

NEWSLETTER No.3 May 2018



PEOPLE

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The Industry Perspective

Gerriëtte Mollink and Giulia Sinatti:

A Two-way Conversation

Presenting PEOPLE Partner: **Sandra Bell**

Senior lecturer in the Department of Anthropology of Durham University
and member of the Durham Energy Institute Advisory Board



Interview

Peter op't Veld

An Engineer's Perspective:

»There should be more multidisciplinary projects
in order to offer user-friendlier attractive solutions.«

PEOPLE brings together interdisciplinary groups of students, faculty educators and industry professionals to solve real-life business challenges in the field of sustainable living and energy. PEOPLE helps industry professionals to integrate social science expertise in their practice, allows social science students to develop additional practical competences towards employability and enables faculty educators to develop better-engaged social science learning in Higher Education.

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PREFACE

This issue of the PEOPLE newsletter focusses on ‘perspectives’. As social scientists, we provide a different perspective when it comes to innovation and development of products or services in the sustainable living and energy sectors. The challenges within these fields are predominantly approached through a technical, ecological or even economic lens and therefore in dire need of a human perspective, provided by people-centred approaches. Within PEOPLE, we believe in co-creation with consumers, end-users, residents and habitants as this provides knowledge about their perspective, needs, beliefs, desires. We co-create with our respondents and with each other. All PEOPLE students, teachers and industry professionals have their own part to play while rising to the challenges of our four different case studies and this too provides for different perspectives, on the research process and its added value for industry. In this issue, we share with you our students’ perspectives as they elaborate on their research experiences. You can find out more about the industry perspective of our PEOPLE partner Gerriëtte Mollink, consultant at Alliander, and a teacher’s perspective as we introduce PEOPLE partner Sandra Bell, Durham University. And what about the perspective of the engineers? We recommend also the interview with Peter op 't Veld, senior consultant at Huygen Installatie Adviseurs.

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Presenting PEOPLE Partner:



Sandra Bell

An introduction

Professor Sandra Bell, senior lecturer in the Department of Anthropology of Durham University and member of the Durham Energy Institute Advisory Board, is working on energy related issues and biodiversity conservation. She has previously published on religion and conducted research on the development of Buddhism in Britain for her PhD. Sandra is interested in interdisciplinary research and has devised a workshop and associated publication to facilitate research across disciplines. We asked her to share her thoughts on the application of social sciences and the use of people-centred design and development approaches in the field of sustainable living and energy.

»Products and services that are designed in isolation have less chance of seeing a return on investment. If commercial operators, and even third sector organisations designing public services, bring consumers into the design process from the start they will avoid problems later and produce something people are more likely to adopt. To make the most of this process they need social scientists to plan and undertake work with potential consumers. Asking people directly what they want is not enough and time needs to be spent with them in the environments and contexts where they are intended to make use of a new product or service.

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In that regard, I find current work on driverless vehicles at Nissan very inspiring because there are so many intrinsically complex issues to unpack whereby solving one problem can simply disinter another. This has been proved recently by the accident that occurred in Uber's driverless vehicle trials. There is a lot to get to know about how people relate to traffic before road trials on open roads can proceed.

Within PEOPLE we contribute to the application of social sciences in industry by training students to work in teams on real world problems. Our students have learnt a great deal about how to organise research in terms of allocating tasks and drawing on existing skills and experience. They have also learnt a lot about the amount of effort and time that is taken up in research projects through identifying third parties whose input is essential to conducting the research and managing relationships with them. For example, in our project with Kemuri (www.kemurisense.com) students have had to deal with a second tier of service providers in the form of two housing associations and their staff and also finding groups of elderly people currently living independently to form focus groups to discuss what sort of telecare products they envisage might help them to continue to be independent.

»Within PEOPLE we contribute to the application of social sciences in industry by training students to work in teams on real world problems.«



PEOPLE is just a start - even though an important one - but it will be a long time before the aims it represents become routine. It is also true that the ideas being developed in PEOPLE could be applied to the development and marketing of any product or service, including ones that are not ecologically sustainable in the long run. The techniques we are refining and advocating are neutral, but of course one hopes that they will be deployed to sound environmental ends - no guarantee though!«

PEOPLE Project Teams

Our PEOPLE student teams are well on their way with their research for and with our industry partners. In the United Kingdom, Netherlands, Czech Republic and Slovenia future sociologists, anthropologists, psychologists (and others) are working on real-life business challenges. In this issue of PEOPLE's newsletter, we dive deeper into these case studies and share our students' perspectives on their added value for industry, based on their recent experiences as PEOPLE team members.

SLOVENIA



The Slovenian PEOPLE team are:

- Ajda Pretnar (PhD, University of Ljubljana, Faculty of Arts)
- Hana Uma Zagmajster (BA, University of Ljubljana, Faculty of Arts)
- Manca Voje (BA, University of Ljubljana, Faculty of Arts)
- Tilen Šoštarič (MA, University of Ljubljana, Faculty of Social Sciences)
- Ana Jereb (MA, University of Ljubljana, Faculty of Arts)

THE CASE

“We are researching the role and influence of smart technological solutions on energy efficient behaviour in buildings. Our case study is an energy information system, installed in one of the buildings managed by the University of Ljubljana. Our key question, widely defined, is how to make the building a people-friendly and sustainable place by improving existing and designing new solutions.

We designed a questionnaire that was sent out to all building occupants and that focuses on their perception of the indoor environment and wellbeing in the building. We interviewed building occupants to gain feedback about the energy information system and energy use in general, so that we can learn more precisely what the problems are that we need to solve and to identify better solutions for. We also attended lectures at both Faculties housed in this building, so that we could experience the environment and interactions with the energy system first hand. One of our most innovative approaches, however, is combining qualitative research data with data gathered from sensors in a chosen set of rooms. Through data mining and statistical analyses we defined patterns of workplace behaviour, which we contrast with data from our interviews to address and explain the most interesting observations.”



PRELIMINARY RESULTS

“By analysing sensor data and pairing up with interviews, we discovered that there is a big difference in terms of room occupancy between the different types of rooms in the building (laboratories, cabinets and administration). Administration staff has the most regular behaviour, since their working time is primarily from 8 am to 4 pm. Cabinets are occupied erratically, mostly just filling the gaps of professors between meetings, lab work and lectures. Laboratories have extended occupancy hours, since working times of their members don't overlap completely. They are also social spaces and professors spend quite a lot of their time in their respective laboratories, despite having cabinets to themselves.”



WORKING WITH INDUSTRY

“There is a gap between what we would like to do and what is realistically possible. Industry is well aware of the technical and legal issues regarding workspace improvement and not all solutions that we think would work, can be realized. We have learned to approach the problem from both perspectives – what we want and what we can do.

We also experienced that engineers and social scientists can sometimes have completely different views on what the most important thing is for the project, but we need both sides because one does not go without the other to make such a project work.”

MOST UNEXPECTED EXPERIENCE, DISCOVERY OR INSIGHT

“Before we started working on this project we didn’t know that a smart building like this can have such disadvantages and that it was built in a way that bothers many of its occupants, sometimes it is even frustrating them. Smart should make things easier, but often it just complicates things. People don’t want to have everything done for them, they don’t mind opening windows or adjusting shades. Smart in this sense should have some leeway for people to still adjust things manually – it gives them a sense of control over their environment. It was surprising to find out how much money is sometimes spent for making smart buildings that are pretty but could in fact be way more functional than they are.”

UNITED KINGDOM



The UK students are:

- Luke Lobo (MSc, Energy and Society)
- James Davies (MSc, Energy and Society)
- Zain Sultan (MSc, Sustainability, Culture and Development)
- Maryam Abdelmalak (MSc, Sustainability, Culture and Development)
- Ned Gatenby (MSc, Sustainability, Culture and Development)

THE CASE

“We are working on Kemuri’s telecare device, which uses electricity monitoring alongside other sensors to build a picture of an older person’s daily activities and to highlight where a change in lifestyle patterns may indicate that there is something wrong. The product was inspired by the old tradition of checking up on neighbours and friends, should they be ill or in trouble. Given the cold and often damp weather of Northern England, households traditionally lit fires most of the time: the resultant smoke from the chimney was a very visible sign of activity. As this was such a common activity, if someone hadn’t lit their fire in the morning, neighbours would check up on them to make sure they weren’t in trouble. The Kemuri device aims to replicate this signal by using a modern equivalent, one particularly seen in the UK: the boiling of a kettle in the kitchen.

The product comes in two forms: a fixed and a portable plug unit. These are installed in the property and they monitor not only the electricity usage but also include a temperature sensor, motion sensor and a humidity sensor. This usage data is fed back and used to build up a picture of the lifestyle patterns for that person, which can be used to identify and flag any changes to daily routine so that a nominated recipient receives a notification of the change.”

THE APPROACH

“Our starting point was to understand more about the product and the business drivers behind Kemuri, which is a very small start-up company. What had inspired the development and what it hoped to get out of the development, alongside a better understanding of the product itself? To achieve this we met with the different members of the business including the founder, product designer, marketer and visited their production location. Additionally, we undertook a literature review of the published information around ageing and telecare in the UK, to be able to put this in context and start to devise the key areas of enquiry for the project. Having developed a preliminary understanding, we moved on to focus on the potential users and existing trials and demonstration sites. The product is being targeted at the elderly and has been installed in sheltered housing sites in the North East, around Durham and Sunderland. We have met and spoken with the wardens and managers from the housing companies on these sites, in order to understand how the devices are being used currently, how they align with what is already in place and what has attracted or put people off in using these devices. Following these conversations, we arranged a series of one-on-one and group interviews and workshops with residents, some of whom have the device installed already, to see how they have found having the device, why they chose to have the device installed or why they didn’t want to have the device. As part of a wider investigation into telecare, ageing and support, we have organised focus groups with people to understand the broader application of the product and what other needs/attractions or detractions might be linked to the product.”



PRELIMINARY RESULTS

“Kemuri’s plug is focused on monitoring the use of energy and thus highlights how intrinsic electricity is now considered to be within our society. As such, a key enabling technology is completely embedded in everyday life – it has therefore become a useful proxy for monitoring individual activities for changes. The ability and use of the information for monitoring is therefore highly embedded in social and individual actions.

Using this information in such a way raises much wider questions about privacy and data protection, monitoring and permissions and the rights of sharing that information and how it may be used. Access to information that may give you an insight into a person's private life at such a level of detail is a new challenge for energy companies with potential risks and opportunities. The research to date shows how reliant on energy we are and how it may be a new source of untapped information, but also one that people are understandably nervous about."

WORKING WITH INDUSTRY

"The process of working with an industrial partner has been really interesting for the team, as we are all from different backgrounds and the product and company are quite distinctive. It is a very small, early stage business that is developing a very personal idea as a business model. This has led to an interesting dynamic around the company that we don't feel is particularly common to all industry but is very likely to be common in small businesses that are driven by one individual. We have also noticed the importance of different drivers and motivations for industrial partners and academic research, we have found there to be a challenge in retaining a focus on the research-led question when the industrial partner has a very specific action or questions they would really like you to answer."

MOST UNEXPECTED EXPERIENCE, DISCOVERY OR INSIGHT

"As a group we have been surprised by a number of different issues. However, a major one is awareness of the quality, coverage and limitations of social care in the UK. We had not realised the extent of cost pressures being placed on the organisations operating in the area and how much is dependent on personal circumstances. A second issue we have been surprised about is the gap in understanding and messaging between different organisations and perspectives even when talking about something that is fairly specific such as telecare, the lack of a common language and starting perspective has been a fascinating question in itself."



CZECH REPUBLIC



The team in the Czech Republic consists of:

- Nela Andresová (MSc, Sociology)
- Michaela Kudrnáčová (MSc, Sociology)
- Anna Šarapatková (MSc, Sociology)
- Štefania Simonová (MSc, Social and Cultural Ecology)

THE CASE

"Within the Czech Republic, we conduct a study on efficiency of conservation interventions in administrative buildings. In fact, we are conducting a social-psychological experiment that aims to motivate the inhabitants of the buildings, city (and state) office workers, to regulate temperature in their offices in order to save energy. In three selected office buildings, we have addressed the workers to reduce the heat consumption in their office for some time. This was done under the pretext of modifying the boiler technique. Participants did not know they were being researched. Involved participants were asked to accept a commitment to reduce energy consumption in the office (less heat). It also included a prequestionnaire about their activities in the office, but also on environmental behaviour. After the measuring, participants filled out a postquestionnaire for us - to see how the situation changed after our intervention. Besides designing research and preparing methods, we surveyed the first selected building and analysed the resulting data. We are currently measuring in the second chosen building."

PRELIMINARY RESULTS

"Our intervention in the first building had an effect on the usually set temperature, but not on individual auspicious activities (such as closing doors, wearing warmer clothes). The measurements in this first building can be considered as a pilot of the research as we had few participants and have been able to adjust some techniques to be used in the other buildings."

WORKING WITH INDUSTRY

"We have found that working with industry can be challenging, for it is not always easy to understand each other's perspective right away, coming from different fields of study. However, we have still been able to conduct our research and collaborate with VUPS and look forward to present our findings."

MOST UNEXPECTED EXPERIENCE, DISCOVERY OR INSIGHT

"We found that it is much more complicated to motivate employees to participate than we assumed. People not necessarily wanted to fill out our questionnaire and accept a commitment to reduce consumption."

THE NETHERLANDS



The Dutch PEOPLE team consists of:

- Eline Hogeweyj (MSc, Social and Cultural Anthropology)
- Marck Verhulst (MSc, Social and Cultural Anthropology)
- Semra Anli (MSc, Culture, Organization and Management)

THE CASE

“In the Netherlands we focus on a bottom-up, neighbourhood-oriented approach in the transition to natural gas-free living in the Netherlands. As students, we map local dynamics at a neighbourhood level and translate our findings into visualisations and reports for teams within Alliander. Analysing, identifying and applying local dynamics is still a missing link in the overall strategic environment management of energy companies such as Alliander. We help to bridge this gap and, in doing so, hope to make a contribution to a people friendly transition to a natural gas-free future in the Netherlands. Marck, Eline and I work on similar cases in two different cities. Eline just finished her fieldwork in Wijk aan Zee. Marck and I have conducted research in Den Haag.



SEMRA'S APPROACH

“I did my best to understand the field (in Den Haag) by immersing myself in the residential area, by visiting its popular food places, by attending events as if I was a resident, by speaking to shop owners and the residents themselves. I observed the type of residents living there,

what the social cohesion of the area is like, what interests them, what their needs and priorities are, their skills and capabilities in the sphere of the heat transition in the Netherlands.”

MOST UNEXPECTED EXPERIENCE, DISCOVERY OR INSIGHT

“I have just come back from the field and will start to analyse my data in the coming months so I don't have any preliminary results just yet. However, the three months that I have spent in the field have shown me that you cannot solve every problem with technique and business knowledge, innovation is more than just that. Instead, cultural understanding and affiliation with the people within that culture is the key towards a solution of many complex problems. You cannot implement a successful transition towards gas-free living without including the voice of the people who will face the consequences of such a transition the most, namely the residents.



Not only does a transition mean that the gas network that is currently in the ground will have to be replaced, but also construction work in the streets and in their houses. Perhaps one can even speak of a cultural change since this transition will alter how people implement their daily activities, such as cooking. People might not be against change, but in favour of the preservation of what they find meaningful in their current culture. Therefore, in order to implement a transition successfully one needs to gain understanding in these values, interests, needs, rituals, beliefs, etc. Things that make a culture.”

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THE INDUSTRY PERSPECTIVE: A Two-way Conversation



Gerriëtte Mollink

Giulia Sinatti

With PEOPLE we aim to share the added value of social sciences for industry. Our PEOPLE students interact with industry through their PEOPLE research and in the process, they discover their added value for the PEOPLE industry partners as future social scientists. In this issue, our students shine a light on what they are discovering in that regard. But what does industry think of the added value of social sciences? Gerriëtte Mollink works as an anthropologist and innovation consultant - sustainable energy for PEOPLE industry partner Alliander (www.alliander.com). Giulia Sinatti, assistant professor at Vrije Universiteit Amsterdam, gained experience as a social scientist outside of academia prior to her work for PEOPLE. In the following, they share their perspectives in a two-way conversation.

Gerriëtte: “Within energy companies such as Alliander, there is still a lot of debate with the mainly technical and business trained staff, on the added value of social sciences. Especially for grid-operators, who in The Netherlands can’t have any interaction with consumers due to legislation, the question is whether Alliander needs to know about ‘people’ to perform their basic task of transporting gas and electricity to people’s homes.”

Giulia: “It is of vital importance for energy (and other) companies to rely on better knowledge about people. In fact, companies are indeed becoming increasingly familiar with social science methods. They integrate big data and market research with qualitative research, often borrowed from anthropology. Anthropological research methods as they are currently adopted in the corporate world (Design Thinking for example), are used as mere techniques and often exclusively to gain more insight into clients. This makes the methods disembedded from the broader anthropological thinking within which they are conceived, with the risk of them becoming superficial ‘quick fixes’ that lack the depth typical of anthropological research.”

Gerriëtte: “Personally, I agree that companies need to know more about people and there are three reasons why. Firstly, large semi-public organizations like Alliander, need to respond to a changing,

more bottom-up oriented and ever higher educated society; making and breaking decisions is a mouse-click away. Second, the energy transition may cause the gap between ‘the haves’ and ‘the have not’s’ to widen. As a provider of energy as a semi-public service, Alliander has an obligation to make energy available and keep it affordable for everyone under equal conditions. This suggests an awareness of developments in society at large and cultural dynamics such as power politics. Thirdly, from a techno-economical perspective, grid operators like Alliander need to know way in advance what people are up to in their initiatives to change to sustainable living. Alliander invests in gas and electricity grids for 30 to 40 years. Local groups of citizens can organize themselves in no time. They can cause a lot of unforeseen work and costs with for example collectively organized solar panel schemes on a neighbourhood level.”

Giulia: “Gerriëtte’s reaction is a great example of how anthropological research can provide useful insight for companies. In many sectors – and in the energy sector especially – businesses are operating in increasingly complex and constantly changing environments. The problems they usually face are ‘wicked’ problems that are difficult to solve because they involve contrasting interests: a solution for one stakeholder may lead to a shortcoming for another. Companies can count on only partial knowledge about these problems. Imagine an iceberg, in which only the part above the water is visible: this represents the understanding of the problem that companies normally dispose of. Most of the mass of an iceberg, however, is submerged: this represents the understanding of the problem that companies are currently missing as a result of their assumptions and knowledge limitations. It takes not only anthropological methods, but also anthropological ‘out of the box’ thinking to make the submerged part of the iceberg visible. In her reaction, Gerriëtte rightly points to broader changes in society, new inequalities, emerging societal initiatives ... these are examples of issues that require more than just qualitative research tools to be uncovered.”

Gerriëtte: “Energy companies now only focus on understanding groups of customers from a marketing-communication perspective, for example by using insights from psychology in so called personas represented by focus groups. To meet the challenges I mentioned earlier, Alliander can greatly benefit from the holistic perspective of anthropology that places customers and other actors (including Alliander itself) in their larger, shared environment.”

Giulia: “The anthropological approach is indeed holistic: it looks beyond clients to cover the perspectives of multiple actors, including of the companies themselves! Anthropological research is sensitive to power dynamics between different actors: the clients, the company, or other important stakeholders. This equips anthropology with a more open approach towards its research objects compared to the approach of companies. Anthropology sets out without predefined assumptions; it asks broader, open questions; it becomes immersed in the everyday lives of people and organisations; it gathers large amounts of information that may challenge the initial assumptions that companies have. So, adopting an anthropological approach allows companies to address wicked problems in ways that they do not (yet) conceive: it allows looking beyond the surface, uncovering the part of the iceberg lying under the water.”

Interview

PETER OP'T VELD



An Engineer's Perspective

To get an engineer's perspective on the added value of people-centred development approaches we talked with Peter op 't Veld, senior consultant at Huygen Installatie Adviseurs (www.huygen.net) and coordinator of the Horizon 2020 MOBISTYLE Project (www.mobistyle-project.eu). Peter is an engineer with key qualifications in consulting and applied scientific research on renewable energy, indoor air quality, ventilation, building physics, acoustics, dissemination of knowledge and building regulations. We asked him how people-centred development approaches can contribute towards understanding users' and peoples' needs when developing advanced technological solutions to motivate behavioural change.

Why do you involve people-centred development approaches in your projects?

Through the last 15 years I have been involved in European research projects aiming to improve energy efficiency of buildings. A most common intervention to reduce energy consumption and CO2 emissions is to retrofit a building's envelope. However, once these retrofitted buildings enter the operation phase, we can often see that despite realizing thermally well retrofitted buildings having efficient installations, these buildings are still consuming more energy than expected; thus, frustrating climate and energy goals. Occupant behaviour is one of the major factors influencing building energy consumption and contributing to uncertainty in predicted and real energy use. What we experience when talking with building occupants is that often they are not aware that their behaviour results in wasteful energy use. This shows a need to educate users on how their daily actions affect a building's energy consumption and how they can reach energy savings without hampering their comfort levels or well-being.

»What we experience when talking with building occupants is that often they are not aware that their behaviour results in wasteful energy use.«

The foundation for development of the new MOBISTYLE approach is understanding that for the building to work efficiently (as designed), all components in a building need to be equally assessed and mutually conscious. It is not enough to improve a building envelope to the higher thermal standard but also and most important to increase the awareness and understanding of the users on how to behave in such buildings.

So, users feel encouraged to start interacting with buildings and feel that they are co-creators of their indoor environment. This is where the people-centred approach comes into play.

What's your experience of working alongside or hand-in-hand with anthropologists in the MOBISTYLE project?

We believe that social science related disciplines have been underappreciated and there should be more multidisciplinary projects in order to offer user-friendlier attractive solutions that encourage and lead to positive changes in a society on a long term. It is not an easy job to facilitate interdisciplinary work between engineers, ICT developers and social scientists as each of us speaks our own language but it's definitely worth it and beneficial! We are already seeing how this change in thinking in the MOBISTYLE can bring a high-impact on the project. It is not just due to the social sciences integrated in engineering area but more as a result of a mutual holistic collaboration of all these different disciplines. Despite the fact that MOBISTYLE project is only 1.5 years on its way and not many results have yet been produced, our technical partners (ICT developers, engineers) understand the importance of including human aspects in the development process and their effect on the later acceptance and usefulness of their products.

»We believe that social science related disciplines have been underappreciated and there should be more multidisciplinary projects in order to offer user-friendlier attractive solutions that encourage and lead to positive changes in a society on a long term.«

Do you think that engineers are aware of the positive impacts that people-centred development can produce?

If we just look at the market and at the strategies of successful high-technology companies and innovative start-ups, we can see that these companies (led by engineers and IT experts) are already aware of why it is smart to integrate social science methodologies in their business. They already experience the positive impacts of the people-centred approach. My advice based on the MOBISTYLE experience is that the implication of embedding anthropological insights and social sciences into ICT-engineering technical developments can ensure the effectiveness of the proposed innovative solutions, as through anthropological approach we are able to create trust and establish cooperation and acceptance of end users.

Which steps in people-centred development are most crucial and challenging from your perspective?

As every person is an individual, we need to be aware on how we do a segmentation of different user types - how we interpret results coming from a sample group (limited number of subjects) to have enough detailed, however, still accurate segmentation of user needs and wishes for different groups. Therefore, the interpretation step seems crucial. User behaviour is a complex process that is hard to analyse and interpret. We need to be aware that people-centred approach is not just another add-on to the technology process but provides a well-structured analysis method that allows us to analyse users' behaviour and define the most influencing determinants of someone's behaviour. Also, it is important to always go back to the users and ask them whether we are satisfying their needs - already during the development process.



PEOPLE

People-Centred Development Approaches in Practical and Learning Environments

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Co-funded by the
Erasmus+ Programme
of the European Union

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Project reference number: 574832-EPP-1-2016-1-SI-EPPKA2-KA