

Experiments in Context and Contexting

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Kristin Asdal¹ and Ingunn Moser²

Abstract

What is context and how to deal with it? The context issue has been a key concern in Science and Technology Studies (STS). This is linked to the understanding that science is culture. But how? The irreductionist program from the early eighties sought to solve the problem by doing away with context altogether—for the benefit of worlds in the making. This special issue takes its points of departure in this irreductionist program, its source of inspirations, as well as its reworkings. The aim is not to solve the context problem but rather to experiment with context and what we label contexting.

Keywords

academic disciplines and traditions, archiving and collecting practices, engagement, intervention, other

Those who believe it is possible to reduce one actor to another suddenly find themselves enriched by something that comes from beyond: beyond the facts,

¹ University of Oslo, Norway

² Diakonhjemmet University College, Oslo, Norway

Corresponding Author:

Kristin Asdal, University of Oslo, Pb. 1108 Blindern, Oslo 0317, Norway

Email: kristin.asdal@tik.uio.no

the law; beyond the world, the other world; beyond practice, theory; beyond the real, the possible, the objective, the symbolic.

Latour, B. (1988a, 190)

In the 1980s, a strong, irreductionist program was formulated in STS. The above quote from Bruno Latour articulates what was developed as a common spirit and approach within actor-network theory and its later versions: nothing can be “beyond.” No one can be reduced to something or someone else. There is a richness in the world that is already there for us to read and trace, if we only take our time to read or to follow. Sadly and paradoxically, this irreductionist program has sometimes tended to be, precisely, reduced. Actor-network theory, which is a better known labeling of the irreductionist program, has become a successful method and an influential toolkit. But as technique and instrument, the theoretical and philosophical sensibilities of irreduction are often left untouched, unrecognized.

This special issue addresses “context,” one of the key concerns of the irreductionist program. This is not a randomly chosen part and concern of the irreductionist program. Indeed, the social sciences can be and are often described and characterized by a contextualizing approach and attitude: the social sciences often explain by tracing their objects of study within a chosen and relevant context (Mjøset 2009) and they are profoundly context-dependent (Flyvbjerg 2001).

The quote above from Latour’s part II of *The Pasteurisation of France* (1988b), speaks directly to this in the form of a critique: within the social sciences context is precisely that which is beyond—in the sense that context is that which we cannot see or study directly, but which we nevertheless invoke in order to explain events and people’s actions.

This special issue is dedicated to the problematic of “context” in science and technology studies, taking as our point of departure the seminal contribution of the irreductionist program and some of the enduring challenges it brings to the research process.

In our introduction to this Special Issue, we first introduce some key issues and concerns of the irreductionist program, linking these to some of the prevailing issues and concerns of the debates in which they were and still are involved. In so doing we emphasize that the irreductionist program itself is not reducible to “actor-network theory.”

We then introduce the individual contributions to this special issue. Each of the contributors has been asked to experiment with “context” and to reflect on their way of relating to, using, and developing contexts and context-related debates in their work. Finally, we weave the above

discussions together and outline what we see as our specific contribution to “context” as a concern of the irreductionist program. We suggest a series of moves that may keep the irreductionist program alive while at the same time acknowledging that context is something we cannot escape. If context is the problem, contexting might be an answer, or so we argue.

Our hope is that this special issue contributes not ready-made positions, or predefined procedures, but rather exemplary efforts in experimenting with what we will call *contexting*.

Making Social Worlds: A Philosophy of Adding

In the late 1970s and early 1980s, the debate about context was a key concern in STS. On one hand, the ambition was to avoid the internalist trap, that is, explaining science exclusively by its own inner logic. On the other hand, one sought to avoid reducing science to a function of its social context. What emerged was a series of efforts to grasp science as an ordinary part of culture (see e.g., Barnes and Shapin 1979; Barnes and Edge, 1982, but see also Asdal this issue). In a series of field-transforming texts, the irreductionist program sought to resolve this troubled issue by deleting and trying to get rid of context altogether. For instance in the 1982 paper by Michel Callon and John Law on “Interests and their transformations,” the authors argue that actors do not rely on or get influenced by already given outside contexts, but rather actively take part in making social worlds. In Bruno Latour’s philosophical wording: “Nothing is known—only realized” (p. 118). This ontological argument about worlds-in-the-making is a shared premise in what later became known as actor-network theory.

The actor-network theory point is that realities are not given but constantly enacted and coming into being. Actors and events add to what is already there and cannot be reduced to and explained by some presumed, so-called outside forces that are thought to determine them. In Michel Callon’s early formulations of this as a sociology of translations (1986), every move, every action, every interpretation and description, translates and transforms reality. As Asdal puts it in this volume, this approach can be described in terms of a “philosophy of adding.” Actors and events add something new and unique to what was already there.

Context versus Ethnomethods and Interactions

In many ways, the irreductionist program draws on and is closely related to interactionist and ethnomethodological traditions in social science, working

from the assumption that social realities are continuously made, repaired, and remade in local, situated, face-to-face interactions (Garfinkel 1967; Goffman 1971; Schegloff 1992; Schegloff 1997). These traditions have been strong and influential in STS, and in keeping with them a significant body of work in STS has emphasized the mundane work, or "labor," that is involved in moving and upholding worlds (Bowker 2006; Star 1991).

Ethnomethodology also insisted that context should not be treated as an explanatory tool for the researchers to bring in from "the outside" in order to explain the actors, arguing that actors construct their own contexts reflexively as part of the unfolding of interaction: these are "ethno-methods" (Garfinkel 1967). Here, the task of the researcher becomes one of tracing the contexts the actors themselves mobilize in order to make sense of their own actions (Schegloff 1992, Schegloff 1997).

Similarly, the critique of positivism argued against "reducing" actors to objects, explaining them through notions that they themselves do not identify with, or by external forces; forces "behind their backs" (Asdal 2005). This speaks to a concern of the irreductionist program: the rejection of critical theory's attempt to explain actors and their convictions as reflections of interests or positions belonging in given social classes in capitalist society. "Those who look for foundations are reductionist by definition and proud of it" (Latour 1988a, 188). Again this points to a cautious use of the notion of "context."

The Rejection of the Social

To actor-network theory, the principle of irreducibility even implied the rejection of "the social" as an explanatory factor. Its proponents pleaded for a critical reflexivity when it comes to social science categories altogether (Latour 1990). The message was to take care not to use society or culture as pre-given and explanatory resources.

Ethnomethodologists and interactionists had already argued that society as such does not exist as a pre-given reality. The social constantly has to be done in concrete interactions. Their focus was on the nitty-gritty work that went into making, keeping up and breaching social worlds and conventions. This was often demonstrated in the study of specific "subcultures" and "micro-worlds." As long as these studies and approaches could be said to limit themselves to "the micro," they did not challenge social science and its explanatory categories as such. They were, instead, understood as simply filling in the details of a grand picture. Hence, the different traditions in social science could live side by side.

The actor-network approach can be described as extending this ethnomethodologist and interactionist approach. Not only everyday life and corner street talk, but markets, states, and universal science are sustained through situated, social and material interactions and enactments. They had to be investigated and accounted for in the same ways and on the same terms. In this way, actor-network studies challenged the whole micro–macro distinction, and by implication, the idea of the social as a region. The alternative was to trace the arduous work of making connections in a flat network of relations.

By implication then, conventional notions of context do not make much sense: there is nothing “beyond” with which to explain something else. A crucial and highly valuable side to this irreductionist program, then, is its profound cautiousness when it comes to context and contextualizing.

In relation to this key idea, the irreductionist emphasis on materiality must also be noted. The approach argued that the analytical distinction between the social and the natural was more of a problem for social science than a viable resource. The social does not exist independently of the technical, the natural, and material in a wide sense. On the contrary, the social is made of and through various instruments and technologies, natural objects and bodies, human as well as nonhuman (Law 1986; Callon 1986). Hence, the social world is made up of the material just as much as the social—in other words, it is “sociomaterial” (Haraway 1997).

A Forward-Oriented Approach

The concern with the ways in which cherished notions and vocabularies, such as “context,” may close off or delimit our openness for the richness in our research objects and materials is crucial to the irreductionist program. Also, what was and still is crucial to an irreductionist approach is the focus on that which is constantly becoming. Sociomaterial realities, or worlds, are always in the making. The effect of this has been a forward-oriented focus on generation and innovation.

The forward-oriented focus of the irreductionist program is however both its strength and its potential weakness. Its strength is that this may open up new ways of understanding and exploring “the past.” The risk is that is that the past—history, to put it bluntly—is apt to be lost or forgotten. It is almost as if everything always starts anew. Historically oriented scholars have sometimes been provoked by the irreductionist program in this respect, and to be sure, the argument has been made that there are numerous examples of

nonreductionist approaches which take context into account without reducing actors and events to simple contexts (Galison 2008). One of the key contributions in this respect can be said to be Shapin and Schaffer's (1985) celebrated book *Leviathan and the Air-pump*, which is an innovative and rich example of an irreductionist approach to history.

Other STS researchers have experimented with various ways of enacting "the past." For instance, authors in STS have pointed out the relevance of material objects and memory practices that make present and bring onward past events and practices. The archive or the database may serve as examples here (Bowker 2006). It has also been pointed out that collecting and archival practices are influenced and shaped by theories that surround them, for instance, theories of emergence and performativity (Waterton 2010). Hence, of course, the past is not something that is passively lying out there waiting to be discovered.

Feminist Reworkings

Feminist inspired versions of STS partly already worked from their own versions of irreductionist approaches but also explicitly twisted and turned the actor-network theory approach in other directions. This took part in opening the field of STS to different traditions and angles (Asdal, Brenna, & Moser 2007). One of these critical reworkings took as its point of departure the lack of reflexivity when it comes to what is made visible and invisible, as well as whose versions or whose worlds one chose to start from and make central in tracing realities in the making. Leigh Star's seminal contribution "On being allergic to onions" (1991) alerted us to the lives and experiences in the margins and of being placed in the margin in the first place. Emily Martin (1994) and Marilyn Strathern (1996) worked from a place of similar sensibilities and pointed out the problem involved in drawing boundaries, cutting the network, and deciding which actors to follow and make relevant. The problem with rejecting context altogether is that these issues are not explicitly and reflexively accounted for. As Donna Haraway discussed in an early critical response to historian of science and culture Robert M. Young, the question was what one allowed to count as a relevant context (1992b).

Haraway once argued that "nature" is a troubled notion, but still a notion we cannot do without (Asdal, Brenna, Moser, & Refseth 1995). Following her lead, we could argue that "context" is also one of these concepts that we cannot do without. Instead, context is something we constantly need to work on and with.

Writing Culture, Writing Context

The authors of this special issue have been invited to reflect upon the ways in which they mobilize context in their own studies. And they have been asked to do so in a way that is empirically grounded. In her contribution, Brita Brenna starts from one historical text, Bishop Erik Pontoppidan's mid-eighteenth century *Natural History of Norway*. This historical work offers a rich and complex description of Norwegian nature and serves here as an important source for investigating the ways in which nature was perceived in the kingdom of Denmark–Norway in the middle of the eighteenth century.

In her contribution, Brenna argues for the relevance of bringing out multiple and partially connected contexts in this book. She demonstrates how different contexts may take part in enacting *different* natures; in this case, a nature of the king, of God, of the market place and the Republic of letters. This means that nature was manifold, serving as a source of aesthetic pleasure, economic gain, religious reverence, and political power. Brenna's reading suggests that multiple audiences emerged as productive contexts for its construction. By focusing on the way audiences are addressed, she argues, we can make better historical accounts of how natures are conceived and change in relation to different contexts. According to Brenna, contexts make up the fabric of cultural history: the political, social, and cultural conditions that historians seek out when trying to describe and explain events. These are also the threads that make up historians' narratives, the tools of historians. Deciding upon the right context is thus the arduous job of a cultural historian. Context, it is argued here, is both the precondition and the product of a historian's work: she looks for contexts and she constructs the contexts she invokes to explain other phenomena.

Feminism, Interventions, and Accountability

Many, especially as part of the reflexive turn in anthropology, have argued that culture, and by implication context, gets written actively in our ethnographies (Marcus and Fischer 1999). A version of this argument is found in the critique of empirical studies of science that tend to simply repeat and reproduce the stories that science tells about itself (Haraway 1991, 1997).

Feminist scholars have had a particular reason for being concerned with this issue, pointing to how gender is often written out of the relevant context and narrative. It has been argued, for example, that gender may be at work in a setting and practice without being made explicit or reflected upon

(Traweek 1988). This may alert us to the tension between an approach that only attends to the contexts actors themselves explicitly mobilise, versus an approach that insists upon being sensitive to that which is externalized, marginalized, and suppressed. It also raises the question of the task of scholars in social science and humanities traditions: is the challenge to trace and map existing patterns of reality (contexts) or to bring in new contexts and hence contribute to the reframing and refiguration of challenging and surprising realities? The latter can be seen as an example of an interventionist rather than an empiricist approach (Asdal, Brenna, Moser 2007).

In her contribution to this Special Issue, Vicky Singleton most clearly develops her argument along the line of such a feminist, interventionist approach. Her starting point is with the feminist concern with that which is being marginalized and excluded, but in this connection, it is not so much gender, but rather a form of life and its related farming practices that are pushed out of the relevant context and made invisible.

Recent disease outbreaks and concerns about food safety have changed the legislative context of farming in the United Kingdom. In her article, Singleton investigates the implementation of one of the systems meant to promote accountability as a response to these critical events. Using ethnographic methods and materials from everyday practices on the farm, Singleton demonstrates how the new legislative context interferes with and threatens practices of responsibility in the context of the farm. As such, Singleton brings different contexts together. Her contribution interrogates legislative and farm-based accountability, as well as the relations between these. She unpacks and revises the notion of accountability by distinguishing between different forms of accountability and teases out how they are related.

On this basis, Singleton introduces yet another context, that of feminist theorizing. In feminist theory, the notion of accountability has been a way of addressing the normative issue of what may count as good knowledge and research practice. Singleton engages this debate and questions the status and uncritical use of this idea as the alternative to mainstream notions of objectivity. She draws on her studies of farming practices to unpack accountability as a troubled notion and practice. Singleton develops the notion of responsibility and suggests this as a viable alternative. In so doing, Singleton uses her article as a context for interfering with feminist theoretical commitments.

Contextualizing and Decontextualizing

Tiago Moreira situates his article in this volume in a closely related line of work in STS, arguing that facts, objects, and technologies always come with

contexts. This traces science and technologies travelling across different contexts and shows that knowledge, facts, and objects always carry their prior contexts and histories with them; that they always have to actively adapt and adjust to new contexts; and that they sometimes even threaten previous or alternative practices.

The starting point and empirical case in Moreira's article is a controversy over the UK national guidance regarding who can have access to dementia drugs, and on what basis. Evidence-based clinical trials have demonstrated that the cost-efficiency of the available drugs is low. Moreira describes how patients and their caretakers question these conclusions and try to interfere with how the trials are set up in the first place.

Administrative systems, such as the cattle tracking system explored by Singleton and the regime of evidence-based medicine explored by Moreira, impose standards that are meant to do away with context, its localities and its specificities. But Moreira's argument is that such efforts at decontextualization are fragile achievements at best, and achievements that leave a lot of contextualizing work invisible. There is a continuous interactive relationship between standards and context.

Moreira however also adds a new twist to the matter in focussing on how decontextualized health care standards generate what Susan Leigh Star (1991) once called "monsters," and what Michel Callon (1999) and Vololona Rabeharisoa (2008) call new, "differentiated singularities," both of which contribute to a "proliferation of the social" (Strathern 1999, 2003). He traces how the decontextualization of evidence on the efficacy of dementia drugs is experienced as an undoing of the worlds of patients and their relatives, and, further, how its exclusion from the collective production of knowledge on the subject matter leads to the production of both new singularities and collectivities. Moreira's argument is that expressive displays of singularity and uniqueness through case stories in the media were central to the politicization of the concerns of patients and their carers. He ends by pleading for social scientists to learn to trace processes of decontextualization as well as of contextualization, and singularization, and the specific and unique, as well as collectivization.

Contexts Made and Performed

Increasingly over the last thirty years, social science has become more self-conscious about the status of its narratives, and therefore of the contexts that it makes. Famously, sociologists Beck, Giddens, Scott Lash (1994) insist that high modern societies are constitutively sociological because they

analyze themselves, and because those narratives (including those of social science) feed back into society itself. This line of reasoning can be taken further and developed into a more profound argument about the performativity of the social sciences and humanities, and the contexts they enable. Other work in STS and anthropology adds a further twist to the mix: in modern and western culture, the ordering of reality in parts and wholes is deeply embedded in our sense-making practices (Tsing 2010; Strathern 2004). If this is the case, the challenge is to understand how to deal with these cultural preconditions and orderings, and the reductions that are necessarily involved, in our knowledge practices and academic writing. Which contexts are made and how do we take part in contexting? Integral to this is the question of what reductions we make and how we always also take part in reducing (Mol and Law 2002).

As this suggests, contexts are not simply there to be found and explicated, they are always being made: they are made through an array of disciplinary, textual, technoscientific, political, legal, and administrative practices which include but extend beyond those of the social sciences.

One example of how this is done is explored in the article by John Law and Ingunn Moser. In their contribution, Law and Moser explore the UK 2001 outbreak of foot and mouth disease and demonstrate how epidemiological models generated conflicting contexts, accompanied by radically different policies to eradicate the disease. From their article, a plausible argument could be made that policy interests explain why one model was chosen at the expense of another, hence the political context: strong political interests worked in favor of strong policy measures, therefore the controversial practice of what they call “culling.” However, their article argues against such a reading. Rather, the focus is on the transport of these (assumably) clear-cut contexts and policy versions to a far more messy and noncoherent practice: in effect, they suggest, contexts do not travel that easily. In practice, an overall “culling” was not realized. More than criticizing bad models and bad policies explained by different contexts, they argue for taking such local practices and noncoherence seriously in order to improve policy and make better judgments. Hence, they point to the importance of noncoherent contexts for holding things together, in good ways.

As Law and Moser also demonstrate, contexts simultaneously create subjectivities, patterns of social and technical relations, and set limits to the conditions of the possible. Sometimes these contexts and their limits are seen to be general—for instance, as the expression of a modern episteme. Often, however, their performativity is taken to be more specific. This is a particular feature of STS-influenced work. The performativity of

particular material systems of production, for instance within the laboratory, the government apparatus, the market and legal systems, health care, and postcolonial encounters between different knowledge systems, have all been carefully explored in empirical studies.

The notion of “context” has thus not only been understood as performative, but it has also been made quite specific and local. Further, multiple contexts are seen to be jostling against, and interfering with, one another.

Actor-Network Theory as a Historicizing Method

If it is the case that actor-network theory deals poorly with past events, this might be related to the turn in the early 1980s toward “enrolment” and the focus upon the ways in which actors take part in transforming social worlds. Hence, the bracketing of the notion of “interests” as well as “context” for the benefit of worlds in the making; the emergence of the (if only slightly) new. But seeing the text as adding and enacting the new is, however, not enough. There are also layers of history, of situations, cases or files folded into the new, all of which take part in reinventing traditions and shaping and enacting the relevant issue.

In her article, Asdal takes the debate on history versus STS as her point of departure and asks whether there has been, with a little help of actor-network theory, a contemporary turn in STS. If that is the case, it is somewhat ironical, Asdal argues, as actor-network theory ought to be read as a radically historicizing method. The article draws together two versions of speech-act theory: the turn to performativity and ontology in actor-network approaches, on one hand, and speech-act theory as a contextualizing method in intellectual history, on the other. In so doing, she seeks to interfere with STS by drawing on intellectual history as well as to challenge the humanist tradition of intellectual history.

Like Brenna, Kristin Asdal similarly starts out from a single text, key paragraphs concerning the mistreatment of animals in an 1899 proposition for a new penal code. Asdal’s task is to unpack the context or contexts at work therein. She argues that, rather than seeing context in opposition to text—as that which explains the text—one should read context as that with which a text, and its content and subject matter, is made together.

By unpacking relevant contexts, situations and collectives that take part in enacting the text and a tense political struggle, Asdal argues for a rereading of the debates on the controversies over animal issues around the turn of the twentieth century. The intense sensibility to pain, which is expressed in the penal code, can be seen as the result of conflicting and overlapping

versions of medicine, and of conflicting and overlapping versions of collectives in which the animal was made to take part in radically different ways. It is the folding of conflicting contexts into the new core text that produces the intensity of the animal issue at the turn of the twentieth century.

But as Asdal's article points out, the reading of texts is not only the historian's task. Yesterday's text is already a document from the past. Ways of reading texts and what they enact and with which contexts is a shared and collective task around which we all might meet.

No Escape from Context: Contexting is the Answer

Each of the contributions to this special issue is situated in its own ways within an irreductionist tradition and approach. Our objective has been to explore a range of ways in which context can be traced and done in practice in writing about science, technology, and politics. The irreductionist program had a particular sensibility that we share and bring into this special issue: the concern with materialities and object-making in concrete practices and events. The turn away from conventional social science categories has implied a concern not only with *who* the actors are but also with *what* new realities are made and remade in material-semiotic practices. Here, we have made an effort to take this further as the issue is assembled around a series of material devices and natural-objects spanning from bodies suffering from dementia, animals in juridical texts, serpents, and other exotic creatures in natural history, cattle crossing roads, and fences they ought to have respected, and bacteria and sheep in epidemiological models applied in foot and mouth politics.

Arguing philosophically and theoretically against context does not solve the problem in practice. Although the irreductionist program sought to do away with context altogether, this did not, in practice, eradicate "context." On one hand, writing academically always presupposes and brings in contexts, thus we are always contextualizing in one way or another. Researching and articulating realities also always reduces the same realities, thus we are always to some extent reductionist. A core question then is how we in practice deal with contexts and contextualizing (Mol and Law 2002).

This special issue works from this double assumption: context is a troubled notion and straightforward contextualizing a problematic practice, but still something we cannot escape. We work from the conviction that what we need now is not so much predefined procedures, as efforts in experimenting, efforts in what we could name contexting. Hence, we have wanted to follow up the age-old invitation to experiment as this was

formulated within what was to be named Sociology of Scientific Knowledge (Barnes and Shapin 1979, Shapin 1995)

Contexting implies a series of moves. First, it acknowledges that the context cannot be seen simply as that which is passively lying “out there,” waiting to be discovered. In contextualizing, one often implies that the issues and objects are separated and distinct from their surrounding context. But the point is to link them together in appropriate ways. By contexting, we mean that contexts are being made together with the objects, texts, and issues at stake. In order to grasp these processes, we call for a radical openness to the richness in our research objects and materials, and for recognition that contexts tend to come in the plural, working to draw things together in potentially conflicting and overlapping ways. The patterns will vary. Finally, contexting matters. It takes part in enacting versions of reality, of worlds in progress, and of making some possibilities more real and others less so. In no place is this more evident than in questions about nature and the natural.

In this introduction, we have given you a taste of what to expect in each of the respective articles in this Special Issue: Matters of nature—broadly conceived—are the objects and issues at stake. They range from animals involved in scientific experiments and political debates; sheep, epidemiology and politics in the foot and mouth crisis; cattle movements in farming and administrative practices; the collecting of serpents and other possibly existing creatures for the making of national natural histories; and contestations over evidence about the lives and bodies of people with dementia.

STS has always been a multidisciplinary academic community, bringing together diverse knowledge traditions and ways of working that have consequently moved and shaped its questions and approaches. We seek to continue and encourage this further. In the early days, working historically was a key feature of mainstream STS. We might critically ask if “history” lately has been made more into a context in the sense of a passive, externally given reality? Reading texts from the past, which might even be yesterday’s document, and thus historicizing, is however something we all do and have to deal with.

In sum, this introductory essay has suggested a turn to experiments in contexting. This implies that context is something scholars *do*, rather than something that is pre-given and passively lying out there, waiting to be discovered. This is not to say that context is simply a scholarly construct. The other sensibility we have wanted to cultivate is the openness to the richness of research objects, actors, worlds, and materials. The aim must still be to enrich and not only to reduce the worlds that we study.

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Bios

Kristin Asdal is a historian and professor of social studies of science and technology at the Center for Technology, Innovation and Culture at the University of Oslo. She has published widely on the histories and politics of nature and is particularly concerned with method-questions and empirical studies of politics.

Ingunn Moser is rector and professor of sociology and social studies of science and technology at Diakonhjemmet University College in Oslo, Norway. Her research is centred on relations between subjectivity, embodiment, materiality and knowledge. These theoretical interests have been explored in empirical fields ranging from disability to care for the elderly and dementia care in particular.