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**Facebook as a multilingual communication site**

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**Facebook as a multilingual communication site**

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## **Abstract**

### **Facebook as a multilingual communication site**

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As Facebook grows beyond a billion users (Zuckerberg, 2012), a decreasing percentage of those users are English-only speakers. Facebook provides a platform for multilingual conversation to occur, which requires that Facebook display non-Latin scripts. Because of the hegemony of English and the Latin alphabet on the Web, non-Latin scripts are often “ASCII-ized.” Displaying non-Latin scripts well facilitates communication for multilingual users and creates a place where they can explore their identity linguistically as they post on Facebook. This study examines what factors contribute to multilingual Facebook users making linguistic posting choices.

Many have named Facebook as a successful multilingual Web site, thus it is reasonable to expect that Facebook is an exemplar of multilingual social networking sites. This study is an examination and critique of Facebook’s multilingual translations. To address questions of how Facebook’s interface facilitates or impedes multilingual conversation, the researcher recruited twelve active, multilingual Facebook users to participate in individual interviews and a small focus group. Besides English, these users spoke and posted in the world’s four other most widely spoken languages: Chinese, Spanish, Arabic and Hindi.

The researcher found that multilingual Facebook users did not always have a choice in what language they would post. Users faced obstacles ranging from the Facebook app distorting script display to hardware bias limiting users’ text entry. Furthermore, participants’ linguistic presentation was not dichotomous between two languages; multilingual users and their friends are accustomed to operating in a multilingual space.

The larger implication of these findings is that Facebook, despite pioneering massive translation projects, has not solved the problem of linguistic representation for social

networking sites. Facebook's solution is not scalable to less widely spoken languages because even languages with many millions of speakers, such as Spanish, have flawed implementations on Facebook.

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## INTRODUCTION

Facebook has over a billion users, which is more than the number of all native Spanish, English, and Arabic speakers combined (Lewis, 2009; Zuckerberg, 2012). Facebook crowdsourced its translation to its users, asking them to translate, then vote on the translations of, over tens of thousands of phrases used on the social networking site (SNS) (Ostrow, 2007). The site went from English-only in 2008, to the multilingual monolith it is now: available in 95 languages and 22 localizations.

Since April 2009—when Facebook had 200 million users (Zuckerberg, 2009)—Facebook has added, on average, 100 million users every 167 days. Support for multilingualism and localization is requisite for any company running an international Web site. Facebook, one of the most visited sites in the world, is no exception.

Because English has the “founder’s historical advantage” (Herring et al., 2007), many Web users are expected to have a working knowledge of English to use many areas of the Web. English plays a prominent role on the Web, down to the code level with HTML, CSS, JavaScript, and other Web coding languages. Madelyn Flammia argues that, “the use of English as the language of the Internet may subtly promote certain cultural values while suppressing others” (Flammia & Saunders, 2007). As the Web becomes an increasingly diverse linguistic space, large, multilingual sites such as Facebook become significant stakeholders in maintaining that diversity. It is an ideal time to make sure new multilingual Internet users see the Web as an inviting place.

John Yunker considers Facebook the second-best multilingual Web site, right behind Google (2012). He ranked sites by four criteria:

1. **Global Reach** (the more languages supported, the greater the global reach).
2. **Global Navigation** (ensuring users can easily find local content).
3. **Global/Mobile Architecture** (global consistency – across different locales as well as across browsers and mobile devices).

4. **Localization & Social** (depth and breadth of localization and support for local-language social networks).

Yunker also found that the average number of languages in which a multilingual Web site was available was 32. Facebook has clearly exceeded the 32 languages that the industry expects of multilingual Web site implementation by translating the site into 95 languages and 22 language localizations. The section on the

Internationalization of Facebook below provides the explanation for the difference between languages and language localizations. Is Facebook a site that other social networking sites (SNS) should look to as a strong example of a multilingual site that facilitates multilingual identity exploration?

The internationalization process of Web sites is requisite for any global company. Benjamin B. Sargent states, “In 2009, it only took 37 languages to reach 90% of people online. In 2012, it takes 48 languages to reach the same percentage” (2012). It is increasingly important for companies who wish to have an international audience to have their Web content available in multiple languages. If the company does not plan for a global presence from the beginning of the company’s online development, the costs associated rise dramatically for each development stage (Sikes, 2012). The steps required for internationalization are in the

Internationalization of Facebook section of the thesis below.

For many years scholars have observed that English is the lingua franca of the Web (Kramarae, 1999). John Paolillo echoes the assertion that English is the lingua franca for the Web, saying that, “English remains the most prevalent language on the Internet, and some very populous languages have little or no representation” (2007). Because of either poor online representation of the language or hardware limitations such as those instantiated in keyboards, “many experts worry about the loss of linguistic and cultural diversity in cyberspace” (Flammia & Saunders, 2007). These experts are also concerned about the dominance of a “universal” language that the European Union (EU) or the global marketplace uses (Nelson, 2000). What part does Facebook play in promoting linguistic diversity in cyberspace?

Translation frames the narrative of Facebook as a multilingual site from at least two perspectives. Facebook solicited translation help from its multilingual users and linguists alike. These amateur user-translators and linguists translated the site interface. The interface, for the purpose of this research, comprises the phrases of text that display in a user’s account. These phrases could appear after a friend has updated her contact information, when a user creates a Facebook event, or the text the user sees when he clicks the “Like” button. The last kind of translation happens when Facebook users translate their own posts into other languages. Thus, understanding underlying translation principles from the field of translation studies helps to give context for the complexity of the task of translation. The translation theories related to translating Facebook appear in the section

Views on Translation below.

Crowdsourcing translation is what enabled Facebook to be available in the languages it is now. Thousands of volunteer Facebook users translated the site interface phrase by phrase. Facebook publicly praised and cursorily described this process in non-technical terms in its corporate *Facebook Blog* (Haddad, 2009; Kwan, 2009a, 2009b; Lavoie, 2009; Linder, 2009; Little, 2008; Vera, 2008; Wong, 2008). While Facebook still uses this method to translate the site, there has been no public communication about it since 2009. The corporate bloggers also did not discuss or engage with users who had “hacked” the translation app, who forcibly voted incorrect and offensive translations into the site. Since 2009, translation has also slowed significantly, prompting users whose languages are not even in the beta translation state on Facebook to devise alternatives to see the site in their own languages. The

Crowdsourcing Facebook Translation section below delineates the crowdsourcing translation process.

Facebook (2012) lists languages and localizations that are in varying states of translation completeness. Some languages available to the user have a beta designation, so users expect the translation to be incomplete. However, there are languages and localizations without the beta designation that have large sections of text or several phrases appearing in English. The level of translation completeness for each language, and even between a language's localizations, varies significantly, including on pages where Facebook provides its own content. When examining the differences between the Spanish localizations, the Venezuelan localization, compared to Chilean, Colombian, Castilian and Mexican localizations, had glaring omissions: the word "like," a quintessential Facebook action, still appeared in English. For every other Spanish localization, the word appeared as "me gusta." Omissions such as these point not only to incomplete translation, but to a choppy linguistic experience that is not customized to each user's language, as the site purports to do. The

Analyzing Facebook's Translations section presents this analysis.

Palfreyman and Khalil (2007, p. 49) discuss the early "ASCII-ization" of non-Latin scripts. ASCII is the American Standard Code for Information Interchange. The Arabic community is split on how to view "ASCII-ization." Some see "ASCII-ized" scripts as modern, but, because there is no standardization of the sound/Latin letter representation from Arabic, others see it as a threat to non-Latin scripts such as Arabic and Greek (Koutsogiannis & Mitsikopoulou, 2007; Palfreyman & Khalil, 2007; Tseliga, 2007). Paolillo (2007) also fears that a dominant English language with a Latin script will not provide space for languages that are poorly represented on the Internet. How is Facebook perpetuating or fighting online linguistic imperialism through "ASCII-ization" of non-Latin scripts? Do multilingual Facebook users choose to "ASCII-ize" their posts? Twelve multilingual participants informed the researcher through interviews and focus groups about how they used Facebook to post in languages other than English. The

User Study section outlines how the researcher recruited these participants, and collected and analyzed the data from their conversations.

### **Limitations of Research**

This research does not include any discussion, investigation into or comparison of how other international SNSs such as Twitter or Google+ are implementing translation and multilingualism. This research also does not discuss Facebook Connect translation, the technological implementation of the View Translation feature using Microsoft Bing, Facebook's commercial interests and ad translation, or the ethics of crowdsourcing the highly skilled work of translation to unpaid workers.

## **INTERNATIONALIZATION OF FACEBOOK**

A handful of people and organizations have risen to describe the process of making technology like Web sites multilingual. Nuray Aykin edited a collection of research papers on internationalizing information technology, and Richard Sikes outlines the localization process for *Multilingual*, a magazine geared toward those technologically focused in the language industry and international businesses.

There are three tiers to taking a product like a Web site from its original language and making it usable to readers of different language (Sikes, 2012). The first step is an organization-wide cultivation of globalization, followed by internationalization, and lastly localization. The following sections define each term, and provide a brief analysis of how Facebook has implemented each step.

### **Globalization**

Aykin (2005) states that globalization is an organization-wide strategy created to specifically address making a product globally desirable and marketable. Sikes (2012, p. 44) defines globalization as an ethos where the key attributes are 1) the conceptual treatment of English product offerings as a subset of a generic, locale-neutral product, and 2) soliciting the advice and help of foreign headquarter offices.

Treating the English product offerings as a subset of a locale-neutral product frees the product from its originating linguistic confines and allows each product team to modify the product as needed for regions where it is offered.

Facebook has twelve offices in North America, eleven in Europe, two in South America, and ten offices in Asia and the South Pacific, in sum, 35 offices worldwide (“Facebook Careers | Facebook,” 2012). It seems that Facebook has taken globalization seriously enough to establish a physical presence beyond the United States.

## **Internationalization**

Sikes (2012, p. 44) defines internationalization as “engineering a product to enable efficient adaptation to local requirements.” Steps in this process include ensuring that content added after translation would not disrupt the display on a page. Internationalization provides the flexible software infrastructure needed for a growing multilingual company to add localizations without having to completely redesign its Web site for every localization.

### **CRITICAL TASKS FOR INTERNATIONALIZATION**

Sikes (2012, pp. 45–48) identifies three main tasks in internationalization: 1) the removal of cultural assumptions from software design, 2) architectural separation of the presentation layer from the business logic layer, and 3) implementation of support for global norms such as character sets or accounting procedures.

Removing cultural assumptions from software design can be as simple as designing flexible templates that allow for translated text to be longer than the original text (called text expansion), and as complex as unresolvable grammatical paradoxes created by string concatenation. These grammatical paradoxes, stemming from string concatenation, occur when a Web site joins two sequences of characters, called strings, to form a new character set. Internationalized Web sites might present string concatenation when a Web site greets the user with a message that should say, “Hello, Jane. What would you like to buy?” but when roughly translated through the predetermined code instead says, “What you buy Jane?”

Architectural separation of the presentation layer from the business logic layer involves separating the code that displays the site (presentation) from the code that runs the site through accessing databases and providing dynamic content (business logic).

When developers do not separate these layers, troubleshooting display code could result in a bug fix being unintentionally applied to the business logic. For example, a growing American yarn company translated its online order form to Spanish. A Spanish user selects which color of yarn he would like to buy from a drop-down list. This list provides the Spanish color names for the yarn so the user can select the one he wants. Because the form developers made this list of colors part of the presentation layer, the company translated the list along with the other elements on the form. If the form developers used the Spanish yarn color names in the presentation layer without mapping them to the English names in the business logic layer, the ordering system would not be able to process the order. The color name that the user has selected is in Spanish and would not match the English color names in the business logic.

Lastly, implementation of support for global norms such as character sets or accounting procedures involves designing the template with the capability to appropriately format other currencies as well as date and time. For example, many languages use a comma where the decimal is used in transcribing American dollar amounts. Americans, to denote an amount of ten thousand, five hundred sixty-four euros and twenty-one cents, would write €10,564.21, whereas Spaniards would write it as 10.564,21€.

The lessons learned in internationalization are a crucial part of the globalization ethos, which allows for subsequent programmers to build new extensions of the site's functionality. These lessons are particularly pertinent for Facebook, which encourages developers to create third-party Facebook applications (apps) to enhance users' experience on the site. Facebook has its own markup language, called FBML, that developers must use to be included in its listing of apps. Many of these recommendations are available to aspiring Facebook app developers on [developers.facebook.com](http://developers.facebook.com), along

with examples of how to properly code for internationalization (“Facebook Internationalization Documentation,” 2012). This page demonstrates that the developers at Facebook understand the importance of internationalization and believe it is important enough to inform other developers about it as well.

## **Localization and Locale**

Localization is “the process of modifying products or services to accommodate differences in distinct markets...Localization makes products or services usable in, and therefore acceptable by, target cultures” (Aykin, 2005). The process of localization aims to make the Web site appear as if the site were developed by and for locals (Sikes, 2012, p. 48). Once a Web site has been localized, users should be able to use it without any unexpected linguistic or cultural difficulties such as encountering foreign text or an unintentionally offensive icon while browsing the site.

Localization leads to customizing for a target market, subdividing the larger umbrella of language to an even more specific segment, called a locale. A locale is, “The part of the user’s environment that is dependent on language, country/region, and cultural conventions” (Aykin, 2005).

For example, Facebook’s documentation shows the United States, United Kingdom and India as three separate locales despite their common language of English (“Facebook Internationalization Documentation,” 2012). It is at the locale level where developers address cultural spelling and grammatical differences. A Web site’s observation of local spelling and grammar creates the illusion that the company designed the site for a locale’s specific linguistic needs, instead of making users at that locale feel as if they are digital immigrants on the site. Facebook provides linguistic localization for some of the larger language groups on Facebook: the developers localized Spanish to

Spain, Chile, Colombia, Mexico and Venezuela, and localized Chinese to China, Taiwan, and Hong Kong.

## **Summary**

While Facebook has taken several steps towards providing a localized site for its 1 billion users, there are still subtle ways in which the site's linguistic elements are not seamless for its non-English speaking users. By having offices spread outside of the United States, Facebook seems to indicate that there is an understanding of the importance of examining the differences in users' needs of non-Western, non-English speaking users. Facebook is available in 95 languages and 22 localizations, which is far more than the multilingual technology industry standard, but, when a site serves over 14% of the world's population and nearly half of the Internet users in the world ("BBC News - The web: vital statistics," n.d.), the multilingual industry standards no longer apply.

## VIEWS ON TRANSLATION

This section discusses the theoretical frameworks in translation studies and applies the discussions and hypotheses in these frameworks to translation work on Facebook. Equivalency of languages, the communicative function of a text, determining authorial intent, and the translatability of a text are significant considerations for translation generally as well as for Facebook translators.

There are two types of Facebook translation examined as part of this research: that of the Facebook site interface, and that of the multilingual users translating their identity presentation. The majority of the translation theory presented here applies to translating the Facebook site. The participants in the study rarely translated their text for their friends, but they echoed several concepts related to translating the site.

Any translation requires a minimum of two languages: the source language and the target language. The source language is that of the original text, and the target language is the language into which the translator will translate the text.

Much of the discussion around translation theory centers around two themes: equivalency between languages and the communicative function of an original text. Languages inherently have a “set of non-transferrable associations and connotations” (Bassnett, 2002, p. 23) that prevent a completely equivalent translation from one language to another. Thus, equivalency in translation is an unattainable and unrealistic goal (Bassnett, 2002; Benjamin, 1999; Jakobson, 1999; Quine, 1999; Venuti, 1999). The way a translator approaches a text will change depending on the function of the text (Venuti, 1999, p. 4), whether the text is informative (the communication of content), expressive (the communication of artistically-organized content), or operative (the communication of content of a persuasive nature) (Reiss, 1999, p. 163).

For example, a translator might attempt to translate the final stanza in Robert Frost's poem, "Stopping by Woods on a Snowy Evening," (1958) :

The woods are lovely, dark, and deep,  
But I have promises to keep,  
And miles to go before I sleep,  
And miles to go before I sleep.

The translator must make several decisions regarding this text. Understanding the context of this work as an expressive piece instead of an informative piece will help the translator make some critical decisions. One of these decisions is whether keeping the rhyming scheme is more important than translating each word precisely. The translator must also consider her audience: if her readers live in a place that exclusively uses kilometers, should she translate "miles" as "kilometers" so they can understand the notion of distance, or should she translate and preserve the word "miles" to maintain the closest accuracy to the text? Frost also implies multiple meanings of the word "deep" when talking about the woods. When the translator considers the appropriate word in the target language, she must choose a word that has a similar array of meanings or one that conveys similar emotion.

A foundational discussion of translation theory by Roman Jakobson (1999), cited by many in translation studies, divides translation into three distinct types. Of the three types, the type of translation that is central to this paper is interlingual translation. "Interlingual translation or *translation proper* is an interpretation of verbal signs by means of some other language" (1999, p. 114).

The type of translation the crowd has done on translating Facebook falls under the umbrella of "translation proper" because all text begins in English and is subject to the interpretation and recoding through the other language. "Recoding" is a term used in translation studies to describe the process of rewording a translation to fit within the

cultural context of the target language. Bassnett (2002, p. 26) gives the recoding example of translating the English word “hello” into French, German, and Italian. Each of these languages has dictionaries that list at least two definitions: respectively, “ça va?” “hallo”; “wie geht’s,” “hallo”; and “olà,” “pronto,” “ciao.” The word or phrase a speaker chooses depends on whether the person is greeted face to face or over the telephone. Volunteer Facebook site translators approach the phrases presented to them without having to acknowledge the challenge of interpreting verbal signs by means of another language, but proceed to translate or interpret each unit of translation, a word, phrase, or sentence, as best they can.

Although the status of and the idea of comprehending authorial intention is highly contentious within translation studies, some maintain that understanding the author’s intention in the original text is paramount for accomplishing a translation work of any substantial quality (Bassnett, 2002; Benjamin, 1999; Reiss, 1999),. Ambati et al. (2012), in their crowdsourced translation study, also found that giving translators context for a sentence shortens the translation period. While Facebook translators may never know the full intent of a phrase, an “intent” that Bassnett, Benjamin, and Reiss say is essential, Facebook gives its translators some context for the phrases that need translation. Facebook’s providing this context suggests that the company grasps the importance of understanding the context of a text within translation. For example, the phrase “Unblock App” in the Translations App comes with the description “wording on the link to unblock a platform app,” as shown in Figure 1. Screen shot of the Translations App for Castilian Spanish on page 24.

Other words and phrases that a Facebook translator might encounter range in complexity. While some phrases are as simple as a “4” for a satisfaction rating, others such as “Please pay for {shortname}’s gift so it can be mailed to her,” are complex. The

translator may also be faced with phrases that have no context, such as “{name1} and {name2} wanted to watch {video11} and {video count other videos} on {App Name}.” See Figure 1. Screen shot of the Translations App for Castilian Spanish on page 24 for more.

Additionally, the translatability of a text is a key component of translation. When discussing translatability, Benjamin (1999) states, “It is plausible that no translation, however good it may be, can have any significance as regards the original.” This is not to say that some texts can never be translated, but that the original text may possess linguistic or structural properties that can never be replicated by other languages (Bassnett, 2002, p. 39). Some languages, for example, have grammatical components that others do not, which could mean that a translator may change the wording in a sentence in order to match grammatical rules of the target language. Bassnett (2002, p. 39) uses the example of the German sentence “Um wieviel Uhr darf man Sie morgen wecken?” Literally translated, this sentence is roughly, “At what time, one may wake you tomorrow?” Bassnett says the translator would doubtless render this sentence in English by changing the word order and the voice from the German to “What time would you like to be woken tomorrow?”

Translatability affects how Facebook structures the site interface. It requires at the very minimum a thorough knowledge of a language’s syntax and grammatical components in order to shift words and phrases as needed. However, for some in translation studies, translatability is not as clear as even grammatical restructuring.

### **Linguistic Relativity Principle**

Lee states that this theory started with Wilhelm von Humbolt in the 18<sup>th</sup> century, although the idea may have first risen as early as the 17<sup>th</sup> century (P. Lee, 1996, p. 84).

Lee interprets Whorf's writings by saying that, while all humans have a "nonlinguistic organization of experience" of the world, these experiences are subject to "different constellations of cognitive processing" to interpret them (P. Lee, 1996, p. 91). Michael Cronin describes the language-limiting cognitive processing when encouraging budding translators to travel abroad to the locations where a text was written to better understand the text itself upon reflection in the journey home (2012, p. 67). This example presumes that the only way to understand language is to experience it as part of a culture. He further elaborates on the limitations of cognitive processing telling the story of Martin Luther's frustration with the grammatical differences between Latin and German while Luther was translating the Bible. Luther's solution was to "insert the word *allein* where the word *solum* did not exist in Latin or Greek" (Cronin, 2012, p. 69). Cronin summarizes the story saying, "Translators shape as much as they are shaped by the limits of language and culture" (Cronin, 2012, p. 69).

Computational scientists such as Scannell (2006), agree with the idea of linguistic relativity. Scientists similar to Scannell seek to pair related language pairs in machine translation because of the importance of cultural similarity and linguistic heritage. For example, Scannell (2006) finds that high-quality machine translation occurs as the result of a combination of statistical word sense and syntactic transfer rules when using closely related language pairs.

However, some in computational science implicitly reject linguistic relativity. For example, Koehn (2005) describes the process of building 110 machine translation systems for possible language pairs through statistical machine translation. Koehn (2005, p. 79) explicitly states the ultimate goal of this research is to "stimulate research on non-traditional language pairs." This kind of translation process occurs without a significant understanding of culture.

Additionally, Ambati et al. (2012) describe a successful collaborative crowdsourced translation method that combines lexical context, with the use of bilingual and monolingual speakers. This method presumes that any sentence can be translated, even with the translation help of non-expert bilingual speakers who may have only some cultural understanding of the target language. The authors determined a translation quality benchmark by obtaining five translators' translations and computing the majority agreement by using what is called a fuzzy matching algorithm to compare the translations. It is highly unlikely that all persons involved in the crowdsourced translation had a similar level of mastery over the target language. Yet, the authors considered the translations that resulted from the collaborative work of the monolingual and bilingual translators to be of higher quality than even the authors' translation quality benchmark.

Many within translation studies also doubt the linguistic relativity principle that implies that the language a person speaks limits the kinds of thoughts a person can have, and the kinds of concepts a person could express. It thereby alleges that translation of any text is impossible (Appiah, 1999, p. 420). Willard V. O. Quine (1999, p. 112) also rejects Sapir's linguistic relativity principle. Quine (1999, p. 112) suggests instead that there are fewer points of comparison when translating concepts that are more abstract than concrete. Having fewer points of comparison results in what Quine calls "difficulty or indeterminacy of correlation."

Translatability directly affects the Facebook interface. The structural layout of a Facebook page and the text therein should be adaptable to whatever language a user selects. Localization developers determine the adaptable parts of the page layout and translatability. These developers identify areas on a page that may need more space, depending on the language, to display content correctly without overflow or cut-off text. Localization developers define ordering and the atomic value of grammatical units. For

example, the subject-verb order may change depending on the grammatical structure of a language. Without the insight of these localization developers, these machine translations would instead appear as weak attempts to translate the site beyond the bounds of English.

While some professional translators feel automated machine translation threatens their livelihood (Cronin, 2012; Pérez-González, 2012), others see machine translation, regardless of how rough the translation, as a translator's aid, not a replacement (Kay, 1997; Scannell, 2006; Shigenobu, Fujii, & Yoshino, 2007; Zetzsche, 2010). According to these authors, machine translations are preliminary; these translations still require the human power of a native speaker or linguist to determine translation quality.

The intricate process of translation is not a clear procedure of having linguists identify and agree on the interpretation of a word or phrase. While advocates of the linguistic relativity principle consider language to be intricately related to culture and experience, many computational linguists see language as a puzzle that can be solved through a variety of translation methods involving machines, as well as multilingual and monolingual speakers. The developers at Facebook clearly align themselves with these computational linguists and have worked to provide a translation interface that facilitates translation.

## **CROWDSOURCING FACEBOOK TRANSLATION**

This section focuses on the crowdsourced translation of Facebook into a range of languages. It discusses why Facebook chose to crowdsource translation, how Facebook implemented the Translation App and ensures the quality of translation, the app's growth, the community's workarounds because of the app's limitations, and what Facebook communicated about the site translation process in the corporate *Facebook Blog*.

What follows is a discursive analysis of corporate Facebook blog entries posted about the Translation app. The discursive analysis in combination with institutional analysis allows for a critical reading of the text, while also examining the connection to the corporate entity of Facebook on the Facebook blog posts.

### **Crowdsourcing**

Many have praised Facebook's hybrid crowdsourcing method as an innovative way to accomplish the massive, and traditionally expensive, task of translation (Augsdörfer, Bessant, Möslein, Rabes, & Trifilova, 2012; Tenzer, Ferro, & Palacios, 2009; Zetzsche, 2010). American Translators Association Certified Translator Jost Zetzche says, "Despite the occasional linguistic hiccup, companies like Facebook...have created the 'perfect' multilingual product: they encourage the participation of uniquely qualified users, and they turn users into part owners and enthusiastic ambassadors for their products" (2010). Eight thousand volunteer translators registered within two months of beginning the crowdsourcing in January 2008 (Augsdörfer et al., 2012; C. Lee, 2009; Mesipuu, 2010, p. 18). A year after Facebook created the ability for its users to translate, over 300,000 people had helped translate Facebook (Kwan, 2009b).

When writing about the first site translation into Spanish in 2008, Yishan Wong, a Director of Engineering at Facebook, is quick to praise the speed of multilingual

Facebook translators. “Before we were even able to finish implementation of the feature itself, Facebook users using a beta version translated our entire set of strings into Spanish in under a week - well before we received the results back from the paid translators” (2008). This was the first example Facebook gave as justification for crowdsourcing their translation. Soon after the Spanish translation was complete, Facebook opened the site to French translators, who translated the site into French in less than 24 hours (Mesipuu, 2010). German Facebook translators produced the German version in a week (Mesipuu, 2010).

Facebook employs a hybrid model of crowdsourced translation for languages with a large number of speakers. The hybrid model combines the open crowd model (Mesipuu, 2010), which allows any Facebook member to translate, with employing qualified linguists. The only restriction on the open crowd is on new Facebook members, who, if they tried to access the application, received this error message, “We require users to have joined Facebook for a certain amount of time before they can participate in the Translation Application. Please come back again later” (Mesipuu, 2010). Because developers at Facebook feared translation vandalism, they hired linguists to provide a good starting glossary, and to improve users’ translations. This hybrid model served to be Facebook’s answer to translating the site (Mesipuu, 2010; Y. S. Wong, 2008).

Site interface translation happens in three phases: glossary translation, interface translation, and lastly voting. In the glossary translation phase, the first phase, users translate, discuss, and vote on translations for phrases and words common to Facebook (Mesipuu, 2010). Then users translate Facebook’s interface by viewing the remaining phrases and words in a random order. These randomly ordered phrases and words have few proposed translations. Facebook has an algorithm to programmatically remove phrases that are likely well-translated and prioritize phrases which have few proposed

translations (Y. Wong, 2010). Users can translate the presented phrases or vote on a proposed phrase. As a measure of quality assurance, all translated phrases are put to a final round of voting (Mesipuu, 2010). The voting process is the only quality assurance available for *all* Facebook-supported languages. An inspiration from Reddit (Y. S. Wong, 2008) users could either vote translations up or down. See Figure 1. Screen shot of the Translations App for Castilian Spanish below to see what the screen in the Translations App looks like for Castilian Spanish speakers interested in translating Facebook.

#### 4

Text related to the question 'Overall, how satisfied are you with your Facebook experience?'

**Votar** Traducir

4

#### Unblock App

Wording on the link to unblock a platform app

**Votar** Traducir

Desbloquear aplicación

Desbloquear la aplicación

Desbloquear Aplicación

Desbloquear App

fotos

#### {name1} and {name2} wanted to watch {video1} and {video count other videos} on {App Name}.

Esta frase no tiene descripción.

**Votar** Traducir

{name1} y {name2} desean ver {video1} y {video count other videos} en {App Name}.

{name1} y {name2} miraron {video1} y {video count other videos} en {App Name}.

#### Please pay for {short-name}'s gift so it can be mailed to her.

Tells user they need to pay for the gift

**Votar** Traducir

Por favor, paga el regalo de {short-name} para que así se le pueda enviar.

Por favor, paga por el regalo de {short-name} para que se le pueda enviar.

Por favor, abone el regalo de {short-name} para que pueda ser enviado a su email.

Por favor paga para el regalo de {short-name} par que de esa manera se le pueda enviar.

Por favor, pague con {short-name} regalos así podrá serle enviados a ella.

Figure 1. Screen shot of the Translations App for Castilian Spanish

In addition to these steps, users can participate on a discussion board at any point during translation. Translators use this space to discuss spelling and grammar, or agree on consistent translation of terms (Mesipuu, 2010).

After these translation steps, the translated phrases are “re-imported into a database containing all the translated content” (Y. Wong, 2010) and go through a finalization phase. Finalization varies depending on the population of speakers for the given language. Facebook classified languages as either major or underrepresented languages (Y. Wong, 2010).

Facebook employs professional translators in about 20 major languages to “spot-check translations for reasonableness” (Y. Wong, 2010). These professionals also mediate translation disagreements in the translation community for consistency. Wong (2010) explains:

This is not so much about active conflicts between community translators as the fact that crowdsourced translation can potentially produce two completely reasonable translations for the same concept or phrase, but for textual consistency reasons only one of them should be used (even if both are equally good - consider “photo” versus “picture” versus “image”).

Professional translators also translate instructional text. Wong (2010) notes that crowdsourcing is ideal for small snippets of text, but not for paragraphs.

Underrepresented languages do not have professional translators checking translations, but highly motivated populations can “produce a quality translation rivaling those of much larger languages” (Y. Wong, 2010).

Both major and underrepresented languages then go through the publication phase. Once an unspecified percentage of phrases receive enough positive votes, Facebook publishes the phrases. Although Wong (2010) thought the system may have

changed since he left the internationalization team, Facebook still hires linguists as part of their site development and language teams (Facebook, 2013).

Despite the success stories for the major languages and the languages with active translation communities, crowdsourcing is not always a dependable strategy. While Facebook added Portuguese to its list of supported languages in 2008, getting users involved in the Portuguese translation process was difficult. Fewer than 100 users were translating Facebook into Portuguese, compared to the nearly 7,000 users who worked on Spanish, or even the 3,400 users translating into German (Rhys, 2008). Scannell (2012) also observes that translation quality problems come from some of the smaller translation teams.

## App Growth

Eight *Facebook Blog* entries publicly chronicle the Translation App’s growth from being available for two languages (Vera, 2008) to over 70 languages (Kwan, 2009b). Table 1 chronicles the blog post dates, titles, authors, and the announcement for the number of languages in which Facebook was available.

| <b>Date</b>      | <b>Title</b>  | <b>Author</b>    | <b>Languages</b> |
|------------------|---|------------------|------------------|
| 11 February 2008 | <a href="#">¡Bienvenidos a Facebook en Español!</a>         | Nico Vera        | 2                |
| 13 February 2008 | <a href="#">Facebook around the world.</a>                  | Yishan Wong      | 2                |
| 23 June 2008     | <a href="#">Facebook in Translation</a>                     | Chad Little      | 16               |
| 11 March 2009    | <a href="#">Facebook Now Available in Arabic and Hebrew</a> | Ghassan Haddad   | 40               |
| 6 April 2009     | <a href="#">Facebook dans ma propre langue</a>              | Jimmy Lavoie     | (41)             |
| 18 June 2009     | <a href="#">Launching Facebook in Persian</a>               | Eric Kwan        | (42)             |
| 2 October 2009   | <a href="#">Latin Becomes a Living Language on Facebook</a> | Elizabeth Linder | 70+              |
| 15 December 2009 | <a href="#">The Award Goes to...Translators</a>             | Eric Kwan        | 70+              |

Table 1. Publication dates, blog post titles, blog authors, and the number of officially released languages stated in the blog entry. The numbers in parentheses are inferred counts, since authors give no official number in the post. (Haddad, 2009; Kwan, 2009a, 2009b; Lavoie, 2009; Linder, 2009; Little, 2008; Vera, 2008; Y. S. Wong, 2008).

The growth in the number of languages shows a quick upswing between mid-2008 and early 2009. While Facebook is available in 95 languages, Scannell (2012) reports that it has been some time since Facebook has added new languages. Where in 2008-2009 it took nearly one year to add about 30 languages to the Facebook interface, it has taken three years to add another 30.

### ***Facebook Blog Themes***

In studying the Facebook blog entry text, three themes appeared: problematic layout decisions, English as the expected Web standard, and debatable language prioritization choices. What follows is analysis of these themes with correlating quotations and images from the original blog entries.

#### **LAYOUT**

Problematic layout choices appear prominently in the blog post announcing the introduction of Arabic and Hebrew into the Facebook interface (Haddad, 2009). The post consists of six paragraphs, with a side-by-side comparison of the two language interfaces. Despite the announcement being about Facebook being available in both languages, the images in the Arabic and Hebrew portions show only Arabic or Hebrew compared to English, respectively. The image in the English portion shows the screen shot of the English interface inserted between Arabic and Hebrew, respectively. This image points to an assumption that Arabic and Hebrew speakers are interested in their own language

being supported, and not the other. See Figure 2 for how the page displayed the Arabic and Hebrew Facebook screen shots.

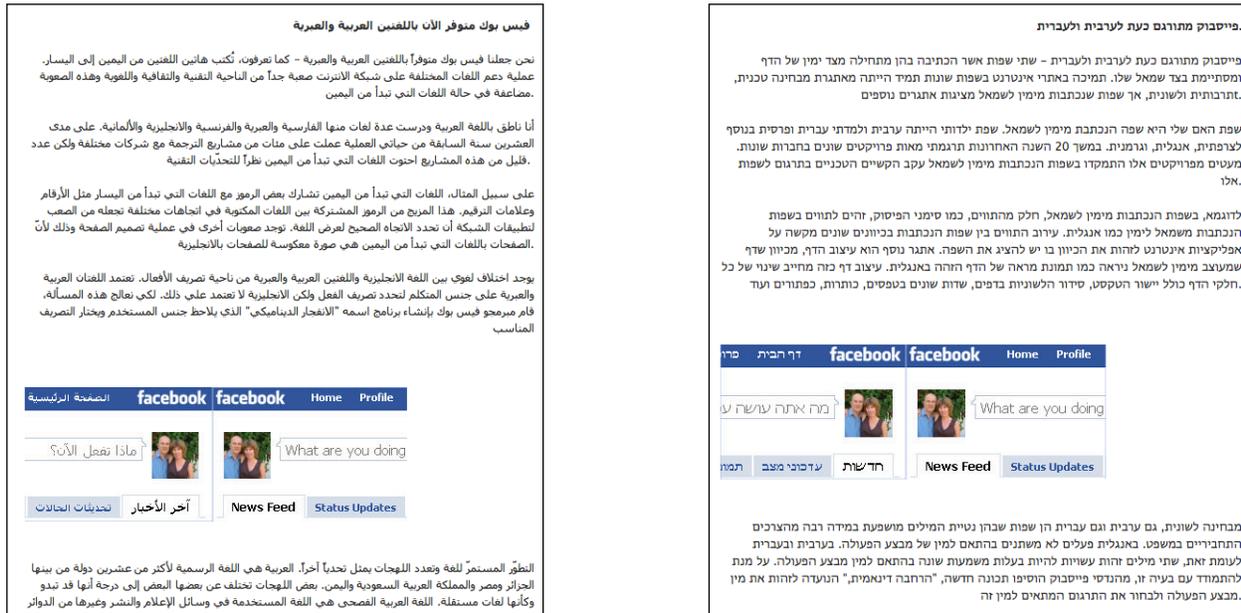


Figure 2. The images are screen shots of the Arabic and Hebrew portions of the blog post. The layout of the page is familiar for readers who read left-to-right, but not right-to-left. The image is left-aligned and the order of images favors left-to-right readers. Image credit: (Vera, 2008)

The layout of the page is for those who read left-to-right. Although the Arabic and Hebrew text is right-aligned, the corresponding images are all left-aligned. This left-alignment makes reading the page choppy and serves as evidence of careless presentation of content. Additionally, the positioning of each screen shot does not make much sense. The Arabic and Hebrew interface is the new functionality, so one would assume that, for those reading right-to-left, Arabic or Hebrew would be the first screen presented. However, the English screen is the one those readers encounter first. While Ghassan

Haddad, who speaks all three languages, authored the textual content, these examples suggest he had little involvement, if any, with formatting the content on the page.

### **ENGLISH AS THE WEB STANDARD**

As evidenced by the majority (6/8) of the blog posts about translation being written only in English, it is clear that Facebook expects its international blog readers to be able to read in English. While Facebook detects the language settings of the user's browser to display the Web site's interface-level information (the text surrounding the login area, and the page title), the content of the post itself remains in the original posting language(s). For example, Kwan (2009a) writes that Facebook launched the beta version of Persian in English, and Little (2008) writes in English about launching Facebook in French, German, Japanese, Chinese, and Italian. These posts could demonstrate one of two things. It could demonstrate that Facebook wants its English users to be aware of the translation work and show that Facebook is more than English. Or these posts could demonstrate the implied assumption that the target audience was an international audience familiar with English. Both scenarios further promote English as the language of the Web.

While six of the eight blog posts were exclusively in English, there were two posts (one in Arabic and Hebrew and the other in French Canadian) that were fully multilingual. These two posts began with a non-English language, and included the English translation below. Of these two posts, the blog post title was in English for the Arabic and Hebrew post, and in French Canadian for its corresponding translation announcement. Despite these two exceptions to the rest of the posts about translation efforts at Facebook, this gesture of putting the non-English language first is at least an attempt to acknowledge a multilingual audience.

Although Haddad is himself multilingual, he also writes with the expectation that his readers will also speak English: “If you speak a language other than English...participate in the process of making Facebook available to everyone, anywhere--no matter what language *they* speak” (Haddad, 2009)) [Italics added]. He positions Facebook in an “us vs. them” position when talking about “everyone, anywhere.” The faceless “everyone, anywhere” condenses all languages in which Facebook is not available into an improbable goal. However improbable this goal is, it reveals Facebook’s desire to be one of the first sites to which new Internet users would readily yield personal information. This goal is also one that ensures that Facebook plays a significant role in setting Web standards for these unnamed “everyone, anywhere.”

#### **LANGUAGE CHOICE**

It is not clear how Facebook selects languages for translation, other than at the request of users (Facebook, n.d.). Facebook is interested in having the site available in every language across the world, including dialects and regional varieties (Haddad, 2009; Little, 2008; Y. S. Wong, 2008). This desire for a worldwide presence puts Facebook in a de facto colonizer position, prioritizing which language will be translated first. The languages to be translated take a position similar to the colonized. Postcolonial theorist Saïd (1989, p. 207) describes the colonized this way:

The status of colonized people has been fixed in zones of dependency and peripherality, stigmatized in the designation of underdeveloped, less-developed, developing states, ruled by a superior, developed, or metropolitan colonizer who was theoretically posited as a categorically antithetical overlord.

The languages into which Facebook has yet to be translated are dependent on the managerial decisions at Facebook. Although Facebook does not determine whether these languages will or will not thrive online, these languages are at risk of remaining in

development until they can garner the support of influential linguistic advocates such as Scannell (2006, 2012a, 2012b).

This online linguistic imperialism favoring Western languages is also evident in the post about launching Facebook in Latin. While there are many spoken, living languages that Facebook has not yet fully launched, Latin, a dead language, and “Pirate” are present (Linder, 2009). “Imperialism, the control of overseas territories and peoples, develops in a continuum with variously envisaged histories, current practices and policies, and with differently plotted cultural trajectories” (Saïd, 1989, p. 219). The living languages seeking translation have been relegated to an online cultural trajectory over which they have no control. They must wait until Facebook’s development team grants them attention.

### **Workarounds**

As successful as the Facebook Translation App is, both the site and the app still have some undeniable limitations. Circumventing a Web site or app’s limitations is an inestimable part of innovation. Like Wikipedia (Giles, 2005; Lanier, 2010; Tammet, 2009), every platform has the potential for constructive and destructive impacts on the online community. A dedicated person can find a Web site or app’s limitations and exploit them. Below are examples of ways people have explored and modified the capacities of Facebook’s Translation app for their own goals.

While the terms that need to be translated are clearly delineated, any translator pressing a unique linguistic scheme could push a mistranslation. The final vote is left for that language’s translation community. If the translator is an influential voice in the community or determines how to spam the system to garner support for a particular

translation over another, the translation will become part of the interface. Examples of these intentional mistranslations are noted below.

#### **NEGATIVE**

There are documented instances in Chinese, Spanish, French, and Turkish of translators “hacking” the app. English to Chinese translator Dallas Cao (2009) notes in his blog that where the page title should have said “Edit Page,” what appeared in Chinese translated to, “I am a stupid egg.” The Spanish and Turkish hacks resulted in several instances of vulgarity (Ferguson, 2010; O’Neill, 2010). The Turkish hack changed site site’s notification about not being able to send a message to an offline user. The message instead stated that the reason a user could not receive the message was because of the size of a person’s genitalia. The Spanish hack resulted in English expletives appearing instead of “Today’s birthdays,” and a similarly vulgar Spanish phrase appeared in place of “See all photos.” The French hack publically named one user’s younger brother because he had allegedly insulted the translator via instant messenger (Wisniewski, 2011).

#### **POSITIVE**

Meanwhile, other developers have created “hacks” that have benefited communities. As a response to Facebook’s not adding Secwepemctsin, a language spoken in British Columbia, Neskia Manuel created a browser plugin that translates text as the page loads. This plugin also subverts the Facebook infrastructure and has allowed about 20 endangered languages to get to their translation project to a “usable” state (Scannell, 2012b).

The browser plugin that Manuel created alleviated some of the frustration translators had with waiting for Facebook to respond to their petitions to add languages, according to the comments readers left on Scannell’s blog (2012b). The ability to

translate via the plugin gave power to those who the developers at Facebook had yet to identify as worthy of attention.

The last public post from any person at Facebook about the Translations App appeared late in 2009. Thus, there is no mention of these workarounds or weaknesses in the corporate Facebook blog posts, since most of the noted workarounds happened after December 2009.

## **ANALYZING FACEBOOK’S TRANSLATIONS**

This section moves forward from the process of translation and investigates the amount of translation completion of Chinese, Spanish, Arabic, and Hindi on Facebook. The researcher selected these languages because they are the most spoken languages in the world (Lewis, Simons, & Fennig, 2013). Facebook did not designate any of the four languages studied as part of this research as “beta.” However, there are some significant gaps in translation between localizations, as well as between languages for content translation on the site. The Statement of Rights and Responsibilities page has fairly complete translation, but translation on the institutionally provided content on the Community Standards page ranges from just over 40% complete to nearly 100% complete.

### **Languages and Localizations**

If a person who does not have a Facebook account is curious about Facebook, she can see that the site is available in 50 languages and localizations. See Figure 3 for details.



Figure 3. Facebook lists 39 languages and 11 localizations for users who have not logged in to the site.

Language localizations are linguistic variations on a language such as spelling or word preference that vary by locale. This research discusses language locales in more detail in the

Internationalization of Facebook section. The localizations visible without logging in, for the four languages important to this research, include: Traditional Chinese (Taiwan), Simplified Chinese (China), Traditional Chinese (Hong Kong), Español (España). The most successful multilingual Web sites are available in an average of 32 languages (Yunker, 2012). These 39 languages and 11 localizations is a number well above the 32 language average for a multilingual Web site (Yunker, 2012).

Facebook is available in 95 languages and 22 localizations. Some languages, like Spanish and English, have multiple localizations. Furthermore, some languages like Chinese and French are only represented in localizations. The total number of Facebook translations is 110. The user sees these other languages and localizations only if she has an account, logs in, and opts to change her language settings. This list includes 20 languages and 3 localizations that Facebook designates as a beta translation. To discover if a language is in beta translation the user hovers over the text and sees “[beta]” at the end of the language name. Figure 4 shows which languages and localizations Facebook considers a beta translation, and which languages the user sees only after logging in.



Figure 4. Facebook lists 95 languages and 22 localizations, including beta languages and localizations. The non-beta languages and localizations not listed previously are highlighted in orange; the beta languages and localizations are highlighted in green.

In addition to seeing the beta language locales, once the user has logged in, he can also see that Facebook is available in an additional non-beta 29 languages and 8 localizations. None of these languages and localizations have the beta translation designation, thus it is unclear why Facebook would not prominently feature the other 37

non-beta languages and localizations for users who have not logged in to the site. This omission of the 29 non-beta languages and 8 non-beta localizations could indicate many things, but the fact that a multinational company that is targeting “everyone, anywhere” (Haddad, 2009) is not publicly advertising all the languages in which it is available is illogical at best. It could indicate a change in priority for Facebook’s globalization strategy. Some of the careless implementations of translation for even non-beta languages, discussed in detail in the following sections, seem to indicate that not listing all the translated language is another significant oversight. The additional localizations seen in Figure 4 that this research focuses on are Español (Chile), Español (Colombia), Español (México), and Español (Venezuela).

The developers at Facebook do not specify how a language or localization evolves from the beta stage to the non-beta stage. The Web site is continually evolving, and developers are necessarily adding new phrases to the site, thus it is likely that this evolutionary process is indistinct at best. Even a language such as Spanish, which has over 7,000 translators (Rhys, 2008), occasionally displays phrases in partial English and partial Spanish. See Figure 5 for examples. This display of machine-translated Spanglish ostensibly contradicts corporate declarations that the site had launched in Spanish, implying successful completion of translation on the site (Little, 2008; Vera, 2008; Y. S. Wong, 2008).

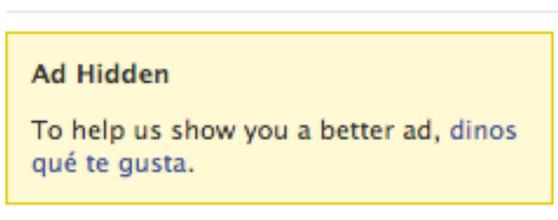


Figure 5. The researcher captured both of these screens in January 2013. The left screen appeared after hiding an ad, and the right screen after two friends got married. Both instances demonstrate incomplete Spanish translation.

Another instance of incomplete translation involves the fact that the hover text for each language listing displays the language name in English, regardless of the language preferences the user has set. For example, if the user has chosen to see the site in Spanish, the link to the translation is bolded and turned black. When the user hovers over the link for changing settings to Italian, the label says “Italian” instead of the Spanish word for Italian, “Italiano.”

In addition, English (US) is persistently highlighted in yellow, regardless of the language the user has chosen. This localization preference likely occurs because the user’s IP address gives an approximate geographical location. The server receives this location information, which instructs the browser to highlight the country with the most likely localization choice for the user is spoken. See Figure 6 for details.

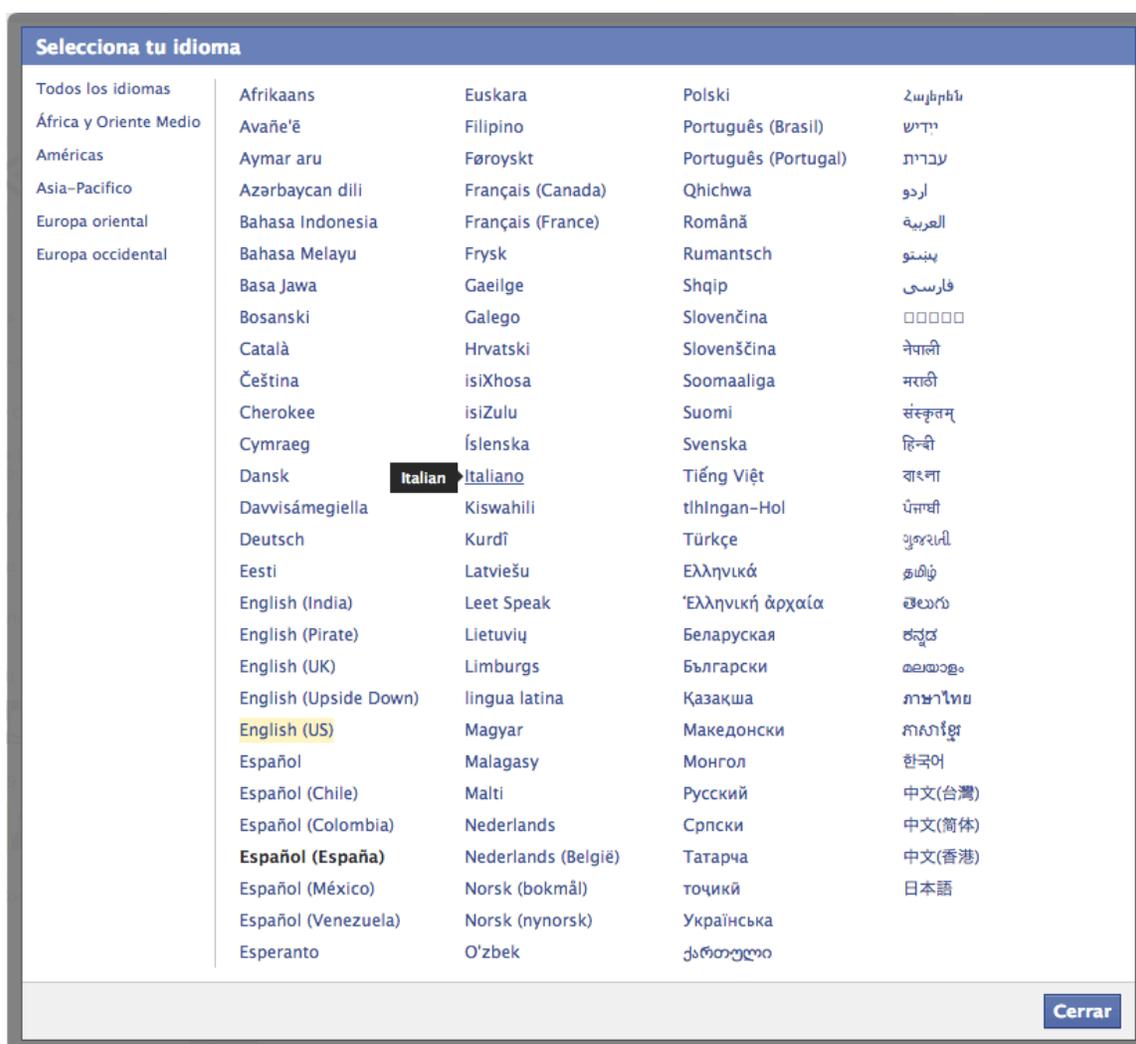


Figure 6. When the site language settings are in a non-English language, the hover text still displays in English.

The last entry on the Facebook Blog about translation says that Facebook is “available in more than 70 different languages.” (Kwan, 2009b) While Kwan makes no claim that availability in these languages demonstrates a complete translation of all the phrases on the site, he implies that the site has reached a nearly complete level of translation, if not that the translation is completely finished. The few examples previously

listed indicate translation is not completely finished, even four years after Kwan's Facebook blog entry.

### **Institutional Pages**

For the purposes of this research, institutional pages are the pages provided by Facebook about Facebook. It is likely that professional translators translated these pages, because of Wong's (2010) observation on crowdsourcing paragraphs, and because several of these pages include legal text to protect the company from lawsuits and define the boundaries of the company's liability. The analysis of these pages uses Simplified Chinese (China) and Spanish (Spain) localizations as representatives of their respective umbrella languages.

The translation completeness on these pages varied for Chinese, Spanish, Arabic, and Hindi. These pages describe the site and offer users legal and historical information about Facebook as well as the procedure for reporting, among others, security, privacy, or behavioral infractions.

Facebook has 680 million monthly active mobile users (Facebook, 2012). Since that number is well over half of Facebook's users, the researcher also investigated and analyzed the page that describes the features on the mobile app.

Analysis consisted of identifying thematic units on each page to simplify the counting procedure. Thematic units consisted of persistent page content, section headers, and paragraph blocks. Persistent page content includes the login area, the site map, and the title of the page. Section headers are text sections that are slightly larger than the rest, or differentiated by font weight. Paragraph blocks are sections of text that either immediately follow a section header or contain text that is smaller than a section header.

Facebook had not completely translated any of the four languages. On average for the six pages examined, Spanish had the highest level of translation completion, followed by Arabic, Chinese, and Hindi. The researcher determined each percentage by counting the English thematic units on each page, then counting the translated thematic units in each language. The means for each language are the result of adding the translated thematic units and dividing by the total number of thematic units, and then determining the percentage from that number. See Figure 7 below for comparisons between pages for each language.

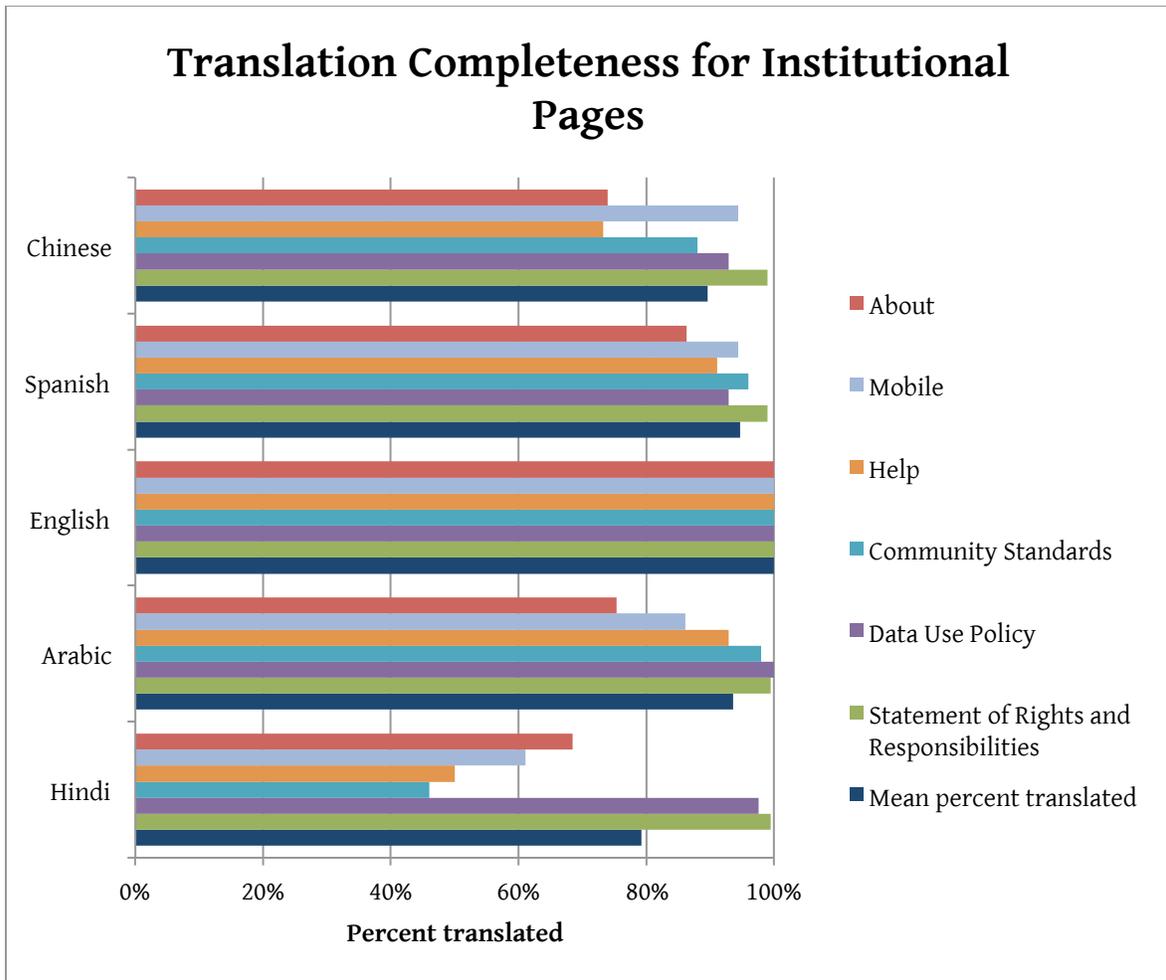


Figure 7. Translation percentages for institutional pages.

### TERMS AND POLICIES

The Terms and Policies section, which includes the Community Standards, Data Use Policy, and Statement of Rights and Responsibilities pages, had the highest level of translation completeness across languages. The researcher determined each percentage by counting the English thematic units on each page, then counting the translated thematic

units in each language. There were 287 thematic units across the three pages and were mostly legal statements.

The Statement of Rights and Responsibilities and Data Use Policy pages had no English with the exception of the word “Facebook” for Chinese, Spanish, Arabic, and Hindi. The Community Standards pages, on the other hand, ranged in completeness. See Figure 8 below for details. For example, only a few section headers were in Hindi; the rest of the text on the page was entirely in English. For Chinese, the majority of the text was in Chinese, but a few section headers were still in English.

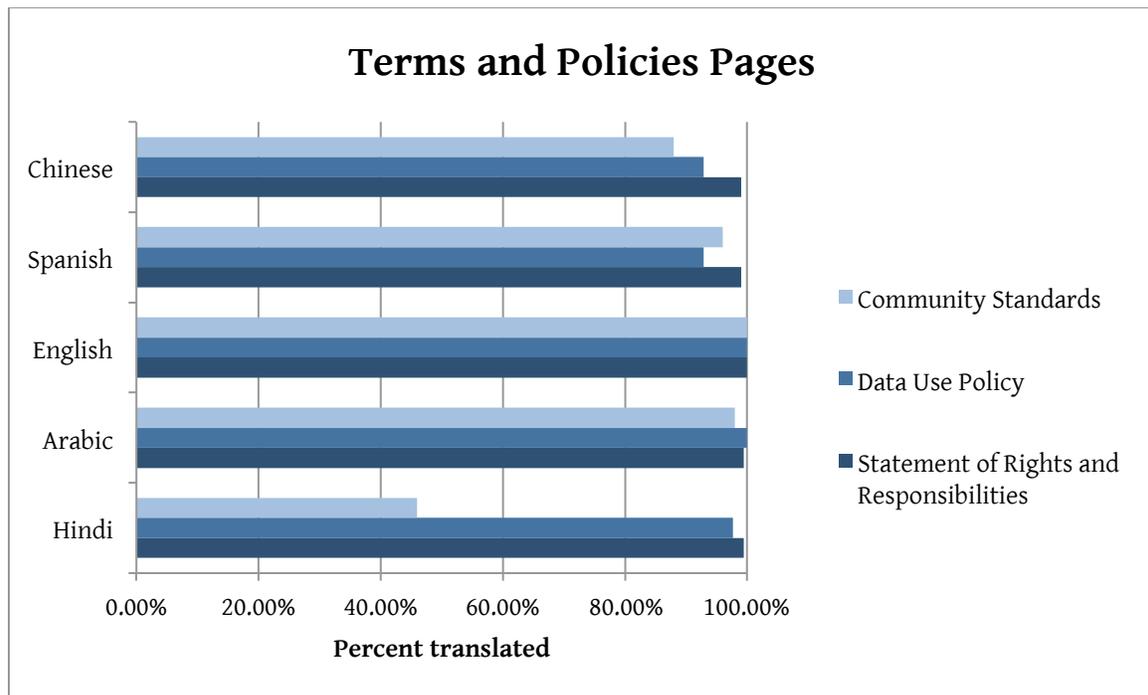


Figure 8. Translation completeness percentages for each language on the Terms and Policies pages.

## HELP

The researcher determined each percentage by counting the English thematic units on the Help homepage, then counting the translated thematic units in each language. There were 56 thematic units on the Help homepage.

The headings “Facebook Tips,” “Facebook and Privacy,” and “Facebook Mobile” were in English regardless of language setting, but the content below each of those headings was not. As shown in Figure 9 below, Spanish and Arabic had the highest translation percentages, followed by the Chinese translation, and Hindi looked as if the translation for that page had just started. Only six of the 16 help category labels were in Hindi, and only two other section headers beyond those were in Hindi.

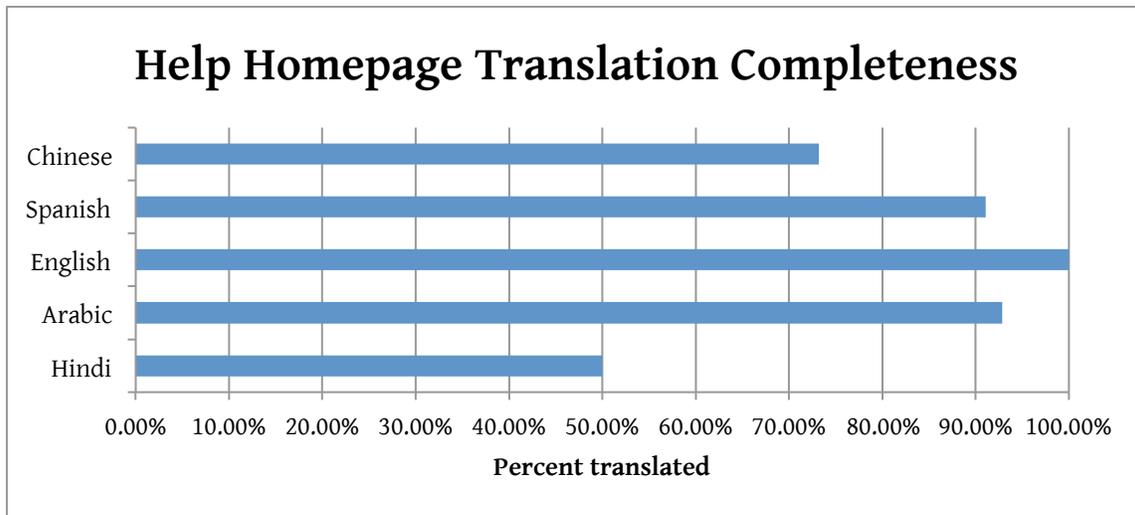


Figure 9. Translation completeness percentages for each language on the Help homepage.

## ABOUT

The researcher determined each percentage by counting the English thematic units on the About page, then counting the translated thematic units in each language. There

were 73 thematic on the About page. This page was the only page the researcher investigated that was formatted like a Facebook user profile page. Facebook distinguishes user and corporate profiles by calling public corporate profile pages “Pages” and private user profile pages “personal timelines.” All the posts on this page were in English.

As shown in Figure 10 below, Spanish and Arabic had the highest translation percentages, followed by the Chinese translation, and Hindi had the lowest translation percentage.

If the user has not logged in and has changed the site language preferences, the user sees a link below the textual content that says, “View translation” in the language the user has chosen. When the user clicks the link, a pop-up window prompts the user to log in to see the Bing translation. This requirement to log in to access the translated content limits the linguistic reach of the posted content. Only English-speaking users or users equipped with the ability to translate the text on their own would be able to understand the posted content. This linguistic hurdle requires the non-Facebook reader to copy the content into a different machine translation, or create a Facebook account to access the linguistic information. By not providing an easily accessible translation for this content, Facebook is reinforcing English as the Web standard.

The page also had a “Facebook Stories” heading, the company mission statement in English across all four languages studied for this research. Each linguistic rendering of the page had translations for most of the headings and labels on the page as well as some linguistically appropriate numeric formatting e.g., 86.000.000 for Spanish but 86,000,000 for the other languages. Displaying the number as 86,000,000 was an oversight for Hindi, where the number should have displayed as 8,60,00,000.

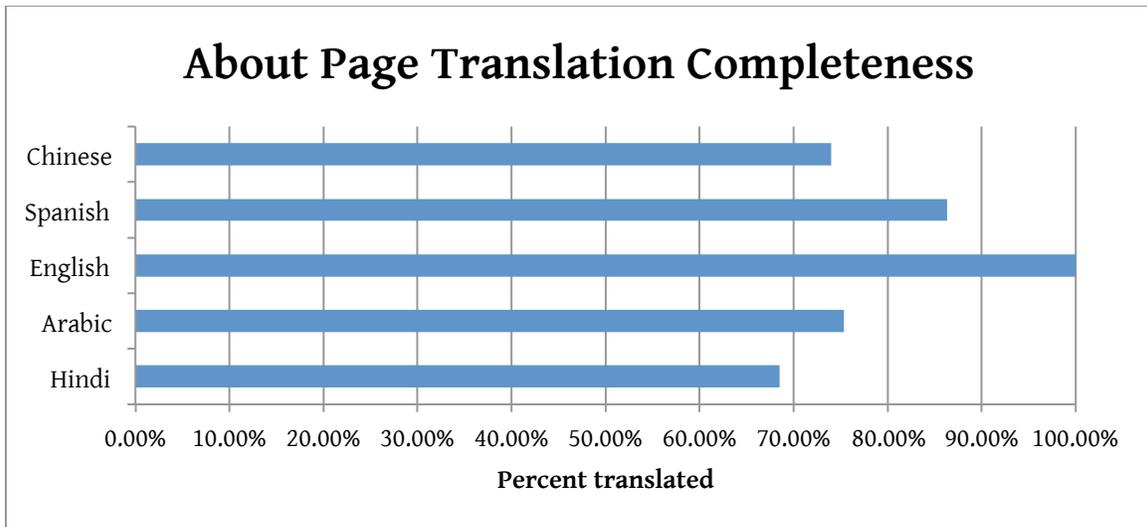


Figure 10. Translation completeness percentages for each language on the About page.

## MOBILE

The researcher determined each percentage by counting the English thematic units on the About page, then counting the translated thematic units in each language. This page has 36 thematic units, and some English content across the pages for all languages.

As shown in Figure 11 below, Chinese and Spanish had the highest translation percentages, followed by the Arabic translation, and Hindi again had the lowest translation percentage.

There was a button that says “Available in the App Store,” a button that says “Get it on Google Play,” the heading “Facebook Messenger,” the language content in the smartphone image that shows a Facebook profile was in English, and the page also features a video that has text in English. Besides those instances, the rest of the text on the page was completely Spanish and Chinese, respectively. However, as shown in the chart below, Arabic and Hindi lacked substantial translation when compared to the other languages. The “What’s New” section was in English for Arabic, and there were only a

few items on the page that are translated into Hindi.

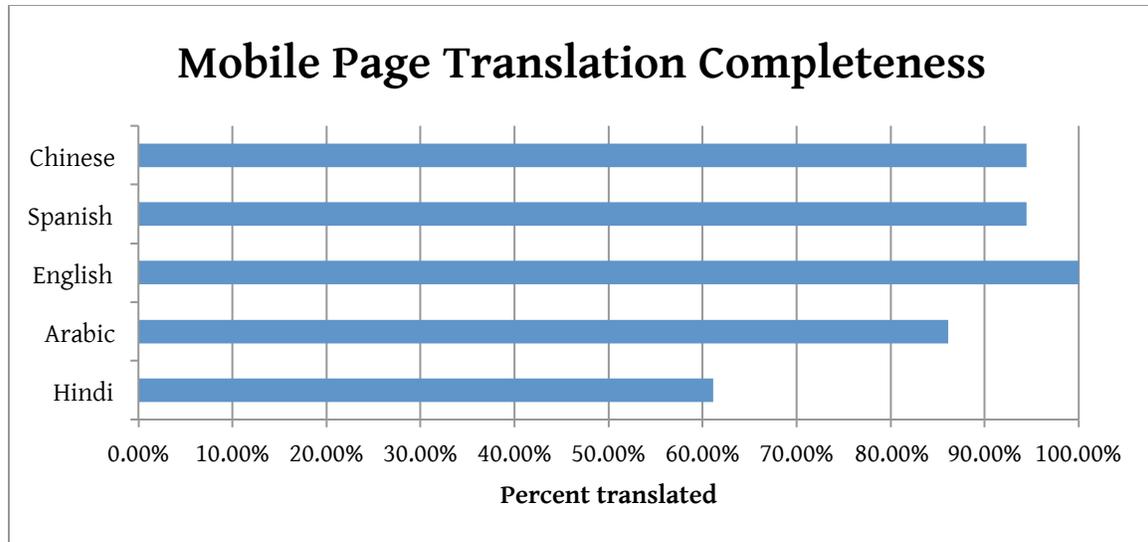


Figure 11. Translation completeness percentages for each language on the Mobile page.

### **Popular Social Networking Pages**

For the purposes of this research, the popular social networking pages are: event pages for events a user is attending, personal timelines, and the News Feed. Given Wong’s (2010) description of the translation process, it is likely that the translation community translated these pages because these pages do not contain legal or lengthy texts. However, these are pages where users spend the majority of their time and interact with the site regularly.

The completeness of translation on these frequently visited pages again varied. Since users are likely to spend a significant amount of time interacting on social networking pages, this section of the thesis focuses on the variations between language locales. Spanish and Chinese are the only languages in this study that have localizations, so this section highlights those translation differences. The three areas of interest are

public Facebook events, personal timelines, and the News Feed. A public Facebook event presents a limited amount of information and has limited interaction choices: the date and time of the event, who is attending or invited, people posting comments on the page, and people responding to the comments in a “like” or a comment. The personal timeline is where a user posts status updates, and where the user or a user’s friends can post photos, links, or events. The user or user’s friends can “like,” comment on, or share any of these items. The News Feed is where a user sees her friends’ status updates, photos, links, and events in chronological order.

## EVENTS

### Spanish.

The number of translated phrases that a user encounters in each of the Spanish localizations varies substantially. For example, while looking at the public event, Music By the Slice, for March 14<sup>th</sup>, 2013, the word “share,” and “comment” as well as the phrase “... See More,” are the only phrases that consistently are in Spanish across all the localizations. As shown in Table 2, some of the names of the days of the week are in Spanish for the Colombian and Castilian localizations and in English for Chilean, Mexican, and Venezuelan localizations.

|                  | <b>Like</b> | <b>Friday</b> | <b>Saturday</b> | <b>"and"</b> | <b>"are going"</b> | <b>Write something...</b> |
|------------------|-------------|---------------|-----------------|--------------|--------------------|---------------------------|
| <b>Español</b>   | Me gusta    | El viernes    | El Sábado       | y            | irán               | Escribe algo...           |
| <b>Chile</b>     | Me gusta    | <b>Friday</b> | <b>Saturday</b> | y            | asistirán          | Escribe algo...           |
| <b>Colombia</b>  | <b>Like</b> | viernes       | sábado          | y            | van a ir           | Escribe algo...           |
| <b>España</b>    | Me gusta    | El viernes    | El sábado       | y            | irán               | Escribe algo...           |
| <b>México</b>    | Me gusta    | <b>Friday</b> | Sábado          | y            | asistirán          | Escribe algo...           |
| <b>Venezuela</b> | <b>Like</b> | <b>Friday</b> | <b>Saturday</b> | <b>and</b>   | <b>are going</b>   | <b>Write something...</b> |

Table 2. Spanish localizations vary in levels of phrase translation completeness. English phrases are in bold and black.

As evident in Table 2, the word “like,” text prompts for comments, and days of the week are inconsistently in English or Spanish, depending on the localization the user has selected. Other instances of variability in translation appeared as inconsistent translations for months of the year.

Based on analysis of translated phrases for the 33 phrases used to display a Facebook event, the researcher determined that Venezuelan Spanish is about nine percent translated, Chilean Spanish is about 73% translated, Colombian and Mexican Spanish are about 97% translated, and Castilian and “generic” Spanish are fully translated. See Table 3.

|                  | <b>Spanish phrases</b> | <b>Percent translated</b> |
|------------------|------------------------|---------------------------|
| <b>Español</b>   | 33                     | 100%                      |
| <b>Chile</b>     | 24                     | 72.73%                    |
| <b>Colombia</b>  | 32                     | 96.97%                    |
| <b>España</b>    | 33                     | 100%                      |
| <b>México</b>    | 32                     | 96.97%                    |
| <b>Venezuela</b> | 3                      | 9.09%                     |

Table 3. Total number of Facebook phrases in Spanish of 33, and the translated percentage.

Since Venezuelan Spanish is not a beta localization, it appears that the beta language designation does not come from the number of translated phrases used to display event information.

### **Chinese**

Facebook had completely translated the Chinese localizations, China, Hong Kong and Taiwan, when examining the 33 words and phrases translated for an event.

## PERSONAL TIMELINES

### Spanish

The translated phrases a user encounters in each Spanish localization varies, although not as much as those in an event page. Of the 33 phrases compared, the translation completion percentages were substantially and systematically higher than on the event page.

|                  | <b>Like</b> | <b>What's on your mind?</b> | <b>Place</b> | <b>"at"</b> | <b>About</b>    | <b>Life Event</b>         |
|------------------|-------------|-----------------------------|--------------|-------------|-----------------|---------------------------|
| <b>Español</b>   | Me gusta    | ¿Qué estás pensando?        |              | en          | Información     | Acontecimiento importante |
| <b>Chile</b>     | Me gusta    | ¿Qué estás pensando?        | Lugar        | en          | Más información | Evento en tu vida         |
| <b>Colombia</b>  | <b>Like</b> | <b>What's on your mind?</b> |              | en          | Acerca de       | Acontecimiento importante |
| <b>España</b>    | Me gusta    | ¿Qué estás pensando?        |              | en          | Información     | Acontecimiento importante |
| <b>México</b>    | Me gusta    | ¿Qué estás pensando?        | Lugar        | en          | Acerca de       | Evento en tu vida         |
| <b>Venezuela</b> | <b>Like</b> | <b>What's on your mind?</b> | <b>Place</b> | <b>at</b>   | <b>About</b>    | <b>Life Event</b>         |

Table 4. Translated words and phrases for personal timelines using Spanish localizations. English phrases are in bold and black.

As evident in Table 4, here again, the word “like,” is still in English, as is the text prompt for a status update. The same words and phrases that appeared in English in the analysis of an event page appeared in English on the personal timeline. Additionally, the “Place” feature is not available for the Colombian, Castilian, or umbrella Spanish translation. This could mean that posting using this “Place” functionality is not available yet in those localizations, while it is in others.

|                  | <b>Spanish phrases</b> | <b>Percent translated</b> |
|------------------|------------------------|---------------------------|
| <b>Español</b>   | 32                     | 96.97%                    |
| <b>Chile</b>     | 33                     | 100.00%                   |
| <b>Colombia</b>  | 30                     | 90.91%                    |
| <b>España</b>    | 32                     | 96.97%                    |
| <b>México</b>    | 33                     | 100.00%                   |
| <b>Venezuela</b> | 6                      | 18.18%                    |

Table 5. Total number of Facebook phrases in Spanish out of 33, and the translated percentage.

As demonstrated in Table 5, the Colombian, Castilian and Spanish translations are not as complete as they were on the Events page. This difference is due to the “Place” feature not being available. Venezuelan Spanish has three more phrases in Spanish, yielding a higher translation percentage. These words and phrases are “Ingresa tu ciudad de nacimiento,” “Amigos,” and “Patrocinado.”

### **Chinese**

As on the event page, Facebook had translated all 33 words and phrases examined in all three Chinese localizations.

### **NEWS FEED**

The number of translated phrases that a user encounters in each of the localizations also varies on the news feed. For example, the word “Gifts” appeared in English in every localization in Spanish and Chinese. “Gifts” have been a part of Facebook since February 2007 (Morgenstern, 2007), thus the fact that it has not been translated is due to an unspecified reason. Developers may not have posted the phrase in the translation database, or this feature may not have been so prominently featured now as it was on its inception in 2007.

## Spanish

The translated phrases that a user encounters in each Spanish localization vary. Of the 36 phrases compared, the translation completion percentages were much higher than those on the event page.

|                  | <b>Like</b> | <b>Create Group...</b> | <b>Apps</b>  | <b>Gifts</b> | <b>Pages Feed</b>   | <b>Like Pages</b>     |
|------------------|-------------|------------------------|--------------|--------------|---------------------|-----------------------|
| <b>Español</b>   | Me gusta    | Crear un grupo...      | Aplicaciones | <b>Gifts</b> | Noticias de páginas | Descubrir páginas     |
| <b>Chile</b>     | Me gusta    | Crear un grupo...      | <b>Apps</b>  | <b>Gifts</b> | <b>Pages Feed</b>   | Paginas que Me gustan |
| <b>Colombia</b>  | <b>Like</b> | <b>Create Group...</b> | Aplicaciones | <b>Gifts</b> | <b>Pages Feed</b>   | <b>Like Pages</b>     |
| <b>España</b>    | Me gusta    | Crear un grupo...      | Aplicaciones | <b>Gifts</b> | Noticias de páginas | Descubrir páginas     |
| <b>México</b>    | Me gusta    | Crear un Grupo...      | Aplicaciones | <b>Gifts</b> | <b>Pages Feed</b>   | Paginas que te gustan |
| <b>Venezuela</b> | <b>Like</b> | <b>Create Group...</b> | <b>Apps</b>  | <b>Gifts</b> | <b>Pages Feed</b>   | <b>Like Pages</b>     |

Table 6. Spanish localizations vary in levels of phrase translation completeness. English phrases are in bold and black.

As evident in Table 6, here again, the word “like,” is still in English. The same words and phrases that appeared in English in the analysis of an event page and the personal timeline appeared in English on the news feed. Of note is that the text prompt for a status update is also in English on this page.

|                  | <b>Spanish phrases</b> | <b>Percent translated</b> |
|------------------|------------------------|---------------------------|
| <b>Español</b>   | 35                     | 97.22%                    |
| <b>Chile</b>     | 33                     | 91.67%                    |
| <b>Colombia</b>  | 30                     | 83.33%                    |
| <b>España</b>    | 35                     | 97.22%                    |
| <b>México</b>    | 34                     | 94.44%                    |
| <b>Venezuela</b> | 10                     | 27.78%                    |

Table 7. Total number of Facebook phrases in Spanish out of 36, and the translated percentage.

As demonstrated in Table 7, none of the translations are complete. This difference is due to the “Gifts” feature not being in Spanish in any localization. Venezuelan Spanish has six more phrases in Spanish, compared to the events page, yielding a higher translation percentage. These added words and phrases are “Mensajes” “Grupos,” “Agregar intereses...,” “Orden.” “Editar perfil,” and “Agregar foto.”

### **Chinese**

Besides the gifts label noted above, the “Pages Feed” label was in English for both the Hong Kong and Simplified Chinese localizations. Every other phrase did not appear in English. The news feed is the first place where translation on any Chinese localization has not been complete.

## **Summary**

Translation completeness varies substantially for both institutional pages and popular social networking pages. On institutional pages, Facebook had not completely translated any of the four languages. Spanish had the highest level of translation completion, followed by Arabic, Chinese, and Hindi. However, this high rate of translation for Spanish did not exist when examining the translation work done on the Spanish localizations in the popular social networking pages.

The fact that key components in Facebook’s site, “like” and the text prompt for posting a status, are not in Spanish for Venezuelan and Colombian localizations emphasizes that Facebook’s globalization strategy does not include making sure that essential functions are in the target language before releasing the localization. Additionally, that a feature as old as a gift which Facebook created in February 2007 would not be available in any Spanish localization suggests that this label was in English even when Facebook announced the completion of Spanish translation a year later. Given

that the gift label existed in 2008, Facebook may have prematurely announced that the Spanish translation was complete in 2008 (Vera, 2008).

## **USER STUDY**

Because the researcher cannot read or write using three of the languages in this study (Arabic, Hindi, and Chinese), the researcher chose the qualitative method to collect data. Speaking with multilingual Facebook users at length, users would likely give detailed descriptions of their perceptions of Facebook and their linguistic habits that a survey or site log analysis could not provide. Participants would be more likely to describe their online identity and linguistic switching themes in conversation. Informal conversation would also be more conducive for discovering hardware constraints participants might experience which they would be less likely to consider a hindrance.

### **Data Collection**

The researcher received approval from the University of Texas at Austin's Institutional Review Board (IRB) on March 1, 2013 to conduct a user study (#2012-11-0084). After receiving the research approval, the researcher sent emails through the School of Information, and International Office listservs as well as posting a shortened version of the recruitment text to her Facebook personal timeline. See Appendix A: Recruitment Text for recruitment text for both. The recruitment effort sought to find students, faculty or staff who were active Facebook users, who posted in the languages of this study. Because the School of Information and International Office have contact with many international students, the researcher chose listservs from those areas. The researcher sent the recruitment email to the master's, doctoral, and staff listservs at the School of Information. Contacts at the International Office sent the email to the Graduate Coordinator Network, and Partnerships to Advance Language Study and Cultural Exchange (PALS) listservs, as well as posting the email to the International Office blog. Additionally, since the ideal participants were active Facebook users, the researcher

chose to post an abbreviated version of her recruitment details on her Facebook page. Several of her Facebook friends shared the post with their friends in an effort to help find participants. The researcher collected data from March 1, 2013 to March 31, 2013.

### **Participant Demographics**

The goal for the number of participants in the user-based research part of the study was 20, five native speakers of Chinese, Spanish, Arabic, and Hindi. Twelve participants took part in the research: five spoke Chinese, three spoke Spanish, three spoke Arabic, and three spoke Hindi. See Table 8. At the conclusion of the study, the researcher assigned all participants pseudonyms to protect their identity. Two participants were fluent in two of the non-English languages in this research: Sebastián is fluent in Spanish and Hindi; Tai is fluent in Chinese and Hindi, but does not write in Chinese. Six of the participants were PhD students, five were Master's students, and one was a recent Master's graduate. All participants were from the University of Texas at Austin. The questionnaire did not ask for the participant's age, but the estimated age range is from 23 to 36. Nine participants were female and three male. Each participant filled out a questionnaire about her/his Facebook usage and participated in semi-structured interviews or a focus group. For the questionnaire, see Appendix C: Questionnaire.

## DATA ANALYSIS

Of the 12 respondents, eight participated in interviews, and four participated in a focus group. The focus group lasted 60 minutes; the eight interviews ranged in length from 16 minutes to 45 minutes, with a median time of 29 minutes. Each participant agreed to be audio recorded. A list of questions for the semi-structured interviews guided the researcher. Because of the nature of the semi-structured interview, the researcher asked unscripted questions, as they emerged naturally as part of the conversation. The researcher took notes during each interview session and the focus group. The researcher did not transcribe any of the interviews or the focus group. The researcher reviewed the audio recording for each interview to refresh her memory of the conversation as well as to transcribe direct quotations from the participants. The content themes and keyword modification actions emerged from conversation with the research participants.

|                           | <b>Chinese</b> | <b>Spanish</b>    | <b>Arabic</b>  | <b>Hindi</b> |
|---------------------------|----------------|-------------------|----------------|--------------|
| <b>Personal interview</b> | Hua, Nuo, Zhen | Osane             | Cantara, Minna | Bharat, Tai  |
| <b>Focus group</b>        | Yin            | Bidane, Sebastián | Ameen          | Sebastián    |

Table 8. How the researcher gathered data for each language in personal interviews and focus group.

Ten participants reported that they logged on to Facebook seven or more times per week. Nine of these participants answered that they use the Facebook mobile app on their smartphones. Three participants had been using the Facebook mobile app for three to four years, two participants had been using the app for one to two years, and four participants had been using the app for less than a year. Two participants logged on to Facebook three to four times per week. Neither of these participants used the Facebook mobile app.

## **Facebook Usage and Friend Group Themes**

Since all the participants had Facebook friends who are abroad, all participants stated that they primarily use Facebook as a convenient way to keep in touch with friends all over the world. Hua said it well, “My friends are now all over the world, so Facebook is the primary way to know things that are going on in their life.”

Six of the participants said a primary use of Facebook is the events. Participants reported that event invitations keep them informed about things going on around them of which they may not otherwise be aware. Any Facebook user can create an event and invite other Facebook users to an event. Event organizers add details such as the date, time, and address about the event to give invitees further details about the event.

When asked for an estimate of how many of their Facebook friends were multilingual, participants’ estimates ranged from 10% to 90%. Seven of the participants could speak more than two languages; two participants speak four languages. These participants and their friends have a deep understanding of the advantages and disadvantages of being multilingual. Three participants specifically noted that their monolingual friends were mostly Americans, and one noted her monolingual friends were Japanese.

All participants were surprised at the question about whether they had a Facebook account for each language. None of them could see the need for such identity compartmentalization. The consistent response to that question was, as Bidane succinctly stated, “That would be too much work!” Most said they had friends or had heard of people having separate accounts for a personal and professional presence, a separation they understood. Segmenting identity along linguistic lines was a separation no one understood.

Eight participants had friends who speak languages the participants do not. Whenever these friends posted in a language the participants did not know, the participants used the View Translation button or copied the unknown text into a search engine to translate. All participants stated that, although this machine translation was not a good one, the word-by-word translation would give participants enough context to understand the essence of the post.

### **FACEBOOK LANGUAGE SETTINGS**

All participants used Facebook with English as the language setting for the site. Participants had first used Facebook in English and they said they would be unfamiliar with the words for some labels and features. Hua, for example, had her Facebook account settings in English (UK) because she created her account to connect with friends she was making there during an exchange program in the UK.

Six participants mentioned that they had tried Facebook using other languages, but that using Facebook in the non-English language had been temporary, and mostly out of curiosity. They all relied heavily on their visual memory of the English left-to-right layout for orientation and cues on where buttons should be. The Arabic speakers all noted that they had tried Facebook in Arabic, but, since they had started using Facebook in English, the right-to-left layout was too different to change. Four of these participants noted their reason for changing back to English from the other language was specifically because of translatability problems. They felt that the translations were not good or that switching between languages made some labels unclear, or the words were new to the language.

When Zhen created her Facebook account, she initially set the Facebook language to Chinese. She found, however, that this setting required her to enter her name in

Chinese characters. This requirement meant that anyone searching for her on Facebook would have to know how to write her name with Chinese characters. After she changed her language settings to English, she found that she could enter her name using Latin letters, making it easier for her non-Chinese friends to find her.

Zhen also noted that when she was using Facebook in Chinese that she did not understand what many of the content labels meant, but did not cite any specific examples. She felt that the Chinese translation did not use phrasing that she or most of her Chinese friends would normally use. She suspected there that Facebook might not have had as many people translating Facebook into Chinese then.

Two participants stated they set up Facebook in English to help them be fully immersed in English and to help them learn the language better. Facebook was a helpful cultural- and language-learning tool.

### **Actions for Posting in Another Language**

The researcher's expectations going into this study were that the participants would primarily use mobile phones as the means of posting in their native languages, since changing languages on smartphones is relatively easy, while changing languages from laptops can be cumbersome. This assumption did not hold for the participants in this research. All participants preferred to use their laptops to post in non-English languages. Two participants specifically mentioned using their laptops and mobiles for posting on Facebook. The others said they used the Facebook mobile app to read more than they did to post.

Chinese-, Spanish-, and Arabic-speaking participants described the extra steps they had to go through in order to properly post in their languages. For some it was a

matter of switching settings on keyboard input software, adding extra keystrokes, or using a separate keyboard, for others it was using transliteration services on a Web site.

Chinese- and Arabic-speaking participants described a text conversion process. These users type in Latin letters into software that gives them text in their desired language. All Chinese speakers used software they installed on their laptops to type in an approximate phonetic spelling of Chinese words using Latin letters. The software would interpret this spelling and provide the user with a list of up to 50 characters that matched their input. The software would list the most frequently used characters first. For example, if Nuo wanted to use the Chinese characters for China, 中国, she would type in the Latin letters “zhongguo.” When Nuo started typing, she would see several characters appear before she finished.



Figure 12. Screen shot from the site chinese-tools.com using the Chinese Input Method Editor.

Arabic speakers used a site called Yamli, which assigns individual Latin letters and Arabic numbers to the Arabic abjad, the consonantal Arabic script. One Arabic speaker occasionally used a separate Arabic keyboard. If Minna wanted to write the word, مرحبا, Arabic for “Hello,” she would type in “marhaba.

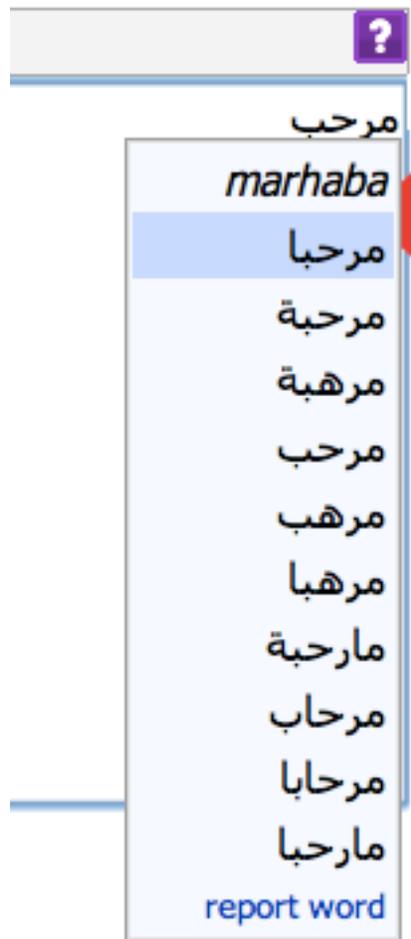


Figure 13. Screen shot taken from yamli.com using the Simple Editor.

## CHINESE

The four persons who posted in Chinese described the process of changing the keyboard language settings in order to post. All participants thought this process was simple on the laptop, and one found posting in Chinese on mobile to be cumbersome. All Chinese-speaking participants posted Chinese content to Facebook using a laptop computer. Zhen reported that, when she used her phone to post in Chinese, the characters were not always the ones she intended to use. This inconsistency made her skeptical of all Chinese input software for mobile, and she chose to use English when using her phone because she knew her text entry would be right.

Nuo said changing keyboards was simple, and not much trouble. She did not think that having to go through this extra step impeded her ability to communicate in the ways she wanted. She did mention that, if she wanted to post in Chinese from a computer at the UT library, however, she would not be able to do so. Posting in Chinese would depend on whether she could install the software she needed on that machine. In that situation, she is not likely to have administrator privileges or be able to modify the computer's system language settings.

Zhen has posted to Facebook from several laptops that she has owned. She noted that, when she had purchased her laptop in China, the Facebook interface appeared in Chinese. She had created her Facebook account in English before acquiring this laptop, so once she logged in to Facebook the site switched back to English. The default linguistic settings on a computer introduced the idea that hardware's geographic point of sale can play a significant part in a person's acquisition of and exposure to technical terminology. The hardware's technological linguistic bias also sets the linguistic Web

browsing preferences and can influence how users respond to a different linguistic environment. If multilingual users purchase hardware outside of their native country, they are likely to be exposed to a different default linguistic environment in which they may not be comfortable. Zhen did not discuss the process for changing keyboard settings from her Chinese laptop but said that changing keyboard settings from her American computer was easy.

Nuo also noted that her Chinese laptop presented Facebook in Chinese because the system-level language was Chinese. Nuo chose to switch the Facebook settings to English to immerse her in the English language and to learn English faster. She changed her phone system settings to English for the same purpose.

Yin and Hua said they often change the keyboard settings before they can post, but that the process is easy. Hua uses the keyboard shortcut Shift + Ctrl to switch keyboard settings, which she considers very convenient.

## **SPANISH**

Spanish speakers varied in how important it was to them to make sure they had used the proper diacritics in a word. Osane described a Google Chrome plugin that spell-checks her writing in Spanish. Osane said she relies heavily on this tool because she often misspells Spanish words.

Bidane said she did not really worry about adding diacritics, since most of her readers could tell what she was trying to say from the context of the sentence. When a word's spelling is dependent on a diacritical mark, Bidane uses shorthand Spanish Web conventions such as using "nn" for "ñ." Bidane added, however, that using the shorthand Spanish Web conventions was something she did mostly on Facebook, since she considers it an informal space. If she were communicating with someone more formally,

she would be sure to remember the extra keystrokes needed to add diacritics. She set up special keyboard shortcuts for the diacritics, but said these shortcuts work only in Microsoft Word on her PC, so she would have to type her text in Word and then paste it into Facebook, which is too much effort for her.

Sebastián insisted that the diacritics were an important part of a word's spelling and that he always uses them. He uses a Mac, so "it's really easy to put the accents in so I just do it. If I didn't have a Mac, I don't know that I would." He said since "Facebook is for quick messages," the diacritical shortcuts needed to be easy to access in order for him to use them.

Although they disagreed about diacritics, Bidane and Sebastián emphatically declared that they would never use Spanish "text speak" on Facebook; they would always spell out words. Spanish "text speak" includes using "x" for "por" or "k" for "que."

## **ARABIC**

"Arabic and technology in general are a pain in the butt to use. I'm lazy about it; I've chosen not to put [forth] the effort," Minna declared. Minna and Ameen both used a transliteration feature on Yamli to convert Latin letters and Arabic numbers to the Arabic abjad. The site, which has existed for six years, proclaims that this feature enables users to "write Arabic without an Arabic keyboard." Ameen said sometimes the Arabic abjad text has mistakes in it, but the user can fix them before pasting in the text to Facebook. Minna mentioned that Arabic speakers can change their keyboard input settings, but that doing so often requires adding stickers to the keyboard to indicate where the Arabic abjad letters are, which come off after about a month. She said most people she knows who use the Arabic abjad memorize the Arabic keyboard and type letters from memory.

Both Cantara and Ameen made a point to show the researcher how the Facebook app would insert spaces between Arabic letters, significantly impeding reading comprehension. Minna also mentioned that the Facebook app would insert spaces between letters. Cantara used an Android app called Arabic Text Reader on her phone to avoid the extra spaces in Arabic text. This app works in conjunction with the Facebook and Twitter apps to enable proper display of the script. Cantara observed, however, that these feeds were consistently several hours behind. For example, one of Cantara's friends posts on Cantara's Facebook timeline in Arabic. If Cantara sees this notification from the Facebook app while she is away from her laptop, she would not be able to use the Arabic Text Reader app to read the note until a few hours later. She would either have to trudge through the message using the Facebook app or wait until she was at her laptop to read the post.

Cantara also noted that her experience in writing in Arabic on the iPhone she had overseas was much simpler than writing on her current Android phone. She did not describe what had caused her to change mobile devices, just her strong preference for the Arabic writing experience on the iPhone.

Ameen described the "ASCII-ized" form of Arabic (AA) that Palfreyman and Khalil (2007) discussed, which he believes is used mostly by Arab-Americans. AA uses Latin letters and includes Arabic numbers since the Arabic alphabet has more than 26 letters. AA is likely the letter mapping that sites like Yamli use. He said using the Arabic language in AA bastardizes the language, which is why he relies heavily on Yamli. He said AA for Arab-Americans is something that has created a generational gap between younger and older Arabic speakers. Ameen described older Arabic speakers as not being able to understand AA at all, compelling him to write more often in the traditional abjad. Arab-American speakers who are familiar with AA embrace it and dismiss the comments

they hear from their older relatives as outdated and technologically ignorant. Despite his strong commitment to using the traditional abjad, he concluded his discussion of the topic saying, “Arabic script is for older people. When I’m talking to Arab-Americans I can use [AA].”

## **HINDI**

None of the Hindi speakers wrote Hindi in Devanāgarī, the main script used to write Hindi. All of them described writing in Hinglish, a form of Hindi to English code-switching, or transliterated Hindi. Devanāgarī was simply not a script they write in using their computers or smartphones; it is instead, a script they write by hand.

Because of the difficulties of writing in Hindi, Tai gave an example of posting a link to a movie clip in Hindi, and offering commentary on the link he posted in Hinglish. “I don’t use complicated scripts... I’ve heard that sometimes the characters [Microsoft Word uses] are not equivalent, and I suspect that Facebook would work much the same.”

Sebastián, who also speaks Hindi, knows that it is possible to write in Hindi on Facebook, since he has friends who do so. Because Hindi was not available as on Facebook early on, he is already accustomed to writing in transliterated Hindi instead of Devanāgarī. He said he knows there are sites similar to Yamli for writing in Devanāgarī, but he does not know what they are since he never uses Devanāgarī on a computer. “I’ve never ever in my life had to type anything in Hindi.”

## **Facebook Posting Themes and Language Switching**

### **ALL LANGUAGES**

Cultural references such as holidays or a national sports team’s winning a match were frequently cited reasons to post in the non-English language. For example, Hua explained that she does not expect her non-Chinese friends to understand Chinese cultural

references, so she posts about things such as the Spring Festival (Chinese New Year) in Chinese.

All participants noted that their own linguistic behavior would change when communicating with friends in languages other than English. For example, Sebastián observed that some relationships rely on communication in other languages. Sebastián told a story of a Korean friend who posted a long status in Korean soon after they had met and became Facebook friends. Sebastian, who has spent the day with this friend the day before, used the View Translation button to translate the post. After seeing the translation, and seeing that it was about something that had happened to them, he replied to this friend in Spanish because, “We talk in Spanish. She speaks English, too, but our relationship is in Spanish.” Zhen and Bidane echoed the idea that, even when two people speak the same two languages with similar fluency levels, the language in which they established their relationship is the one in which they communicate most.

Osane takes a slightly different approach to her linguistic presentation on Facebook. If her friend José, with whom she regularly communicates in English, has a mostly Spanish-speaking network of friends, she posts in Spanish for the benefit of his friends. She was the only one who mentioned a friend’s friends as her target audience. Two participants observed that some of their multilingual friends would respond to non-English posts only in English because those friends use only English on Facebook.

Eight participants felt that, whenever they posted in English, the intended audience of the post included all of their friends. The participants said that when they had a big announcement or life change they wanted to share publicly, they would post in English. The participants stated that their multilingual friends would likely know English. Tai and Minna believed multilingual Facebook users to likely be more educated, and more financially secure, also meaning they are more likely to speak English.

Bharat described her interactions with friends in Hinglish occurring as part of a non-public Facebook space such as Facebook groups or private Facebook messages. Tai adamantly stated that he would post in Hindi only on his friends' timelines, not his personal timeline, thus keeping his identity presentation on his timeline linguistically limited to English.

Osane was the only participant who mentioned captioning photos as a translation activity. She does not have a clear rule for captioning. If she is outside of the U.S. she notices she tries to caption more frequently in both languages so that people in all countries can partake in her photos and share in her travel experiences. When she is in the U.S., though, she normally captions in English.

#### **TRANSLATING CONTENT AND IMPLICIT LINGUISTIC PEER PRESSURE**

All participants acknowledged that posting in a language other than English without translating excluded some of their friends. There appeared to be a division among those participants who chose to translate posts when posting in a language other than English: two felt socially obligated to translate posts for monolingual friends, while eight felt that any content posted in a non-English language was not intended for anyone who did not know that language. Ironically, two participants, one who does not translate her posts, noted that the advent of the View Translation button has caused them and their friends to stop translating their posts completely.

The View Translation button may be a feature of which not all users are aware. Sebastián said that once when he had used the View Translation button to read a post in Korean, a language he does not speak. It caught his friend off guard. "She was so surprised 'How do you know? How did you understand that?' I was like 'Well, only because I was with you and I knew what happened could I figure that out.'"

Bharat felt that posting exclusively in non-English languages was rude. Sebastián echoed that sentiment by saying, “I am polite enough to translate for my friends.” Ameen, on the other hand, did not care if he posted content that some of his non-Arabic speaking friends would not be able to read, since the content was not for those friends. Osane, although she would post in exclusively English or Spanish, occasionally mediated this linguistic division by posting links to Spanish news and magazine articles and offering her commentary in English or vice versa.

Hua echoes that her linguistic choices are the result of her audience’s influence. When Hua first created her Facebook account she rarely posted in Chinese. Since most of her friends were British, she posted in English because “They are my audience.” She now posts occasionally in Chinese, since many of her Chinese friends have gone abroad and created Facebook accounts.

Zhen has noticed that her group of friends has had a direct impact on what language she posts in. When she first created her Facebook account, most of her friends spoke English, so her posts were all in English. As her Chinese friends have gotten Facebook accounts, however, she said she posts mostly in Chinese.

Bharat created her account before she moved to the U.S., so she said most of her posts at the beginning were in Hinglish. Now, because more of her Facebook friends speak English, she posts more frequently in English.

Yin, who speaks English, Chinese, and Japanese, was the only participant who described posting content in the first language of the three that came to her. “The idea comes to me in one language, so I post in that language.” Before publishing the post, she would spend a little extra time verifying that content was clear to the friends who speak that language. Thus, she was still mindful of that set of friends, even though her linguistic choice was independent of her audience.

Cantara described a recent situation where a Korean friend had a birthday, and several of this person's Korean friends posted birthday wishes in Korean. She copied the characters into Google to verify which ones said "Happy birthday" and then pasted those characters on this friend's wall. She loved the idea of surprising her friend with this illusion that she had learned how to write "Happy birthday" in Korean just for this friend.

Nuo, like Sebastián and Cantara, also uses the View Translation button to pretend she knows what her Korean friends are saying. These three participants emphasize their identity as multilinguals, and use machine translation tools to help them do so. Nuo, however, said she will also ask for a translation if she is curious about a particular post.

## **ARABIC**

All three Arabic speakers specifically mentioned that they would use Arabic to post political content to Facebook. Cantara used Facebook as a medium to mobilize and communicate information to activists during the Arab Spring in 2011. Much of her identity on Facebook revolves around her political activism, but she also stated that not all her friends share her political views. She has to be very cautious about how she presents herself. Even liking a political post with which she agrees could damage friendships when a friend disagrees.

Ameen, on the other hand, stated that he actively "defriends" people who disagree with his political posts. He felt that a dissenting political opinion from a friend effectively ended their friendship. These dissenting opinions are ones he would prefer not to see; since he has control over that space, he exercises that right.

Minna did not describe her political activism on Facebook in detail, other than saying that she used Arabic on Facebook exclusively for posting on political topics.

## **FRIENDS' RESPONSES TO NON-ENGLISH CONTENT**

Osane observed that her bilingual friends often pay more attention to her posts in Spanish. “When I update in English all the time, it just slides right past, but when I post in Spanish, suddenly I have more people commenting on the update. And I know I do the exact same thing.” Having noticed that pattern, she often posts in Spanish to draw special attention to a topic about which she is passionate.

When Cantara first moved to the U.S., she posted frequently in Arabic. She reported that several American friends commented about her Arabic posts. She gradually changed her posting habits and now posts much more in English than she did before.

## **IMPLICATIONS OF RESEARCH**

Conversations with the participants revealed how English is the language of the Web, as the eight participants stated that they expected their posts in English would reach the widest audience. This echoes the literature that the common perception of the Web is that English is a prerequisite for using the Web (Flammia & Saunders, 2007; Herring et al., 2007; Kramarae, 1999; Nelson, 2003; Paolillo, 2007). The hegemony of English sets an expectation that users learn English to use online spaces, even informal ones such as Facebook.

### **“ASCII-ization”**

With English as a hegemonic force, transliteration in the form of “ASCII-ization” happens as a side effect. For the purposes of this paper, the researcher expanded Palfreyman and Khalil’s (2007, p. 50) definition of “ASCII-ization,” which includes the transliteration to the Latin alphabet, the numbers 0-9, and some punctuation marks. The researcher’s expanded definition includes the “ASCII-ization” of the phonetic alphabet, and excludes Latin diacritical marks and punctuation such as “ı” and “ç”.

Arabic-speaking participants discussed AA and noted the generational gap and heated cultural discourse that “ASCII-ization” has produced and also noted by several scholars (Koutsogiannis & Mitsikopoulou, 2007, p. 144; Palfreyman & Khalil, 2007, p. 49; Tseliga, 2007, p. 118). Whether Arabic-speaking users choose to use AA or not, they use third-party software to convert the “ASCII-ized” phonetic alphabet to the traditional Arabic abjad.

“ASCII-ization” also affects Hindi and Chinese. All Hindi-speaking participants noted that, when writing in Hindi on Facebook, they never use the Devanāgarī script to communicate. They noted that “ASCII-ization” is common throughout India and that

many friends and family with whom they communicate are familiar with it. Thus, Hindi is also undergoing “ASCII-ization.” All Chinese-speaking participants used Chinese characters whenever they posted in Chinese, implying that, at some point, they had to learn the “ASCII-ized” phonetic alphabet to be able to convert from ASCII to Chinese characters.

Spanish-speaking participants used some “ASCII-ization” of Spanish, but “ASCII-ization” centered on the varying difficulty of remembering the required keystrokes to add diacritical marks. One user found that his computer’s operating system simplified adding diacritical marks, another used a browser-based spelling correction tool, while the other felt that her operating system limited her ability to use diacritical marks outside of the ones she had created in Microsoft Word. Regardless of the difficulty of adding diacritical marks, an “ASCII-ized” Spanish spelling convention helps users who do not know the keystrokes, indicating that “ASCII-ization” of Spanish is happening at a small scale.

### **Identity Presentation**

Sherry Turkle, in her germinal work on online identities, briefly explained her own experience in using multilingual identities for developing her persona (1995, p. 209): “while English-speaking Sherry had little confidence that she could take care of herself, the French-speaking Sherry simply had to and got on with it.” At the outset of the study, the researcher wanted to know if multilingual users were like Turkle discovering that her persona changed depending on the language she used: do multilingual users express themselves differently depending on the language they use to post updates? Conversations with participants did not reveal this kind of dichotomous identity representation.

Given Turkle's personal example of her identity as a multilingual person, multilingual users have what Charles Cheung (2004) describes as multiple identities, which sometimes conflict with or contradict each other. The researcher discovered this idea early in the research phase. This idea of conflicting identities seemed plausible, thus the researcher indirectly asked if users resolve the multilingual identity conflict by creating an account for each language.

Contrary to the supposition at the outset of research that users might create separate Facebook accounts to resolve supposed multilingual identity conflict, participants had one Facebook account. The content participants posted on Facebook linguistically targeted friends who spoke that language; a separate account was not necessary.

Participants revealed that often the majority of their audience was also multilingual and could easily switch between languages when necessary. Their audience, like the research participants, could easily respond to updates in whichever language they liked. This linguistic fluidity demonstrated that identity presentation for both the participants and the audience is not dichotomous. They all live in a multilingual world in which they can switch languages at will.

However, despite participants' ability to write in any language they know, the limitations of keyboards or software at times dictated their linguistic choices. This problem was sometimes solved by system-level software or, in the case of one Arabic-speaking participant, a separate Arabic keyboard. In either situation, the solution to the keyboard limitations also revolved around the participants having access to her/his personal computer or phone. Should the participant be using computers that were not her/his own, or in a public place, these alternate keyboard options were simply not available. The need for individual keyboard and device customization subtly reinforces

that non-English speakers are the outsiders, and highlights a separation between those who do and do not own personal laptops. If non-English speakers want the luxury of easily posting using their native script, hardware limitations like those described previously imply they should have their own customizable laptop, and the language's script input software and hardware accessories.

Even when participants have the means to acquire these pieces of hardware and software themselves, mobile software does not properly display non-English text. Zhen reported distrust of her phone's software's accurately representing what she intended to say, and what others had said. Two of the Arabic speakers reported that reading the Arabic abjad on their phones was challenging (due to extra spaces being added to words). All participants stated that they posted from their laptops, and only two also used their phones to post. Lagging multilingual mobile software development creates an additional linguistic divide that limits users to posting non-English content from laptops, less-mobile computing devices.

Once past the aforementioned hardware limitations, non-English identity presentation largely centered on linguistically identifying with cultural moments such as holidays or other culturally relevant events or news. Depending on the social obligations the person felt, participants could be compelled to translate non-English content for their friends. If the cultural reference were too culturally specific for a segment of friends who did not speak the language of the culture, the post would likely be in the language of the cultural reference.

Participants noted that, in addition to cultural references, they would frequently make a linguistic change to the language in which they frequently communicated with a person. This linguistic shift was most likely to happen on the friend's wall or as a private message, indicating that some prefer a less public identity as a multilingual person. These

participants actively regulate their public linguistic identity presented to their friends. The more private multilingual persons chose to constrain their multilingualism to those who shared in their multilingualism. However, three participants had used Facebook's View Translation tool to publicly purport to be more multilingual than they were, indicating that they prefer a very public identity as a multilingual person. This suggests that multilingualism as a strong or weak part of a person's identity varies greatly depending on the person.

### **Geographical Sales Point**

Zhen observed that her language settings when using Facebook varied depending on where she had purchased her laptop. This sort of geographical determinism had direct influence on both Zhen and Cantara, who noted that the devices they had purchased abroad used the Arabic abjad more as she expected. Cantara could post updates in Arabic on her phone overseas, while she cannot in the United States.

These system-level linguistic preferences on phones and laptops decide the user's linguistic environment and thereby determine in which language the user will develop familiarity with technological terms. Unlike the research participants, the devices are linguistically dichotomous. Once users choose a system's language, the user operates the device using only that language. Likewise, Facebook is also limited to one language at a time. The half of the participants who experimented with using Facebook in a non-English language also mentioned feeling uncertain about where to find buttons or features in the experimental language because they had already been conditioned to find them in English.

## CONCLUSIONS

Facebook has provided a good starting point for other SNSs to build on for creating a more multilingual Web. Additionally, Facebook chose not to “ASCII-ize” non-Latin languages such as Chinese, Arabic and Hindi. Instead it presents them in their native scripts. Facebook also undertook re-engineering the page code to display well when read right-to-left for Arabic.

Although Facebook has done more than most Web sites to translate the site into languages other than English, there are still many ways in which Facebook has continued to extend English as the language of the Web. While striving to be transparent about translation by posting about the translation process in its corporate *Facebook Blog*, the blog post authors gave singular preference to English and left-to-right reading audiences over others. Facebook is perpetuating online linguistic imperialism through subtle layout choices, implying that English is and should be the language of the Web by largely not providing language announcements in other languages, choosing dead languages for translation instead of less widely spoken languages requesting translation, and by putting careless translations of entries that have been translated online. Additionally, Facebook has linguistically limited the Translation App in such a way that developers had to create ways to circumvent Facebook management’s decisions to not translate particular languages.

Several glaring oversights point to Facebook’s not being the exemplar multilingual site that many claimed it was (Augsdörfer et al., 2012; Tenzer et al., 2009; Yunker, 2012; Zetzsche, 2010), given that some localization implementations are either half-finished, e.g. Venezuelan Spanish, or have nearly illegible display on the Facebook app, e.g. Arabic. Neither of these translations had the beta designation, implying that

development work using that language is complete. Facebook publicly declared in their blog that translation for these two languages had finished over four years ago (Haddad, 2009; Vera, 2008). Assertions such as these imply either that that Facebook has not maintained their globalization strategy, or that the internationalization team has ceased development for even major languages. Both of these possibilities are consistent with the declining rate of site translation into new languages that Scannell (2012b) notes.

Multilingual Facebook users encounter many hardware and software difficulties when posting non-English content, which frequently influence users' identity presentation. While there are workarounds for some of them, these difficulties often subtly encourage users to "ASCII-ize" their posts or to post in English.

Many multilingual users post content for audiences who are as multilingual as they. When not inhibited by technological limitations, multilingual users often use these audiences to determine in which language they will post. These audiences may respond in the same language as the post or in a different language, depending on their own identity presentation decisions.

Facebook's View Translation button has allowed users who cannot read the language of a post to understand what was written. It has also encouraged some participants to stop translating content for friends. While participants in this study generally regarded the machine translation as poor translation, they also saw it as a useful tool to understand the sense of a post.

Translatability arose as a significant concern for participants. They acknowledged that, at times, the word they wanted to use was simply in another language. They found that some ideas require using a specific language to express them, much like the linguistic relativity principle and its supporters imply (Bassnett, 2002, p. 22; Cronin, 2012, p. 67; P. Lee, 1996, p. 91).

At times users are linguistically restricted by the hardware or software they use, and whether they use personal devices or public computers. Even when multilingual users are not limited by hardware or software, they sometimes “ASCII-ize” non-Latin scripts, reinforcing previous scholars’ findings about “ASCII-ization” (Koutsogiannis & Mitsikopoulou, 2007; Palfreyman & Khalil, 2007; Tseliga, 2007).

Their audiences heavily influence multilingual Facebook users and direct their identity presentation. In this study, the more multilingual participants’ friends are, the more likely participants are to post in English, since English is the language they are most likely to have in common with all their friends. It appears that English is the lingua franca for multilingual Facebook users, reinforcing previous scholars’ findings and concerns (Flammia & Saunders, 2007; Herring et al., 2007; Kramarae, 1999; Paolillo, 2007).

Because this thesis does not address the technological implementation of Microsoft Bing translation for Facebook status updates, the consideration of Facebook’s public discussion of translation was limited to posts from up to four years ago. Thus there could be little analysis of Facebook’s current translation work.

The research reported here has similarities with much of the research discussing multilingual challenges and multilingual text on the Web (Halavais, 2000; Hale, 2012; Herring et al., 2007; Mesipuu, 2010; Scannell, 2006, 2012a, 2012b). Halavais (2000) discusses globalization and the strong presence of American pages on the Web, Hale (2012) and Herring et al. (2007) analyze translation happening on and between blogs, Mesipuu (2010) writes about the consequences of crowdsourced translation, and Scannell (Scannell, 2012a, 2012b) writes about translating Facebook into endangered languages. This thesis adds to the scholarly work done previously on topics surrounding the multilingual Web and expands their findings.

## **FUTURE RESEARCH**

During the recruitment process for this study, some potential multilingual participants asked if they could participate if they spoke the language but chose to not post using that language. This choice to not post in a language despite being able to do so points to other identity exploration questions discussed only briefly in this research. The participants in this research actively posted in multiple languages. But the existence of users who represent themselves monolingually when they are able to post in several languages indicates a different kind of multilingual identity presentation that merits research.

As the Web becomes an increasingly multilingual space, research in the area of multilingual identity presentation online would benefit from longitudinal study. Such research would allow for deeper investigation into multilingual identity questions and exploration of identity changes over time.

All Chinese-speaking participants noted that they created their Facebook accounts when they left China. The Chinese government has banned Facebook in China in favor of a site called renren.com. While all participants said they would never create separate Facebook accounts, the Chinese speakers have multiple SNS accounts out of necessity to stay connected to their friends in China and those abroad in other countries. Future research could compare the kind of conversations participants have on both sites.

Further, because the Chinese speakers used renren.com and Facebook as tools for maintaining social contact, taking a closer look into how these users explore their identity in these linguistically and culturally different sites alone seems useful.

A participant's first language might play a role in determining how participants posted on Facebook. When discussing his linguistic posting patterns, Ameen said, "My

first language is Arabic, so socially, I think in Arabic. Academically, I am better in English.” His comment suggests that a person’s first language could have a strong influence on what language a person uses in an informal, social site such as Facebook. It also raises questions of how users who speak more than two languages might view second, third, or fourth languages somewhat differently in informal, social situations. How might a person who speaks four languages choose a posting language compared to someone who speaks two languages?

Zhen found that, despite downloading a Chinese app on her Samsung phone, the app would translate into English. Because the app identified that her phone’s system language was in English, the phone translated the app into English. This automated outcome reveals a hardware linguistic determinism that overturns a user’s decisions. How might other hardware or software be frustrating multilingual users by forcing them to go through extra steps to use a non-English app?

Minna described a Lebanese community where most members speak Arabic, French, and English. She says that the social situation dictates which language to use. In areas where more wealthy members spent time, the person would use French, and in other areas, a person would use Arabic or English. Future research could focus on this multilingual national community and examine how their members’ face-to-face linguistic choices are similar to or different from their Facebook interactions.

Cantara, as the most politically active participant, was acutely aware of how her political choices might affect her friends. She explicitly chooses to restrict her identity presentation to preserve friendships with people who disagree with her. Is the public nature of Facebook conversation bringing people together by facilitating public discussion among friends, or is the public nature causing difficult conversations to be had elsewhere?

Facebook is one of many international Web communication services. Multilingual sites such as Twitter, YouTube, LinkedIn, Google+, Flickr, Orkut, Taringa!, Tuenti, VKontakte, and applications such as Skype and WhatsApp also facilitate multilingual communication. Mesipuu (2010) compared Facebook and Skype's internationalization process, and Hale (2012) examined cross-lingual communication in blogs, but there has been little discussion about multilingualism with any of the other SNSs in this context. How have these other sites addressed internationalization? How are their globalization strategies and implementations similar to or different from those of Facebook? How do these services' users perceive these strategies?

## SUMMARY

Facebook has done much to address the problems related to providing a multilingual communication platform. The hybrid crowd translation method that Mesipuu (2010) and Wong (2010) describe (using the system behind the Translations App, professional linguists and the community of Facebook translators) has provided an inspirational model for other multilingual SNSs. However, this model has not sustained its success as the site adds new languages and localizations. Translation oversights on languages such as Hindi for institutionally provided text as well as the Venezuelan Spanish localization indicate that Facebook's internationalization goals may no longer be the priority it was in 2008 (Haddad, 2009; Kwan, 2009a, 2009b; Lavoie, 2009; Linder, 2009; Little, 2008; Vera, 2008; Y. S. Wong, 2008).

Participants in this study indicated that the linguistic choices a multilingual Facebook user makes often reflected the audience of a post. That being said, the fact that one user noted that she often posts in the language in which the thought came to her suggests that other multilingual users may share in that experience. Multilingual identity presentation for the participants in this study took on both public and private forms of presentation, and included the unanticipated pseudo-multilingual presentation as well. It was evident that multilingual users differ in how they choose to portray their identity on Facebook and that their linguistic posting needs varied by both language and individual personality.

Multilingual Facebook users encounter specific linguistic challenges when posting in a language other than English. These challenges often come from software, hardware, and limited knowledge of how to write in non-Latin scripts. While Facebook is not a hardware manufacturer, it is a software creator. To address the script needs and

challenges of its multilingual users, Facebook could create software that complements its sophisticated Translations App that could facilitate the process for posting in non-Latin scripts. While adding features such as that suggested here will not reverse the trend of “ASCII-ization,” it could help preserve the non-Latin scripts discussed in this study.

Multilingualism on Facebook is likely to continue to grow as the site draws in new users. This study has discovered several ways in which Facebook can improve and become a welcoming place for speakers of many languages. Facebook is in a powerful position to adopt a favorable stance towards multilingualism and serve as an innovative communication site that advances diverse linguistic development on the Web.

## Appendices

### Appendix A: Recruitment Text

#### EMAIL

Are you fluent in Chinese, Spanish, Arabic, or Hindi? I need volunteers to help me learn about how multilingual people make choices about which language they use on Facebook. My research is looking at language patterns of multilingual Facebook users. This research will help me discover how multilingual people use Facebook to connect with friends.

I am recruiting people interested in participating in a personal interview or a focus group. The personal interview should last about 45 minutes and occur at the IX Lab at the UT School of Information. Participation in the focus group will take about 60 minutes and occur on several days on the fifth floor at the UT School of Information. In addition, you will be entered to win a \$25 Amazon gift card.

With your permission, I will record the conversation so I can fill in any gaps I may have missed in my note taking.

This study has been approved by The University of Texas at Austin Institutional Review Board.

If you are interested, please reply to this email off-list and indicate:

- 1) Whether you are interested in participating in either the focus group or the interview, and
  - a. If you're interested in the focus group, which of these three dates work best for you:
    - i. Thursday, March 7 at 10:30a,
    - ii. Thursday, March 14 at 2p, or
    - iii. Friday, March 22 at 1p.
  - b. If you're interested in the interview, what times you are available in the morning on Thursdays and Fridays, or the afternoon on Wednesdays and Fridays.

If your schedule conflicts with those times, but you would like to participate, let me know.

Thanks!

cary-anne olsen  
MSIS Candidate, 2013  
IT Lab Teaching Assistant  
Information in Cyberspace (INF 335) Teaching Assistant  
ASIS&T Student Chapter Webmaster  
CHI 2013 Webmaster Co-Chair  
University of Texas at Austin - School of Information

### **FACEBOOK**

Are you fluent in Chinese, Spanish, Arabic, or Hindi? I need volunteers to help me learn about how multilingual people make choices about which language they use on Facebook. This research will help me discover how multilingual people use Facebook to connect with friends.

I'm looking for people interested in an in-depth interview or participating in a focus group. In addition, you'll be entered to win a \$25 Amazon gift card.

With your permission, I will record the conversation so I can fill in any gaps I may have missed in my note-taking.

This study has been approved by The University of Texas at Austin Institutional Review Board.

If you're interested, please reply via Facebook message and indicate: whether you're interested in the focus group or the interview

If your schedule conflicts with those times, but you'd like to participate, let me know.

## **Appendix B: Consent for Participation in Research**

IRB USE ONLY

Study Number: 2012-11-0084

Approval Date: 03/01/13

Expires: 02/28/14

### **CONSENT FOR PARTICIPATION IN RESEARCH**

**TITLE:** The Linguistic Presentation of Identity by Multilingual Facebook Users

#### **INTRODUCTION**

The purpose of this form is to provide you information that may affect your decision about to whether to participate in this research study. The person performing the research will answer any of your questions. Read the information below and ask any questions you might have before deciding whether to take part. If you decide to be involved in this study, this form will be used to record your consent.

#### **PURPOSE OF THE STUDY**

You have been asked to participate in a research study about how multilingual people make choices about which language they use on Facebook. The purpose of this study is to understand how multilingual Facebook users present themselves through the languages they choose. In addition, this study focuses on how multilingual users access Facebook: via desktop or mobile. Lastly, this study seeks to understand the patterns of posting updates using non-Latin scripts and Latin diacritics.

#### **WHAT WILL YOU TO BE ASKED TO DO?**

If you agree to participate in this study, you will be asked to

- Complete a brief demographic questionnaire,
- Answer a few questions about how you use Facebook, and
- Participate in discussion if you are part of a focus group.

This study will take 60-90 minutes and will include approximately 20 total study participants.

With your permission, your participation may be audio recorded using a digital voice recorder. The researcher will store the recordings in encrypted folders on her computer and will destroy all recordings after a year.

**WHAT ARE THE RISKS INVOLVED IN THIS STUDY?**

There are no foreseeable risks to participating in this study.

**WHAT ARE THE POSSIBLE BENEFITS OF THIS STUDY?**

The possible benefits of participation are being selected to receive the \$25 Amazon gift card.

**DO YOU HAVE TO PARTICIPATE?**

No, your participation is voluntary. You may decide not to participate, and if you start the study, you may withdraw at any time. Withdrawal or refusing to participate will not affect your relationship with The University of Texas at Austin (University) in any way.

If you would like to participate sign the form and hand it back to the researcher. You will receive a copy of this form.

**WILL THERE BE ANY COMPENSATION?**

Your name will be entered in a drawing to receive a \$25 Amazon gift card. The person selected will be chosen at the end of the second focus group.

**WHAT ARE MY CONFIDENTIALITY OR PRIVACY PROTECTIONS WHEN PARTICIPATING IN THIS RESEARCH STUDY?**

This study is confidential. The researcher will protect your confidentiality by anonymizing and encrypting the responses collected after the interviews and focus groups and the identifiable information collected. The researcher will assign each participant a randomized anonymous identification number.

If you choose to participate in this study, you may choose to be audio recorded. Any audio recordings will be stored securely, and only the research team will have access to the recordings. Recordings will be kept for one year and then erased. The data resulting from your participation may be used for future research or be made available to other researchers for research purposes not specified by this consent form.

**WHOM TO CONTACT WITH QUESTIONS ABOUT THE STUDY?**

Prior, during, or after your participation you can contact the researcher Cary-Anne Olsen by sending an email to [cary.anne@utexas.edu](mailto:cary.anne@utexas.edu), and Philip Doty, PhD., by sending an email to [pdoty@ischool.utexas.edu](mailto:pdoty@ischool.utexas.edu).

This study has been reviewed and approved by The University Institutional Review Board and the study number is **2012-11-0084**.

**WHOM TO CONTACT WITH QUESTIONS CONCERNING YOUR RIGHTS AS A RESEARCH PARTICIPANT?**

For questions about your rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (512) 471-8871 or email at [orsc@uts.cc.utexas.edu](mailto:orsc@uts.cc.utexas.edu).

**PARTICIPATION**

If you would like to participate, sign and date the form and hand it back to the researcher. You will receive a copy of this form.

**SIGNATURE**

I have informed you about this study’s purpose, procedures, possible benefits and risks, and have given you a copy of this form. I have given you the opportunity to ask questions before you sign, and informed you that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

\_\_\_\_\_ I agree to be **audio** recorded.

\_\_\_\_\_ I do not want to be **audio** recorded.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

I have explained the purpose, procedures, benefits, and the risks involved in this research study.

\_\_\_\_\_  
Print Name of Person obtaining consent

\_\_\_\_\_  
Signature of Person obtaining consent

\_\_\_\_\_  
Date

## Appendix C: Questionnaire

User # \_\_\_\_\_

**Number of times logged on to Facebook per week:**

\_\_\_ 1-2 times per week    \_\_\_ 3-4 times per week    \_\_\_ 5-6 times per week

\_\_\_ 7+ times per week    \_\_\_ always logged on

**Do you regularly use any mobile device to access or post to Facebook?**

\_\_\_ Yes    \_\_\_ No

If yes, please note your devices below (e.g. smart phone, tablet, etc.)

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**If you have ever used a mobile device, how long have you used it for accessing Facebook?**

\_\_\_ Less than one year    \_\_\_ 1-2 years    \_\_\_ 3-4 years    \_\_\_ 5+ years

**Your Facebook account is set in this language (you can tell at the bottom of the page, beside where it says Facebook © 2013):**

\_\_\_ Simplified Chinese (China)    \_\_\_ Traditional Chinese (Taiwan)

\_\_\_ Traditional Chinese (Hong Kong)

\_\_\_ Spanish    \_\_\_ Spanish (Chile)    \_\_\_ Spanish (Colombia)    \_\_\_ Spanish (Spain)

\_\_\_ Spanish (Mexico)    \_\_\_ Spanish (Venezuela)

\_\_\_ English (India)    \_\_\_ English (Pirate)    \_\_\_ English (UK)

\_\_\_ English (Upside Down)    \_\_\_ English (US)

\_\_\_ Arabic

\_\_\_ Hindi

\_\_\_ Other : \_\_\_\_\_

**DEMOGRAPHIC QUESTIONS:**

**Gender:**

\_\_\_ Female    \_\_\_ Male

**Fluent in these languages:**

Chinese     Spanish     Arabic     Hindi     Others

: \_\_\_\_\_

**Education Level/Relationship to the University; check as many as apply:**

undergraduate degree     master's degree     PhD

undergraduate student     master's student     PhD student

staff member     faculty member

## Appendix D: Questions for Semi-Structured Interviews

- a) What do you primarily use Facebook for?
  - i) Connecting with friends/family?
  - ii) Sharing photos?
  - iii) Other?
- b) How many of your Facebook friends are also multilingual like you?
- c) Think about the last time you posted in a language different from the language you normally post on Facebook.

Describe the situation in which you decided to switch languages.

What were the reactions you received from others about this change?

- i) What is your experience like with writing in [non-English language] on Facebook? Do you have to make any modifications to your keyboard or browser to make status updates?
  - ii) Did you translate your post from one language into another?
    - (a) If so, how often do you translate your posts?
  - iii) How did your multilingual friends who speak the language of the post respond?
    - (a) Same language as the post? Other shared language?
  - iv) How did your monolingual friends/those who don't speak the language of the post respond?
    - (a) Other shared language?
- d) Have you observed any multilingual friends changing what language they post in?
    - i) If you knew the language the friend used, in which language did you respond?
  - e) How often do you change languages that you post on Facebook?
  - f) If you have the Facebook settings in a language other than English, how did you choose that language?
    - i) If you chose a country-specific localization, why that country?

- ii) If you didn't choose a country-specific localization, was there a reason for that?
- g) Do you have one Facebook account in all, or do you have one for each language you speak?
- h) Describe your experience of Facebook using a mobile device such as a phone or tablet. How is such use similar to or different from your experience on a less-mobile device?
- i) Facebook provides users the opportunity to translate Facebook into other languages.

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