with STS such as disinformation (Monsees 2020) or financial regulations (Lagerwaard 2020). What emerges from reading across the diverse contributions to this Special Issue is that the relation between researchers and research objects is of special concern when we take the trouble to analyse the roles of science and technology in security practices (see also de Goede 2020). Besides seeking new ways of politicising, critiquing and raising novel questions, it is also important to emphasise that 'taking the trouble' to engage with STS also enables us to see different things that can then be politicised and explored critically – for example, the use of tweets as evidence in court cases (Anwar 2020), or the role of roadblocks and prisons in intervention practices (Schouten 2019; Lindskov Jacobsen 2020), to name but a few.

The relation between researchers and research objects can be best understood as a dynamic process that starts with our research apparatus (methods). Such an understanding invites us to better conceptualise the politics that are at stake in our research and to clarify what practices we are examining, if not directly partaking in, through our research. The contributions to this Special Issue all highlight that the encounter between STS and CSS affects our methods, politics and practices – i.e., the perspective we choose, how we do research, and with which consequences. Studying security politics and practices requires methodological reflections, especially in contexts where secrecy and unknowns are constitutive of the dominant security and surveillance practices (Balmer 2012; de Goede, Bosma, and Pallister-Wilkins 2019; Walters 2015). As a result, this Special Issue is not only relevant because of its analysis of timely empirical issues – like disinformation, terror financing and terror fighting – but also because it fosters debate about methodological questions and what kind of trouble is caused by deploying authors and concepts from STS. In different ways, these articles demonstrate how taking the trouble with STS and thinking with STS enriches our methodologies

and modes of critical scholarship. Two contributions in particular explicitly show how engaging with STS insights adds to ongoing debates about doing critique in critical security studies (Austin, Bellanova, and Kaufmann 2019; Berling and Bueger 2017; Koddenbrock 2014). de Goede (2020) invites us to think of the 'practice' of critique as a form of 'communing,' which for Stengers means 'participating in an ongoing, adventurous, unguaranteed, but generative process of making sense in common' (Stengers 2019, 18, cited in de Goede 2020). Suchman (2020) demonstrates how techno-scientific claims about accuracy presented as evidence of an ethical approach to warfare are fallacious, and that their core function is legitimating further violence.

The special issue's contributions

In different ways, each contribution published in this Special Issue adds to, participates in, and broadens exchanges between STS and CSS. For instance, the encounter between STS and CSS has revamped interrogation about what forms of critique are afforded when attending to materialities and technical practices in our research of security politics (Amicelle, Aradau, and Jeandesboz 2015; Austin, Bellanova, and Kaufmann 2019). de Goede's contribution articulates and answers this key question about critique, located at the intersection of STS and CSS. Thinking with Stengers and Mol, the article accentuates 'the processual, uncertain and practical aspects of critical thinking' and identifies 'following, leveraging, joined risks and paying attention' as pathways of engaged critique, of 'engagement all the way down' (de Goede 2020, 1). As such, de Goede advances ongoing debates about the politics of methods. Notably, her article highlights the still untapped potential of STS for approaching security practices through a methodology that approach them *critically* while resisting the lures of ideological denunciation.

Rather than assuming the novelty and impact of fake news, Monsees asks how 'fake news' became the signifier for everything that seems wrong with society at a particular historical moment. Monsees uses the STS concept of *controversy*, which is a hallmark of STS work but is seldom mobilised by (critical) security studies (Schouten 2014). In her article, she reworks this concept to highlight the political character of the fake news debate. Doing so, she shows its heuristic value as an analytical lens onto a key political challenge in contemporary society. Monsees' contribution supplements existing CSS debates about how to unpack complex issues located at the intersection of socio-technical practices and major (geo)political imaginaries about democracy and security.

Saugmann also engages with a crucial debate on agency shared across STS and IR. Avoiding a clichéd account of what it means to endow an object with agency, he asks the reader to rethink the role of the camera in the politics of visuality. He argues that the camera is not only a device to capture reality but can become an intricate part of political struggles. Thus an important contribution of Saugmann's article lies in how he invites us to and shows the value of shifting the perspective to focus on the camera and the production and distribution of practices, rather than only on the images as such. Insisting on the significance of the object, Saugmann's article also demonstrates how this approach may entail having to engage with a scholarship that is neither CSS nor STS, in this case from media scholars and practitioners.

Rothe's contribution brings together STS, Critical Security Studies and Critical Ocean Studies. More specifically, Rothe uses insights like Karen Barad's (2007, 33) notion of 'intra-action' to articulate and analyse relations between 'jellyfish and other elements of the Anthropocene ocean,' in order to unpack 'the entangled nature' of this ocean (Rothe 2020, 149). One important contribution of this article lies in its detailed exploration of a technological 'solution' to jellyfish 'threats' in a manner that draws not only on STS insights but also on ongoing debates about the Anthropocene. In exploring how various countermeasures to 'threats' posed by jellyfish change and rearticulate a logic of biopolitical security, Rothe makes an original contribution to the current debate on the Anthropocene and its security politics.

Suchman's article illustrates how an STS perspective offers valuable analytical perspectives that deepen our understanding of issues at the very heart of security studies – be they critical or orthodox.

Notably, her work directly focuses on questions about how violent force finds its target (cf. also Grayson 2016). In her engagement with longstanding military issues like the so-called 'Fog of War', Suchman presents a powerful critique of the promotion of automated data analysis under the auspices of artificial intelligence. Rather than resolving this enduring problem of 'achieving perfect accuracy in threat identification' (Suchman 2020, 176), automated data analysis actually exacerbates already discriminatory and indiscriminate targeting processes. As an STS scholar among IR/CSS scholars, Suchman's contribution to this Special Issue also embodies a different approach to the conversation and exchange between STS and CSS: one that foregrounds the entanglements between science, technology and (in)security as transdisciplinary concerns because of their very political salience.

Conclusions

Overall, this Special Issue offers further conceptual, empirical and methodological inputs to the ongoing discussion about the value of STS for the study of security politics. It adds to the existing insights from STS that are already engaged with by CSS scholars, notably by emphasising how a richer STS conceptual toolbox could be used. This collection illustrates additional levels of exchange and engagement and thereby furthers the debate by demonstrating the value of STS for concrete research practice. On a conceptual level, the Special Issue shows how STS concepts (e.g. controversies, flat ontology) can, but also need to, be worked with to make them useful for the analysis of security politics. On an empirical level, the contributions demonstrate how STS allows scholars to identify and make visible security issues that are often not part of a traditional CSS research agenda (such as jellyfish!). On a methodological level, the collection highlights the value of object-driven research that bring us into contact with the multiple actors, devices and practices that constitute contemporary security policies (Amicelle, Aradau, and Jeandesboz 2015; de Goede 2018; Salter 2015, 2016). In turn, these encounters require security scholars to embark upon a transdisciplinary path, where the exchange between STS and CSS may be just one step of many.

Ultimately, we hope that this Special Issue will encourage fellow researchers to keep taking the trouble when they approach security politics critically. Albeit anti-economic in disciplinary terms, our experiences during workshops and manifold exchanges in preparation for this Special Issue indicate that working across disciplines is possible and enriching. For example, Suchman's contribution reminds us that STS and CSS have many common empirical, political and methodological preoccupations, and increasingly share a commitment to critique rooted in a care for an all-too-fragile present.

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