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RESEARCH ARTICLE

‘I don’t know whether I need a further level of disaster’: shifting media of sociology in the sandbox

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If the media of research figure in the constitution of the sociological phenomenon, how is it possible to find out how they do so?¹ Drawing on Garfinkel’s idea of breaching experiments, we propose such an experiment to unearth the role of the media of sociology. The breaching experiment consists in an experimental setup to produce new disaster scenarios and accompanying forms of emergency provision. In the experiment, research subjects are asked to play in a sandbox with animal figures and other props to simulate disasters. The subjects are first asked to ‘build a world’, then to ‘turn the world upside down’, and finally to find an ‘emergency provision that would change the course of the disaster’. These plays are recorded with a purpose-built computer program and photographed and then transformed into fables and emergency provisions. The experiment breaks with three assumptions of media-use in sociology: First, sociologists use media exclusively for description, not creation of worlds. Second, sociologists do not tinker or produce their own recording technologies for specific research questions, but use existing ones, which define subdisciplines. Third, sociologists routinely rely on texts as the sole medium to represent the world.

Keywords: actor network theory; disaster; experiment; forecasting; media theory; methodology; simulation; visual sociology

Introduction

Did you think the game starts at zero in the sand?
without pre-history, quasi as a cosmic bang?

Beginning and end dissolve,
in the sandbox, everything evolves. (excerpt from a sandbox fable)

If ‘the *media of research* (data, materials, communication, networks) figure in the constitution of the sociological phenomenon’, as the call for this special issue claims, how is it possible to find out how they do so? This is not a trivial question, and it is further complicated by the fact that within research, media frequently are ‘invisible messengers’ (Heider 1959); they disappear behind the ‘things’ that research is finding out about. Sociological research tends to be based on relatively few media, mostly texts, which are often used in

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standardized ways, as has been shown by visual sociologists (Harper 2012; Knowles and Sweetman 2004; Szasz 1979; Wagner 2002).

Thus sociology is prone to assume that media do very little to constitute the phenomena.

This is in striking difference to many other disciplines, such as biology, where, as research in Science and Technology Studies has shown, scientific developments are in direct relation to the media that are used (Lynch and Woolgar 1990). Change in the natural sciences indeed is often closely linked to the tinkering with existing and the development of new media technologies to represent and produce phenomena. It is no coincidence that analogous studies on the social sciences are few, as the rate of change of media is much slower (but see Lee 2004 on tape recording). While there is no space here to speculate further on the reasons why there is little change of media in sociology, we would like to look at the case of one of our own research projects, where we tinkered with and developed new media and new forms of representation. Our research project precisely forced us to think about what the ‘significant objects of study’ were and with which (visual) media these could be represented.

The ways we used various media in this project imply that we can treat it like an ethnomethodological breaching experiment: While Garfinkel has used breaching experiments to demonstrate the underlying assumptions of everyday interactions (Garfinkel 1967), we can use our project not only to demonstrate how the media constitute the sociological phenomenon in our particular case, but also to demonstrate the underlying assumptions of media use in normal sociology. We can use everything that appears strange and unusual in our project as indicators for the shared background assumptions of media use at work in sociology.

The project in question attempted to answer the following research questions: What counts as a disaster? Which emergency provision can we think of to prepare for the future? As we explain in more detail below, our goal was to find more diverse disaster scenarios than those of existing (state) experts.

The article will detail how producing such new disaster scenarios prompted a range of questions regarding media and their role for the sociological phenomena they produce. Which media allow such diverse disaster scenarios to be produced? How can these scenarios be represented and analyzed?

The search for such a method prompted us to particular solutions, which sets it apart from many other sociological projects: Not only did we employ visual and haptic media, we also *tinkered* with them and used a *multiplicity* of these media to *translate* the research question into data. Although there has been a recent increasing interest in visual sociology, it is these last elements that also make it markedly different from many projects in visual sociology.

To make sense of how we answered these questions and arrived at the solutions presented below, we make use of the notion of ‘translations’, a concept originally introduced by Michel Callon (1986) to describe the process of science. We will return in more detail to the precise nature of these translations and how they differ from other sociological translations at the end of the article. For the moment, it suffices to understand that *all* research can be described as such translations.² The basic idea of a translation is to point out that research does not simply reproduce the world but changes it by translating objects into inscriptions (Latour 1995). It is a practice where anything may be made to be the measure of anything else by means of trials of strength (Latour 1986). Scientists translate objects such as geological formations, flowers, or social actions into inscriptions, such as writings, drawings, or maps. Each translation associates objects where properties are specified and altered. This notion of translation allows us to describe shifts and translations from

one medium to another, without a theoretical need to judge these shifts. Rather, the term translations implies that each shift from one medium to another and each operation within media always and necessarily includes an alteration, a change of the 'research object', and that such manipulations cannot and should not be avoided, but are in fact constitutive of scientific processes.

Our article then is structured as a series of such translations. We start by discussing first the translation of our research question into a method and an apparatus. We then discuss how this apparatus, the sandbox, translates the players' input into 'sandplays'. Third, we discuss how we purposefully were manipulating those sandplays. Fourth, we discuss how the sandplays are translated into words to be used to create our own risk register. The fifth and final translation is from the sandplays into fables and emergency provision objects as presentation media. While each research project goes through such translations, we will summarize the article by pointing to the ways that these translations were different, in terms of how media were used, from other research projects.

Translating *Frederick* into a method – the project

Our research and our first translation starts with a fable, the children's book *Frederick* by Leo Lionni (2003). Frederick, a mouse, daydreams of helping his fellow mice to collect food for the winter. During the particularly harsh winter, the mice start to panic because their food is running out. Frederick starts to tell them about the smells and colors of spring. Spellbound, the mice forget their hunger and survive.

We can read the story of *Frederick* as a critique of disaster forecasting. In this interpretation, Frederick is not about the value of the arts, but about the general methods and procedures to arrive at disaster scenarios and emergency provisions. Frederick points to the problem that obvious disaster scenarios, or disaster scenarios decided by the majority, may be wrong or insufficient. Frederick points to the fundamental ignorance of society with regard to the future and shows that strange, overlooked, and minority views may be needed to prepare for disasters. *Frederick* opens up disaster forecasting to other voices outside the views of the majority, and it directs our attention to the production of more diverse and surprising disaster scenarios and emergency provisions.

The lessons of *Frederick* can be applied to the current forecasting operations. Consider how currently Western states imagine disasters in the form of risk registers, as the example of the UK risk register shows (Cabinet Office 2008).

Risk registers such as the one in Figure 1 are typically created by state experts, and they all produce a narrow range of risks. They are usually based on some kind of Delphi method. The risks obtained by this method in the UK risk register all fall under a narrow definition: They endanger the lives of humans, and they matter to the UK. Risks that are metaphysical (a loss of belief in life), social (anomie), very big (worldwide climate change), or small (personal loss) do not appear. From the viewpoint of state agencies, such restrictions make sense. But if we want to answer for which disasters we would like to prepare, the viewpoint of state agencies should not be taken as the only valid one. As Lagadec observes, we face the problem that among current disaster scenarios 'the improbable wild outliers have moved from the periphery (where they could be conveniently forgotten) to center stage' (Lagadec 2007, 493). Considering this view, the risk register hardly delivers.

Our central idea was to turn anybody into Frederick: a translation that would create 'Frederick's disasters' and relate those to 'risk register disasters' with the goal to establish Frederick's own risk register.

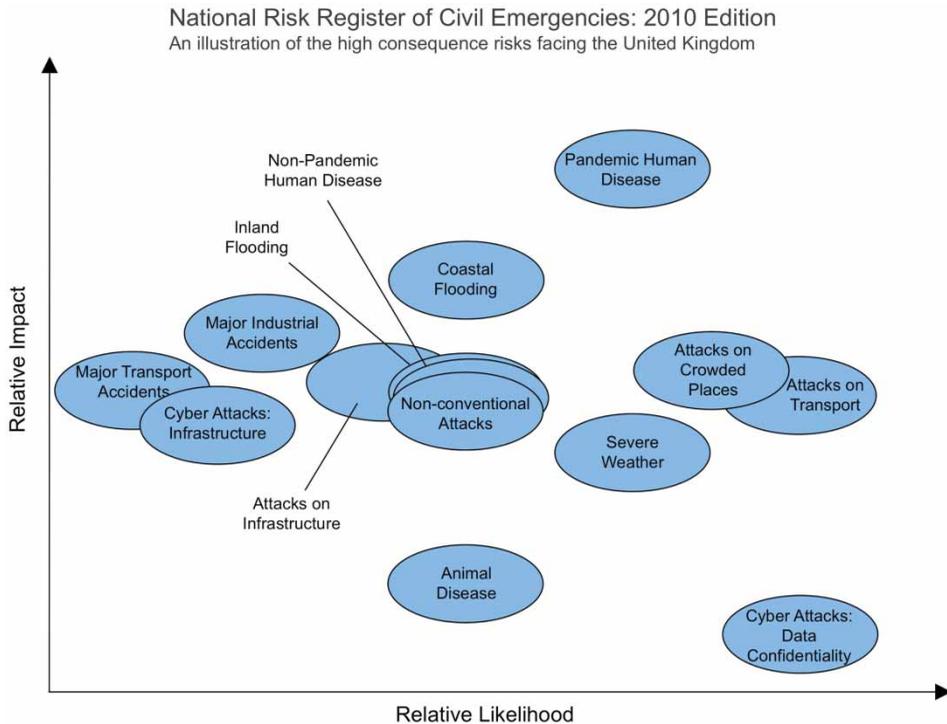


Figure 1. UK risk register.

To stay true to Frederick, we had to find a method that would be optimized to produce diverging risks from those of the risk register and to allow for the ‘improbable wild outlier’. We had to find a method that would be usable by anyone, not just by government experts. Methods such as those used to develop the risk registers depend on linguistic skills and a background knowledge of disaster preparedness.

If we were to develop a method that non-experts could use, we needed to find a method that would not rely on such previous knowledge. Further, we had to find a method that would allow any kind of disaster to be simulated and be optimized to produce ‘improbable wild outliers’, rather than restrict them.

As with many other projects that aim for collaboration with lay people, such as those in community-based research (Mitchell and de Lange 2011) or collaborative design (DiSalvo, Clement, and Pipek 2012), this implied a shift in media, from the textual to the visual and haptic, as these media, handled correctly, can invite a more immediate response. In previous projects we had worked for example with soft toys (Guggenheim 2011; Kraeftner and Kroell 2009; Research Center for Shared Incompetence, Kraeftner, and Kroell 2010). We learned for instance that soft toys as a medium transformed users into players that were not so much describing an existing world but representing a world in the making, where unpredictable answers to our research questions emerged.

Based on these experiences we started to experiment ourselves on how to use soft toys for developing disaster scenarios. In early tests, we found that using props that resemble existing elements in the world, such as cars, streets, houses, and people, restricts the players and predefines the scenarios to obvious disasters. We thus settled on knitted animal figures and a range of strange objects that do not resemble anything in the world



Figure 2. Objects.

(Figure 2). Furthermore, what we needed was a kind of ‘playground’ that allowed players to stage any situation that they considered as appropriate.

Exploration and reading about the relationship between play and simulation brought us to various uses of ‘sandtables’, such as those used in military strategy (Valentine 1940) and psychotherapy (Mitchell and Friedman 1994), which led us to produce our own sandtable, which consisted of the following components (Figure 3):

First, a sandbox that is a rectangular wooden table with a surface of *c.* 180 cm × 150 cm which provides enough space to allow for the creation of ‘worlds’ where groups of props can be comfortably arranged and moved around.

To record what is happening in the sandbox we mounted a camera on a tripod at an angle of 45° and equipped with remote shutter release that records a high-resolution still image after each movement of a prop. This allows for a time-lapse compression of the sandplay and the cinematographic representation of the movement in the sandbox.

Further we developed a purpose-built computer program that allows the tracking of positions of props and respective annotations over time: a video camera is set up straight above in the middle of the sandbox. Its video-stream is fed into the program. This allows tracking of the indexed props and facilitates a quantitative analysis of the props used together with the meanings they are given. The program also allows for the annotation of the props with their attributes and the speech acts of the performers in synch with occurrences throughout the duration of the sandbox exercise. During the sandplay one researcher is doing ‘live annotation’ using the program, and a second researcher is explaining to the player the game situation.

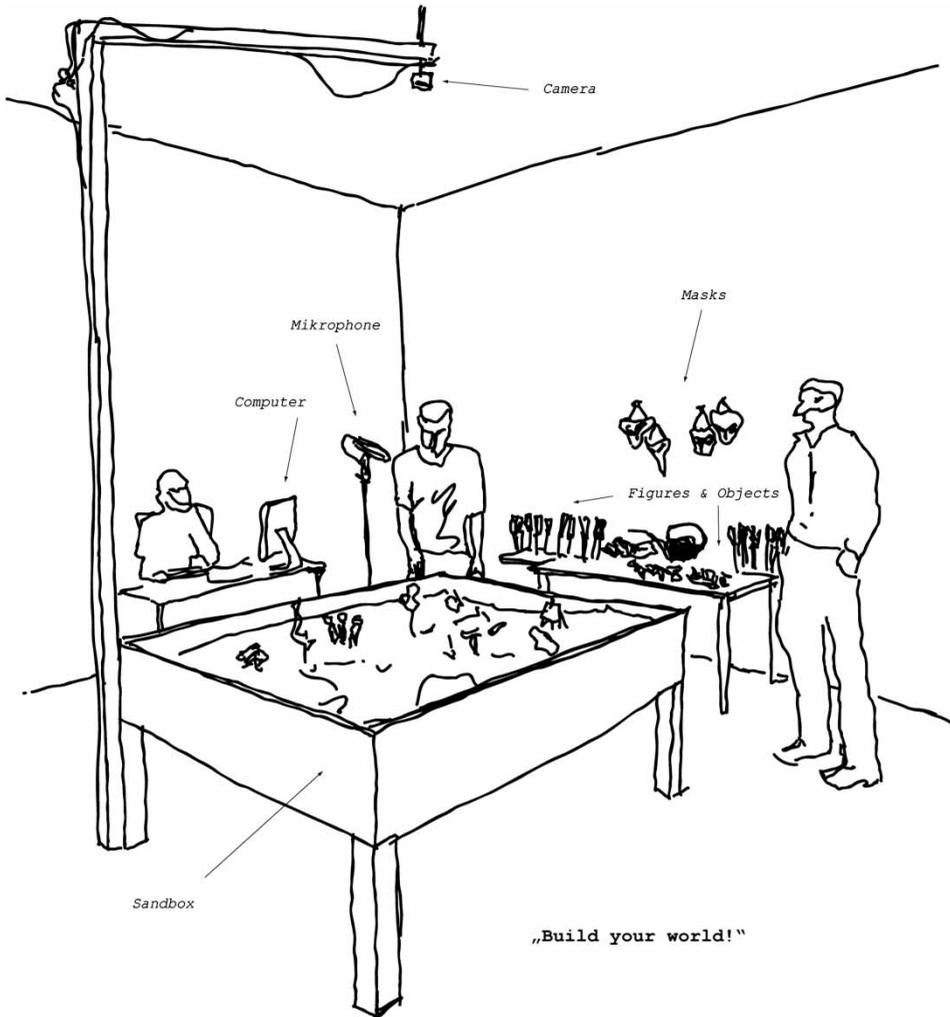


Figure 3. Sandtable.

The whole setup results in a time-based visual and textual representation of the movements of the props in the sand and the comments made by the players. It allows for the recording of the unfolding of events over time, rather than simply recording the end-result of the sandplay.

How did we use this setup to create 'Frederick's disasters' and attending forms of emergency provision?

We structured the sandplay into three steps.³

First, we asked subjects to 'create your world'. They could create any world in which they live or which they can imagine, and it could include anything, from humans to animals and objects as well as non-tangible things such as emotions and concepts, and each of these 'things' needed to be represented with the props. We also asked them to comment on each prop they placed in the sandbox.

Second, we asked subjects to imagine something that could unhinge their world. If they asked for further clarification, we pointed out that this can be any kind of event that turns

this world upside down, in which nothing is as it was before. We asked them to select randomly two cards (from a pack of 64) with *I Ching*⁴ terms written on them and let these terms inspire their disaster. Again we asked them to represent the unhinging event with props by adding and (re-)moving already placed props.

For the third step, we asked the subjects to come up with a form of emergency provision that, if it were available before the world was unhinged, would have changed the course of events in a positive way. Rather than avert the unhinging, we asked them to think of something that would have changed the course of events. As in the steps before, the emergency provision is played out in the sandbox and recorded in the same way as the previous steps.

The attempt to learn from Frederick produced a setup that transformed researchers and informants into players who had to cope with a complex gaming situation. We played this game with 93 players in three different locations.⁵

Creating disaster scenarios: the sandtable as medium

The second translation concerns how the sandbox acts as a medium in the creation of disaster scenarios. Once we had settled on the sandbox, the sandbox itself became a central actor in creating disaster scenarios. The second translation was then not only a change of the medium, but a translation of what a scenario is. Rather than producing narratives from the top of players' heads, players developed new disaster scenarios over time and space. Because these scenarios were not told but played, they existed in a material, haptic, and visible format. Each scenario became a sequence of steps. Each step was materialized by the placement or movement of an object in the sandbox, which was stable, visible, and touchable. Players did not need to remember the previous steps, because they saw them in front of them, and they could easily add, change, or even partly revoke the scenarios. The repercussions of each change for other actors in the scenario became immediately visible and graspable. Here are some observations how this translation impacted the scenarios themselves.

Let us start with an example in which the sandbox acts first as a proper and invisible medium and then slowly makes itself seen as a 'thing', to use Fritz Heider's terms (Heider 1959).⁶

Many players used the sandbox to represent their world and a respective disaster scenario in a quite realistic way. These creations aim at mirroring the world in the same way as a model railway landscape tries to represent a part of the world.

Take for instance Richard⁷: in his world there is a patriarchal household, a family, that lives next to a river and runs a transport business by running a boat along the river (Figure 4). It is an isolated rural existence that trades goods with a nearby market place of a larger settlement. By then the sandbox and the props add only very few unexpected twists to a pre-figured concept or narration. This is Richard's basic story. The disaster arrives as a 'conventional' river flooding where the family is cut off from civilization and struggles to survive, but inspired by the figurative arrangement of the household Richard adds a minor detail to the overall picture and 'decorates' it with the tragic drowning of a child of the family.

However, no matter how normal this scenario might appear – the invisibility of the medium sandbox decreases as this arrangement of props and material as a whole becomes 'thicker'. The arrangement, as a model, becomes more complex than a linguistic-textual account. After having developed his disaster scenario, Richard looks upon it with surprise: he tries to understand what his world and the flood scenario imply with regard to any emergency provision. He quickly improvises a list of some hypothetical items that would have brought relief for the household by creating a flood plain, some



Figure 4. Photograph from sandplay 'Richard'.

sort of communication device, a waterproof larder, fishing tackle, and food. But then, by looking upon his model, he states that it is probably too simplistic, a 'zoom-in' that stands for many households, that obviously have different interests so that it is not a good model for rural households. And finally, slightly perplexed, he states 'No, people don't tend to live in very rural places'. The role of the model household he had built has become increasingly unclear to Richard during the course of his sandplay. Sandbox and props have made themselves visible by becoming a 'thing' that challenges Richard, who is a disaster expert, to reflect on his realistic approach. The sandbox as a medium at the same time evoked and perturbed the correspondence between model and imagined but actual world out there. It is the logic of the medium itself which leads Richard to understand the non-realism of his own creation. Only by translating the scenario into the sandtable and thereby divesting it from his body could he step back, distance himself, and look at it from the outside and judge it simplistic.

In a second example, we can see a much more radical instance in which the props and the sandtable were turned into a thing from the very outset (Figure 5). The sandbox setup, the socio-technical device itself, could be a disaster, as it turned out. One participant, let us call her Violette, built her world by moving all figures into the sandbox. Her goal was to free the puppets from their multileveled display board that we had arranged beside the sandbox. She aimed at arranging them 'in a more linear way, in order to create a sense of a group, to create a field of vision in a plane'.

Thus her world was not so much a creation based on her ideas of the world. She did not materialize a cognitive vision of the world by means of the medium we gave her. Her world was a direct reaction to the way *we* arranged our research tools. In her view, our setup was in itself a deeply problematic arrangement, where all figures deserved or ought to be equal, and putting the figures in a plane in the sandbox met this demand. The figures, which



Figure 5. Photograph from sandplay 'Violette'.

we devised as media to tell a story, were turned into the story itself. By using all figures, the figures lost their individuality, their difference that turned them into a usable research medium. Violette commented while placing the figures: 'Because of the linearity, competition, friendship, or aggression between the figures is much easier to experience. The tectonics is much easier to grasp.' There was no more analysis for us to do on the use of the media, because this was precisely what the story was about.

When it came to the second step, to 'turn the world upside down', Violette could not find a disaster, because for her, our arrangement next to the sandbox already constituted a disaster: 'This is already a big upside-down. I don't know whether I need a further level [of disaster] [...] Another step in such a short time would amount to a huge disaster.' Our urging her to *create* a disaster led her to view the initial situation as disastrous, instigated, so to say, by our initial uneven arrangement of figures. Moving the figures into a plane (the sandbox) created equality, and this she felt was what the figures demanded of her. Thus the research media even criss-crossed the research design.

Being attentive to the media here, an important difference to language-based media is obvious: In a purely narrative format, Violette could not have told us this story. But this is not because the sandbox somehow impinges *more* on the 'results' than if she had invented a world with pencil, paper, and words. The world designed with pencil, paper, and words would have been equally pre-formatted by its medium, but in the absence of a breaching mechanism this would not seem apparent.⁸

In the sandbox, the development of Violette's story is foremost a reaction and a play with the *spatial* arrangement of the research media and the ability of the player to tinker with it.⁹ Its relationship to time is also completely different: The linearity of playing time cannot be grasped by looking at the final result. But also, to unravel the linear story and



Figure 6. Photograph from sandplay 'Rouge'.

how it came about is irrelevant to the arrangement: What Violette produced is a world that is a leveling of the figures. The action is the world, not its time-based narrative.

In fact, in the sandbox, it is a very rare event when the linearity of playing time is matched by a linearity of the props' arrangement in the sandbox, as we can see from a third example (Figure 6).

Because the sandbox does not enforce the isomorphism of storyline and spatial representation, once such an isomorphism is employed it has a very specific meaning. The player, Rouge, uses the isomorphism precisely to describe one's life path as a matter of deciding between different forms of disasters. Hence, there is a forking at the end of the path, a break in the isomorphism, where each actor has to choose between a left path, 'being a rat', and a right path, 'being a lion'. The point of decision becomes the point where the linearity of spatialized storytelling comes to a halt. Obviously, to understand a decision as a forking of the road is not the invention of Rouge. From Homer's *Odyssey* to decision diagrams this is a well-known device. However, the sandbox enables it and provides a perfect visualization for it. Because the sandtable is inherently spatial, every play unfolds in complex spatial dimensions, while time remains unaccounted for. To account for time in the sandbox implies to spatialize it. Translating scenarios with the sandbox allows the players to make decisions about the unfolding of a scenario in time and space simultaneously.

To summarize, the sandbox and the props play a central role in translating our research question into scenarios. They can act as invisible media that slowly become visible as the players have the opportunity to ponder what they have created. They can also be 'things', such as when they become disasters themselves, as in the case of Violette. They can finally play a very precise role in the spatial and temporal forms that the scenarios take.

Data and surprise: *I Ching* and masks

While the second translation highlights the effects of material props on scenarios, the third translation concerns the nature of these scenarios. As the goal of our project was to create surprising and varying scenarios, we faced the problem of how surprise and variation could be enhanced. It was not enough to move to visual and material scenarios, but to create rules and props that systematically produce surprises. The third translation consisted thus of purposely producing unforeseen and unforeseeable developments in the sand and making the experimental frame of the sandbox become more permeable. It aimed at diminishing the asymmetry between the all-knowing researcher-observer and the test-subject by turning both of them into game players.

The examples of Violette and Richard indicate that it is misleading to take an emerging arrangement in the sandbox as a temporal-spatial representation of a preconfigured scenario that is waiting to be harvested. The mapping viewpoint would imply an experimental setup that tries to avoid on the experimenters' side any intervention that could bias this knowledge. The interview, the questionnaire, the neutral attitude of the researcher are accepted frames to tackle the danger of producing a finding that is not 'genuine'. Not only researchers but also the so-called test subjects are more or less aware of interconnected expectations and tacit agreements that are producing those frames.¹⁰ Pretests with the sandtable design indicated that these mutual expectations caused foreseeable results. In the pretests, participants had been previously informed about their task to create disasters. They followed our invitation by acting in a realistic mode and created floods, earthquakes, tsunamis, or nuclear incidents; predictable answers that surprised neither them nor us.

As pointed out before, we wanted to inspire participants to play with permutations and arrangements of elements that resulted in 'improbable wild outliers', which took on a life of their own. The modification of our design aimed at introducing a more playful interaction with game-like rules, thus producing unpredictable surprises for both the players and ourselves. We changed the design in the following ways:

First, we introduced randomness into our setup. After participants had built their world we invited participants to integrate some of the oracle-like statements of randomly chosen *I Ching* cards into their disaster construction. If participants accepted the offer, this would, of course, actively influence their disaster creation.¹¹

To give two brief examples: a civil protection expert drew the card 'conjoining' and considered it as an emergency provision in a world endangered by overpopulation, climate change, and industrial productivity. The card reminded him of several studies by OXFAM that asked what 'the future will bring about'. According to him, the card confirmed the study results – that the world needs 'co-operation instead of competition'. After considering emergency provision for a future disaster – competition – he modified his world into a disaster scenario that he called 'misalignment'.

Next, a physician drew the card 'treading' and reacted with surprise: 'Should this mean something to me? I can't do anything with "treading". Who is treading? OK, something is treading now. OK, against all odds it starts to rain terribly.' The card bewildered him and resulted in the imagination of an apocalyptic rainfall, an event that was neither preconfigured in the previous play nor had anything to do with his own context. The cards in this case put him off rails and prompted a kind of disaster he could not foresee.

The second change to enhance surprise consisted in inviting people to play with fantastic identities: as already mentioned, there were figures and objects at their disposal that were not realistic, but fantastic, fabulous, and strange. We invited them to extend this fantastic realm to their own roles and even to our role as researchers: we offered participants

animal masks (e.g. eagle, duck, cricket, frog, monkey, and fox), and in general one of us was wearing one. The option to wear masks would free players and researchers from the burden to present only one persona to each other. In addition it would make clear that the world of Frederick or the world of fable, for us, was an important point of passage for creating worlds and their respective disasters and emergency provisions. For some of the participants the masks precisely produced this effect: For example, one player used a mask for changing her perspective on the world that she was creating and said: ‘Oh yes, until now I was the fox, but I could try now the monkey mask.’ She had started to build her world without foxes in it. However, a diabolic monkey played a dominant role in it, and at the time the player decided to wear the monkey mask, this diabolic monkey had to decide on how to negotiate with other actors to retain control in a state of upheaval the disaster had caused.

To summarize, instead of reducing the available reactions of participants, we enriched our setup. To do so, we had to enroll further media that would derail the course of action. These media, *I Ching* cards and masks, created a further accountable and traceable level within the research setup. They added a layer of objects that were *invisible* in the filmed scenarios, that had nothing to do with the problem of creating disaster scenarios, but became media to trigger surprises. The third translation then does not concern the problem of how to represent the world, but how to produce worlds with particular qualities.

Out of the sandbox 1 – risk registers

The fourth step in our series of translations refers to the question of how to represent the scenarios: The risk register, the medium used by government experts consists of an ordering device in two-dimensional space spanned by the axes ‘relative likelihood’ and ‘relative impact’. The resulting chart assembles those disaster scenarios the state wants to prepare for. Inspired by the UK national risk register (Cabinet Office 2008) we produced a similar plot which aggregates our sandtable scenarios by distributing them according to the relative estimations on likelihood and impact that our players had given to us. Although we employed a completely different method, with very different media, the fourth translation brings our scenarios back into the same space as those of the government experts. What do we learn from transferring ‘Frederick disasters’ into this space?

The result of this translation is not very unusual, since it closely and purposely resembles risk registers by state experts (Figure 7). However, the translations at work are rather different and more difficult to read, which highlights methodical problems of unfamiliar disasters produced by the sandbox device.

In the national risk register, disasters appear as simple words such as ‘coastal flooding’, or ‘major industrial accidents’. These words do not need explanation or visualization. Rather, the very words trigger immediately visualizations in the reader: we have all seen hundreds of images of flooded houses or black clouds of smoke hanging over towns. The words are compressions of visual and audible scenario realities that we know through mass media. These are not new scenarios produced by research, but pre-existing and known scenarios.

Our translations, however, cannot rely on such a confluence of the reader’s mass-media-induced pre-knowledge, as they are research results and, in many cases, unusual and surprising ones. The scatterplot that we produced makes our data comparable to those of the national risk register, by translating them into the same medium, but it does not make them more intelligible. Many of the disasters are like orphans, indeed unique, novel, and the result of the complexities of our experimental apparatus. They lack the

Fables

Remember that our project started with the fable of Frederick, and the observation that forecasts about future disasters and how to prepare for them are ultimately stories where various actors enter into dramatic conflicts. The interesting problem for any forecasting, independently of our specific research project, is that future disasters need to be *narrated*; they are qualitative ‘data’, except that the ‘data’ are quite unlike those qualitative researchers are used to working with. Paraphrasing Mark Twain, we could say, the future does not repeat itself, but it rhymes.

Thus we translated the stories from the sandbox back into the original format: fables, and the objects they produce, emergency provisions. As fables, the stories are not only translated from one medium to another, but they are also translated from one genre to another: from qualitative multimedia ‘data’ to a well-established form – a simple, moral, and didactic tale with animals as characters to typify the actors (Lessing 1825). Obviously, the fact that many figures were used in the play already made the plays half-fables, and many players grasped the character of the play as fable.

Michel Serres points to another dimension of the use of the fables. In his book *The Parasite* fables are not merely illustrative narratives that use figures and props to describe something inexpressible, indescribable, and ineffable. Serres’s usage of fables is rather an attempt to develop an abstract form as a logic of the concrete where content and form stick together. In this sense, each sandplay can be seen as the unfolding of a mini-prototype of this attempt and as where a player experiences that a certain scene in the sand (e.g. with pigs, sheep, wild birds, dangerous snakes, markets, river and boats) is not merely ‘a case of’ something else (like a rural household scenario) but a situation where one has to read out the meaning of what is at stake (Serres 2007).

But still, we needed to translate a time-based audio-visual narration in a sandbox into a tale of morals, and, as we did for most of the fables, in verse form. Such a translation breaks with a further media assumption of sociology, namely the idea that data should be kept separate from interpretations. According to this idea, ‘data’ are recognizable as data, since their translations from the world remain hidden. How spoken words end up in a text is irrelevant (i.e. a matter for the methods section, if at all), but once they are part of a written text the sociologist is not meant to operate on the data itself, only to add more and different text around it, as an ‘interpretation’. Sociologists routinely arrive at which format of data they need by deciding (but rarely discussing) the level and cleanliness of transcription detail required.

Translating data into fables breaks with these assumptions and makes the translation visible, by ostentatiously smoothing the unwieldiness of data into a different textual format. Take the – already cleaned-up – transcript of Tom, another sandtable player:

Mostly people in my place see people from Europe and America as better than us, the attitudes, the technologies. But the problem is we don’t have much money to make education better. The people in my place, they don’t like to read the book. And the book, which is used in the school is old. It’s too old, yeah, it’s too old. These are resources in my country: coal, oil, nature, but we do know how to exploit them. The knowledge of technology is not enough. [...] The people from my country are too lazy, they just relax, they want to stay home and relax, they don’t do anything.

Compare this with the beginning of the fable:

Education there was poor, not like in Europe
 Too far away, a blurred and distant hope
 The books were old and meaningless

The puppet didn't read them, what a mess
 Resources like coal and oil were all around
 But technologies to exploit were just unsound
 there was no wisdom to turn nature into money
 the puppet preferred to relax and hang out with his honey

Without being able to go into great detail, a number of observations can be made about the translation into a fable. First, the fable exerts a lot of formal pressure on the material. Mediated by us as 'poets', the temporal logic of data is translated into a narrative logic of the fable. We collapse repetitions and fill voids. In the sandbox, the logic of a story is based on a linear introduction of props. In the fable, steps are left out, individual props become collectives. Second, rhymes shift attention. 'Money' and 'honey' point to linguistic commonalities that matter for the fable, but were not part of the story the player told us. Third, although the sandbox is a form of play, the transcription data cannot convey the playfulness. Rather, the transcription data read as boring and often cumbersome. The fable reinserts playfulness into the data, although through a very different channel. But the 'poem' is still is a trackable translation of the underlying data and has very little in common with poetry, as commonly understood.¹²

Larder

According to step three of our setup, the players had to come up with an emergency provision for their disaster scenario. As with steps one and two, these were material narrations in the sandbox. Sometimes the players spontaneously derived concrete or abstract provisions, which were represented by a single object, and sometimes they were paraphrasing hesitantly a complex line of thought represented by multiple props woven together by a fragmented narration. In any case, these were – even in their narrated form – 'objects'. They were materialized with props in the sandbox and represented actions, things, or particular knowledges that could be used in case of emergency. They represented something a collective could make use of. The next translation then was to bring these 'objects' out of the sandbox. For us, this meant to translate them into actual objects that would represent the emergency provisions.

Our aim then was to develop a kind of 'larder' that contained these emergency provisions (Figure 8). The larder can be seen as a materialized register of emergency provisions. The translation did not involve necessarily a change in media, but a condensation of a complex arrangement of objects in the sandbox into one *single* object that could be stored and that could serve as a reminder for the collective of a particular kind of emergency provision. As with the fables, this step meant smoothing the unwieldiness of data.

To give one example, Richard described his emergency provision as follows:

To have a flood prevention – or some sort of flood plain – if it's an exceptional thing that hasn't happened before. I guess the thing they really needed is some sort of communication, some way of linking up with the town if only to know that they are not alone [...].

As in the case of the fables, the problem is how to perform a jump in genre and condense such a narration into an object. To build an actual flood plain obviously is no solution, since it does not fit in a larder, and it is not the emergency provision, but rather the result of it. In Richard's case we took a glass jar and filled it with an amber-colored liquid and sealed it with a screw cap. In the liquid, a plastic snake floated around. The translation at work is



Figure 8. Solitude installation.

about association, comparison, similarities, and symbols. The snake refers to a ‘dangerous watery thing’ (Richard’s account) and ‘symbolizes’, *inter alia*, the communication device (aerial) that Richard had placed in the sand (our association). The snake is a typical protagonist in many fables and myth where it is a polyvalent symbol that may stand for the immortal will to live, for rebirth; but also for death, destruction, and final redemption (Zerling 2003, 268). The flood plain becomes the jar that contains the flood. The translations here are based on metaphor, metonymy, and allegory as powerful rhetoric and artistic instruments that are searching for a place in the social sciences (Law 2004). These are prompted not simply by a wish to be allegorical, but by the very problem of how to translate stories of emergency provisions that are often unwieldy into objects that could fit our larder. Or, the allegorical can be prompted by an already metaphorical narration of an emergency provision, as in Violette’s case:

For this group, it would help if the sandbox itself would offer more space to move around. The sandbox should be [object] number zero.¹³ This is also metaphorical: it has started here, it can disintegrate and something else can start all over again.

Violette had already metaphorized the emergency provision for us, we only needed to follow her: we constructed a tiny sandtable. The model figuratively asserts that the sandtable itself has to take over the responsibility of freeing its inhabitants.

Of course, it is not controllable whether these objects speak to the stories and follow the intentions of the players that instigated their existence. However, this reification opens another route of possible investigations: that they can be brought into new contexts and

they can be combined in unexpected ways. As objects that can be placed in a space, they allow for a different way to speak back to their producers, both researchers and players. As emergency provisions, the objects can gain a life of their own, independent of their production context in the data.

Findings – the media assumptions of sociology

The description of our research project has shown five translations and how those translations relate to the message. It has become clear that the logic behind the translations was not to use particular media. As we have discussed, we used various media to produce certain effects derived from our research problem: how to deepen our understanding of what research methods enact and how this relates to the topic under investigation.

In our case we were interested whether it is possible to think of methods that could produce non-expert-based and less predictable disaster scenarios and forms of emergency provision. The sandbox was not a medium that pre-existed these research questions, but resulted from trying to develop a suitable method. The possibility to observe how the media become (in-)visible in the disaster scenarios is not a defect of these media, but a result of permanent experimentation and reflective observations. Likewise, the following translations resulted from the problem of how to make the resulting sandplays analyzable and representable as data.

The sandbox and its many translations can be considered a breaching experiment for sociology, because it diverges in many ways from the practice of sociology. It differs from most other sociological research projects in terms of the media it employs and how it employs them. It is a breaching experiment for sociology not because we designed it as such, but because following the logic of our sociological research problem led us to media practices that can be compared with what counts as accepted practices in sociology. Not only does it employ visual media, it also *tinkers* with them, and it uses a *multiplicity* of these media to *translate* the research question into data. Although there has been a recent increasing interest in visual sociology, it is these last elements that also make it markedly different from most projects in visual sociology. By way of comparison, we can deduce now what sociology normally assumes as media practice:

(1) Classical sociological research *observes* the *existing* social world (it does not create social worlds). Its translation only goes from the object in the world (society) to the representation. Our research project is an intervention: it produces new worlds. We produced future worlds, which do not exist anywhere except in the sandbox. We produced emergency provision objects that may change the course of these future disasters. Again, these emergency provision objects do not have a referent anywhere in the world, except in the sandbox. But these objects are not simply fantasies, which cannot be accounted for. They are traceable translations produced with particular media.

Obviously, constructivist sociologists have long understood that each research project adds something to the world: For instance, researchers ask respondents questions that they would never think about if there were no sociologists who asked them (Bourdieu 1984, 415–25). In that sense, *each* representation is an intervention. But usually such projects still aim at representing what exists, not at creating new worlds. It is not the goal of an interview to make the respondent produce a new world. To create and imagine new worlds is usually reserved for critical approaches and (participatory) action research (Fals Borda 2001). But these are interventions with a predefined and usually narrowly political goal. The history of action research, which has linked intervention with predefined emancipatory

political goals, is also the reason why many (non-critical) sociologists are critical of world-making: The history of politicized world-making has left sociology without the imagination how non-political world-making could be envisaged.

Compare this to the interventionist character of natural science (Hacking 1983), which produces new worlds, objects, materials (such as synthetics), and beings (such as genetically modified organisms) regularly. Similarly, in participatory design, it has become normal to work together with various groups in creating new worlds and objects, without preconceived notions of how these worlds should look (DiSalvo, Clement, and Pipek 2012). Such experimental world-making is excluded and explicitly discouraged in sociology, particularly with regard to media practices. Media in sociology should not change or even produce the world, they should only record it. Even the most constructivist sociologist does not aim to change the research subjects and the worlds within they live with her questions. Sociology could learn to copy these practices, the openness towards world-creation without having preconceived political goals in mind.

(2) In our research project, we constructed a specific socio-technical device to produce and then, in a second step, *record* our data. These data came in the form of sandplays, which were audio-visually recorded. These media translations were designed for the project and were not defined in advance. In contrast, usually, sociologists apply predefined media and usually use the same media for the production and presentation of data. That is, sociologists decide on standardized media practices as a subdisciplinary choice: for qualitative interviews, they use recorders and transcription software, and visual sociologists also tend to use photography in predefined ways. They favor a documentary approach that seeks to minimize the intervention of the photographer.¹⁴ The medium and its associated practices define the subdiscipline. Further, sociologists do not tinker with the media technologies, such as audio recorders or word software, let alone produce purpose-built ones. If they use photographs (as in the case of visual sociology), the photographs are both the recording medium and the presentation medium, and it is the assumption of sociologists that they should not tinker with such data. It is considered bad practice to manipulate images or translate them into something else entirely.

The attending discourse of objectivity misunderstands media such as photography as stable and neutral transmitters, or as subjective agents. But it does not understand media technologies as productive translation agents to be tinkered with. This point is directly related to the first: The assumption of sociology to record the world only, but not to intervene, extends to its use of media technologies. To tinker with media intrinsically highlights their world-making effects. But rather than understanding them as tools to tinker with that help to translate the world into a multiplicity of data, sociologists understand them as fixed, as black boxes that enter sociology from the outside.

(3) We translated the plays into fables and emergency provision objects as representational media. We did not arrive at these forms of representations because we thought they are easier to understand and because we wanted to popularize our research. We arrived at these forms because we saw them as adequate translations of our research questions. We saw the fables as adequate translations of complex disaster scenarios in the sandbox that would allow the step-by-step nature of the sandplays to be compressed into a format that would stay true to its sequential nature without having to resort to the cumbersome transcriptions and photographs.

By contrast, most sociologists rely almost exclusively on texts in a particular genre. As Howard Becker has already observed, although sociology is about ‘telling about society’, it

excludes many forms of doing so (Becker 2007). Sociology operates on the idea that the world shall be translated as directly as possible into texts. Whatever the objects of research, all translation steps lead directly to texts written in a particular genre. Other forms of translation, both textual and visual, remain rare. Movies, fables, drawings can also ‘tell about society’, but do not count as sociology. Indeed, these are often not sociology because they are not translations of *research*. Poets usually do not translate the world in a documented way step by step into fables. Yet sociology conceives of this difference not in methodological and scientific terms, but in terms of media: it is prejudiced against visual presentation media (Fyfe and Law 1988), no matter how methodically sound the underlying research.

There has been a revival of visual sociology in recent years leading to a renewed interest in other forms of data.¹⁵ But the interest in visual sociology is simply the reversal of the idea that films or photographs are not sociology, because of their media. The idea that visualization is simply a different kind of translation of data is still rare, and often applied to digital data only (Manovich 2011). More often, visual sociology is seen as a kind of popularization, a translation of data that does not so much follow from the research question, but from the assumed expectations of a popular audience, for whom it is supposedly easier to understand images than sociological texts.

We hope that our project helps to open up further possibilities for expanding and exploring new avenues for various media in sociological research. Rather than understanding media as unchangeable tools to represent the world, and visual media in particular as tools to popularize research results as is often the case now, we show that media can be understood as tools to be tinkered with and to intervene in and produce new worlds. Such an idea of sociology would imply to stop conceiving of sociological media as defining particular methods and even subdisciplines, and to start reconceiving sociology as a science that starts with research problems, rather than media. In the first step, the media may stop being invisible messengers but become center stage, in ways that may appear strange. But moving them into view through expanding and changing practices may help sociologists to accept not only a multiplicity of new media practices, but also to conceive of them in far more active terms.

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Notes

1. Many thanks to the team members Gerhard Ramsebner and Isabel Warner, who contributed to the execution of the project.
2. For a much more elaborate exploration of the different kinds of translation within sociology see Guggenheim ([forthcoming](#)).
3. Before commencing the sandplay, players are not given any background instruction as to the task at hand, but they are assured that there is no other meaning (such as a hidden interest in obedience) in the experiments they are going to perform.
4. The *I Ching*, also known as the ‘book of changes’, is an old classic Chinese text, which contains a divination system. It has been used widely also in the West, for example in John Cage’s compositions. We put the 64 hexagrams as words (such as open, force, radiance, gentle, abysmal, etc.) on playing cards, of which the players had to draw two.

5. As members of the research group ‘communicating disasters’ at the Center for Interdisciplinary Research (ZiF) at the University of Bielefeld, we had the opportunity to play with an interdisciplinary group of disaster experts, composed of practitioners, engineers, anthropologists, sociologists, and geographers. As guests of Akademie Schloss Solitude, Stuttgart, we had the opportunity to play with a variety of artists, film-makers, actors, composers, and designers. Finally, at the Franz-von-Assisi church in Vienna, we played with visitors of the church and people we recruited off the street.
6. This in itself is not surprising, since it is a feature of all media that they can be turned into things during research processes, such as when pens stop working or when people remark that their actions will look differently when being filmed.
7. All player names are anonymized. Since this is a methodological article, we do not give any socio-demographic context, although this is an important element to understand differences among the plays.
8. Running the experiment with speakers of different languages would probably quickly reveal the linguistic pre-formatting.
9. We could speculate that Violette ‘deconstructs’ the research medium that is intended to serve as a research tool because she is an artist. Art and especially so-called media art has a tradition of refraining from content-driven approaches and instead focusing on the means of production, on the changing, playing, and tinkering with instruments, forms and apparatuses, techniques and organizing functions of (art) practices (Raunig 2007, 122–3 referring to Walter Benjamin’s text ‘the author as producer’). This would explain Violette’s sensitivity to the setup and our roles within it.
10. The sandbox may thus appear as an assessment situation, or as a kind of psychological laboratory where participants feel their subconscious is brought to light; it may be experienced as a hidden camera setup where knowledge about the situation is unequally distributed in order to elicit certain responses and to conceal data acquisition; or as a performance à la Milgram where visitors are drawn in by researchers so that they become guinea-pigs.
11. The card statements triggered confirmation, bewilderment, inspiration, comparisons, modification, and integration during the creation of disasters. However, most of the participants played along and accepted this perturbation triggered by the cards.
12. For another example of translating sociological data into ‘rime’ see Bloor (2013).
13. Remember that each object had a number that allowed us to track it, and players had to tell us the numbers whenever they were moving an object.
14. For a more detailed analysis of the ‘documentary’ see Guggenheim (forthcoming).
15. For an overview see Margolis and Pauwels (2011) and Harper (2012).

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