Science and Securitization

Mobilization of scientific facts, the authority of the speaker and objectivation

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The interface between science and securitization has not been systematically addressed within IR. This paper takes a sociological point of view on securitization processes. The paper argues that scientific arguments and 'facts' are at work as at least three distinct mechanisms within and around securitization. First, scientific facts can be *mobilised* in securitization claims by both experts and other political actors in attempts to seek back-up in the objective, disinterested aura of the scientific vocation. Second, science co-determines the status of a securitizing actor and thus influences the authority of the speaker in specific fields. Third, scientific communities/explanations can come to objectify an issue to the extent where securitization – and even politicization - become next to impossible. Examples from climate change and democratic peace illustrate the first two mechanisms, while the RAND cooperation's objectivation of the issue of nuclear deterrence is taken as an example of the third mechanism. Being reflexive about these mechanisms can help pave the way for a deeper understanding of how science works in security processes, may point to a new research agenda, and can carve out practical reflexivity for security experts.

Key words: science studies, securitization, Bourdieu, theory/practice, practical reflexivity

Introduction

With the formulation of what has come to be known as *securitization theory*, being a security expert has become a dangerous endeavour. Using the word 'security' may 'bring about what one is trying to avoid' as Huysmans once argued (Huysmans 2002a). But how to think more systematically about this dilemma of science and securitization? In this article, I will explore the interface between science and securitization. I take a sociological point of view on securitization processes and argue that scientific arguments and 'facts' are at work as at least three distinct mechanisms within and against securitization. First, scientific facts can be *mobilised* in securitization claims by both experts and other political actors in attempts to seek back-up in the objective, disinterested aura of the scientific vocation. Second, science co-determines the status of a securitizing actor and thus influences the authority of the speaker in specific fields. Third, scientific communities/explanations can come to objectify an issue to the extent where securitization – and even politicization - become next to impossible. Examples from contemporary security illustrate the points made.

I will proceed in three sections. The first section starts with a discussion of possible sites of science mechanisms in securitization theory. It argues that one internal and two external mechanisms might be at play. Before proceeding to flesh these out, the section reviews four attempts to bring science and securitization together in the IR literature and concludes that further investigation can fruitfully be pursued through a reading of Pierre Bourdieu's sociology of science[1]. The second section of the article therefore turns to sociology of science discussions about the relationship between science and society and argues that the modern understanding of science has set it apart from the rest of society in a 'realm of truth', as having a 'view from nowhere'. More recent understandings of the standing of science are more ambivalent as to the possibility of clearly distinguishing between science and practice. Some even argue that 'we have never been modern' (Latour, 1993) and that science is a practice alongside other practices (Büger and Villumsen, 2007). The section brings these points into the discussion of securitization processes and argues that scientific arguments and 'facts' are at work as at least three distinct mechanisms within and against securitization. Examples from climate change, Democratic Peace and the RAND Cooperation's objectivation[2] of nuclear deterrence illustrate this. The conclusion to the article stresses that science works at several levels

[1] The debate goes under several names. Bourdieu (2004: 7) mentions "philosophy of science, epistemology, history of science, sociology of science". Latour refers to this debate as science studies.
[2] I use Bourdieu's word 'objectivation' and not the more common 'objectification' to signal the approach of the article.

and in various ways in connection to securitization. Being reflexive about these mechanisms can help pave the way for a deeper understanding of how science works in security processes, may point to a new research agenda, and can carve out practical reflexivity (Bourdieu, 2004; 91) for security experts.

Securitization and Science

This article focuses explicitly on a discussion of *securitization* and science and not *security* and science. When taken as a specific question about securitization, the role of science has been studied by a very limited number of authors. The research largely falls in four clusters: 1) a focus on *natural science facts* relating to diseases like HIV/AIDS or SARS and Swine Flu or climate change (Brauch, 2009; Trombetta, 2008); 2) a focus on how *adding a focus on the scientific setting* (amongst other settings) can remedy the theory of securitization as it was first formulated by Buzan et al. in 1998 (Salter, 2008); 3) a focus on the *production of truths* by technocratic or semi-scientific agents (experts) relating to migration (Bigo, 2002; Bigo, 2005; Huysmans, 2006); and 4) a focus on the *mobilization of social science facts* - e.g. the securitization of the democratic Peace Thesis (Büger and Villumsen, 2007; Villumsen, 2008). These four clusters of research agree on foregrounding the role of science/expertise but address the issue from different perspectives.

In this section, I will first give a brief summary of the securitization perspective as laid out by Buzan et al. (1998) and will point to possible sites in the theory where a science dimension might be at play. I then move to an overview and discussion of the four clusters of researchers who have addressed the link between science and securitization. I conclude that a focus on how science is perceived in society, the status or weight of scientific arguments outside of the scientific field, and how these arguments can impact on securitization processes has yet to be developed to its fullest.

Securitization and possible sites of science mechanisms

Securitization[3] concerns the practices by which something is presented as an existential threat to a designated referent object. The term is specifically developed within the discipline of international

[3] This article far from covers the vast literature on securitization. This section teases out central elements of the theory in order to capture the workings of science in relation to securitization processes.

relations and does not equal the everyday usage of the term security. When uttering the word 'security' and linking it to a particular referent object which is threatened on its existence, "something is done" (Buzan et al., 1998: 26): A process is set in motion in which measures beyond normal politics are legitimized. Security is thus a performative (illocutionary) speech act that has a certain structure, or grammar, which links different elements to each other, Buzan et al. identify a *securitizing actor* who claims that a *referent object* is *existentially threatened* and seeks acceptance from an *audience* in the quest for legitimizing *extraordinary measures* (Buzan et al., 1998: 35-42). These features are internal to the speech act. But certain *facilitating conditions* strengthen or weaken securitization attempts (ibid.). These are external to the speech act. According to Stritzel (2007), the dimensions internal/external represent two different 'centres of gravity' in securitization theory: The internal concerns the speech act and its 'social magic' or performativity, and the external concerns the social position of the speaker and the utterance, including facilitating conditions.

Science can thus be sought as a mechanism in both an internal and an external dimension of securitization theory. One might ask whether mobilizing scientific facts in the securitization grammar holds the potential of increasing the likelihood of acceptance of securitization attempts because of a privileged standing of science in society, or whether certain features of science affect the standing of a speaker or an utterance? Interestingly, however, Buzan et al. touch upon yet another case that might reveal a third science mechanism. They state that the middle scale of limited collectivities has proved the most amenable to securitization as durable referent objects in practice, whereas attempts to construct all of humankind as a referent object has not been particularly successful. They take the shared fears of nuclear annihilation during the Cold War as an example of a case that ran into problems concerning security legitimacy – supposedly because the referent object was *too broadly defined* (Buzan et al., 1998: 36). But could an additional reason – or science mechanism in the language of this article - have been at work? The unsuccessful securitization of nuclear annihilation could perhaps be found in the fact that the area of nuclear deterrence was heavily non-politicised due to an unprecedented degree of *scientific objectivation*. In Bourdieu's terms, nuclear deterrence was becoming *doxic practice* and therefore next to impossible to talk about as anything but a logic of necessity. It was 'what we knew without knowing that we knew it' to paraphrase Bourdieu (Crossley, 2004: 100). Objectivation as a third mechanism of science in relation to securitization thus keeps an issue from being securitized in the first place, or helps desecuritize it. This thought should not be foreign to Buzan et al. who touch upon a level similar to

Bourdieu's *doxa* in what has become the central work of the Copenhagen school. They claim that: "'Security' is the move that takes politics beyond the established rules of the game and frames the issue either as a special kind of politics or as above politics" (Buzan et al., 1998: 23). Securitization is thus a more extreme version of politicization. They base this argument on a conceptualization of (international) social life as usefully understood as a *spectrum* ranging from the *non-politicized* over the *politicized* to the *securitized.* The non-politicized means that an issue is not easily made the object of public debate or decision (Buzan et al., 1998: 23-24) – possibly because of objectivation, one might add.[4]

Qualifying science and scientific facts as (possibly) important in securitization processes risks running against the internal reading of securitization theory where meaning is created in the moment of the utterance itself – irrespective of social surroundings or patterns of domination[5]. But Buzan et al. seem to remain open to an external dimension. For instance they argue that "…security is (…) very much a structured field in which some actors are placed in positions of power by virtue of being generally accepted voices of security, by having the power to define security" (Buzan et al., 1998: 31). And in the only lengthy discussion of science I have found they make an interesting distinction between the scientific agenda and a political agenda in a discussion about the environmental sector.[6] An external dimension to the securitization perspective is thus hinted at and could raise the question of whether the objective aura of science might be a position or source of power in securitization processes.

The argument in this article should not be read as an addendum to the theory which will – if followed - 'capture the *real* reality of securitization processes' or as a revelation of the 'hands holding the strings in the puppet show of international security'. Far from it. I am – like Bourdieu was with regard to the political field (Bourdieu, 1988) – painfully aware that science does not hold the most powerful position in the field of security. Indeed, it might very well be a dominated part of the field. But it is still a part of it from my perspective, and as such deserves attention. My contribution should be read as a way of opening up an area of discussion which has up until now

[4] This spectrum bears resemblance to the distinction between the sedimented and the politicized in Laclau & Mouffe (1985).
[5] A debate about authorized language can be found in Bourdieu (1991: 107-117). See also Butler (1997).
[6] There is a tendency to focus on the production of natural science facts in Buzan et al. (1998). A focus on social science facts such as Nuclear Deterrence and Democratic Peace have, however, also played an important role in the security field. See below.

been relatively silent: the role of science in securitization studies. This insight will not only prove valuable to the many researchers using the securitization perspective in their everyday research but may also facilitate a discussion of how we as researchers engage with the world of practice. In the next sub-section I review the four attempts to include science in the securitization research programme. In the following section I develop the thoughts hinted at here.

Science in securitization studies

The first cluster of research on the relation between science and securitization concerns facts produced in the natural sciences concerning issues such as diseases or climate change. These natural facts have been securitized to varying degrees, according to several authors (e.g. Brauch, 2009). But given a strong trend arguing for the lack of hard science facts about how e.g. climate change will impact us, an important sub-discussion related to this cluster concerns *the role of science in risk management*. In other words, when hard facts are absent, a range of risks need to be juggled. In the *precautionary* mode of risk management, according to Aradau and Van Münster (2007), risk management is constructed as working against catastrophic and irreversible risks of which there is a high degree of *scientific uncertainty* (Aradau and Munster, 2007: 103). Lack of scientific knowledge, it is argued in political practice, should however not hinder governments from taking action. Sovereign decisions (and not democratic deliberations) are therefore taken 'at the *limit of knowledge*'. (Aradau and Munster, 2007: 106-107; Oels, 2010) and may cause drastic interventions such as shoot-to-kill, pre-emptive strikes and war (Aradau and Munster, 2007: 105). Dillon and Lobo-Guerrero (2008) on the other hand, argue that traditional science-based risk management with reference to "life" as a referent object in biopolitical security practices (concerning the securing of the existence of the species) has been replaced by a new type of 'risk management through contingency' (Dillon and Lobo-Guerrero, 2008: 320-321). Risk groups are defined as those unwilling to adapt, to transform themselves, in a not yet materialised future (Dillon and Lobo-Guerrero, 2008: 314). This new mode of risk management causes a tendency to monitor – a process which Dillon (2004) holds has led to unlimited surveillance and "hypersecurity" (Dillon, 2004: 83). So, in the words of Oels (2010: 7) "…even though science fails to deliver conclusive evidence, *the will to knowledge* is becoming unlimited" (my emphasis). The role of science/knowledge is thus problematized in the discussion over risk management as belonging to a process similar to the one described by securitization theory: the lack of knowledge leads to the legitimization of undemocratic practices in the name of managing risk. The role of science thus seems to become the

role of *failed* science – the absence of solid knowledge on which (de-)securitization can be built causes effects similar to the effects of securitization.

The second cluster of research includes Salter (2008). He draws our attention to how different audiences can receive ('hear') securitizing moves differently and argues that in the case of the Canadian Air Transport Security Authority (CATSA) expert communities challenged a further securitization of airport security after the initial securitization of civil aviation post 9-11 through a set of desecuritizing moves, e.g. "a critical appraisal of the risk management approach" (Salter, 2008: 331-333). But he does not take a stand on how science operates and is received in society in general even though he argues that "If, as security experts, it is part of our role to intervene in the securitization/desecuritization process, then we must gain a tactical knowledge of the conditions for success and failure (Salter, 2008: 343). Part of this knowledge concerns how science is perceived in society, I would argue. Instead of pursuing this line of reasoning, however, Salter takes the scientific arguments as they were presented by scientific agents to a scientific audience and concludes that these arguments constituted a desecuritizing move in connection with a specific bid for an expanded mandate by the CATSA. By doing this, he makes a point about how securitization can have different faces depending on where it is pursued. But he does not speculate about the weight of scientific arguments when they leave the scientific setting. An interesting question about the role of science and scientific statements in society thus remains. How does society perceive science? What weight does a scientific argument carry? And can that influence securitization processes? Can only scientists intervene with scientific arguments, or can other actors mobilize scientific arguments independently of scientific actors and the scientific field? Evidence from European security and American foreign policy suggest so. (see Büger and Villumsen, 2007; and Villumsen, 2008 and below).

The third cluster of research on securitization/science is occupied by what has come to be known as the *Paris School*. This school is concerned with how experts engage in the *production of truths* and thus help shape the threat environment independently of dramatic securitizations.
According to the Paris School, the Copenhagen School only studies the tip of the iceberg by focusing on exceptional measures. By way of example, Oels (2010) argues that 'semi-scientific' reports have constructed a speculative causal link between climate change impacts, mass migration and violent conflict along these lines, causing calls for emergency measures against e.g. 'climate

refugees'. Securitization is thus seen as a not very spectacular everyday practice which often involves 'experts'[7]. This draws attention to the status and everyday workings of concrete security experts and constitutes an important insight for securitization theory.

The fourth cluster of research on securitization/science concerns the mobilization of scientific facts in political practice. In a study of the securitization of the Democratic Peace Thesis, Büger and Villumsen (2007) showed how the scientific fact of democratic peace was transformed into a security policy by both the US government and the security organisation NATO. They argued that scientific facts could be mobilized in both text and practices, and that this could be seen in the transformation of NATO and the reformulation of US foreign policy after the end of bipolarity. In a more thoroughly sociological version of this point Villumsen (Forthcoming) argues from a Bourdieusian viewpoint that theory can be understood as both a type of practice and a type of capital, which carry important weight in specific *fields.* She demonstrates, however, that scientific capital is only one type of valued capital producing a 'place from where to speak' in e.g. the field of European security.

As the above overview shows there has been some attention to the connection between science and securitization, but no real debate within securitization studies (or within security studies more broadly for that matter) has materialized. In the following I will develop the ideas sketched above, while keeping in mind the important insights from the contributions to the science/securitization issue.

Science in securitization studies: science as capital, the authority of the speaker and objectivation

For the purposes of this article, three observations are central to understanding the role of science in securitization processes when seen from a Bourdieusian point of view[8]: First, scientific observations, products, methods (or theories) can be mobilized in (political) struggles as a form of capital. This is the internal mechanism concerning the grammar of securitization. Second, the social

[7] These experts are not scientists *per se* but people who occupy positions of expertise in e.g. the police forces (Bigo, 2000)

[8] Sociology of science is clearly broader than the works of Pierre Bourdieu. I have, however, found it instructive to draw on Bourdieusian insights since his work is becoming more and more familiar to an IR audience and because his take on science has proven instructive in the development of my argument in this article.

world is conceived of as being structured in fields, where the distribution of symbolic capital is important for determining the 'authority of the speaker' (the securitizing actor) or an utterance (speech act). With a position of (symbolic) power and a 'sense of the game' an actor gains 'a place from where to speak' in a specific field, e.g. the scientific field or the field of security. Finally, science *objectifies* its object of study and plays an important role in the production of difference and hierarchies in society. This may lead to closing off debates on certain issues: The label 'scientifically proven' has a tendency to end debate! The second and third observation are external mechanisms in securitization theory. Together these three 'mechanisms' or 'insights' constitute an attempt at deepening the discussion about science in securitization and a first go at carving out a new research agenda concerning the science/securitization nexus. I flesh out these observations below and add examples from contemporary security.

Mobilization of scientific facts

Science enjoys a position in society which sets it apart from other social practices. Science is objective, and produces truth – to put it bluntly. This can lead to closing off a field of debate completely (see below). But before that status is arrived at, science has another role to play in securitization processes. The products of science – e.g. facts, scientific models, data – are a powerful type of *capital*, not only to scientists themselves, but also for non-scientists wishing to bolster an argument. The mobilisation of e.g. scientific products such as the Democratic Peace Thesis in order to arrive at an agreement on the spread of democracies as a security strategy (for examples see Büger and Villumsen, 2007), or the presentation of a model showing the co-variation of green house gas emissions and rises in sea levels in order to underline the objectivity of human-made rises in world temperatures (Brauch, 2009) are examples of how scientific products are mobilised in the grammar of a securitization. Scientific facts and products are mobilised in *worldmaking* battles where agents strive to gain the power to impose the legitimate version of the social world and its divisions (Swartz, 1997: 89). These mobilizations strive to close off debate and create *doxic practice*, but will often find themselves in orthodoxy/heterodoxy struggles.[9]

[9] The doxa is shared by both orthodox and heterodox representations and is therefore only extremely seldomly changed (Bourdieu, 1977: 164-169). It lies beyond the scope of this article to discuss Bourdieusian concepts in detail. Please see Villumsen (2009).

To take a contemporary example from the debate on Global and Environmental Change (GEC), a number of models have been central in the moves leading to a near-consensus. Brauch (2009) argues with the use of models from both the IPCC and the Mauna Loa Observatory in Hawaii[10] that a proactive security policy must be science- and knowledge-based and necessitates a policy framework that integrates both experience of past nature-human interaction as well as model-based projections of future social trends. He could be right. But the important aspect for this article concerns the degree to which scientific products - figures, diagrams, graphs - have been mobilised in support of the securitization of environmental change. Brauch reproduces a graph with the following explanatory text: "The new security danger in the Anthropocene posed by changes in atmospheric CO2 measured at the Mauna Loa Observatory in Hawaii (1958-2007)" (Brauch, 2009: 67). The text not only gives a visual representation of a drastic development and couples this image with the scientificity of a long time span. It also labels it a security danger. Coupled with data from the IPCC, Brauch argues that "hydro-meteorological hazards has killed ca. 1.5 million people and affected more than 5 billon people[11] (…) and the trend has been rising in both number and intensity (…) [S]uch events will be very likely during the 21st century" (Brauch, 2009: 67). The scientific language "very likely", the graph, the numbers, the historical mapping and the mentioning of 5/7 of the world population in a matter-of-fact way all add to the weight of the argument. This is the internal mechanism of science with relation to securitization, I am trying to tease out here: The value added to scientific products as 'aces' or 'trumps' should be kept in mind when analysing securitization attempts. There is no causal mechanism, however: mobilising scientific products does not guarantee success, but is an important factor to be reckoned with.[12]

The authority of the speaker

Another insight from Bourdieu concerns the production of authority. Salter (2008) argues that "To engage with the ethical or normative dilemma of the analyst's involvement in securitization process, we must first ask 'what makes an intervention successful'? To Bourdieu, authority is produced in fields structured by different types of field-specific, valued capital: e.g. Military capital, social

[10] http://www.esrl.noaa.gov/gmd/ccgg/trends/co2_data_mlo.html
[11] World population in 2010 was estimated at 6,8 billion http://www.worldometers.info/population/ .
[12] Other well-known examples of mobilized scientific products constitute the data from the Correlates of War project and the Policy Dataset which formed the background of the scientification of the DP thesis (see Büger and Villumsen, 2007).

capital (networks), economic capital, scientific capital etc. A field's limits are determined by an agreement on the 'stakes at stake' and the reach of the effects of the field. In security, the stake is defining the 'real threat' (Bigo, 2002) or the meaning of security (Huysmans, 2006; Villumsen, 2008). Some agents possess more valued capital than others and thus hold a position 'from where to speak with authority' (Bourdieu, 2004: 34; Leander, 2005: 812). As argued above, Buzan et al. (1998) recognise that the standing of the speaker is important in securitizations ('security is a structured field'). But an a priori definition of powerful agents would seem to run counter to the securitization approach. So when Pouliot argues that,

> "In the contemporary era, security élites are the handful of individuals who gather at the highest level to make the ultimate arbitration regarding foreign and security policies: in addition to heads of state and government, security élites are comprised of senior ministers and top foreign policy officials and diplomats. Some high level officials from security-related international organisations should also be added…" (Pouliot, 2004: 10).

he locks the spectrum of the powerful to a limited number. Instead, a focus on the field-specific capital would pave the way for a more empirically sensitive approach open to newcomers and leaving room for speaking with authority without (social) authority as Butler has argued[13]. A range of types of capital have been analysed as important in the security field. Huysmans (2002b) points to humanitarian capital, Williams (2007) points to military and especially cultural capital, and Villumsen has argued that military capital is important, as is social capital and economic capital (Villumsen, 2008). But what is perhaps most interesting for the purposes of this article, is the extent to which scientific capital is also co-determining the hierarchy in the field of security and the chances of winning and speaking with authority (Villumsen, Forthcoming).

Brauch (2009: 94) can be taken as an example of how science has been a forceful resource for the climate debate. He argues that "…the scientific messages of the IPCC, due to its *high scientific* and political *reputation* (…) have reached a global audience" (my emphasis). In other words, the scientific standard has given scientists 'a place from where to speak' in the security field which has generally been accepted by the political level. Brauch does not give this any more than superficial

[13] Butler argues that there is no necessary break between performative speech and its social context (a la Derrida) but holds that such a break is a possibility (Butler, 1997: 141-147; Lawler, 2004: 122).

attention in his attempt to argue that GEC has been successfully securitized. Without attention to the special status of science in society, he remains on the level of the common sense. I would argue that a more detailed understanding of this relationship merits attention.

Yet another example concerns the spread and status of the Democratic Peace Thesis. From being a philosophical ideal, the thesis was solidified through scientific methods (COW and Polity Datasets) and ended up as support of the US security strategy in 1995 (for a detailed analysis and literature see Büger and Villumsen, 2007):

> "Promoting democracy does more than foster our ideals. It advances our interests because *we know* that the larger the pool of democracies, the better off we, and the entire community of nations, will be. Democracies create free markets that offer economic opportunity, make for more reliable trading partners and are *far less likely* to wage war on one another" (White House, 1995: my emphasis).

The scientific underpinnings taken from the democratic peace debate not only give the politicians a stronger argument. It also spills over into symbolic and economic power (capital) for DP theorists. This adds to the symbolic power of their scientific product (the DP Thesis) and bolsters their standing in both the scientific and practical worlds.

These observations do not translate into science holding *the most powerful* position in the field of security. Even if science perceives itself as having special access to the truth (Bourdieu, 2004) and is not alone in considering objective knowledge as somehow superior, there is nothing universal about this: Science is not inherently powerful, but plays a role in several security issues. The weight of that role needs to be determined empirically. This external mechanism constitutes the second science mechanism in securitization, I point to in this article. Yet another, less tangible mechanism concerns objectivation. I turn to that below.

Objectivation – closing off debate

Bourdieu described intellectual enterprise – science – as a practice among other practices ((Swartz, 1997: 58f) concerned with how to understand and explain (social) phenomena. A veil of scientific

objectivism and distance was a historically constructed part of its *habitus*[14] and not something following from an exclusive access to truth or scientific methods. Bourdieu considered this feature to be a fundamental problem for the social scientist because it could bias the results of an analysis: The regularities found would often not be structured by the same categories as those used by the agents under study. The analysis would (could) therefore be a mirror image of the categories internalised in science[15]. For this reason, Bourdieu drew an important distinction between 'science practice' and 'practice practice'. Through this distinction, the researcher assumed a special role: the practice of a researcher became an active part in a process called *objectivation*.

In Bourdieu's words:

> "…in taking up a point of view on the action, withdrawing from it in order to observe it from above and from a distance, [the scientist] constitutes practical activity as an object of observation and analysis, a representation" (Bourdieu, 1977: 2).

Objectivation is thus a process in which human practice – unintentionally or intentionally – is categorised and rationalised in order to form systematic categories and solid conclusions. Through scientific method, scientists have access to causalities and differentiations not visible to the layman's eye. As such, the scientist's take on society not only analyses but can also come to *prescribe* action. Science can therefore exercise a specific kind of symbolic violence on practice-practice through the process of objectivation. Science can consecrate patterns of domination which are then taken to be 'real' and therefore reproduced by practice-practice through a process of *misrecognition*.

The scientist's view of the world is linked to the scientific field and to a scientific habitus. It is on this basis judgements are made and models are developed. This created an 'altogether different vision' which, unfortunately, "risk[s] destroying its object or creating pure artefacts whenever it [is] applied without critical reflection" (Bourdieu, 1998: 130). To Bourdieu, this created a responsibility

[14] The Habitus was defined as was conceptualised as a temporally situated social structure which was nested in social agents. In Bourdieu's words: "systems of durable, transposable dispositions" (Bourdieu, 1977: 72).

[15] This problem is well-known in security studies. Williams (2007: 9, my underlining) argues that "Through a process of reification, classical liberal visions of social practices – with all their incompleteness, complexities, contradictions, and political and ethical dilemmas – were transformed into theoretical postulates upon which objective theories could be built or, even worse, into simple statements of fact about the nature of human agency."

of knowing that this fact was inevitable. The scientist should structure knowledge-production accordingly. "One is entitled to undertake to give an 'account of accounts', so long as one does not put forward one's contribution to the science in a pre-scientific representation of the social world as if it were a science of the social world" (Bourdieu, 1977: 20-21).[16] In other words, no conclusions could ever be presented without important caveats to the *scientificity* – or truth value: the scientist was an interlocutor in the formation of practice-practice and could be responsible for consecrating a social reality with scientific status – making it next to impossible to change it. The coining of the term social classes is a case in point.

Consider this in relation to a well-known example from security theory. In the early years of the RAND Corporation, a group of researchers set out to explain the new security situation from a social scientific standpoint (Kaplan, 1983; Schelling, 1958). Without any empirical evidence to support their findings (no nuclear war had been fought – thank God!), the group developed a thought-provoking and immensely influential view of how nuclear strategy should be performed.[17] From these models policy advice was deducted and policy was formed. The necessity of nuclear deterrence was objectified by scientists with a habitus belonging to the scientific field.[18] So in the face of no empirical evidence, a theoretical environment came to define (objectify) the truth about security strategy for a long time (see also Buzan and Wæver, 2007). Green (1966: xiii) concluded a study of the methodology of the deterrence theory of the day that "their air of authority was and is completely spurious". Some of the conclusions seemed "absurd: e.g., the causal assumptions that the "rational" response to a nuclear strike on one's cities is a counterstrike on the attacker's cities" (Green 1996: xi). But the RAND cooperation people were not only good at producing scientific knowledge[19], they also spent time interesting practitioners – including politicians – in their ideas (Kaplan 1983). And many in the US Government felt that "it added scientific legitimacy" (Kaplan 1983: 131) to the emerging military strategies to listen.

[16] The theory-practice engagement required a critical stance towards one self according to Bourdieu, but as Buzan et al. (1998: 73) remind us, the researcher should also keep in mind the scientific standards required in the scientific field while engaging with practice. Otherwise, one risks "being stabbed in the back scientifically" as they so aptly put it.
[17] The 'heads or tails' examples in Schelling (1958) are telling of the way in which generalised situations about dilemmas in cooperation formed the basis of the conclusions made (Schelling, 1958). To be fair, analyses of conventional warfare also shaped the processes in RAND but an air of nuclear war being something exceptional and completely different from earlier types of warfare soon came to dominate the work at RAND (Kaplan 1983).
[18] I would like to thank Ole Wæver for directing my attention to this case of objectivation.
[19] Quantitative analysis, systems theory, game theory and the use of computers were considered 'scientific' (Kaplan 1983: 121). "Maybe the numbers ere questionable, but they were tangible…" (Kaplan 1983: 121)

When compared to Bourdieu's notion that science and its object of study are reflexively connected, it is clear that the process of objectivation is a process involving a specific kind of power: the power to define and categorise (Bigo, 2002: 70). In that sense, "…Bourdieu takes the conventional argument that science has a 'feedback effect' on social reality a step further. In his work he insists heavily on the role played by academia in the (re)production of social hierarchies" (Leander, 2002: 605). Science sets the scene and determines the value of various statements and 'incidents'. Bourdieu's analysis thus emphasises how science is embedded in social life and how the sociological vocation can (un)willingly be complicit in upholding patterns of domination. In the case of nuclear strategy, game theory became the chess board the game was played on. The rules of the game, and the possible games being played were objectified by scientific standards established within economics and mathematics (Kaplan 1983: 121). And so was the necessity to deter in order to produce security. In the words of (Green, 1966: xiv): "This condition has come about largely because of our society's great respect for the claims of science and expertise".[20]

Science can exert a considerable degree of influence on what is being said and what not. It can (co)determine the setting and the issues deemed legitimate and 'true' as security objects. This links up with securitization theory's view of a layered social reality (see above). The politicized and securitized layer is supplemented with a layer of the non-politicized. And it would seem from the above discussion that science may enjoy the power of actively fertilizing a move from the politicized to the non-politicized through scientific practices of objectivation. This constitutes the third mechanism of science in relation to securitization theory. It produces a different type of democratically problematic out-comes: The non-politicised has no language, it is 'what we know without knowing that we know it' – what Bourdieu referred to as *doxic practice*. Without debate, without language e.g. security strategies can become so deeply rooted that change becomes utopian and emergency measures become everyday practice (cf. Paris school).

Conclusion: science and practical reflexivity in securitization studies

This article has argued that a focus on how science works within and against securitization is a research agenda with unexplored potential. By seeing science as three distinct 'mechanisms', the

[20] Green (1966: xiv) continues: "…if those claims are false, then both social science and the democratic process are being undermined". Certainly so.

article has shed light on how it becomes possible to turn the larger question of science in society into concrete research questions for the securitization/science researcher. This makes it possible to focus on how scientific products, scientific status and objectivation work in relation to securitization processes. The first mechanism relates to the internal grammar of securitization, the second and third concern the external 'centre of gravity' in securitization theory. None of the mechanisms I point to need to be constant. They should be read as closer to 'open research questions' than to 'factual statements' of securitization's 'reality'. As such they spur curiosity about the role of science – but do not necessarily change the theory of securitization.

Therefore, this contribution should not be read as a theoretical addendum or critique of securitization theory. Such a debate has already produced a number of interesting and provoking articles over the past two decades. Instead, I put this contribution forward in light of the massive theory-practice entanglements the world has witnessed since the end of the Cold War. The Democratic Peace Thesis is one example of this, while the recent debate over the extent of human impact on climate change is another. Stating that science is a factor seems to be becoming uncontroversial. But *how* science works in securitizations has remained underdeveloped. By turning this question into one of ‘mechanisms’ this article has tried to fertilize this debate.

Some answers have been sketched, but other questions have arisen: Can the three mechanisms pinpointed in this article enhance each other? Or are they independent? Do natural science facts and social science facts work in different ways in relation to securitization? These questions could form part of a new research agenda concerning the science/securitization nexus.

But apart from re-focusing the empirical analysis of individual cases of securitization and pointing to a new research agenda, this discussion should also inevitably point a finger to ourselves as researchers: How do we balance the different mechanisms possibly at play in and around securitizations? Can we use this knowledge strategically to de-securitize? Or is the securitization-science relationship a maze with no exit? Seen as such, the discussion in this article can be taken as a call for *practical reflexivity* for the securitization expert (on practical reflexivity see Bourdieu, 2004: 90; Villumsen and Büger, 2010). When acting as an external consultant to practical politics, commenting in the news, or writing op-eds, practical reflexivity about how the 'facts' are presented,

how the comment is placed in a larger sociological setting, and to what extent the argument made is becoming close to (or is presented as) common sense can guide the practices of security expertise.

This point should not be taken as putting up a stop-sign to a theory-practice dialogue on security matters. Far from it! Instead, it should be taken as a means to understanding and juggling the science factor in securitizations. And given the massive attempts at deconstructing the objectivist truth ideal in the social sciences in general over the past 30 years or so, it would seem that truth may not hold the gold standard it used to: As Collins & Evans (2002: 236) rightfully argue: "If it is no longer clear that scientists and technologists have special access to the truth, why should their advice be specially valued?". Nevertheless, it is still justified to investigate the status of science in society, even if the truth ideal has come under attack. The philosophical deconstruction of truth does not smoothly spill over into a practical devaluation of science as such. In support of this, Huysmans has argued that "...academic debates are almost inevitably intertwined with governmental and wider political struggles" (Huysmans, 2006: 10-11). This article has attempted to carve out a field of study which can capture this entanglement.

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