Are engineers religious? 
An interpretative approach 
to cross-cultural conflict and 
collective identities

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Abstract
This article views culture as collective identities from an interpretative, sense-making perspective. It analyses religion-based cross-cultural conflict through the example of two ethnographic studies of multicultural high-tech organizations undergoing change. Specifically, it looks at professional identity and the practice of religion among a diverse group of highly qualified technical employees. The aim is to show when and how difference in religious practice creates cross-cultural conflict. The examples given will be from various nationalities (German, Indian, Iranian) and from various religious practices (Christian, Hindu, Muslim). Based on these findings, a model of how to assess cross-cultural conflict from an interpretative perspective is developed. This article makes two contributions to cross-cultural conflict management. First, it gives an account of how transnational professional identities, external and organizational culture, religious practice and conflict are linked in two specific high-tech work environments. Second, it proposes a model of how to assess cross-cultural conflict in cultural complexity from an emic perspective.

Keywords
caste, collective identities, emic cultures, engineering, ethnography, India, interpretative anthropology, Islam, sense-making

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Theoretical background

Interpretative perspectives on conflict

The study of conflict and conflict management in organizations has seen a huge rise in scope since the 1990s (Ma et al., 2007). Broadly speaking, conflict in organizations and beyond seems to arise when (collective) identities are endangered (Rothman, 1997). The process of conflict can be functional or dysfunctional (Amason, 1996), constructive or deconstructive (Deutsch, 1973). For management, this means that only the potentially harmful types of conflict (dysfunctional and deconstructive) need to be managed through intervention. The potentially harmless types of conflict (functional and constructive) need not be managed, for they actually serve the organization. They can be left to be ‘played out’ (for the notion of play see Goffman, 1959). Therefore, management needs to understand the actors’ perspective on what the conflict actually means to design management strategy and action. This demands interpretative cultural research on collective identities based on social/cultural anthropology (Geertz, 1973; Van Maanen, 2006).

Qualitative cross-cultural management research

Culture(s) in organizations can be studied from subjective (interpretative) or objective perspectives (based on Burrell and Morgan, 1979: 22). Interpretative approaches usually lead to qualitative research whereas objective approaches lead to quantitative research (Yeganeh and Su, 2006). The paradigm chosen will influence research outcomes (Primecz et al., 2009).

The importance of a qualitative perspective for cross-cultural management has by now been acknowledged by its scholars (Primecz et al., 2009). It might, for example, serve the existing need for cross-cultural theories that fit workplace realities more than established quantitative models (Sackmann and Phillips, 2004). Yet, despite the importance of the qualitative approach, comparative quantitative studies of culture still dominate the field (Yeganeh and Su, 2006). Two issues remain unsolved in today’s cross-cultural management research:

First, how to integrate studies on national, professional and organizational culture and identities (d’Iribane, 2009).

Second, how to reconcile quantitative and qualitative methods when doing research (Bjerregaard et al., 2009).

Regarding the integration of multiple cultures, this article follows the paradigms of interpretative social/cultural anthropology. From this perspective, culture is viewed as constructed socially (Berger and Luckmann, 1966). It is conceptualized as an open process of sense-making within changing boundaries, the purpose of which is to provide a focus point for collective belonging (Van Maanen, 1998). As a result, interpretative social/cultural anthropology does not differentiate between ‘culture’ and ‘collective identity’ and uses both terms interchangeably, a practice this article is going to follow.

If culture does indeed equal collective identities, then organizations are made up of multiple cultures within the frame of external cultures (Sveningsson and Alvesson, 2003; Zander and Romani, 2004). These external cultures will be multiple as well; the influence of national culture is to be doubted (Chevrier, 2009). Yet, from a quantitative perspective, one would call these cultural levels ‘subcultures’ and assume them to be of lesser importance than national culture. One would also look for a single cultural identity. Yet from a qualitative perspective, all levels of collective
identity can and might be equally powerful, depending, for example, on context, plays of power, individual or group agenda (Zander et al., 2004); individuals might be able to switch between cultural frames (Brannen and Thomas, 2010) or contextualized cultural codes (Mahadevan, 2008). Individuals might even develop hybrid identities (Frenckel, 2008). In contrast to sense-making perspectives in organization studies (Weick, 1995) that search for unified meanings, interpretative social/cultural anthropology views social construction of reality as disharmonious, polyphonic and contested (Mahadevan, 2009). Conflicting interpretations of collective identities might actually be constructive and functional (Mahadevan, 2009), and management should let them be played out.

From an interpretative perspective, collective identities are constructed through discursive interaction (Lauring, 2008). In order to construct a group of ‘we’, one has to construct an antagonistic collective ‘other’ (Ricoeur, 1992). The resulting border and hierarchy between ‘we’ and ‘the other’ is not viewed as absolute and exclusive, as social identity theory suggests (Dalton and Chrobot-Mason, 2007; Tajfel and Turner, 1986), but as a discursively constructed and volatile boundary of perceived difference (Holmquist and Boter, 2004). Cultural meanings and boundaries are to be negotiated in context (Brannen and Salk, 2000). Therefore, it is assumed that inside (emic) perspectives on difference always differ from outside (etic) assumptions of difference (Ricoeur, 1992). In contrast to quantitative perspectives, it is assumed that the individual has the power of choice and the freedom of interpretation over all cultural discourses available, i.e., agency (Mahadevan, 2009). Therefore, in contrast to quantitative approaches, national culture, too, is conceptualized as a resource to be used for the construction of collective identity rather than as a limiting, unconscious given (Barinaga, 2007; Ybema and Byun, 2009). For the study of cross-cultural conflict, this means: any management measure that intends to mediate cross-cultural conflict has to uncover contextualized emic perspectives on perceived difference.

One feature of emic sense-making is to construct others as more alien than they actually are, a concept that is known as ‘othering’ (Ricoeur, 1992). In othering, factual difference does not exist at all or only to a much lesser degree. Rather, difference is created to make sense of oneself and to defend one’s own interests. Hence, studies of cross-cultural conflict have to analyse carefully whether presumed cross-cultural conflict does exist or whether it is simply created for defence. Due to the nature of conflict, strategies of defence are more likely in times of identity-endangerment. As many studies have shown, collective identities in organizations are endangered by change, be it organizational or technological, which often results in a perceived loss in agency (Caldwell, 2005; Clegg and Syman, 2005; Lauring, 2008; Mahadevan, 2009). For the study of cross-cultural conflict, this means that change can easily lead to culture-based conflict which might not have occurred in times of stability.

Regarding the integration of qualitative and quantitative approaches, this article views them as complementary (see e.g. Shah and Corley, 2006). As Colquitt and Zapata-Phelan (2007) argue, qualitative research can lead to the formulation of new theory that could then be researched upon quantitatively. Following this line of thought, this article intends to provide qualitative data from an interpretative anthropological viewpoint that leads to the generation of theory for the study of cross-cultural conflict.

Data is based on two ethnographic research projects in two German high-tech companies. In these companies, highly qualified technical employees work together across cultures and make their own collective sense out of different religious practices. The derived contribution to cross-cultural management is twofold. First, it is shown how professional identities, external and organizational culture, religious practice and conflict interplay in two specific high-tech work environments. Based on these findings, a model of how to assess cross-cultural conflict in cultural complexity is developed.
Research question

Obviously, as both studies were interpretative and qualitative studies, formulating the research question and finding a focus was a process that could only begin in interaction with the field (Van Maanen et al., 2007). In retrospect, the key question for both research projects was: where do actors in the field locate and construct the boundary between ‘we’ and ‘the other’? During research, this question was divided into sub-questions. How is this boundary visible in day-to-day practice? When, where and why does the boundary shift? When, where and why are ‘we’ and ‘the other’ constructed at the boundaries of national culture or at the boundaries of professional culture? For the purpose of this article, the specific research question is: what types of cross-cultural conflict do occur in two specific organizational fields that undergo change, and how are they meaningful to the actors in the field?

Field and field methods

The sites of the study

This article combines two qualitative research projects on two similar semi-conductor companies as a multi-sited field, as Hine (2007) has suggested.

Field 1

Company 1 is based in southern Germany. During time of research (2004 to 2007), Company 1 had approximately 8000 employees in Germany and 35,000 worldwide. It was ramping up a site in India to take advantage of low labour costs.

The primary field was an internal research and development unit (called Unit 1 in this article) that consisted of three major sites with approximately 450 employees, i.e. the German central headquarters (approximately 250 members), a site in France (approximately 60 members) and a site in India (approximately 140 members at peak). Its purpose: engineers from all three sites developed a complex and interdependent technological system that was to be used by internal customers all over the globe for improvement of microchip design. During the time of research, knowledge had to be transferred from Germany to India.

The official corporate language was English, as was the language of the technical expert community. The day-to-day language at the German site was German. Approximately 15 percent of all Unit 1 employees at the German site were non-German nationals, mostly from Western Europe. No manager at the German site was a non-German.

Both technical experts and technical managers were considered to be ‘engineers’, the term used in the field to describe ‘people who are close to technology’ as opposed to ‘people who don’t have a clue of technology’, such as human resource managers or team-assistants. Due to the antagonistic knowledge of technological experts and managers, such a discursive construction of a collective technological ‘we’ as opposed to a non-technical or managerial ‘other’ is to be expected in high-tech companies (based on Kunda, 1992).

Viewed from a social science perspective, Unit 1 technology is created and mediated at hundreds of individual human–machine interfaces, the different parts of which are interdependent but non-visible to others except the individual expert. From an engineering perspective, this technological system is a very real one: engineers would be able to draw maps and name other members’ tasks in relation to their own expertise. This ability is a necessary prerequisite for the social mastering of technology: whenever change is introduced within one engineer’s individual expertise,
interdependencies have to be considered in order to ensure overall functionality. When studying conflict this means that engineering identities are likely to be endangered when change is introduced into the system.

For Unit 1, the main challenge during time of research was to manage organizational growth of and knowledge transfer to the new offshore site while still maintaining technological excellence for its internal customers.

**Field 2**

Company 2 is a non-profit research company located in East Germany. After the first submission of this article had been completed, corporate interests required higher anonymity, which led to minor changes in representation. During the time of research (2008–10), Company 2 enlarged its number of employees from approximately 150 to 240. Compared to Company 1, Company 2 is thus only a minuscule player.

Yet, if one only compares Company 2 with Unit 1, there are numerous similarities. Both are research organizations, increasingly driven by market pressures. Both are committed to developing complex and interdependent technological solutions for customers. Their members interact with each other constantly to ensure overall functionality, yet the individual expert’s work is non-visible to others. Both fields underwent a process of growth and internationalization that required technological knowledge transfer to new members from non-German nationalities.

In both companies, technical members have a background in either electrical engineering or software engineering (for older members the perceived professional boundary is between physics and mathematics), depending on whether their work is nearer to circuits (hardware) or logic (software). However, unlike in Unit 1, engineers at Company 2 called themselves ‘researchers’ as opposed to ‘technicians’ (working in the clean room) and ‘administrative personnel’ (keeping the company running). When compared to Unit 1, the dichotomy between technological and managerial collective identities is less visible in Company 2. This might be due to the fact that Company 2 is much smaller than Company 1. Another reason might be the non-profit character of Company 2. Both features might result in less formalized managerial procedures. Yet, just like in Company 1, researchers in Company 2 classify their kind of work as ‘engineering’. Therefore, both groups will be named ‘engineers’ in this article.

All managers at Company 2 were German (both ‘West’ and ‘East’ German), however, more than one-third of all researchers were of non-German origin, mainly from Eastern and Southeastern Europe and China. Regarding doctoral students (about one-third of all researchers), more than half of them were of non-German origin. From an organizational perspective, internationalization was a fairly new process that had begun on a large scale only in 2007 due to the given reason that qualified German candidates were not available or unwilling to work at Company 2. In 2009, employees originated from more than 20 countries in total. At Company 2, there was only one site but more national-cultural diversity.

In September 2010, a decision on corporate language (German or English) had not yet been made. The language of the technical expert community was English. The day-to-day language between German and many Eastern and Southeastern Europeans was German; the day-to-day language with and amongst employees from other countries was English.

For Company 2, the main challenge during the time of research was to manage organizational growth and increasing diversity of its work-force while still transferring knowledge to new members and maintaining technological excellence for a German customer base.
Field methods

It is in the nature of ethnographic research that its main method (long-term ethnographic study) is holistic and deductive. Hence, researcher and ‘data’ can never be separated; the stages of data collection and analysis go hand in hand, have to be discussed with the field, and lead to deeper interpretation and focus. Therefore, as it is common in ethnographic research, the method section will include the critical stages of ethnographic research such as: getting in, methodical and analytical interaction, establishing researcher identity, dependency, writing and getting out. The purpose of this section is to enable the reader to follow the researcher’s footsteps, making a subjective approach inter-subjectively visible. The methods used were qualitative interview, focus group sessions and participant observation (Van Maanen, 1998).

Field 1

A marketing practitioner in 2002, I developed the idea of studying ‘intercultural cooperation’ in a company – preferably Indo-German cooperation – by means of ethnographic research and thereby obtaining my doctorate in cultural anthropology. A friend working at Company 1 at that time suggested I might contact a certain manager responsible for ramping up a site in India which I did. Negotiations for access and presentation of my research proposal to Company 1 began in October 2003 and proved to be successful; consecutive fieldwork was conducted from October 2004 until October 2006.

Data in the primary field were collected through initial interviews with 15 key actors and subsequent participant observation over two years, including approximately 250 formal and informal interviews with engineers from three sites. Of this period 18 months were spent at the German central site, six weeks at the Indian site. A longer period at the Indian site was intended but impossible to accomplish due to my own organizational dependency. The subsequent field diary was interpreted through discourse analysis. After six months of research a core group of 31 key actors was identified and given a forum to distribute information and to meet regularly. Interpretations were mirrored back to the field and discussed with key actors in focus sessions. Besides that, undergoing the same changes – e.g. changing the group I belonged to eight times in two years and almost becoming victim of being laid off due to reorganization myself – turned out to be one of the main means of generating organizational knowledge. Additionally, I relied on cultural documents such as internal information distributed by corporate communications, corporate press releases and information spread by the media.

As I was the only non-technical person besides team assistants in Unit 1, in the beginning I was difficult to categorize by engineers. Yet, I very much needed to be categorized as an ‘engineer’ in order to gain not only nominal but substantial access. However, through learning engineering habitus (Bourdieu, 1977) and organizational play according to my role (Goffman, 1959) I overcame this hurdle (a journey that Downey, 1998, embarked upon before me). In the end, as with every Unit 1 engineer, others could tell which part of the system was mine and how to locate my expertise and its boundaries within the system.

The two years of full-time research were financed by Company 1, the aim from the corporate side being to improve cross-cultural work practice at Unit 1. From an academic viewpoint, this was my doctoral research. In summary, this research meant studying superiors from a stance of organizational dependency aggravated by the academic pressure to succeed.

As a result, I was not free to write the final ethnography (Mahadevan, 2007): on the one hand, Unit 1 management had vested interests; on the other hand, I needed to protect the organization’s...
weaker members when the final thesis was to be published and read in the organization. Therefore, I decided to exclude certain episodes from the final ethnography and to write it while still in the field. Drafts were circulated, discussed at focus group sessions, revised and finally agreed upon. Full-time ethnographic research ended with the end of my research contract in October 2006. Thereafter, I no longer had access to the company.

Field 2

In 2008, I had established myself as an academic. In autumn 2008, an intercultural consultancy that I was loosely affiliated with on a freelance basis suggested that I conduct cultural awareness training sessions for Company 2. Company 2 had contacted the consultancy in order to be prepared for increased diversity, the perceived major aspect of which was an increase in Muslim employees. The first training session was for corporate executives. Prior to it, I suggested to the head of human resources that a series of qualitative interviews might be very helpful to better understand to what degree Company 2 researchers were bound together by a common professional culture and to what degree national culture might create actual difference in scientific work-practice. We agreed to let the executives make the decision after the first training session in February 2009. They did agree to the project.

Starting in March 2009, I conducted qualitative biographical interviews with all department managers and about half of the group managers in the corporate research departments, and with all human resource managers. Based on this exploratory stage, I decided to focus on values. This decision was based on the interpretative paradigms of ‘what people do, must make sense to them’ and ‘what people say they do, and what they actually do, will always be different’ (Van Maanen, 1998). Usually, they demand for participant observation (Van Maanen, 1998). Yet, this was impossible in this research setting. Therefore, I needed a means to find the patterns of collective sense-making through their narrative representation in group discussions. Values, including religion, provide a sense behind work practice (Parboteeah et al., 2009) and are assumed to be at least partially culturally diverse (House and Javidan, 2004: 17–18). At the same time, rule and norm violation is an established means of ethnographic research to make the border of the ‘we’ and ‘the other’ visible (Van Maanen, 1998). Religion was already a topic to the actors in the field. Therefore, I assumed that a discussion of values, including religion, might be a suitable ethnographic means to create difference in discussion and thereby uncover the boundary between the ‘we’ and ‘the other’.

In total, 20 recorded interviews and four workshops were conducted between February and September 2009. I was present at Company 2 for 23 days in total, participating in three meetings, sitting in open offices, engaging in informal interaction and writing a field diary. From September 2009 to March 2010, I conducted three group workshops with a focus on cultural awareness and interacted with a handful of key actors on a regular basis. Through this multi-method approach and data triangulation, I began to grasp emic interpretations.

At the beginning, my role was that of a paid intercultural consultant. Hence, it was essential to separate researcher and consultant identity. As a researcher, I have mirrored back my observations which for me provided another opportunity to collect data. I would have wished for closer interaction but advised corporate executives against it as I felt that organizational change was big enough without me interfering more than I should. At the same time, I also sensed reluctance to let me in on a larger scale.

As I was much more an outsider to Company 2, my main dependency was to convince organizational gate-keepers to grant me access. As an established academic, I felt much more in control
of these negotiations and of the research project itself and had more confidence in myself in both contexts. On the other hand, I felt a profound loss at not having closer access.

A final ethnography on Company 2 has not been written yet. Instead, a report with key findings was given to organizational key actors in September 2009. It is still unclear what sense the organization will ultimately make out of it. Research ended in April 2010.

Field cases

Field 1

At Unit 1, cross-site work between Germany and India was regarded as not hindered by culture. ‘We do not have cross-cultural issues, we are all engineers’, was a common saying. If one approaches national cultural difference from quantitative perspective as a limiting constraint (Gerhart, 2008), this statement can be interpreted as a low stage of intercultural learning (Bennett, 1986). Yet, from a sense-making perspective, the emic meaning might as well be true. Those who work in engineering are indeed united by shared knowledge (Caulkins, 2004) that is based on culture-free principles of natural science. Therefore, engineers in distributed system work do have the potential to form transnational communities of practice (based on Bourdieu, 1977).

Unit 1 engineers did notice any cross-cultural difference in the national cultural sense. Indian culture, for example, was described as ‘rich’, ‘colourful’, ‘fascinating’, ‘contradicting’ and ‘intriguing’ by non-Indian engineers who had visited the Indian site. In general, fascination and willingness to learn more was expressed. Hinduism as the dominating Indian religion was described as ‘peaceful’, ‘an old religion’, ‘colourful’ and ‘fascinating’. Indian engineers were intrigued by German traditions such as Easter egg hunts and decorating a Christmas tree. During lunch and coffee-breaks, Hindu and Christian religious rituals and traditions were a common topic. When visiting the other site, engineers frequently visited temples, churches and monasteries, being guided by their local colleagues. Yet, descriptions of culture were always accompanied by the assertion that culture was a category outside engineering practice.

Often, Indian engineers said (to quote one of them): ‘On the street, Germans don’t speak English. But at work, German engineers speak English. At work, we are not so different.’ German engineers often talked about the Indian colleagues saying: ‘When they are here, they are just engineers. It is India that is different.’ (All German quotations have been translated from German by the author.) One German engineer even said: ‘[This Indian colleague], he is not Indian, he is just an engineer.’

As this statement shows, engineers from both sites consider engineers to be similar because of their profession – and different from other representatives of their respective national culture. It is not the purpose of this article to assess whether these engineers’ assumptions of a culture-free community of engineers are objectively true. What is important is that they are subjectively true in a collective way. They are, in short, a key feature of a unifying collective social identity across sites: engineers, that is the collective belief, are a community regardless of national culture. And from a sense-making perspective, this might as well be the case.

One aspect of ‘Indianness’, however, seemed to be perceived as a negative national culture-specific category inside work, hence contradicting the established discourses of ‘we are all engineers’. It was called ‘this vegetarianism at the Indian site’ (in German: ‘Dieses Vegetariertum am indischen Standort’). ‘Vegetarianism at the Indian site’ was a frequent topic among non-Indian engineers, commented in ways such as (I quote): ‘I really can’t understand this vegetarianism at the Indian site’, ‘I really can’t understand why vegetarianism is so important to
them’, ‘I am really annoyed by this vegetarianism at the Indian site’ and ‘Do they always have to force their vegetarianism on us?’ It was almost as if vegetarianism seemed to encompass something profoundly alien, endangering, aggressive.

That is the outside perspective, but how is this vegetarianism motivated? At the Indian site, employees were mainly Hindu, with Christian, Sikh and Jain minorities. Among the Indian Hindu engineers, being vegetarian can be interpreted as following the Hindu ideal of purity. To summarize the bottom line of the ongoing work on caste and purity (for main perspectives see Cohn, 1996; Dirks, 2001; Dumont, 1970), one can say: in many schools of Hinduism, the act of consuming food itself is perceived to be impure as the (dirty) outer world now enters the (to be purified) inner body. Hence, food has to be as pure as possible, which in Hinduism often means vegetarian. Vegetarianism can also be a means of showing status, as mainly the purest subcastes (jatis), that all belong to the caste (varna) of Brahmins, have to adhere to vegetarian ideal completely. What could be observed at the Indian site was that middle and top management chose to be vegetarian regardless of their caste. Engineers and lower management tended to follow the principles of their jati, only being vegetarian if they belonged to a ‘purer’ jati.

This can be interpreted as the following. Whereas most engineers originally follow the guidelines of their social jati, management often chose to be vegetarian not because of jati but because of their hierarchical position within the company. Their job in itself is considered to be ‘pure’. During my time, three engineers stopped eating non-vegetarian food as soon as they had been promoted. Members of ‘pure’ jatis are expected by others to eat vegetarian, regardless of their hierarchical position. When I (mere doctoral student, but a Brahmin’s daughter) ordered a chicken Hawaii pizza for lunch, I was asked twice: ‘Do you really want to order this?’ The story of me having eaten a chicken Hawaii pizza was a frequent topic for two weeks.

At the same time, however, Indian engineers would regard Indian culture is a concept beyond engineering. One Indian engineer coined this belief as follows: ‘We are all engineers. We are not limited by Indian tradition.’ When asked why they preferred vegetarian food, Indian engineers would answer: ‘It tastes better’, ‘It is healthier’ or ‘I am used to it’. In summary, they would give individual reasons for what was perceived as an individual choice. Yet, researcher experience and observations in the field clearly seemed to indicate a collective pattern, most likely rooted in Hindu belief, and therefore strongly suggested otherwise.

Therefore, the two questions to be discussed are as follows. Why does it seem so important to Indian engineers to uphold their collective self-image of not being limited by Indian tradition? And why does their vegetarian eating seem to offend their German colleagues?

Field 2

Between 2008 and 2009, Company 2 had employed 13 Muslim engineers from such diverse countries as Serbia, Turkey, Iran, Bangladesh, India and Pakistan. A few of them started to pray at work, which was a frequent topic among German employees. In fact, it was the main reason why management decided to involve an external consultancy. Questions involved were background questions such as: ‘Why do they pray?’, ‘What does it mean?’ and ‘What is going on in the bathroom before they pray?’ Additionally, German employees expressed their insecurity (at least this was my interpretation), with questions such as: ‘Can I talk to them about religion?’ and ‘Is it okay to step over them if I really need to cross the office?’

When I stayed at the company, I observed an engineer from Iran who would roll out his carpet in the open office he shared with 15 other colleagues. He would then start to pray silently, kneeling,
bowing, lowering and rising in the Sunni fashion. At about the same time, participants of a German focus group session were asked to discuss whether ‘religion’ was a positive or negative value and whether it was relevant at work or not. One German engineer mentioned that he was Christian and that this was a strong source of motivation to him, that helped him to be a better engineer. Three other German participants contradicted this statement violently and called themselves ‘atheists’. When asked by me whether religion was a common topic of discussion for them, all participants stated: ‘No, we have never talked about religion at work, it is not relevant for researchers.’

When analyzing this episode, I realized that the same group-exercise which I had conducted various times at different companies had never before created conflict and discussion between German Christian participants. However, Company 2 was the only company in the former German Democratic Republic (GDR) which I had ever analyzed in such a way. In all previous (West) German groups, participants had either answered with ‘I am Christian but I am not religious’ or with ‘I am Christian and I am religious’. The category ‘Christian’ versus ‘atheist’ was not present there. I thus dealt with this discussion as being a specific East German one, rooted in the fact that church affiliation in the former GDR could, indeed, affect one’s social and professional life negatively and thus was often kept private.

However, this pattern went beyond East-German employees. Rather, participants considered religion to be ‘non-relevant’ at work in every focus group workshop or individual interview. Even the very same engineer from Iran whom I had so often observed praying in the office categorized religion as ‘non-relevant’ at work. Another engineer from Iran, a Shiite, and employees from Bangladesh, Pakistan, Serbia and Turkey who also prayed at work, would say the same. Therefore, both religious practice and considering this practice to be ‘non-relevant’ seemed to be present across different national backgrounds and different Islamic schools. Most Muslim engineers categorized their religious practice either as ‘tradition’, ‘something I just do’ or ‘a way to meditate’. To me, this pattern seemed similar to the negation of religiously motivated practice as encountered among Indian Hindu engineers at Unit 1.

Yet, in contrast to Unit 1, there seemed to be no alternative context in which discursive religious sense-making between established German and new Muslim employees took place. Religious practice and tradition was frequently talked about only among foreign engineers at Company 2, even by those who did not practise religion at work, e.g. Chinese engineers. Yet, as several Muslim engineers had told me, only a single German employee had ever talked about religion to them or asked any questions about religious practice at all. I did indeed observe that German employees from all professions directed their questions aimed at understanding Muslim prayer towards me and not towards their respective colleagues. When I actually suggested asking questions about religion at work during a group session, a German participant said: ‘You cannot be serious: This is a private topic!’ When I suggested talking about religion at work to members of the human resource department during a meeting, I was met with silence and a subsequent change of topic. As mentioned before, this reaction might be due to the fact that, in the former GDR, religious affiliation could have negative effects on one’s career and social life. Yet, employees from former West Germany behaved no different from their East German counterparts. Hence, I interpreted this pattern not as a regional cultural pattern but as a feature of organizational culture that new members learn through enculturalization. This interpretation is backed by the fact that the single German employee who did talk about religion was a student who left the company after another few months of part-time employment.

The questions to be discussed are the following. How can it be that all engineers rate religion to be a ‘non-relevant’ value at work – even though they adhere to it in daily practice? Why is there not room for religious discourse at Company 2 (as opposed to Unit 1)?
Religious practice in engineering: a cross-cultural conflict?

Discussion of findings

What could be the reasons for the negative perception of vegetarianism in Unit 1? In retrospect the following statement of a German engineer seems typical: ‘Tradition is a good thing – but do they [the Indians] have to limit themselves that much?!’ To him, ‘vegetarianism’ is a limitation, a not-exploring all possibilities.

This perspective can be interpreted with the help of studies on collective engineering identities. According to Latour and Woolgar (1979), membership in a community of technical experts is based on two aspects: scientific principles, i.e. learned theories, and contextual knowledge, i.e. expertise. Both aspects guarantee the individual’s status as expert, i.e. as an individual capable of preventing and solving technological issues. Yet, one can never be sure of expertise. For each scientific discovery bears in itself the possibility of error (Polkinghorne, 1988: 11); the same technology that can be completely understood one second can be troublesome and opaque as soon as error manifests itself (Barley and Orr, 1997: 13–14). Hence, a flaw in technology is not merely a technological but a deeply social crisis that challenges the individual’s claim to expertise (Vaughan, 1996). To prevent such a social crisis, the individual expert has to constantly display a certain habitus of expertise (Orr, 1996), thus embodying the ideals of endurance, unlimited ‘wanting to understand technology’ and creative problem-solving abilities (e.g. Latour and Woolgar, 1979; Mahadevan, 2009; Vaughan, 2007). Only if another engineer displays these ideals of expertise, can he or she be trusted to perform expert work in times of crisis (Mahadevan, 2009). This is even more essential in contexts in which individual expertise is not visible to others (Mahadevan, 2009), as in Unit 1 and Company 2.

In the light of this ideal, Indian engineers do indeed limit themselves through vegetarianism in a way that violates professional ideals. At the same time, they view their vegetarian lifestyle as health consciousness or as an individual choice – despite all evidence to the contrary. Their first argument is scientific, the second one stresses individual freedom. Both reasons fit perfectly with engineering ideals – adherence to religion does not. Hence, in giving this meaning to vegetarianism, Indian engineers construct themselves as members of the engineering community. In similar fashion, Islam is visible at Company 2 but not acknowledged. Even those who practice Muslim prayer downplay it as ‘non-relevant’ at work, as needed for the construction of collective engineering identity.

One could now ask whether the degree of visibility influences the perception of religious practice. Obviously, Muslim religious practice is more visible than Hindu religious practice. Both are much more visible than Christian religious practice. Therefore, the same degree of faith might be viewed as much more zealous when expressed through Muslim or Hindu religious practice when compared to Christian religious practice. And indeed, at Unit 1, vegetarian eating does seem to be a strong conflicting signal: in the eyes of their German counterparts, Indian engineers do not succeed in reinterpreting its meaning. Rather, vegetarianism does continue to be perceived as a strong signal of limitation, sent out again and again. In a pattern of similar regularity, Islamic practice requires visible prayer five times a day. Both practices are characterized by regular and frequent repetition according to strict rules. In both cases, repetition takes place in a context of knowledge transfer from experienced to new engineers. From the experienced engineers’ perspective, the learners’ repetition of a counter-engineering practice might therefore signal resistance against becoming an engineer. The adherence to strict rules might also signal a spirit that is not free and does not explore all possibilities. If this collective sense is made, then vegetarianism and Muslim prayer do indeed contradict the habitus of expertise, which results in a lack of trust. Therefore, they cannot be dealt with as just another folkloristic category of national culture outside engineering.
Yet, beyond this shared interpretation, there is notable difference between Unit 1 and Company 2. At Unit 1, religion is a part of daily life, albeit outside engineering. Hindu and Christian religions are practiced and discussed amongst German and Indian engineers. From the German perspective, religion is relevant, too. It is simply considered a value and a practice outside engineering that should remain there. Therefore, it is merely the repeated limiting display of religious practice at work that contradicts emic collective professional identity from German perspective. In other contexts, interpretations overlap.

In Company 2, the degree and frequency to which religious practice is visible do not seem to influence constructed meaning, for even ‘silent’ and ‘non-visible’ Christianity is opposed when viewed as meaningful by individuals. It is not the contextualized practice but the meaning of religion itself that seems to create difference, regardless of how, where and when religion is practiced. This pattern is observed beyond the engineering community. It might be rooted in regional East German culture, but West German employees also display it. Therefore, it can be assumed that the concept of ‘religious silence’ is a feature of organizational culture.

When compared to Unit 1, religious-based conflict at Company 2 seems meaningful on more cultural levels (professional, regional, national and organizational versus just professional) and in a different sense (‘meaning of religion as such’ versus ‘in which context to practise religion’). Therefore, conflict at Company 2 seems more likely to endanger established identities, an assumption that is backed by the observation that there is no discursive interaction at all on the topic of religion—in whatever context. From an interpretative perspective, this signifies a degree of difference in sense-making that is high enough to make the construction of shared meaning through interaction impossible. At Unit 1, this is not the case.

If religious silence is indeed a feature of organizational culture at Company 2, it has to be discussed whether non-Christian engineers might be able to make this concept their own. Unfortunately, this question could not be answered during research, as there were no non-Christian German and only three Christian non-German researchers (Ukrainian, Japanese and Mongolian) at Company 2 who had been working with the company for more than three years. From a theoretical viewpoint, non-German Christian engineers might indeed appropriate the concept of religious silence, for their practice is invisible. Hindu practice bears the possibility of being confined to a specific context (lunch). Yet, for Muslim engineers, appropriation of this concept might not be possible due to the repeated visibility of their religious practice at work. Furthermore, as most foreign employees only have a fixed-term work contract at Company 2, time might run short.

**Conclusion: assessing conflict in cultural complexity**

As the previous pages have shown, the following three levels of culture influence collective sense-making in the above mentioned fields: first, national, regional or local culture as the external geographic dimensions of culture; second, organizational culture as the internally shared dimension of culture; third, professional cultures as the internally heterogeneous dimensions of culture. The line between professional cultures is drawn in-synch with professional practice, in this context between non-technical (administrative or managerial) and technical (researcher or engineering) collective identities. These findings on cultural complexity can be related to the proposed dimensions of conflict (functional or constructive versus dysfunctional or deconstructive) and to related recommendations for management (let the conflict be ‘played out’ or manage it). Levels of culture and dimensions of conflict can be linked to the boundary conditions of collective sense-making (stability
versus crisis, be it organizational or technological). Figure 1, a model of how to assess conflict in cultural complexity, summarizes all these dimensions.

Following the interpretative viewpoint, ‘culture’ equals ‘collective identities’ on several interrelated levels, all of which can be equally powerful, depending on context. Here, the qualitative interpretative perspective does make a difference when compared to the quantitative comparative approach, for this model prevents conflict being culturalized or reified along national cultural lines that are perceived as a limiting given. When this line of thought is applied to the cases discussed, it becomes visible that both conflicts are not rooted in external national culture. Nevertheless, they are cross-cultural conflicts because they violate emic cultures in the sense of ‘collective identities in the making’ and might hinder the creation of new shared meanings.

At Unit 1, the conflict arises between Hindu religious practice rooted in external culture and transnational professional engineering culture. Yet, this is only a contextualized and partial difference: the concept of religion is valued outside work and negated in engineering by all engineers. Even though their interpretation of when and how to display religious practice at work varies, all engineers give the same emic sense to religious practice: they hold it to be irrelevant. In doing so, they construct a culture-free transnational engineering community that helps overcome partial difference in religious practice. Beyond this partial conflict, they make new discursive sense out of

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**Figure 1. Assessment of conflict in cultural complexity**
Source: Author’s model, based on research findings.

**Boundary condition: stability or crisis**

<table>
<thead>
<tr>
<th>Interpretation of conflict</th>
<th>Positive (to be let being played out)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural level</strong></td>
<td>Ext C</td>
</tr>
<tr>
<td></td>
<td>F C</td>
</tr>
<tr>
<td><strong>Conflict type</strong></td>
<td>F</td>
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<tr>
<td>Ext C</td>
<td>DF</td>
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<tr>
<td>Org C</td>
<td>DF</td>
</tr>
<tr>
<td>Prof C</td>
<td>DF</td>
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</tbody>
</table>

**Culture**
- Ext C = External Culture
- Org C = Organizational Culture
- Prof C = Professional Culture

**Conflict**
- F = Functional
- C = Constructive
- DF = Dysfunctional
- DC = Deconstructive
religious difference. Therefore, the conflicting signal of vegetarianism can only weaken but not destroy the professional cultural link; difference in religious practice does not lead to religious silence and discursive segregation. The more the new Indian engineers learn and the more they display a habitus of expertise, the more it is to be expected that they will display engineering ideals, thus integrating themselves into the community. Through this process, vegetarianism will most likely lose its counter-interpretative power. Due to the fact that the emic construction of collective engineering still possesses integrative power, this conflict cannot be viewed as dysfunctional. It might even be functional in such a way that a discursive renegotiation of religious difference shapes new shared cultural meanings across boundaries between ‘we’ and ‘the other’ which leads to the deconstruction of these boundaries. Yet, it might have a deconstructive potential as soon as there is a flaw in technical work from India. In this context of technological crisis that weakens the trust in expertise, vegetarianism might be a strong enough signal for German engineers to perceive Indian engineers as ‘bad engineers’. It might furthermore lead to perceived endangerment (for German engineers are held responsible for successful knowledge transfer) that makes othering more likely.

Therefore, the recommendation for management is to let the conflict be played out and at the same time monitor the contexts of stability and crisis. As soon as a crisis occurs, management intervention might be needed.

At Company 2, the conflict seems to arise between professional engineering culture and Muslim religious practice based on external culture only at first glance. In-depth organizational analysis shows that this conflict goes beyond a single context and encompasses all relevant levels of culture. Additionally, it impacts the construction of a shared collective professional identity, which makes this conflict an unconstructive one. Unlike at Unit 1, employees of Company 2 cannot find an integrative discursive strategy in other contexts or similar meanings on other cultural levels to overcome perceived difference between ‘we’ and ‘the other’. Therefore, this conflict has to be viewed as dysfunctional. This unconstructive and dysfunctional conflict takes place in a context of organizational change. This boundary condition makes identity endangerment and consecutive othering more likely. Therefore, the recommendation for management is to intervene and to break religious silence in order to strengthen shared professional identity. However, this article does not cover the next step. As a first suggestion, integration might be achieved through joint team-development sessions or increased cultural awareness through training and coaching. A separate prayer-room might reduce visibility of Muslim religious practice.

Implications, limitations and further research

As this paper has shown, interpretative research on cross-cultural conflict can lead to the generation of new theory, for example a model of how to study conflict in cultural complexity. If culture and conflict in organizations are approached from a sense-making perspective, the guiding paradigms are multiple cultures, the influence of context and the importance of emic perspectives on ‘we’ and ‘the other’. In this way, cross-cultural conflicts can be categorized in a way that is meaningful to actors in the field. This leads to models the external validity of which is proven for a specific field.

Research outcome based on qualitative ethnographic research is limited by the fact that is does not lead directly to recommendations for management action. The missing link should be established through action research. In the case of Company 2, for example, the next step would be to design, implement and accompany recommended action for management long-term. As a second limitation, qualitative research on cross-cultural conflict cannot be generalized. Therefore, further qualitative research should gather in-depth information on numerous fields that might form the basis
for further quantitative research. As a second step, quantitative comparative research on cross-cultural conflict can apply these models and theories derived from exploratory and qualitative studies.

References


