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Technology, agency, critique

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published in
Technology and Agency in International Relations
2019

DOI (link to publisher)
10.4324/9780429463143-9

document version
Publisher's PDF, also known as Version of record

document license
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Link to publication in VU Research Portal

citation for published version (APA)
Aradau, C., Hoijtink, M., & Leese, M. (2019). Technology, agency, critique: An interview with Claudia Aradau. In M. Hoijtink, & M. Leese (Eds.), *Technology and Agency in International Relations* (pp. 188-203). (Emerging Technologies, Ethics and International Affairs). Routledge. https://doi.org/10.4324/9780429463143-9

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9 Technology, agency, critique

An interview with Claudia Aradau

Claudia Aradau, Marijn Hoijtink, & Matthias Leese

MARIJN HOIJTINK (MH): The idea for this book was to take up developments in Science and Technology Studies (STS) and New Materialism and the turn towards these literatures in International Relations (IR), and to study the question of agency more specifically with regard to IR and technology. Claudia, you have been at the forefront of some of these discussions. In particular, your 2010 article on critical infrastructure protection in *Security Dialogue* is often referenced within the debates (Aradau, 2010). We wanted to take a look back and see what we have gained from these discussions, and we would be interested to know how you would evaluate the ways in which STS and New Materialism approaches have inspired our work in IR.

CLAUDIA ARADAU (CA): Thank you very much for your generous words about the article. I see three main ways in which the literatures on STS and New Materialism are contributing to IR. The first can be seen as an integral part to the study of practices, and particularly to the study of human/non-human assemblages. We have different vocabularies through which to analyze these assemblages, and there is a long-standing debate in IR about the implications of these types of analysis. One prevalent criticism concerns methodological assumptions and premises: what it means to be speaking of assemblages as ontologically "flat," the question of symmetry, and the politics that is implied when one talks about human/non-human assemblages. But I think that the analytical attention to human/non-human assemblages has led to very productive interventions for IR despite these objections. It has not only highlighted different modes of materiality, technologies, and non-humans, but it has also unpacked the relational practices between humans and non-humans. Moreover, I think, it has done away with very limiting debates in IR about the "micro" and the "macro." We have had this debate for some time, but we now have much more productive ways of analyzing transversal relations and understanding transversal modes of connecting in terms of international practices.

Secondly, and I think this is one of the reasons your book is important, another contribution was the reconsideration of performativity and agency. Here, both questions of distributed and entangled agency have been really important, and the chapters in the book take up these questions and discuss what they mean both methodologically and politically: Georgios Glouftsios's chapter about the Visa Information System (VIS), for example, as he discusses modes of distributed agency; or Philipp Olbrich's chapter on satellite imagery. Agency is not new to IR. There has been a lot of debate about it in post-structuralist, feminist, and post-colonialist literature. But I think the idea of entanglement and of different kinds of agency can really help us push forward some of these boundaries. So we can build on these developments.

The third contribution concerns the politics of technology, of objects, of devices. And an acknowledgment that debates about the liberal subject, about liberal governmentality in IR need to be understood as co-constitutive, or to use Sheila Jasanoff's (2004) terminology that several of the authors in this book invoke, as "co-produced" by objects, technologies, and all of these mundane devices, social, and cultural practices. I think this is really important for developing wider vocabularies for politics, but also in terms of understanding the politics of technology. It does not mean that there would not be limitations to this enlarged vocabulary of politics, and again, there have been a lot of debates in IR about the limits of STS – and also some discussions in the book touch upon this.

As you kindly mentioned my article from 2010, that article engages the work of Karen Barad, and was really interested in the debates *within* STS as well. STS is not a homogeneous field, and often we go back to Actor-Network Theory, which is *one* of its forms. I think it is important to actually be much more aware of the debates and disagreements within STS. The chapter by Katja Lindskov Jacobsen and Linda Monsees engages with Jasanoff's work, which is a particular strand in STS that is not based on Latour and Callon, but develops a critique of their ANT approach. And your own chapter, Matthias, uses Lucy Suchman's (2007, 2012) work on "configuration" to draw attention to the ways in which materialities and imaginaries of technology are joined together. It is also necessary to engage much more with feminist and post-colonial approaches in STS, as there is a very rich body of work on technology, for example on reproductive technologies, or ultrasound technologies, their circulations, and political effects. And this brings back these distributed and entangled modes of agency in relation to bodies, the production of knowledge, the politics of (de)humanization, and so on. This work is deeply political, there is nothing "flat" about these assemblages. "Flatness" is neither a methodological precaution nor an assumption of the research.

MH: More recent work at the intersection of feminist and post-colonial studies and STS has taken up questions of what we have been doing away

with: the micro/macro debate, differences between the global and the local (e.g., Pollock and Subramaniam, 2016). And this literature also looks at the global circulation of technologies, how technologies emerge, how they become appropriated. This also seems an important thing that these perspectives offer us.

CA: The circulation of technologies is an important aspect, indeed. And we have a lot of work in IR, and more specifically in critical security studies, that has addressed this. Circulations have been particularly understood as subsumed by hierarchical power relations, so that we see circulation of technologies from the North to the South, but also vice versa: that technologies developed in "laboratories" in the South find their way back to the North. The topos of "laboratories of security" has been important to challenge micro/macro distinctions and implicates a turn towards the analysis of global/local encounters, translations, and circulations of (in)security (e.g., Bourne et al., 2015). STS can be useful to unpack how "laboratories of security" work in practice, how they differ from the scientific laboratories and experimental science that STS has analyzed, given also that we cannot just follow the techno-scientists, as Glouftsios's chapter shows. There is also a question about how we conceptualize modes of circulation, and how we address these modes of circulation in relation to global power relations. Marieke de Goede (2018: 24) has proposed to approach this through the epistemic implications of the "security chain," focusing on how the modes of circulation of security across public-private institutions entail processes of "sequencing, movement, and referral in the production of security judgements."

Another important aspect, and this is sometimes missing in STS work, is the production of violence, the production of insecurity, the modes in which (in)security is enacted. I think there is an understanding about the effects that these practices and technologies have, the modes of insidious violence, the modes of differential exclusion from these practices. It is important to keep these questions as something that IR brings to this conversation.

A final element is connected to the question of politics and how we understand politics. Drawing on some of the critical resources in IR, I think we should look into the politics of networks, particularly as deployed in Actor-Network Theory (ANT). An approach that highlights controversies, struggles, frictions, and disputes seems to me more apt to grasp the politics of local and global, circulation and technology critically (see Aradau, 2018; Hönke and Cuesta-Fernández, 2018). STS is grappling with these questions, but I think the experiences from critical IR and from critical security studies are really productive here. We should not lose that.

MATTHIAS LEESE (ML): I would like to go back to your point about the risks of homogenizing STS by reducing it to ANT and excluding other work such

as feminist and post-colonial strands. On the other hand, we already have numerous concepts and vocabularies that include the likes of *dispositif*, assemblage, intra-action, co-production, or vibrancy – and you have in your own work, together with Anthony Amicelle, and Julien Jeandesboz, coined the notion of the "security device" (Amicelle et al., 2015). And all these concepts come from different philosophical traditions and disciplinary backgrounds. How can we grapple with that multitude and heterogeneity of vocabulary?

CA: My first reaction would be to say that I don't worry about having too many concepts. I would worry about having too few concepts. And this relates to where IR was starting. If you think about the dangers of what is called "parsimonious theory," we need more rather than fewer concepts to grapple with the complexity and heterogeneity of the world. Parsimonious theory tries to discipline analytical attention by reducing the complexity of the world to alleged big matters and claiming that messiness is untenable, ungraspable, and methodologically invalid. But I think your point is important, because there is also a question about heterogeneity becoming disorientation or confusion, when we have a massive proliferation of concepts. Still, different concepts do different work, and this is why a multiplicity of concepts is important for me. Conceptual multiplicity cannot be legislated before the research, but is enacted through the process of research. As you say, concepts come from different debates, and if you look back at this book as a whole, authors mobilize different concepts in relation to different debates in order to be able to do certain things. For instance, co-production, for Jacobsen and Monsees, is important, because it enables them to relate their analysis back to questions of social order. They want to focus on the micro-practices and politics of social order, and they can do so through the concept of co-production and through Jasanoff's work.

However, if you are starting from an understanding of controversy, this does something different than a concept like social order, the analysis will be very different. Even as Jasanoff is interested in the de- and re-stabilization of social order, she distinguishes her approach from the study of technoscientific controversies or boundary objects, as she focuses on tracing the tacit assumptions, understandings, cultural and national differences that are constitutive of these moment of de-stabilization (Jasanoff, 2012). She is also interested in controversies in society rather than just the laboratory. That is why it is crucial to not de-historicize these concepts, and this is where the debates within STS are relevant. This is also the case in engaging STS and IR, in terms of how, for example, co-production as a concept is similar to, but not quite the same as enactment or performativity. We need to situate the concepts we use in their socio-historical contexts of emergence, but also to follow them through the debates and circulations that redeploy and change them. There is a particular intervention, and this is about what kind of work these concepts

allow us to do. Why do we invent concepts? We invent concepts to try to make sense of the heterogeneity of practices. STS gives us a vocabulary that we can use productively in relation to the vocabularies that we already have, and end this myth of parsimony that IR (and social sciences) have been reproducing for a long time. There are also other vocabularies in critical IR – and vocabularies that we need to invent ourselves, not as individual scholars who reproduce the "distinctions" of the academic field, but as collaborative endeavors to engage critically with the problems of insecurity, violence, and global politics that we want to understand and confront.

ML: Others have also pointed at the presumed incompatibility of different levels of analysis between STS and IR. STS comes from a sociological and ethnographic tradition, where researchers have paid close attention to very specific and local practices, and situated networks of actors. IR, on the other hand, is a discipline that is still preoccupied with the notion of the international and the quite abstract question of change versus continuity. So it could be argued that STS and IR are not really compatible when it comes to international practices. How can we try to bridge this gap?

CA: Let me turn back to something that interested me a few years ago, as I hope it is relevant to the question. In the early days of the Cold War, there was a big debate about avoiding accidental war between the two great powers. And one of the key responses was to have a hotline between Moscow and Washington. And this hotline is key. You can conduct a whole analysis – I tried to do this a couple years ago, and there is in fact a lot of literature on this – about putting the hotline in practice and its political implications: what does it take to make the hotline as an assemblage work? You see, a hotline is a quite banal thing. But it brings into being a very particular understanding of global war, of nuclear warfare, a particular understanding of what it means to have relations between global powers, who gets to be connected through the hotline and who doesn't (Aradau, 2016). Its banality also means that mundane actions, which appear to be at a distance from international politics such as a Finnish farmer cutting the hotline while ploughing the land become constitutive of the international. So we can turn your question around to some extent, and ask: how do we study the enactment of the international?

The international is enacted in many different sites. It is not a given, but it is constituted through practices. Concepts from STS can be productively mobilized to study and understand the enactment of the international through the production of particular discourses, institutions, practices, routines, but also objects such as hotlines, railways, infrastructures, logistics, weapons, and also expertise. This is why I like the "transversal," as it allows us to understand how the international is enacted and re-enacted. Transversal is not transnational but that which connects

by cutting across in more or less unexpected ways. There are heterogeneous enactments and re-enactments, but also controversies about what the international is and how, and where, it comes into being. Or controversies about, and struggles over, what counts as the international and what counts as the global. These are often subject to controversies, and objects and technologies are part of these controversies and contestations. Olbrich, in his chapter, for example looks at the imagination and enactment of the global through technology and the particular production of images of the globe. Or we could also analyze technologies that enact the "world." What does it mean to look at the world? Again, there is a history of that: world future, the Club of Rome, and so on. So there is a whole history of attempting to produce the world. And the same goes for the international. There is a history of doing that through the modes of inscription, through different practices and so on.

MH: You mentioned that we should keep our IR understanding of politics: what politics is about, what it does, and also what it means to do critical work in IR and critical security studies. In STS, many scholars would follow a Latourian approach to politics and assume that politics is what the actors within a network define as politics. And their forms of political engagement or political critique would be based on observing the relationships within the network, and subsequently engaging the actors and speaking with them about their observations in a very detailed and nuanced manner. How would that work for us, when we study phenomena such as exclusion or violence, also with regard to possibly holding human/non-human assemblages accountable for these things? In other words, is our understanding of politics in IR compatible with the understanding of politics in STS?

CA: I think your question about politics is closely related to debates about critique and how to locate critique within entangled relations between a multitude of "actants." It is also important to acknowledge that there is not a shared concept of politics, either in IR as a whole, or in critical IR. So again, if we start from the traditional debate about politics and understandings about what liberal or realist understandings of politics entail – or also in terms of post-structuralist understandings of politics – you have a lot of variation in how politics is understood: from Foucault's politics as war to a host of other post-structural understandings of politics as contingency. Contingency is a concept that I have noticed across several of the chapters in the book. There is politics *within* contingency, but also *of* contingency. And then you have debates about politics and resistance, politics as resistance, politics as contestation, politics as controversy. This is connected with an understanding of contingency and the possibilities and indeterminacies of social practices that open up the possibility of contesting politics. Therefore, there are a lot of connections that we can make, while again attending to the heterogeneity of different understandings of politics. We need to pay close attention to the sites of

political contestation and how politics and critique are enacted in controversies within and across those sites. But we need to be careful not to remain just within the understanding of politics that actors have within a specific situation. To me, this means to take seriously what STS does, but also to think across different sites, to not remain confined to a social situation. And I think this is where critical IR is interesting. Because we "move" a lot, producing understandings of transversality and circulation, an understanding of the sedimentation and transformation of discourses, an understanding of global power relations. We move across different sites, and throughout these sites the understandings of politics shift as well.

We also need to attend to the understandings of politics that we have in our IR, even as we find some problematic. To a certain extent, we are also actors, within and across this trans-academic field. So I think it is important to work with this, and work across, work at the interstices, work in-between. This means that we can step beyond the confines of a situation, and there are openings, and under-determinacies, and contingencies, and failures in situations. Practices are contested, (re)deployed, and (re)appropriated. And all this has been very productive for IR and for STS. But I think we can move beyond, and sometimes we *need* to move beyond, the understandings of politics in a specific situation. This is the methodological view of proximity *and* distance (Bueger and Mireanu, 2015; Coleman and Hughes, 2015). In that sense, we cannot just erase or disavow the whole history of thinking about politics that we have been trained in, that we have learned, that we work with. We can bring that to particular situations, while at the same time being more attentive to absences and silences. Or to that which might be non-perceptible in a given situation, to use Jacques Rancière's (1999) terms, to the distribution of the sensible and the political moment of redistributing the sensible. Working upon and contesting this distribution of the sensible, I think there we can have something to say without assuming that we are an equal actor, or have some kind of similar position, but still bring our history of thinking about politics into particular situations.

MH: This reminds me of a story about Bruno Latour giving a lecture in Taiwan and reminding his audience of the importance of symmetry, relationality, and contingency in our research (Law and Lin, 2017: 214–5). Latour explained that we can only make sense of the world if we adopt methods that are themselves non-coherent and messy, but he was challenged by his audience who told him that messiness and the struggle against a grand narrative was not at all productive with regard to the political situation in Taiwan. I guess what this example shows is that when STS prescribes that all knowledge is situated, this cannot itself become a decontextualized truth. John Law and Wen-yuan Lin, who recount this story about Latour's lecture, then go on to call for extending the principle of symmetry further, treating non-Western and STS terms of analysis

symmetrically without privileging the latter, but before that perhaps what we need is understand the political work that our own concepts, such as messiness and contingency, do.

CA: That is where the question of politics becomes a question of problematizing contingency and messiness. Why and how is something problematized in a given context, and on the basis of what kind of understandings of politics? I cannot speak to the debates about politics in Taiwan or what was implied in the question to Latour, as this is not something I am familiar with, but I can see that contingency can be problematized differently in specific political situations. For instance, problematizing contingency can open political space against consensual politics, or dominant representations, which silence or exclude other voices or, to put it differently, lead to epistemic injustice or rendering some types of knowledge and knowledge subjects as lacking credibility. This is what critical security studies and critical IR more generally – and most explicitly feminist work – have done. But perhaps we can also say that – to a certain extent – we are now faced with a different situation, where contingency seems to render political judgments indefinitely changeable to that extent that the language of "post-truth" has become increasingly used. Contingency is here rendered as "anything goes" rather than a socio-historical conceptualization of relations. Contingency does not mean that a situation or relations are indeterminate, rather that they are not fully determined. Therefore, contingency is mobilized to create confusion, doubt and uncertainty, as the literature on agnotology has shown (Proctor and Schiebinger, 2008). We need to develop transversal modes of analysis, which situate contingency as a socio-historical concept and practice and also move across sites of controversy, rather than just having one understanding of what the politics of contingency is. Agnotology seems to me a more apt toolbox for diagnosing and intervening in the present than the problematic coinage of "post-truth."

ML: I'd like to pick up on your discussion of critique. You mentioned that there is a debate, in critical IR and critical security studies, about what it means to be critical, and what the implications from a critical stance would need to be. For you, what does it mean to be critical in relation to technology, and how can we accommodate the normative or the ethical within a critical stance towards technology and the international?

CA: That is a difficult question. Let me try to split it into two parts. The first one is how we can think about being critical in relation to technology and technological developments. And then I'll address the question of ethics. I have thought about the question of critique as always a situated one. Critique in relation to technology needs to be situated and specified: what kind of technology are we speaking about? It needs to come after an analysis of power, controversy, and agency. So, for me, critique does not come first, but it builds upon an understanding of power relations, of the modes of differential exclusion, of the modes of silencing, of the

struggles and controversies that take place, of the controversies that can mobilize objects and subjects, the technologies but also the subjects that are involved. We need to try to understand how these things produce forms of differential exclusion, but also distributions of humanity and inhumanity, the construction of categories of some people as less-than-human. And it is on this understanding of inequality, differential exclusions, dehumanizations, and injustices that critique builds.

It seems to me that in critical security studies, and I take the liberty of including feminist and post-colonial approaches here as well, this is very important as a mode of analysis and as an understanding of critique. It is, I think, a quite specific understanding of critique, quite different from some of the analyses in ANT, for example. This is how I would specify critique. And I would take critique in this "negative" sense that it builds upon an understanding of what produces differences and inequalities, power asymmetries, violence, and injustice. There has been a move in new materialist work to develop modes of "affirmative" critique, which are situated in relation to "negative" critique. Yet, this is not a positively/negatively charged continuum. To me, it is a question of situating critique in relation to the production of injustice, inequality, domination and so. That is why I feel ambiguous about formulations of "post-critique" and "a-critique," which take the "negative" critique I have outlined as somehow violent itself (e.g., Anker and Felski, 2017). And critique then enters as a mode of reasoning. Critique is not the same as politics, but I connect critique and politics, because I think critique can be a site of politics. It builds upon political struggle, but it can itself be mobilized, and anticipate political struggle. For me, what is really important is that if you take this analysis of the different modes of relations and the effect that technologies have in the classification of humans and the creation of categories of being human or non-human, then politics is about contesting that.

Therefore, in my work, I have spoken about politics rather than ethics. We have seen debates that have attempted to formulate different ethical approaches and different normative approaches, and we can talk about that. But I wonder whether ethics – particularly as it is discussed in relation to technology and emerging digital technologies – risks eschewing what politics is about: engaging, coming to grips, entering, working within the interstices, and controversies. To some extent, I worry that ethics does not allow for that messiness. Formulations of ethics in relation to technology are particularly problematic in that sense, as they assume that ethics can be "designed in" the technology or that somehow ethics is matter of rules. An ethics which inscribes particular universal rights in the technology design does not only decontextualize the subjects of technologies, but it imagines a universal and non-situated subject of technology. Here, ethics offers solutions and aims for sameness across all deployments of technology. Yet, I would argue that what we need are not

solutions but new problematizations. We need a political sociology of contestations: of controversies, struggles, resistances, disagreements, and disputes.

ML: If you would allow me to relate this back to your own work once more: together with Tobias Blanke, and with regard to Big Data and security, you write "what matters in the Big Data-security assemblage is how the relation between humans and computers gains content, and how the assembling of humans and computers is both an association and a division of labour" (Aradau and Blanke, 2015: 5). How can we understand this division of labor between machines on the one hand, and humans on the other hand, particularly if we think about the violent and exclusionary effects that you spoke about earlier?

CA: Your question refers to two terms. The first one is labor. A lot of the debates about the role of digital technologies, Big Data, and algorithms are about the production of value, about labor that produces this value, and about capitalism. You can see this, for example, in Malcolm Campbell-Verduyn's chapter on blockchain technology, where you see the re-working of the blockchain within dominant systems of finance and liberal capitalism. The concept of labor is really important because we need to analyze the effects of digital technologies and computers in relation to the production of value. Alex Edney-Browne's chapter also shows the effects of labor – long shifts, the strain of fatigued vision, and multi-tasking – for drone pilots and the fatal consequences that the human-machine distribution of vision can entail for those who become targets of violence.

I think it is here that we need to connect the work on security technologies, devices, logistics or infrastructures done in CSS or STS with feminist scholarship. For instance, in her work on gestational surrogacy, Kalindi Vora starts with the clinic as a sort of laboratory that disciplines women through technologies of surrogacy, legal contracts, and training. She is particularly interested in how women are guided into "a new understanding of their bodies without their full knowledge of the technologies involved to train them into a previously unimagined relationship (or lack of relationship) to the child they will bear" (Vora, 2015: 109). Vora's analysis is exemplary in connecting technology, (not) knowing, gendered, and racialized embodiment.

The other element that is important for both politics and critique is how relations get specified. Often, when we talk about agency or assemblages, we talk about relational approaches. Again, this is something that several authors discuss in the book. But the relational is a vague concept. And while it is productive to have many different concepts, these relationships need to be specified. In the article that you referred to, we take seriously a criticism that the geographer John Allen (2011) raised towards the uses of the concept of assemblage, and particularly towards assemblages being used as too descriptive and focused on their elements. So his argument is that we need to work through the content of the relations

within the assemblage, and that we need to specify these relations. That is what we tried to do: specifying and historicizing relations. But how do we do that? We specify them within the controversies that take place around questions such as what Big Data is, how it works, what it means in practice – an approach that Mareile Kaufmann also takes in her chapter in this volume. We trace a series of controversies, starting from the Snowden revelations and including judicial litigation and public scandals. And then you can see, if you follow controversies, how violence is problematized in relation to Big Data. To go back to Vora's analysis, she also shows how an analysis of relations cannot be limited to the surrogacy clinic but also needs to be placed within both a historical context of "the Indian middle class and rural women" and a global one of "the transnational reach of directors, and their ability to command technology and resources at the global level" (Vora, 2015: 114).

For us, the "association and division of labour between humans and computers" was helpful to orient our approach. There is violence in how Amazon Mechanical Turk, for example, works as low-paid workers in the South are given "tasks" that supplement the work of computers. The division of labor is also international, with low-paid workers and a lack of labor rights. There is violence in how anomalies are produced, as anomaly detection has become the "holy grail" for detecting unknowns in the mass of data. There are different modes of inclusive exclusion, of classification, and hierarchization, which also embody violence. But at the same time, specifying the content, and that takes us also to your own chapter in the book, Matthias, also prevents us from falling into the trap of all kinds of dystopian visions of machines and automation taking over, this discourse around Artificial Intelligence and a world run by robots which I think is actually undermining critical discourse.

MH: I think what we find in many chapters of the book is that they look at how those relationships take shape, but also at what the effects of those relationships and constellations are. So while I think it is very important to specify relations and their content, it is also important to study what the effects of such relationships are: for example, in terms of how North Korea is depicted (Olbrich), how the blockchain is re-appropriated within financial regulation (Campbell-Verduyn), or how practices of warfare are transformed through the visual regime of the drone (Edney-Browne). One of the premises of this book, in this sense, is to show what the effects of those constellations are.

CA: A critical analysis of technology emerges through the diagnosis of effects, particularly as we understand technologies as socio-technical assemblages, and unpacking the specific relations through which agency emerges. Several of the chapters take this approach, but push it in different directions. Take for instance Olbrich's chapter about satellite imagery and North Korea. What is important here is that these effects are mobilized in the production of evidence. And this is again a key element if we think

about the international politics of knowledge and about how human rights abuses and other forms of violence can be known or not. The production of evidence, what counts as evidence, is key. But Olbrich shows how the production of evidence is asymmetrical, and I think he has an important point there, also methodologically, about the question of symmetry/asymmetry, which has often been used in IR to criticize STS. While for the critics symmetry appears to eschew the asymmetries of power, Olbrich's chapter points out that it does not mean that "human beings, things, institutions and concepts matter in the same way." In my reading, I would say that there is a methodological precaution of not accepting asymmetries as given a priori.

And in Campbell-Verduyn's chapter on blockchain you have the question of authority in global financial regulation. Again, this is the effect of asymmetries and it is produced through specific relations. So we really need to focus on the production of asymmetric relations of power and authority, but also on asymmetric forms of knowledge. And we extend this to the production of what counts as evidence, what counts as truth, who gets to speak, who gets to be an actor in particular situations, who gets to be human, who gets to be an expert, and so on. All these questions are underpinned by particular relations, but also by the equipment and instruments that these actors can have and appropriate.

ML: There is quite a debate in terms of how to study these relations empirically, specifically when it comes to technology. Most technologies are either framed as security technologies and therefore subject to a certain level of secrecy and inaccessibility, or they are the products of private companies and therefore proprietary, which makes them also to a certain extent inaccessible for us as researchers. How can we deal with this problematic constellation if we seek to study the relations that unfold from and through technologies?

CA: First of all, and I think this is very important, we should also study secrecy itself. Secrecy is also a particular mode or relation, where something is not unknown, or unknowable, but it is kept from certain people. If no one knows it, then there is no secrecy. It is a really interesting epistemic concept, because it partitions and distributes knowledge, and creates particular boundaries. And that raises the question of where the researcher sits in relation to these boundaries, and how you can do research on particular technologies that are secret and to which you don't have access. There are two elements I want to address. One is that secrecy is not just about security or international relations. I think secrecy is perhaps intensified in relation to security technologies, but security has become a very mundane task. As you said, it is tied to the proprietary technologies of private companies that have a lot of secrecy around the development of their products, partly due to competition. That is the metaphor of the "black box" that Bruno Latour and Steve Woolgar (1979) used to develop the

methodology of "opening the black box" and which is now widely used to render the challenges digital technologies and algorithms, and you have also used it in your work on profiling (Leese, 2014). Frank Pasquale has even coined the term "black box society" (Pasquale, 2015). Secrecy is produced in many different forms. Academics produce secrecy in the research process as confidentiality, anonymization, and so on. There are many modes of secrecy, but in the end it is often quite banal. So we need to work with this banality of secrecy. And one thing is: could we render it more banal in relation to security, rather than thinking that there is always something exceptional in relation to security?

Secondly, how do we do the research then? If secrecy is banal, this means that the field is quite dispersed, and there are a lot of boundaries, and you can work around those boundaries. And you have different ways of working around these lines, for example, anthropologists like Hugh Gusterson have been working around nuclear weapons, quite literally. Gusterson (1997: 116) develops the methodology "polymorphic engagement," thereby multiplying the sites of inquiry and "collecting data eclectically from a disparate array of sources in many different ways." Tobias Blanke and I have argued that many technologies are not as secret as we think they are. To give you an example: there is a lot of secrecy around the technologies that intelligence agencies use. We do not know exactly what the NSA [National Security Agency] is doing with data, and what kinds of technologies they have available. However, it is very unlikely that the NSA will have technologies that are more developed than the state-of-the-art in computer science. This is what whistleblowers and leaks have also shown. We also know that there are only a limited number of classes of algorithms, so we can build on this. Finally, if you look at the modes of research funding, for example within the DARPA [Defence Advanced Research Projects Agency], a lot of the academics involved in this research for security purposes then go on and publish articles about it. And let's not forget that there are the public controversies around leaks and what has come to be called the "half-life of secrets."

So I think there are different ways in which one can do research, and to think differently about secrecy. What is key here is to treat it as less exceptional. But also to think about discursivity around technologies. When the Snowden revelations came out, of course, there was a huge debate about the secrecy, but also some intelligence experts said that they were quite happy that they could finally publicly talk about what they were doing.

MH: I think this is also something that some of the chapters work with and highlight: that we should not be looking for secrets in one single space, or chamber of secrets, but that there are ways to work around it and to find data in different places, and to connect these dots in order to be able to tell a convincing story. For example, Georgios Glouftsios suggests that we study the meetings where "bureaucrats, policymakers, security

professionals, legal and technology experts meet to discuss technoscientific, policy, and security-related needs and concerns."

CA: Yes, this is also Gusterson's point about polymorphic engagements. But there is a lure of secrecy, which is exactly that of making visible, of discovering that which is hidden. The recent literature on "post-critique" has raised objections to this analysis of "surface and depth." Contra this surface/depth reading, Toril Moi's chapter in the Anker and Felski edited anthology on *Critique and Post-Critique* proposes to "develop critical readings without invoking terms like *hermeneutics of suspicion*, or *symptomatic reading*" (Moi, 2017: 32; emph. in orig.). She rejects the surface/depth opposition, which leads to an epistemology of revealing and making visible. Your suggestion, Marijn, is about the heterogeneous surfaces and interstices where secrecy is enacted, but also contested. There is another element in relation to secrecy, which is based on the assumption that making something visible is equivalent to knowing. Yet, technology is also opaque and often difficult to understand for experts themselves. So the idea of seeing the technology, or having access to the technology, will not necessarily dispel secrecy.

MH: If we think of the chapters of the book as an invitation to have a conversation about technology and agency in IR, what would be your take on how to productively push this conversation further? In other words, where do you think we, disciplinarily speaking, should go next, where is there still some uncharted territory left for the study of technology?

CA: We need to think about several things. One element concerns the notion of laboratories, and the ways in which technologies are produced in laboratories. So how can we think about the production of technologies in relation to the use of technologies? And I think there is something really interesting in the notion of the laboratory. It has been used almost as a metaphor in some of the critical work on security, for example as some work engages the laboratories in the Global South where technologies are produced, used and tested and then these come back to the Global North, and so on. So, on the one hand, it is interesting to engage with laboratories and the production of technology and to revisit what counts as a laboratory today. On the other, it is important to do transversal analyses, to move outside of the laboratory, as Kalindi Vora shows us. Security is not "laboratory studies," however important laboratories are for the production of security technologies. Laboratory work always moves out in terms of experiments, but also in terms of inscriptions, in terms of publications. This speaks to a transversal analysis of the modes of circulation and connection.

Secondly, we need to think about how important technologies actually are in the partition of the sensible today: what we can see and know, and what we cannot see or know without technology. This does not mean that technology becomes immediately knowable, and there are no controversies about what counts as knowledge, what counts as evidence. These three sets of elements raise important questions today. And we can see

them for example in relation to climate change – and not just simply climate change, but how do we know, or perhaps not know that and how certain events are taking place? How is uncertainty produced, and through what kinds of technologies? There is a lot more that we can explore with regard to these relations.

And finally, the concept of agency is really important, because it connects us to critical work on agency. We talked about feminist work, about post-colonial work, and I think agency is a really important bridge to work in-between these approaches, for example between feminist work in IR and feminist work in STS. Agency allows these bodies of work to make explicit their stakes and political investments in the reconfigurations of social and power relations.

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This interview was conducted via conference call, transcribed, and then edited and amended over several days.

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