Translating Answers to Open-ended Survey Questions in Cross-cultural Research: A Case Study on the Interplay between Translation, Coding, and Analysis

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Abstract
Open-ended probing questions in cross-cultural surveys help uncover equivalence problems in cross-cultural survey research. For languages that a project team does not understand, probe answers need to be translated into a common project language. This article presents a case study on translating open-ended, that is, narrative answers. It describes how the translation can be approached to obtain high-quality translations and how translation, coding of answers, and analysis of codes are all deeply interwoven. While the translation of narrative answers is a small field of application,
the article's content is also relevant for those who are increasingly setting up cross-cultural cognitive interviewing or for qualitative researchers in general who pay increased attention to the translation of qualitative research data.

**Keywords**
translation, open-ended questions, probing, qualitative research, cross-cultural research

**Introduction**
Researchers who analyze cross-cultural survey data have to assess equivalence of their data before drawing any substantive conclusions. Otherwise, method artifacts might be interpreted as substantive results. Various statistical procedures help to assess equivalence (Braun and Johnson 2010; Davidov 2009), but generally they do not allow to identify the causes of nonequivalence. To this end, a research project at GESIS, in which I have been involved, pioneered probing in cross-national web surveys. We implemented open-ended probes, as typically used in cognitive interviews, in cross-national web surveys to gather large amounts of qualitative data on how respondents had arrived at their answers. The goal was to code the answers we received from respondents and to use the codes (i.e., the response patterns across countries) to assess equivalence of survey data. In one study, for instance, we analyzed how respondents across Canada, Denmark, Germany, Hungary, Spain, and the United States understood the term “civil disobedience,” as used in an item from the International Social Survey Programme (ISSP; Behr et al. 2014). A response pattern focusing on violence and destruction emerged mainly in Canada and the United States. This pattern had a significant effect on how Canadians and Americans answered the closed civil disobedience item. We suggested that different understandings of civil disobedience across countries may have introduced a method bias for this item. However, before being able to use and code the respondent's probe answers, the answers had to be translated. Our research team spoke German and English, but none of us were fluent in Danish, Hungarian, or Spanish. Our main question in dealing with this translation was how should one approach the translation of qualitative research data and then the coding of the data, given that quality translation is critical to coding and appropriate coding is critical to the research findings?
The article presents our answer to this question. First, I outline previous research about translation of qualitative data. Second, I present our approach to the translation of qualitative data, particularly in terms of translator recruitment and briefing. Third, based on experiences from coding the translated answers and using them in research, I list the pitfalls and challenges involved in using translated qualitative data. Overall, my goal is to raise awareness about the integral role of translation within the cross-cultural research process and help researchers plan their research, appropriately allocate resources to translation, and decide on suitable analysis strategies for the translated material.

While web probing and the translation of the resulting answers is certainly a small and very specific field of application, the issues described here are also relevant for the emerging use of cross-cultural cognitive interviewing in survey research (Lee 2014; Miller et al. 2011) or for qualitative researchers in general. Various recent articles show that qualitative researchers have identified translation of qualitative data (in-depth interviews, focus groups, quotations for publications, etc.) as a topic that requires attention (Enzenhofer and Resch 2011; Squires 2009; Wettemann 2012).

**Issues in Translating Qualitative Research Data**

Quantitative researchers have long been aware that the quality of questionnaire translations is critical to research outcomes. Among the problems cited are blatant translation mistakes, shifts due to different linguistic systems, or different understandings of apparently well-translated items due to different cultural backgrounds (e.g., Collazo 2005; Harkness et al. 2004; Pérez 2009). Against this backdrop of vulnerability of research material, it is not surprising that researchers are increasingly looking into the translation of qualitative data, too. Findings based on qualitative data may also be biased due to translation problems: Subjective interpretation may shift the translation in one direction or the other (without necessarily being outright wrong), words may have no equivalents, or direct equivalents – even though available – may not convey the set of connotations implied by a term in the original language.

Wong and Poon (2010:155), for instance, list four translations of a Cantonese expression in the context of a wife’s multiple roles (literal translation of this expression: “for-husband-think”). These four translations are as follows: (1) “She will be concerned about the well-being of her husband”; (2) “Besides supporting their men, […]”; (3) “Apart from being considerate of the husband, […]”; and (4) “Apart from putting the needs of the
husband first [...]" The lack of a direct equivalent of the Cantonese expression meant that all translators had to interpret the expression and create a text based on their own understanding. The fourth translation was offered by the researchers themselves, who thought it would better match the tenor of the entire interview and gender relations in many Cantonese immigrant families in Toronto.

Depending on the research question, such subtle changes in meaning may or may not be relevant. Birbili (2000) provides an example of potentially different connotations. She posits that the term “civil service mentality,” although possibly conjuring up similar images in several cultures (e.g., that of being very observant of one's rights), may not convey the same (negative) associations to an English speaker as it does to a Greek speaker. Once again, whether this has an effect on the research outcome depends on one's research question.

Although the subjectivity of translation or the elusiveness of connotations, among others, cannot be eliminated, quite a few things can be done to keep the translation process under control. Thus, translators should carefully be chosen in view of both translation skills and relevant subject matter knowledge. Moreover, as is common practice in the translation industry (e.g., ASTM International 2006), they should be briefed on the goals of the translation (i.e., how it is going to be used and by whom). These criteria affect what the translation should eventually look like and what kind of interventions, if any, are permitted.

When briefing translators on the translation requirements, one may also request commenting on the translation (e.g., with regard to metaphors, sayings, culture-specific wordings, or allusions; Enzenhofer and Resch 2011; Temple et al. 2006). Comments like these are regarded as being powerful tools for better understanding the research data and doing justice to its foreign context and origin. A step beyond commenting is including translators in the analysis process as so-called cultural brokers. Thus, valuable intercultural knowledge can be integrated into the research process (Enzenhofer and Resch 2011; Wong and Poon 2010).

Other procedures to ensure translation quality and subsequently quality of research include translation reviews, team translation decisions, or parallel coding in the original language and the translation to ensure that the same meaning is expressed in both the original text and the translation (e.g., Lopez et al. 2008; Thrasher et al. 2011). In addition to these steps and procedures to ensure good quality translations and sound research conclusions, it is important to acknowledge the use of translation and its potential impact on results to raise the study's trustworthiness (Squires 2009).
Next, I present a case study on translating answers to open-ended probes (administered online). The case study will embrace the issues of translator recruitment and briefing; it will also point to challenges with coding answers and analysis related to translation.

**Case Study: Translation of Answers to Open-ended Probes in Web Surveys**

**Project Background**

As part of the project “Enhancing the Validity of Intercultural Comparative Surveys: The Use of Supplemental Probing Techniques in Internet Surveys,” we conducted cross-national web surveys in Canada, Denmark, Germany, Hungary, Spain, and the United States in January and October 2011. The surveys focused on the topics of family and politics and included mainly closed items from the ISSP. In addition, we asked a limited number of open-ended cognitive probes, such as a comprehension probe on the meaning of a particular term or a category selection probe about why a particular answer category had been chosen. While these probe types are typically asked in face-to-face cognitive interviews (Beatty and Willis 2007), our project aimed at assessing the feasibility and usefulness of implementing these probes in cross-national web surveys. The overall goal was to use the probe answers to assess cross-national item comparability (e.g., Behr et al. 2014; Braun et al. 2013). Figure 1 illustrates what a probe looked like.

The following list gives some ideas of the type of probe answers we received (answers to comprehension and category selection probes regarding civil disobedience, typos corrected):

![Probe screen for a comprehension probe.](image)
To me, it is demonstrations, blocking bulldozers perhaps, peaceful actions only. It does not include the yahoos that break windows, and so on, every time there is a major demonstration. I have no patience with violence.

Enough taxes are imposed on us; time to tell or rally the government.

I think this should only take place if all other avenues have been exhausted. I think about countries where there is no choice but to take more severe measures for their human rights.

In general, respondents were quite willing to answer our probing questions, so we obtained a large number of probe answers in the different languages involved in our study. Our goal was to set up coding schemes, code the answers, and compare response patterns across countries to evaluate item comparability. Our team members spoke German and English but were not sufficiently proficient in Spanish, Danish, and Hungarian. Translation of probe answers of these latter languages into our project language, German, became necessary to (1) take into account country-specific patterns when developing coding schemes; and (2) allow coding by team members not speaking these three languages.

**Translator Recruitment**

We issued a call among professional translators in Germany for the translation of our Spanish, Danish, and Hungarian probe answers into German. The call included both native and nonnative speakers of German, preselected according to the subjects they specialize in. For our Spanish translator, we eventually hired a native speaker of German who had lived for approximately 10 years in Spain. For Danish and Hungarian, we hired native Danes and Hungarians who have been living and working in Germany for a long time. Typically, translators translate from the foreign language into their mother tongue since, in their mother tongue, they have the full set of linguistic and cultural knowledge available to produce a fluent, idiomatic, and meaningful translation (Pavlović 2007). For these reasons, translating into one's mother tongue is the recommended procedure for questionnaire translation. Our practice of hiring nonnative speakers of German for the Danish and Hungarian translation was mainly due to difficulties finding suitable and available German native speakers who had excellent Danish-and Hungarian-language-speaking skills and who were based in Germany. After all, Danish and Hungarian are not frequently learned languages in Germany. Since we were not striving to obtain perfectly idiomatic translations throughout. – this was not deemed necessary
for our purposes where content transfer was in the foreground – we regarded this break of the traditional translation direction as a viable option. Moreover, we were certain that the original text could be understood in all its nuances, an important factor, too. We reserved the right to recontact any of the translators if there were problems or queries regarding their translations.

Translator Briefing
Since probe answers are not a typical text type for translation, we intended to provide guidance to translators on how to approach the translation. The first part of the briefing document for translators thus presented the research context in which the answers would eventually be used.1 We then specified what kind of translation we expected them to perform, namely a so-called documentary translation that essentially preserves the meaning of the original (Nord 1997). Translators were not supposed to culturally adapt the text (i.e., they were not supposed to replace country-specific events, persons, etc., by their German counterparts). We did ask for a close translation but explicitly rejected the notion of a word-for-word translation. Translators were allowed, however, to ignore the massive amount of spelling mistakes, grammar mistakes, and minor omissions that inevitably happen when respondents of diverse educational levels or typing abilities answer open-ended questions in web surveys.

In addition to this general introduction, we intended to provide some more detailed instructions to translators. These were set up following an in-house trial translation of various probe types from English into German and subsequent discussions among the translator, an expert in coding, and myself. We eventually laid out the following translation instructions for our translators:

1. Meaningless entries: We asked translators to leave nonresponse answers, such as meaningless letter combinations or question marks, as they were.
2. Lack of disambiguating context: In online probing, some (substantive) answers may consist of only one word or a short phrase. Sometimes rivaling, equally possible translations can exist for such terms or phrases, given that a context enabling disambiguation may not exist. In cases of uncertainty, we asked translators to produce a tentative translation and to add a comment on the different interpretation possibilities. The Spanish abandonar sin motivo el puesto de
trabajo (association regarding the meaning of “civil disobedience”) thus received the comment that both leaving a job for good and leaving the workplace temporarily may be possible interpretations; the latter one, however, was regarded as the more likely interpretation in the context of the probe question.

3. Unclear statements: Some statements included obvious contradictions or were difficult to understand. This was, for instance, the case with “gradual change on most economic/changes more on military” as a reply to the probe on what respondents associate with the meaning of “left” in political terms. We asked translators to convey whatever possible in translation and to comment on the problem.

4. Reoccurring terms: Particularly for comprehension probes on the meaning of a term, we received key word lists, such as “demonstrations, protest rallies, marches, and blockading roadways” being associated with civil disobedience. We asked translators to consistently translate key terms reoccurring across different respondents to facilitate subsequent coding. For instance, “riots” – or their foreign language equivalents – should be translated by the same German word whenever this activity was mentioned by respondents.

5. Style: Some respondents used a colloquial style of writing (e.g., government sucks), while others used a more formal style. We asked translators to maintain the respondent's style of writing to the extent possible.

6. Missing elements/references: Some respondents were careless in their writing, leaving out articles or other grammatical elements. We left it at the discretion of the translators to adjust whatever is needed without changing the content of the text. In cases of larger interventions by the translator, we asked for indicating these by [ ] and a comment.

7. Cultural references: Highlighting their role as cultural mediators, translators were asked to comment on country-specific events (e.g., strike of air traffic controllers) or persons (e.g., politicians), and so on, to help us better understand answers within their sociocultural context.

Along with the briefing document, the translators received an Excel file. In this file, one column was reserved for translation and an additional one for commenting. The answers of the different respondents were displayed in separate rows (see Figure 2). The use and setup of the Excel file was
Lessons Learned
Along with or after translation, coding schemes for the different probes were set up. The answers were then coded according to these schemes. Throughout the process of coding and subsequently analyzing the data, several issues emerged that were directly or indirectly related to translation and deserve attention in future rounds of probe translation, coding, and analysis.

Developing the coding scheme. When developing a coding scheme based not just on theoretical expectations but also on the content of the qualitative answers themselves (e.g., Mayring 2000), it is essential to consult a sample of translations/original answers from all participating countries of a study. This allows considering the diverse country-specific answer patterns to a question. In addition, this helps define codes and select examples for a common coding scheme in such a way that the different perspectives or particularities from each country are fully taken into account. Biased coding outcomes or increased uncertainties during coding can thus be avoided. If all translations are not available when a coding scheme is being developed, an alternative would be to pass on a first draft of the scheme to a research partner proficient in the respective foreign language to assist in the development and cross-cultural adaptation of the scheme.

Another issue to consider during the development of the coding scheme is the differentiation between codes. Certain differentiations between codes can be difficult enough in one language, but these can be exacerbated in a cross-cultural context. The following example serves as an illustration.

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Figure 2. Translation template for the comprehension probe on the meaning of “civil disobedience.” Influenced by documentation practices in questionnaire translation (Harkness et al. 2010).
Context of example:
Item: How important is it that citizens may engage in acts of civil disobedience when they oppose government actions?
Probe: What ideas do you associate with the phrase “civil disobedience”? Please give examples.

Our original coding scheme included a code for answers referring to “breaking the law” and another one for answers referring to “breaking rules.” The latter code was to be used whenever it was not clear whether rules were meant in the legal sense or more in general. It soon became evident that it was not always easy to make this distinction. When the Spanish into-German translation came in, we did a cursory review of the translation, with potential problems in view of later coding in mind, and sent queries back to the translator. For instance, when the translated German word Vorschriften appeared, we were at times not sure whether the original Spanish wording for Vorschriften leaned more toward the law side or toward the rule side. The Spanish term used for Vorschriften was often normas.

Sometimes the context clarified that the legal context was meant; hence, we chose the code “breaking the law.” In other more vague instances, we stuck to the translator's personal assessment that normas can mean laws but also more generally rules of whatever nature. In these cases, we assigned the more general code. In our quantitative analyses, we used the two codes “breaking the law”/“breaking rules” separately and, in a control version, also as a merged variable to make sure that potential translation shifts did not bias any results (Behr et al. 2014). Future coding schemes should consider whether any subtle differentiations are needed and what they might mean for translation, for the coding of translations, and for data analysis. In this regard, a good rule of thumb could be whether even in one's own language it is challenging – due to linguistic subtleties – to assign an answer to one code or the other. If subtle nuances are necessary for research purposes, it seems advisable to include native speakers of the foreign language into the research process.

Biased probe answers. When analyzing probe answers in a cross-cultural perspective, the wording of the closed reference item and the probe itself should also be considered. The wording of these questions may not be fully comparable across countries. Different answer patterns for the probe may then stem not only from the sociocultural background in the different countries but also (or exclusively) from different stimuli in the reference item or the probing question itself.
When developing the coding scheme for the probe answers, we set up a code called “integration,” which included mingling with natives and refraining from living in ghettos. The answers “integration” or “integrate” – “integration” or “integrieren” in German – were, despite their vagueness, considered to be indicators for this code. In the Spanish context in both the original and the translated probe answers, the references to integration, both vague and more elaborate, occurred quite frequently. Some peculiar way of answering made us assess the closed reference item and the probe wording in Spanish again, which were Los inmigrantes deberían integrarse más en el estilo de vida de los españoles and Indique por favor en qué tipo de integración ha pensado al responder a la pregunta,” respectively (emphases not in the original). Even without speaking Spanish, one can easily see that the word “integration” is already part of the reference item and the probe. Therefore, we cannot rule out that a higher frequency of the probe code integration in Spain was due to the item or the probe wording itself. To conclude, the original closed and probe questions should always be thoroughly checked to assess whether country-specific wording causes a biased probe answer distribution across countries.

**Translation of culturally loaded terms.** We noticed that not just events, persons, or other “hard cultural facts” needed commenting by the translators. Culturally loaded words that derive their core meaning from the cultural context in which they are embedded also need additional explanations. This need became evident during our English-German trial translation.

**Context of example:**
Item: Many people use the terms “left” and “right” to designate different political positions. We have a scale here that runs from left to right. Where would you position your own political views on this scale?

Probe: Now please tell us what ideas you associate with the term “left.”

Americans frequently gave us answers such as “big government” or “larger government,” terms that significantly shape the U.S. political debate but less so
the German one. We opted for a very neutral translation mehr Staat (more government) but provided additional information to better understand the political significance of the terms and their connotations. For instance, “big government” is a derogatory term denoting excessive government spending, centralization of power, or too much control over people's lives.

**Language competence of translators.** How did we fare with Danish and Hungarian native speakers translating into their strongest foreign language (i.e., German)? Our experience in general was very good, given that these were professional translators who have been living and working in Germany for a long time. Moreover, the Hungarian translator had an additional language check by a German native speaker so that language correctness could be improved. We did notice a few stylistic deviations, however. These had repercussions, in particular, for automatic coding of one set of probe answers—namely, those answers focusing on what respondents thought of when hearing “left” and “right” in the political context (Züll and Scholz 2012). A German-language dictionary was the basis for automatic coding. Some mistakes in gender agreement or wrong prepositions in the Danish-German translation hindered correct automatic coding and increased the amount of manual post-processing. Furthermore, some confusion among the coders in terms of idiomatic language can be prevented if coders are informed from the start that nonnative speakers have been involved in translating probe answers. If suspicious wording occurs repeatedly, one should consider contacting the translator and clarifying the issue with him or her. It has to be stressed again that we did not aim for complete idiomaticity in the texts; therefore, the solution chosen seemed appropriate in our particular research context. This highlights again the importance of specifying a translation goal on the basis of one's research goals and strategies.

**Intercultural and interlinguistic awareness of researchers.** Working with translated qualitative data calls for a certain sensitivity and for intercultural and interlinguistic awareness. Suspicious answers should lead to a check of the original.

**Context of example:**
Several items on attitudes toward immigrants.

**Probe:** Which type of immigrants were you thinking of when you answered the question?
When answering this probe, quite a few Danish respondents came up with Mellemøsten, which was literally translated into German as Mittlerer Osten. Mittlerer Osten is not used frequently in German everyday speech. In addition, the borders of Mittlerer Osten are not clearly defined. Countries including India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, Afghanistan, and Iran could be subsumed under Mittlerer Osten (Sick 2005). In our coding scheme, the answer Mittlerer Osten would thus have been assigned to the codes “Islamic countries” and “Asian countries.” Being surprised by the frequent occurrence of Mittlerer Osten and aware of typical mistranslations of the English term “Middle East,” we recontacted the translator and asked her to define the scope of the Danish term “Mellemøsten.” The translator defined it in such a way that it became clear that Naher Osten [Middle East] is the correct translation. The new translation was assigned to the code “Islamic countries” only.

Quality assurance. We tackled the issue of quality by careful translator recruitment and briefing as well as combining translation, commenting, and getting back to translators if there were queries. While we implemented double coding on the basis of the translated texts to calculate intercoder reliability, we did not code both the (Danish/Hungarian/Spanish) translation and the original version. Thrasher et al. (2011) provide a scenario that would be worth testing in future projects to ensure both coding and translation reliability. After having coded cognitive interviewing data based on the English translation of interview answers, Thrasher et al. went back to those who collected the original cognitive interview data. These teams reviewed the coding results based on the original language, and any discrepancies between the English language coding and the original language coding were resolved by discussion (see Lopez et al. 2008; Twinn 1997).

Conclusions
The trustworthiness of research results based on translated qualitative data depends heavily on the quality of the translation and the chosen research strategy. In view of the former, one should thoroughly select and brief translators. In our particular example, we were able to successfully work also with translators translating out of their mother tongue into their strongest foreign language – a less typical translation direction among practitioners. This choice required great German proficiency on the translators' side and a desired translation outcome on our side that could sometimes make do with less than perfectly idiomatic German. The translator briefing included instructions on permissible and nonpermissible changes to the text. Moreover, translators were asked to comment on
When developing coding schemes, we found it essential to consult a sample of answers from all participating countries in the study to avoid a cultural bias in the coding scheme itself. Furthermore, subtle differences between codes should be avoided; they may not be visible or clear-cut in translation. When analyzing the data, researchers should be ready to question suspicious data at any time. The probe answer translation may not have been correct, or a peculiar answer pattern may have resulted solely from the way a probe or the respective closed item was worded in the original language. The general awareness of cross-cultural issues should not stop at the end of the analysis, though. It is important to document language-related issues in research reports and papers to provide those who read these documents with a better understanding of how the findings came about. Moreover, this documentation demonstrates that researchers are well aware of the integral role of – high-quality – translations within the research process.

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Note
1. These guidelines (in German) are available on request.

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