Welcome to the First Issue

Jerry Savage and Lucia Dura, co-editors

Although every journal in the field of technical and professional communication has published articles concerning social justice over the years, *TCSJ* is the only journal exclusively committed to that concern. We urge you to visit our web page at techcommsocialjustice.org for a fuller statement of our mission and how we envision this journal participating in the work of bringing about social justice in all of the domains where technical communication operates, or should operate in the world. And although we take pride in what we bring to you in this first issue of *TCSJ* (and in the next two issues, which are already in preparation) we are constantly humbled as we encounter the work of scholars, teachers, students, and activists who are engaged in work for social justice in ways and domains we had not previously encountered.

Our first issue is a special issue on translation and social justice in technical communication. In a way, this may seem a risky way to launch a new journal, with an exclusive and in some ways specialized focus that relatively few technical communicators may consider relevant to their own work. However, we believe this is a good example of the riskiness of social justice work. It is inevitably risky if it is effective at all because it inevitably calls attention to conditions and arrangements that normalize injustice, exclusion, and other forms of oppression that, when exposed are likely to discomfort those who benefit from those conditions and arrangements. We acknowledge experiencing such discomfort ourselves.

And so, we urge you to read the guest editors' introduction by Suban Nur Cooley and Laura Gonzales, which we believe will make clear the importance of this issue not only for technical communicators who work in cross-linguistic communication but for all of us in technical communication - which in and of itself can be understood as always already a kind of translation practice. Finally, we hope you will see *TCSJ* as a welcoming forum for your own work in technical communication and social justice.

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Introduction to Special Issue on Social Justice and Translation in Technical Communication

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When you think about, read, or hear the word "translation," what comes to mind?

For some, translation is the process of making information more widely accessible by replacing words in one language with words in another language. Many people have read translated books, used digital translation tools on a trip abroad, or perhaps read translated documents in various contexts for different reasons. While all of these interpretations of translation are accurate in their own way, when multilingual people, and especially multilingual people who have learned to navigate the world in a language that is new to them, think about, read, or hear the word "translation," many of us are immediately transported to particular experiences that have shaped our identities.

When hearing the word "translation," multilingual people may think, for example, about the days we spent going to doctors' visits with our parents, translating information from English into our home languages to try and help our parents stay safe and healthy. We might remember the process of migrating to a new country, learning to make our mouths move in ways that felt foreign or strange. We might think about, and physically feel, the anxiety we still experience when having to advocate for ourselves and our loved ones in a language that is not our own. We might recall the comfort and love we feel when we can express ourselves freely with people who understand our home language, without needing to mask or translate our emotions.

For multilingual people, translation is much more than an abstract practice. It is an embodied experience that holds multiple memories of struggle, joy, pain, and much more. For communities who have to rely on translation to access information, particularly in a country that continues to uphold Western, white languages and people as the standard, translation can also be a form of resistance, a tool for liberation, and a way to build community by speaking through "a collective voice" (Rivera, 2022). Translation is also understanding how the same language can undergo metamorphoses in the mouths of the marginalized, giving words new meaning and life as a means of survival amidst the dominance of whiteness; it is also sometimes just a glance, a shared understanding unspoken, communicated across and between the spaces given. It is coding and switching, remixing and reworking the language of dominance to reinforce subversive actions needed to shift towards change.

Translation in Technical and Professional Communication

Understanding the work of translation in Technical and Professional Communication (TPC) requires an acknowledgement of the miscommunications, misrepresentations, and misunderstandings that can occur when faced with the delicate nuances of transforming information from one language to another, one locale to another, one culture to another. As people who often struggle to find the right words to communicate in the languages we know, the work of translation extends itself into understanding that there are implications to what you share and what is heard/understood. Translation work, then, is an opportunity for us to make language more than a receptacle for information and instruction. Translation becomes the vehicle of possibility in cross-cultural understanding, a way to "speak and interpret *with* the community, not just *for* the community, or *about* the community" (emphasis orig, Royster, 2000, p.275). As Nora K. Rivera (2022) explains in her work with Indigenous interpreters and translators, "Spanish or English terms do not often have Indigenous equivalents that can be interpreted with

one word or even one phrase. Many times, Indigenous interpreters draw on the Indigenous practice of dialogue to explain highly technical concepts" (n. pag.). Therefore, understanding the intricacies of translation requires working with, rather than trying to speak for, multilingual communities.

This special issue stems from this space of complexity–one that grapples with how translation in technical communication necessitates an attunement to power structures, positionalities, and orientations. As many technical communication scholars have already demonstrated, translation in technical communication is an intricate practice that requires extensive collaboration between technical communicators, translators, designers, and multilingual communities (Agboka, 2013; Walton, Zraly, and Mugengana, 2015; Maylath, Muñoz Martín, and Pacheco Pinto, 2015; Rivera, 2022). While the goal of technical communication is often to simplify complex information, as Natasha N. Jones and Miriam F. Williams (2018) argue, (over) simplification can also flatten difference and erase the "more sinister and cynical purposes for communication design" (p. 372). For example, when we seek to simplify the translation process by reducing translation to the mere adaptation of words from one language to another, or when we as technical communicators choose to outsource translation to a third party without taking up some of the translation labor or becoming informed about what it takes to make information accessible to a new audience in a new language, we can risk erasing the people, cultures, experiences, and the work that makes multilingual communication happen in today's globalized world. As Halcyon Lawrence (2020) demonstrates, translation not only encompasses the transformation of words from one language to another, but also necessitates an awareness of racial biases embedded in emerging technologies and in the processes we as technical communicators use to develop, test, design, and share our work.

The COVID-19 pandemic exacerbated the need to further consider how translation and technical communication should further intersect with social justice. As COVID misinformation spread through white supremacist media, Black, Indigenous, and People of Color (BIPOC) across the globe organized to translate, transcreate, and localize materials to keep their communities safe. For example, the Centro Profesional Indígena de Asesoría, Defensa, y Traducción, an Indigenous rights organization in Oaxaca de Juárez, Oaxaca, Mexico, developed a campaign titled, "Los Derechos Viven en Todas Las Lenguas" (Our Rights Live in All Languages), where they translated and localized COVID-19 related information for Indigenous language speakers in Mexico. "Standard" protocols like social distancing and washing your hands consistently are not feasible for intergenerational homes with little access to water. Thus, translating technical information about disease treatment and prevention needs to account for linguistic and cultural differences and for the ways in which structural oppression permeates all facets of society.

Another example: In the United Kingdom, healthcare professionals of Somali background began to witness an alarming rate of Somali patients in their wards, and an increase in mortality rates within the community during the height of the COVID-19 pandemic. They started asking how information was circulating in the UK Somali diaspora, and considering what was leading to spikes in patients needing care and support. What they determined was that the information being created by the UK National Health Service (NHS) to educate the community was not reaching the older populations of the diaspora. Instead, these populations were finding more misinformation being widely shared across the community via the messaging platform,

WhatsApp. In order to combat this misinformation being widely shared across the global Somali diaspora, Somali-women healthcare professionals in the UK started asking questions about where Somalis were being informed about COVID-19. Even though the NHS had created many materials for dissemination via social media apps, many were not translated into Somali. The NHS were also hosting Zoom webinars with translation available, without realizing that much of the community was not accessing the information being shared because of the way it was being shared. Somali women healthcare workers (doctors, nurses, anesthesiologists) took it upon themselves to change that by working together to make materials that could be more widely shared via WhatsApp for elders in the community.

These are just two examples of the type of work we sought to highlight in this special issue: examples of how translation can serve as a tool for social justice when it is guided by the embodied experiences of multilingual communities. Following the ongoing social justice turn in technical communication, which highlights how technical communicators can intervene in injustices by amplifying the already-existing and ongoing efforts of marginalized communities (Shelton, 2020; Walton, Moore, Jones, 2019), we position translation as one avenue through which technical communication scholars, teachers, and practitioners can shape how meaning is transformed.

Article Summaries

The articles in this special issue (Part 1 of 2) take up the challenge of embracing complexity in technical communication through the intersections of translation and social justice. In soliciting articles for this special issue, we focused on work that recognizes translation, like all technical communication, is not neutral, but is instead always embedded within power structures situated within and across communities. We solicited work that connected translation, and language more broadly, to the communities using these tools to foster social justice and reject white supremacist practices.

To this end, our special issue opens with Edzordzi Agbozo's "Software-Mediated Diarrhea Localization: Reflections from a Transnational Locus." Through autoethnography, Agbozo illustrates how software-mediated localization in healthcare can erase the cultural nuances of language. Agbozo examines the Wikipedia Diarrhea localization Project (WDP), a project intended to translate and localize public health information about diarrhea into Ewe, a member of the Gbe sub-group of the Kwa branch of the Niger-Congo language family. He illustrates how software-mediated localization in the WDP rendered ineffective translations of health information. Agbozo then argues that" global designers of localization software —and technical communicators in general—could redress the challenges of power in multilingual meaning-making by seeing their work as part of a vigilant *public intellectual practice* that must be liquid, iterative, and regenerative."

As illustrated by Agbozo, many of the contributors to this special issue utilize their own multilingual expertise to provide rigorous reviews of emerging technologies and digital translation software. For example, the next article in the special issue is, "Accessibility and Contribution Limitations of Authoritative Climate Information: Evaluating The Usability and Inclusivity of IPCC's Website" by YoonJi Kim. In this article, Kim conducts a user analysis and

usability test of ipcc.ch: Intergovernmental Panel on Climate Change (IPCC), a climate change information website. Using her expertise and positionality "a multilingual technical communication and climate communication scholar with over a decade of living experience in various countries outside the U.S.," Kim outlines the limitations of the IPCC website, pointing to how a lack of awareness and implementation of culturally-driven translation strategies prevents information about climate change from being accessible to multilingual audiences through the IPCC website. As Kim concludes, "Website improvements should consider not just the experts for translation but the needs of non-experts and non-Western users."

The issue continues with "An Integrative Literature Review of Translation in Technical and Professional Communication," by Keshab R. Acharya and Isidore K. Dorpenyo. Acharya and Dorpenyo review literature about translation within the field of TPC. As the authors point out, "despite growing interests in translating for global reach within technical and professional communication (TPC), no cohesive literature review accounts for this new growth." The authors use grounded theory and content analysis to review scholarship published in five major TPC journals between 1990 and 2022. Through this synthesis, Acharya and Dorpenyo argue that TPC researchers and practitioners need to adopt more justice-driven research frameworks to better understand the complexities of translation for culturally localized usability, especially in multilingual, multicultural global contexts.

Next, in "'Descendants of Survivors': Tensions in Translating COVID-19 Vaccine Promotion Videos in Hawai'i," Rosanna M. Vail continues pointing to the limitations of simplistic translation processes. Vail "examines video transcripts from a Hawai'i-based collaborative encouraging Native Hawaiians and Pacific Islanders toward safe health practices and COVID-19 vaccination," noting issues that arose in communicating COVID-19 information across languages. Importantly, Vail highlights how her own positionality in this project both fostered and limited her ability to contribute to successful translation practices. As Vail explains, this project illustrates "how positionality may complicate the pursuit or articulation of research, providing transparency for scholars launching into translation-based technical communication projects."

With continued attunement to positionality, the issue continues with Joe Wilson's "Translation's Value to Queer Orientations to Technical Communication: On Claims to Interpretive Authority." In this article, Wilson "traces how technical communicators and scholars across both queer studies and trans* studies have adopted a relational approach to translation that foregrounds the often messy, embodied negotiations of agency and power that occur as meaning is transformed across language representations and genres." Through this analysis, Wilson pushes scholars who work in technical communication and translation to further engage technical genres ongoing across both queer and trans* studies. Wilson notes that the labor of translation is inherently interdisciplinary, and that further transdisciplinary connections that centralize queer and trans experiences are much-needed in the field.

Continuing an emphasis on interdisciplinarity and collaboration beyond labels and boundaries, in "The Problem with Common Ground: Translation and Colonial Logics in the 'Imiloa Astronomy Center Online Interface," Matt Homer presents his interface analysis of the 'Imiloa website, a site where "the 'Imiloa Astronomy Center attempts common ground with Native Hawaiians who

protect Mauna a Wākea from occupation by astronomical research." Through this analysis, Homer argues that "the 'Imiloa interface creates a colonial user experience by translating Hawaiian knowledge into Eurowestern frames of knowledge." Homer thus illustrates how translation and localization processes can perpetuate, rather than redress, oppression when they are applied through Western perspectives.

While many of the articles in this special issue highlight translation in industry contexts, we are so glad to also be able to showcase how translation frameworks are applied in TPC pedagogy focused on social justice. Our special issue concludes with, "'Does it have to be in English?': Decolonizing TPC Pedagogies with Community-based Translation" by Francis Macarthy, Cristina Sánchez-Martín, and Josephine Walwema. In this article, the authors put translation studies into conversation with community-engaged social justice work in TPC. They showcase how students in an introductory TPC course engage with community-engagement projects that highlight the importance of translation. Through this work, Mccarthy, Sánchez-Martín, and Walwema argue that as TPC teachers continue engaging with social justice frameworks, centralizing the linguistic diversity of our students and communities is critical in expanding our students' awareness of what contemporary TPC entails.

Conclusion

From dreaming up this special issue with the *Technical Communication and Social Justice* journal editors, to discussing our plan with the editorial board, to drafting up a CFP and receiving so many amazing proposals, the entire experience of putting this issue together has echoed support for the growing need to consider TPC praxis beyond white-English. The authors in this collection centralize their positionalities in engaging with translation research. This emphasis on identity is not always embraced in technical communication or in translation studies, as both fields have historically pretended there is a "neutral" and "objective" approach to communication. However, by highlighting social justice as the ultimate goal of translation and technical communication in this special issue, we were able to recognize how positionality influences all communication, and how, rather than ignoring our identities, we can acknowledge who we are, where we come from, and how our worldview and experiences will undoubtedly shape how we communicate with others. Translation can be interpreted literally or metaphorically, and it can be defined in multiple ways depending on context. Our goal was to centralize lived experience as a critical component in social justice research that expands beyond linguistic boundaries. We're very thankful to all of our contributors, reviewers, editors, and, most importantly, to the students and community members who continue shaping this work. Stay tuned for the second part of this issue, where we will continue expanding these conversations.

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Software-Mediated Public Health Information Localization as Social Justice Work

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Abstract: Using an autoethnographic approach, I discuss lessons from my role in a software-mediated localization of health information. I argue that the universalization of localization software disregards the uniqueness of languages involved in this project. The software did not recognize idiosyncratic sound sequences and syllable structure of tonal languages like Ewe—a West African language. I suggest some ways that global designers of localization software —and technical communicators in general—could redress the challenges of power in multilingual meaning-making by seeing their work as part of a vigilant *public intellectual practice* that must be liquid, iterative, and regenerative.

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Introduction

In this article, I contribute to the intersections of translation, technical and professional communication (TPC), and social justice by drawing attention to the cultural-specific issues and manifestations of power that face technical localizers working in transnational and international localization contexts. I emphasize a critical approach to software-mediated translation that rejects perceiving technology and the translation it produces as pure and objective. I do this discussion through autoethnography—an approach that uses self-interrogation of lived experience, usually through narratives about a social phenomenon, to create and critique data. It "is as personally and socially constructed as any form of research" in which the author "can respond immediately to any questions that arise from the story" (Muncey, 2005, p. 84). It helps researchers to conceive their project broadly through critical analysis as part of reflections (Shelton, 2020; Tham et al., 2020). Shelton (2020) used this approach to reflect on the affordances of Black Feminist epistemology for facilitating an undergraduate course in business writing. Likewise, Tham et al. (2020) used collaborative autoethnography to "share personal stories and interpret collective autoethnographic data" (p. 342) in their work on the significance of graduate research collaboration in TPC. I use this approach here to guide my reflection on a Wikipedia Diarrhea localization Project (WDP) and to help me think through the possibilities available for addressing the challenges I faced in the execution of the project.

The WDP sought to translate and localize public health information about diarrhea into Ewe (written as Eʋe or Eʋegbe in the language; realized in International Phonetic Alphabet transcription as [εβε] or [εβεɡ͡bε]). Ewe is a member of the Gbe sub-group of the Kwa branch of the Niger-Congo language family (Ameka, 1995), spoken mainly in the Volta region of Ghana, in Togo, in Benin, and marginally spoken in the Badagry area of Nigeria —that is, "from the Greenwich meridian to 3° E and from the Atlantic coast to about 8° N" (Dorvlo, 2009, p. 206). The language has several dialects, so, the Bremen Missionary linguists from Germany developed a standard variety in the 19th century for missionary activities and this standard became the written variety of the language (Dorvlo, 2009). The standardized written Ewe is based on the southern Ghana dialects, but it is not identical with any of the dialects (Anyidoho & Kropp-Dakubu, 2008).

A Cape Town, South Africa, subsidiary company of an international localization and translation corporation—whose name I omitted in this discussion because of anonymity— initiated this localization project as a corporate social responsibility venture and the final product would be donated to Wikipedia. Before working on the WDP, I had worked with this company in 2015 to translate and localize marketing tools for building a website for an international search engine company that was coming into the African market. My goal in this reflection is not only to share my experiences of working with this software-mediated public health localization project but also to acknowledge the significance of the technical localizer as a change agent capable of initiating and promoting ways of overcoming several manifestations of power. As Gonzales (2018) admonished, the work of translators and localizers are essential because they make ethical decisions including to whom information is made available, and the kinds of information that is available to respond to emerging exigencies that impact lives. In critical sectors such as health care, communication failure could be fatal. Translators and localizers must employ utmost care in attending to projects in such critical domains. Therefore, I discuss decisions and lessons from

my technical localization role and argue for overcoming two manifestations of power—"existential imperialism" and "existential totalism" (Ochieng, 2018)—as a move towards social justice in software-mediated translation and localization. This reflection is important because dependence on English language as lingua franca in multilingual and multicultural contexts is a major cause of communication failure (Bokor, 2011). Likewise, translations and localizations that are not culture-centered could further exacerbate rhetorical exigencies that they are supposed to subtend. I hope to contribute to calls for "vigilance" especially as conceived by feminist scholars as a form of both "cognitive attentiveness" and "intensity entangling sensory capacities with proximate surrounds" to recalibrate "relations among bodies, objects, affects, and spaces" such as languages, technologies, localizers, and possible users of localizations (Sotirin, 2020, p. 9).

Technology, Rewriting, and Contextual Ontology

Technological innovation is enhancing a rapid production of speech recognition and translation tools that could aid the ease of human interaction by helping to communicate with speakers of foreign languages without necessarily learning those languages. Scholars distinguish between *translation* and *localization*—where translation is generally the decoding of a text from one language into another, and localization is adapting the decoded text to fit into the linguistic environment of the user. I expand these differences later. Recently, Google launched its real time translation wireless headphones—Google Pixel Buds— supported by Android and Google Pixel Smartphones (Google, 2017). It is an assistant-optimized pod that transcribes conversations from one language into the user's selected language. Thirty-six languages are represented including Afrikaans, Arabic, Czech, Hindi, Norwegian, Swahili, and Vietnamese. Such technological deterministic projects subtend the primacy of contextual ontology in meaning making especially for target language audiences because they attempt to remove translation and localization from the cultural context of users. By contextual ontology, I mean "knowledge articulation in actually existing contexts" (Ochieng, 2018, p. 9).

Decontextualizing these technologies results in the creation of translation technologies aimed at deciding whether words have the same meaning in all languages as proposed by early translation theorists such as Oettinger, Catford, Nida & Taber. Oettinger (1960), for instance posits that translation is "the *replacement* of elements of one language, the domain of translation, by *equivalent elements* of another language" (p. 110). Likewise, Catford (1965) suggests that translation is "the *replacement* of textual material in one language (source language) by *equivalent material* in another language (target language) (p. 20). If translations are not producing exact equivalents, then they must produce the "*closest natural equivalent* of the source-language message" (Nida & Taber, 1969, p. 12). These explanations assume that there already exist expressions in all natural languages that perform the same function (cf. Gonzales, 2018; Shivers-McNair & San Deigo, 2017). Localization software like Google Pixel Buds work within these assumptions. As I shall discuss below, such universalist telos produces the danger of privileging meaning-making modes and pathways. In my localization work, therefore, I positioned myself within the cultural translation paradigm.

The cultural translation paradigm argues for complicating the rhetoric of universalism with the rhetoric of situatedness within user politics, poetics, and performance. This perspective argues

that translation usually is a resistance against assimilation into source cultures. As such, translators create a new hybrid text that puts the two cultures into conversation (Levefevre, 2004; Ngũgĩ, 2018). Approached through cultural perspectives, localization has the potential to overcome practices of privileging certain ways and forms of meaning-making, and the hegemony embedded in the exhaustiveness of those privileged forms (Agboka, 2012; Agbozo, 2022; Dorpenyo, 2020; Gonzales, 2018, 2021; Shivers-McNair & San Deigo, 2017). One major cultural approach that shaped my localization practice is *rewriting*. Translation as *rewriting* attends to key constraining factors that control the "acceptance, reception and rejection" of a text— "power, ideology, institution and manipulation" (Munday, 2012, p. 193). I believe that approaching translation and localization work in this way helps to understand the process as a non-neutral exercise and one that is shaped by cultural and social burdens. The sustained presence of these cultural and social categories and how they shape meaning making are captured in Omedi Ochieng's concepts of "existential imperialism" and "existential totalism."

Existential imperialism is the practice of privileging certain ways and forms of meaning-making that have "implications of erasing experiences that cannot be articulated in the privileged medium" (Ochieng, 2018, p. 200). Existential totalism is the hegemonic idea "that experiences can be exhaustively represented through a particular artistic form" (Ochieng, 2018, p. 201). Ochieng makes these clarifications in the realm of artistic meaning-making, but they can be productively extended to my localization experiences and to how TPC theorizes and understands localization. Like artistic production, technology-mediated localization is contextual and fluid, such that it cannot be made to fit into a generalized schema. Although the source and target languages that might be involved in a particular localization project may belong to similar geographical spaces—such as Africa, in the case I discuss here—each localization context is unique in its response to real users' conceptions and worldviews (Agboka, 2014; Agbozo, 2022; Dorpenyo, 2020). So, when localization software developers attempt to create universalized language schemes that theoretically should be sufficient to meet the phonotactics (the rules of sound and syllable structure) of every African language, they are engaged in totalizing the quintessence of these languages; and when localization project managers trust this software more than the experiences of language users and technical localizers, they are erasing a plethora of meaning-making strategies that are not necessarily sanctioned by the software. Indigenous languages often have multiple variants, many of which are not mutually intelligible. It is important to realize that Indigenous languages themselves are very localized to a specific community (such as dialects), and thus not easily translatable by digital technologies (Gonzales, 2021).

Translation, and Software-Mediated Localization

Translation is "a process which begins by decoding the meaning in the source language and re-encoding it in the target language" using "a combination of art and skill" (Yousofi, 2014, p. 1953). In other words, translation is a *techne* and a result of cultural, economic, and political entanglements. Software-mediated translation employs machines and software as tools for meaning creation from one language into another. This type of translation has become an intrinsic part of our algorithmic age. Being such a key characteristic of our time, the mediation of meaning by software and technology must receive critical evaluation to improve the work of language professionals. Localization is considered as a specialized form of translation through

adapting source text to the local peculiarities of the receptor space. Localization, according to Hoft (1995), is "the process of creating or adapting an information product for use in a specific target country or specific target market" (p. 11). Localization processes fit into the cultural approach to translation because they critically consider the cultural and social nuances of the target audiences for which a product is being localized. In localization, therefore, a person does not look for the equivalents of translation units in both the source and target languages but focuses on the target culture.

A common way to localize language products is internationalization. Internationalization encourages the omission of culture-specific features from source texts. It promotes international natural language character sets by removing locale-specific features such as translatable strings from the software code base and adds functionality or features specific to foreign languages. As we shall see later in the case of languages with smaller amounts of speakers, foreign language features are not always added to the software code base. This omission creates an artificial text that only localization engineers understand. These engineers then create versions in various languages starting from the international version. Anthony Pym recalled some translations that precede the process just described. Some of his examples are Bible translations from the Greek and Hebrew to English glosses and then to many other languages. Pre-translation editing corrects ambiguities in the process. Although localization focuses on software/web translation, this is not the only type of translation to which it was limited.

According to Pym (2010), non-linear translation arises from translating software, help files and websites, and includes translating additions to and modifications of older versions. Units from already translated files may be imported and reused in the same way or in a slightly modified version. Here, translators no longer work on a linear text but rather on modified isolated chunks of texts. Translation memory software can produce pre-translation. It can bring to the desktop the target language versions of all the completely re-used sentences of the source text in addition to fuzzy matches. These fuzzy matches are usually the target language constructions used to previously translate units from source texts.

Although technology has become an essential part of translators' work, Cronin (2010) noted that technology is considered as an auxiliary tool to human translation that is set in isolation. Cronin questioned how technology would be adapted to cater for multilingual contexts. This challenge of multilingualism is pivotal to the WDP because the technical localizers worked on the same text for different African languages. Because the software was able to produce acceptable constructions in some of the languages, the project managers assumed that the unacceptable constructions and characters in other languages were caused by the localizers' infidelity to the algorithm. The localizers must, therefore, *fix* these anomalous realizations. However, as TPC scholars succinctly argued, every localization, including linguistic localization, must embody "local logics, rhetorics, histories, philosophies, and politics" (Agboka, 2014, p. 298) to create a fluid nexus between the contact "culture and context of use" (Dorpenyo, 2020, p. 103). These categories that Agboka (2014) puts forward are constantly in flux, so, if a sofware works successfully in localizing one language, it might not work for other languages even if the languages belong to the same family.

The WDP

As I earlier noted, the WDP sought to translate and localize health and medical information about diarrhea into some African languages. I worked on Ewe, my mother tongue. The project was commissioned by a South African subsidiary of an international localization and translation company as a social responsibility effort and the final product was to be donated to Wikipedia. We received our task from the project manager on June 9, 2015, to use Pootle to translate 738 new words about diarrhea into the following African languages shown in figure 1: Akan (Ghana), Ewe (Ghana), Hausa (Nigeria), Lingala (Democratic Republic of Congo), Ndebele (South Africa), Northern Sotho (South Africa), Tonga (Zambia), Tswana (Botswana), Wolof (Senegal), Xhosa (South Africa), Yoruba (Nigeria), and Zulu (South Africa). Pootle is a localization software. It is a tool for translation management, and it has a translation interface. Translate.org.za developed and released it in 2004. During a localization process, Localization Engineers use Toolkit on Pootle "to convert, count, manipulate, review and debug texts" (http://toolkit.translatehouse.org).
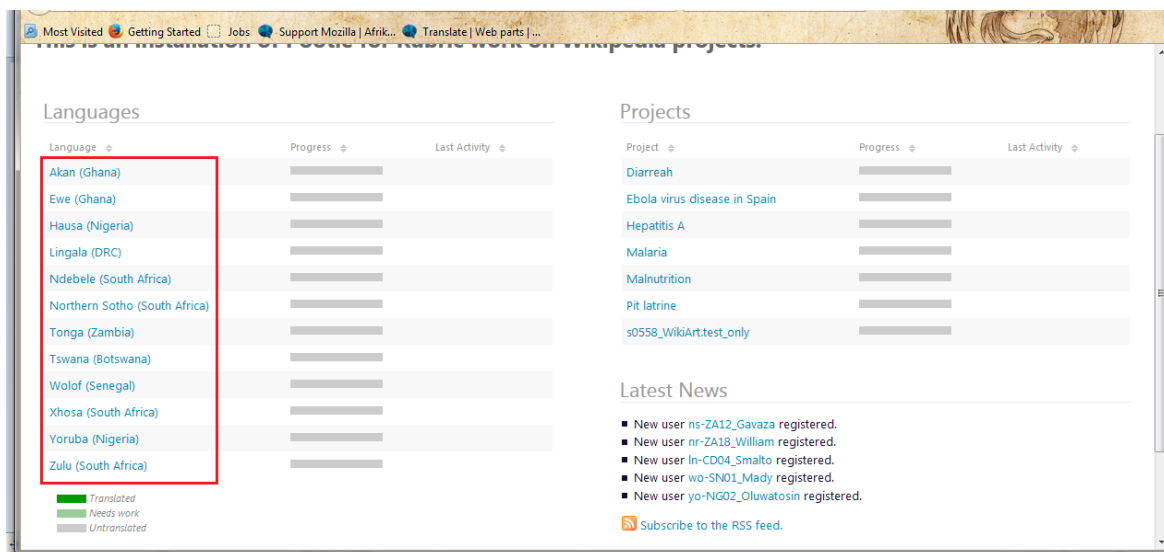

Figure 1: Interface showing the target languages of the WDP

There were other topics that the company was localizing for Wikipedia such as "Hepatitis A," "Malnutrition," and "Malaria". So, after registering an account on Pootle, we selected the topic we were assigned: diarrhea. The other topics are shown in figure 2. Once we selected the correct component, we clicked on "*Continue translation (xxx words left)*" to be directed to the translation interface for our chosen language (see figure 3).
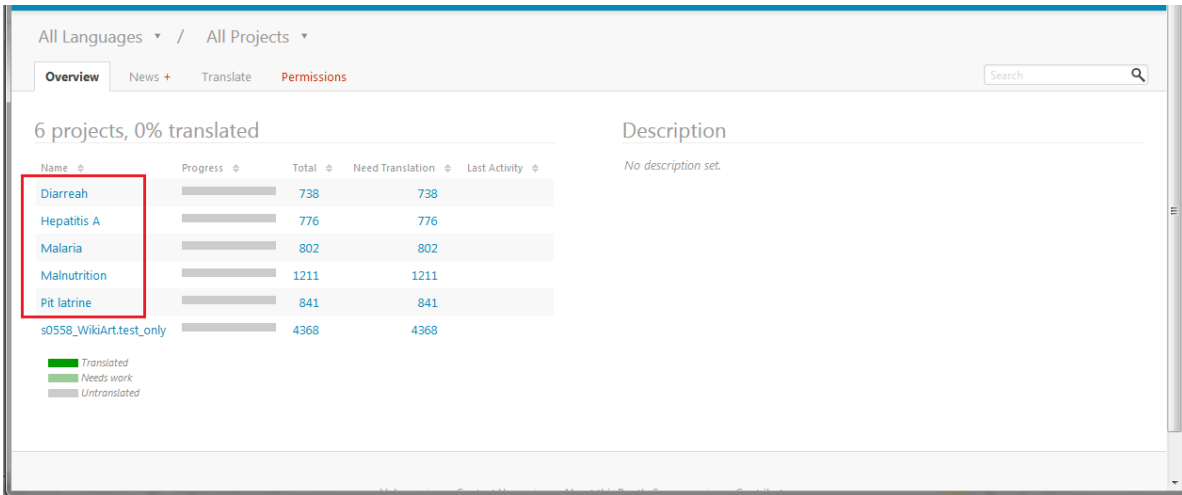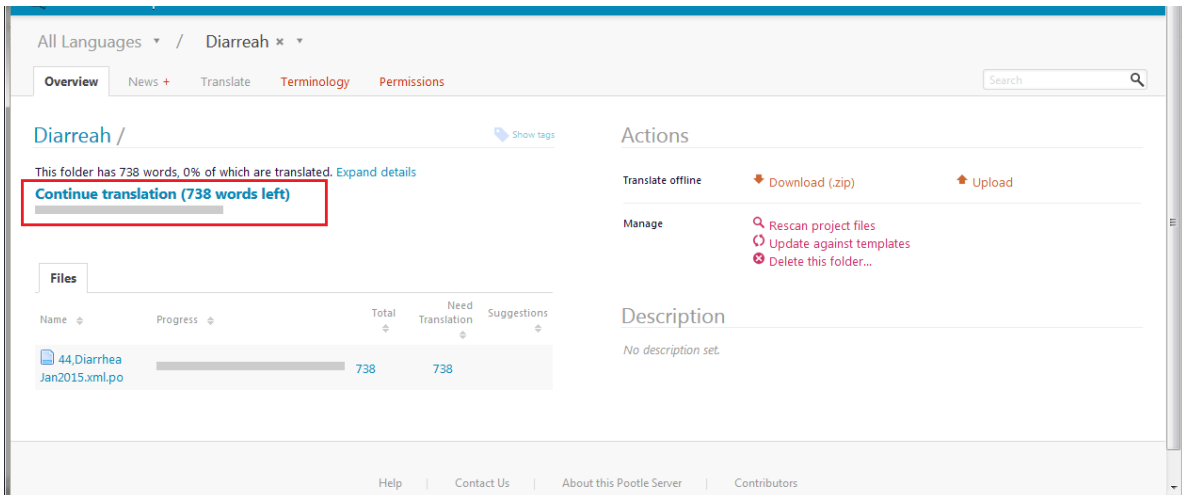
Figure 2: Topics and word-count

Figure 3: Translation interface

The source (English) text document was named *44, Diarrhea Jan2015 En.docx*, (see figure 3). The translator entered their translation in the interface and clicked "***Submit.***" Once the translation had been submitted, the translator was automatically taken into the next string for translation (see figure 4).
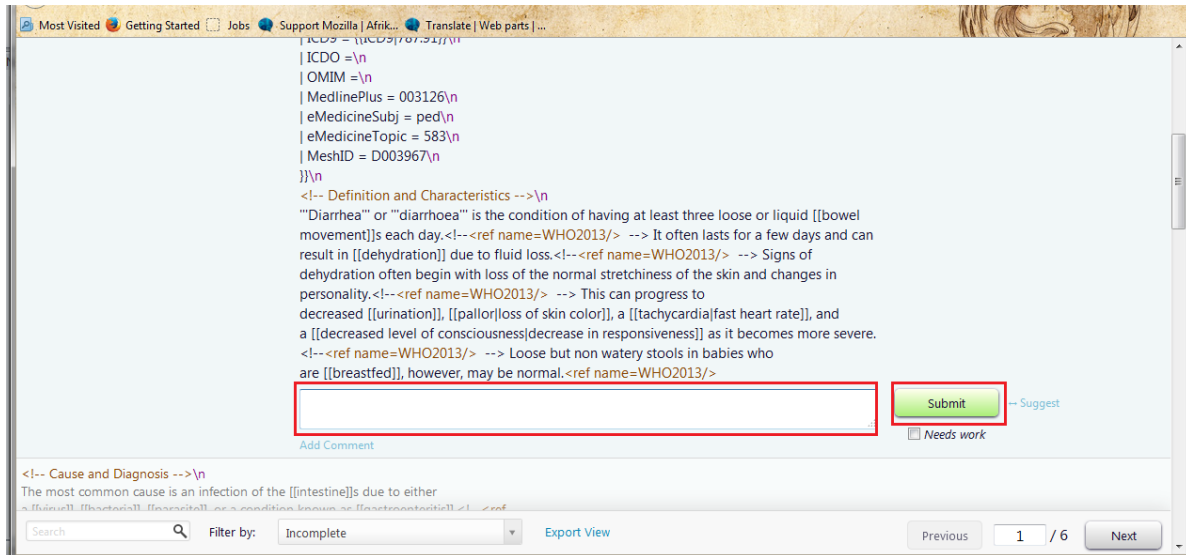
Figure 4: Detail of a translation interface

The translation process briefly described above is simple, direct, and user-friendly. In fact, the process looks like many web-interface processes and anyone familiar with other interfaces should be able to unproblematically navigate the Pootle interface. Theoretically, one would expect that the translation units would generate a final product that is also easy to process.

It is expected that any localization software built for use in Africa factors in phonotactic features such as tone. Most, if not all, African languages are tonal. Tonal languages are languages in which the pitch on words (usually located on vowels) cause lexical or grammatical meaning changes even if the words look the same in orthography. In Ewe, for instance, high, rising, and low tones connote different meanings for the word "to": tó – "mountain" (high tone), tŏ "mortar" (rising tone), and tò "buffalo" (low tone). In addition to tone, most African languages use Latin alphabets in their orthography. However, there are unique characters in some African languages that are not part of Latin alphabets. A culturally appropriate software for African languages must add these characters into its code base. In the case of the extracts below, for example, Pootle lacked the recognition of unique characters and tones, and these absences produced unacceptable Ewe language strings:

Extract 1

<!-- Cause and Diagnosis -->
Nu si hea d? sia v? la ƒe b?b?t?e nye [[virus]], [[bacteria]], [[parasite]], ƒe a?ahoho ?e [[d?kavi]]wo ?u alo nu si woy?na be[[gastroenteritis]].<!--<ref name=WHO2013/> --> Zi ge?e la miex?na nu manyomanyo siawo to nu?u?ua alo tsi si nugodo alo ame si le d? sia lem la gbl?. <!--<ref name=WHO2013/> > Wote?u amãe ?e hatsotso et?? me: mitsinyenye gaƒoƒo kpuie t?, ?u mitsinyenye gaƒoƒo kpuie t?, kple ne en? anyi wu k?si?a eve la, mitsinyenye atradit?.<!--<ref name=WHO2013/> --> Mitsinyenye gaƒoƒo kpuie t? la ate?u ava nenye be [[cholera]] le ame.<!--<ref name=WHO2013/> --> Ne nye be ?u li la, woy? n? be [[dysentery]].<ref name=WHO2013/>

I have highlighted in yellow all the Ewe alphabet symbols that the software flagged as infelicitous. Such is the case because the omitted alphabets are unique to Ewe but are not part of the code base of Pootle. Table 1 shows the deleted Ewe alphabets:

Table 1: Pootle's Unrecognized alphabets

Ewe characters	Description
/ɔ/	open-mid back vowel
/ŋ/	voiced velar nasal
/ɖ/	voiced retroflex stop
/ɛ/	open-mid front vowel
/ʋ/	voiced bilabial fricative

As we can see in extract 1, Pootle replaced all these characters with question marks. So, what we get are sentences like 'Nu si hea d? sia v? la ƒe b?b?t?e nye…', instead of 'Nusi hea dɔ sia vɛ la ƒe bɔbɔtɔe nye…' (The commonest cause of this disease is…). We can also see that while in figure 5, Pootle could not place diacritics on any alphabet, it does that in extract 1—e.g., "amãe" (divide it). As earlier noted, Ewe is a tonal language. Tone is crucial to how we understand the senses that sentences in the language carry. The inconsistency of tone marking in the Pootle translation reduces translation quality.
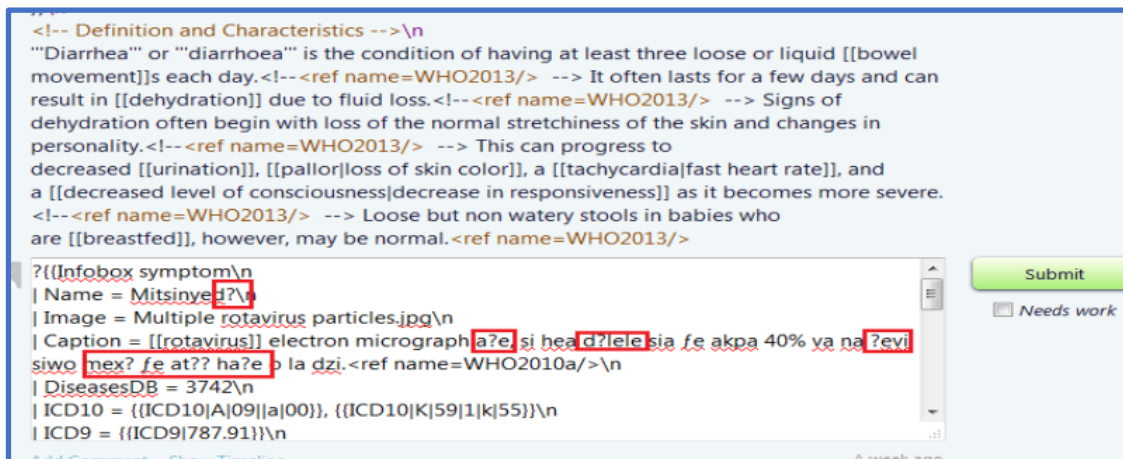

Figure 5: The white space of this Pootle interface shows some missing diacritics. I used red boxes to highlight some words that needed diacritics, e.g., the diacritic for nasalization of atɔ̃ "five" is missing in line 5.

To respect native-speaker positionalities and the discourse-world of Ewe, I made two pragmatic choices. First, I decided against sound and meaning manipulation, and reductions of sound sequences and syllable structure to accommodate the software's imperialism. I ignored the Pootle question marks and manually incorporated the unique Ewe alphabets into the translations but when I submitted the translations, Pootle, again, flagged the characters as anomalous. I made sure to record the correct translation in a Word document as evidence of Pootle's inadequacy at

the time. Language is inscribed with histories, uses, performances, and senses deeper than what a software localizer, who is removed from those categories, can possibly plumb. These categories, in each language, are not only idiolectal but also sociolectal. So, even if the software localizer is a native speaker of a language, it is possible that they might not fully plumb the histories, senses, performances, and uses of that language. To use the experience of a designer or a team of engineers about language(s) to design a software and to foster an instrumental rationality is a problematic techne. Existential imperialism is the practice of upholding an approach to knowledge-making and dissemination that could disregard the long-lasting concepts and issues that are considered significant to the very existence of certain communities. It privileges certain ways and forms of meaning-making that could erase the linguistic and cultural experiences of users because they are "articulated in the privileged medium" (Ochieng, 2018, p. 200). A localization software is imperial when the design excludes or diminishes large swarths of meaning-making mechanisms, such as tone, and interrupt sound sequences.

Additionally, I joined the localizers for other languages to suggest a revision of the software program to sustain the linguistic particularities of our target languages. The idea is still being considered by the project managers. My insistence prevented a problematic localization that Ewe users might ultimately not accept. While this failed localization might be seen as a retrogression in the effort to make health information available to Ewe users, I see my stance as essential for overcoming "existential imperialism" and "existential totalism". I agree with other TPC scholars that while conducting additional tests might cause some delays, there is an overall benefit to launching a more localized, effective product (Acharya, 2018; Dorpenyo, 2020; Gonzales, 2018; Rose et. al., 2017; Sun, 2012, 2020). For this project, Pootle designers' existential imperialistic universalization of the software disregarded the situated uniqueness of Ewe.

What I presented above is just a snapshot of my experience. Essentially, I argue that machines and software do not have experience of contextual language use as humans do unless we feed machines with data. It is somewhat impractical that engineers and users can interact every day. Thus, linguists who have worked on or researched the languages and their cultures must be included throughout the software design project as *regenerative intermediaries* rather than as testers of the finished product. Below, I expand this argument to offer further suggestions for the possible ways that global designers of localization software could redress the challenges of multilingual meaning-making.

Culture-centered Software Localization

Against "[a] purely artifactual approach to translation and its tools [that] leads us to an idea of translation where productivity, and time and cost efficiency are the raison d'être," (Alonso & Calvo, 2015, p. 152), a culture-centered approach to software localization sustains the contextual ontology of the end users of a localization product. Such an approach considers users' peculiar linguistic and cultural orientations as core pillars of the entire localization process—starting right from software development. Throughout the WDP, I have experienced the material essence of culture-centered software localization that removes agency away from algorithms and offers humans, who are the real producers and ultimate users of the languages we target in localization work, the agency to modulate meaning-making according to contextual ontologies. Such an approach means that linguists and localizers become an integral part of the localization software

building process as experts with equal power as the software developer. I was not privy to the identity and linguistic knowledge of the Localization Engineers who localized Pootle for our use. Nevertheless, the challenges we faced showed that these Engineers may not necessarily be linguists or if they were linguists at all, they might not be Ewe linguists. As such, they could not have envisaged the peculiarity of Ewe and its many phonotactic nuances.

A culture-centered software localization must engage "an extended cognitive, anthropological and social system or network which integrates human translators and technologies, whether specific to translation or not, and acknowledges the collective dimension of many translation workflows" (Alonso & Calvo, 2015, p. 148). This integrative approach to engaging with technologies in the translation process guides attention to linguistic and cultural complexities that universalist approaches might erase. A culture-centered software localization could allow professional translators and localizers to see technology as an extension of their capabilities, and as co-creators of meanings rather than an alternative, and, perhaps, efficient way of doing localization work.

My argument for a culture-centered software localization is closely related to, and expands on, the thought of TPC scholars such as Sun (2006) and Agboka (2013). Sun (2006) proposed the Culturally-Localized User-Experience (CLUE) model which suggests that a wholesome localization should be one that is situated and constructed in local contexts to aid "social affordances" or "object-oriented activity and social behaviors" (p. 560). Agboka (2013) also suggests Participatory Localization in which "localization should happen locally at user's site, where prevailing local conditions influence design" (p. 45). Thus, power imbalances are erased or, at least, reduced when we localize in local contexts because the locals themselves are involved in the process. However, as Agbozo (2022) observed, power takes on messy and invisible forms in local contexts and the involvement of locals alone is not enough to solve these problems because "the plethora of users in these contexts […] are also working within different structures of power" (p. 9). Additionally, while CLUE proposes a dialogic relation in a dual mediation process, my argument for a culture-centered software localization suggests an iterative process that should involve several reiterations of dialogic processes through regenerative intermediations until the localization project is completed.

A culture-centered software localization is also an issue of ethics. A recent publication by Bolingo Communications and Media Consult (2022) on localization in Togo—a small West African Country—suggests that users of products of localization "prefer audio visual content" (p. 12) over alphabetic localization. Furthermore, these users suggest the following as ways of respecting the sensitivity to the societal values and mores of Togo: "avoid openly talking about sex," "prioritize the Togolese flag" especially it's colors in visual designs, and "avoid comments that stigmatize the Togolese culture" (p. 12). For me, paying attention to the Togolese flag is not an idea that will automatically lend itself to my design choices, but for these users, such choices demonstrate a form of respect for their country, and, by extension, an indication of patriotic cultural sensibilities towards their country. Localization products that do these are preferred over others. Attention to such contextual ontologies that cut against universalism could only be ascertained when we centralize users' cultures at every iteration stage of the localization process including the choices of software technologies we develop or use.

Contrary to Alonso and Calvo (2015), I agree that technology is indeed an extension of humans, their capabilities, and their bodies. As such, we should not only interact with localization technologies; we should engage them so that they fully become part of our social and cultural reality before we start to use them. This argument is rooted in phenomenological thought that considers bodies as possessors of meaning. Merleau-Ponty (2012) reminded us that "The word has a certain place in my linguistic world, it is a part of my equipment" [and that] [t]he only means I have of representing myself is by pronouncing it, just as the only means the artist has of representing to himself the work, he is pursuing is by producing it" (p. 186). For Merleau-Ponty, there is no separation between human experiences and the technologies that help to reproduce those experiences through representation. Language and its technologies, such as localization software, are part of technologies of representation. As extensions of ourselves, technology and humans create meaning together. For instance, the way we convey information depends on what 'signs' mean to us within the speaker-hearer community (Heidegger, 2014). Seeing localization software technology as an extension of ourselves will guide how we contextually engage them and how such an engagement could facilitate cultural-centered orientations.

Appeals to Global Designers of Localization Software

From the foregoing discussion, I offer three appeals to localization software designers, especially those who target global audiences. By global audiences, I mean potential users of localization products that are not necessarily familiar with the cultural nuances of developers' contexts. Attention to global audiences is important because, as Acharya (2018) suggests, usability problems arise when product designers are unaware of how context affects usability within user cultures. In the contemporary moment when technological power and control shape all aspects of human life, or what Mbembé (2021) calls "algorithmic reason," attention to global user contexts are not only beneficial to usability but also to social justice— the "critical reflection and action that promotes agency for the marginalized and disempowered" (Jones, 2016, p. 343).

Foremost, I argue that localization software designers for global users—and by extension, the designers of all global technologies—move beyond conceiving these technologies as tools for engineering capital and rather, see their work as part of a larger *public intellectual practice*. For me, public intellectual practice regarding localization software is the way in which such technologies are contextually constitutive and embedded within the systemic worlding of the public that ultimately uses the technology and/or are affected by the products of the technology. In thinking about localization software in this way, designers will cease to become engineers of and witnesses to the assault on cultural vocabularies and evaluative aesthetics—an assault that runs the danger of violent-meaning-making. In seeing their work as part of a larger *public intellectual practice*, designers ought to intentionally engage with the cultural public to seek their acceptance of specific exemplar translation units and use the feedback to revise their designs. This process must not be a one-in-a-while dialogic venture—as the case usually is in software usability testing—but must be a liquid, iterative, and regenerative effort.

Secondly, to achieve a liquid, iterative, and regenerative public participation, it is essential that the localizers are embedded within the linguistic and cultural world of users of the software, and users of the localization products from the software. Merleau-Ponty (2012) posited that experience is primary to our understanding of any language. What we experience as individuals

is linked to the many other experiences of other beings. All these experiences reflect how we understand our world and we express this understanding through language. Meaning is shared. Although I am a competent speaker and writer of Ewe, I depended a lot on native speaker consultants at moments that I fell short of comprehending certain translation units. My comprehension or that of my consultants is locked up in our experiences.

Thirdly, as a technical localizer, I argue that software designers should be willing to iterate multiple drafts, be open to critical responses, and have the tenacity to sift through a plethora of feedback that can provide imaginative routes for revision. Throughout the WDP, our project manager, to some extent, resisted our suggestion that Pootle is problematic and that the infelicitous translations that they identified were a result of the software's decontextualization. For them, the infelicitous translations were our fault that we needed to fix. Such attitudes to technology mediated processes projects technology as pure and rational equipment incapable of making errors. Such technological deterministic stances frustrate the work of critical localizers. To create a user-friendly localization software, the technology itself must first be localized. That means, the localization software itself must be created, user tested, and be revised to "fit into the technical and cultural milieu of specific user contexts" (Agbozo, 2022, p. 8; see also Sun, 2012). This process solicits several iterations of the software for each linguistic and cultural context. It is only when this process is completed that we can deploy such software for language localization.

Conclusion

Within transnational multilingual communities and digital spaces, translation and localization are quotidian resources for meaning making, and there are no singular ways of engaging these resources. Translation and localization in transnational contexts are a fluidly interactive processes that involve a plethora of stakeholders. These continuous interactions among stakeholders are a significant marker of global technical communication projects. That is why we must pay attention to contextual ontology if we want to overcome existential imperialism and totalism in our work.

In this reflection, I have discussed my involvement in a transnational public health information localization project to highlight the important role of the technical localizer as advocate and change agent. I also proposed some ways that global designers of software could pragmatically redress the work of power in localization. I hope that other localizers could also share the challenges they faced in their work, how they navigated those challenges, and the lessons we could all learn from them. As suggested by Gnecchi *et al.* (2007), translation and technical communication are seen as convergent industrial professions in North America and Europe. The same cannot be said about other contexts such as Africa where the two are seen as separate. However, translators and localizers use technical communication tools in their work. I am sure that if more localizers share their experiences from such contexts, we will see a clearer picture of the global social justice challenges of localization and how we could resolve them.

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Abstract: Translation has assumed an important place in technical communication (Batova, 2010; Gonzales & Bloom-Pojar, 2018; Gonzales & Zantjer, 2015; Walton & Mugengana, 2015). Despite this, little scholarship has paid attention to the intersection between translation, user experience, inclusive access, and climate justice in the field of technical communication. Although there are many sources of climate information, this article will focus on the accessibility, authority, and impact of the Intergovernmental Panel on Climate Change (IPCC) website. Through a user analysis and usability test, this study finds issues with the degree of localization and accessibility of https://www.ipcc.ch/. This article concludes with the roles TPC may contribute towards climate communication.

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1.   Introduction

Technical and professional communication (TPC) is in a unique position to contribute towards climate communication, as there are calls for social sciences' advice on procedural aspects such as decision-making with multiple stakeholders and communicating disagreements, as well as requests for equitable/just social and cultural changes (Lidskog et al., 2022). Further, it is an exigent matter that is communicated by the IPCC's assessment of the climate crisis labeled as a "code red for humanity" in 2021 (IPCC), and the recent passing of the Inflation Reduction Act of 2022 in the U.S. This bill is the largest climate investment act to have passed in U.S. history with an estimate of \$370-430 billion (Nilsen, 2022; Breuninger, 2022) from the U.S. government and over \$8 billion of private sector investment by 2030 (The United States Government, 2022).

With such high stakes, it is crucial to have an authoritative, universal source for climate information and policy. Theoretically, the IPCC website is well-situated for this role, though in actuality it is inaccessible for nearly half of internet users around the world, and mostly inaccessible for all non-native English language users. My positionality as a multilingual technical communication and climate communication scholar with over a decade of living experience in various countries outside the U.S. affords me insight into communication practices in international audience facing websites such as the IPCC.

In addition to awareness of contribution and access, this paper will attempt to address a practical issue in the form of actionable recommendations for improving the usability of the IPCC website, since "simply putting social science findings 'out there' and assuming they will find their way into practice, is as ineffective in communication science as it is in climate science" (Moser, 2016, p. 357).

This paper addresses the following research questions:

- How can TPC include and consider different sources of climate information/global environmental assessments (GEAs) to assess climate conversations?
- What can TPC scholars contribute towards climate information accessibility?
- What role does translation play in the work being done by organizations fighting for social justice? Specifically, how does TPC research on climate influence the conversations and voices included?

First, I will establish the relevance of the IPCC to the field of TPC as an authoritative source of climate information and provide background information about GEAs and the IPCC organization. Next, I examine the accessibility of https://www.ipcc.ch/ in two parts, first by adding findings from a usability test of the website conducted using the think-aloud protocol, second through an audience analysis approach using a traffic analysis tool and an accessibility checker. Finally, I discuss my findings within TPC and social justice conversations.

1.1   Authority and Relevance of Climate Information Organizations

Climate communication is an interdisciplinary field made from social science, humanities, earth systems science, physical sciences, engineering, and many more. GEAs consolidate these disparate sources and assume responsibility for hosting, accumulating, creating, and sharing knowledge. Although there are many GEAs, the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) are the largest and most well-known given their cross-national and cross-governmental positionality. This invited comparisons between IPCC (established in 1988) and IPBES (established in 2012), in recent climate communication publications (Lidskog et al., 2022; Borie et al., 2021; Kause et al., 2022; Maas et al., 2021). The IPCC has been labeled a 'top–down' GEA which starts with science and ends with communication whereas IPBES is considered 'bottom-up' by aggregating input from many diverse knowledge sources (Borie et al, 2021; Brooks, 2014). While IPBES is lesser known given the more recent formation of the organization, TPC scholars researching climate have only cited the IPCC as a source of authoritative climate information (Cagle & Tillery, 2015; Reeves & Ross, 2021; Shirley, 2021). Upon conducting a preliminary search of articles in TPC journals (JTWC, JBTC, IEEE, TC, and TCQ) that published on climate as a topic within the past 5 years, all articles (n=5) referenced and cited the IPCC but not IPBES. Given this selection in TPC publications, this paper will focus on IPCC as a site of evaluation. This next section will describe what the IPCC is, what they do, and their current position regarding climate.

1.2   The IPCC Profile & Position

The IPCC is the United Nations (UN) body for assessing the science on climate change. The IPCC report is a summation of the Conference of Parties (COP) meetings in which 195 nations agree to new environmental pacts. At these meetings, scientists, politicians, and world leaders gather to make their case for agendas, policies, and treaties. Since the announcement of a "code red for humanity" (internationally-agreed threshold of 1.5 degrees Celsius above pre-industrial levels of global heating) by the IPCC, climate issues and conversations have not only been amplified but revised altogether (IPCC Report: 'Code Red' for Human Driven Global Heating, Warns UN Chief, 2021).

The IPCC's role is to communicate assessments of climate to the public and policy makers. Creating this assessment includes assigning confidence levels and likelihood terms to statements and claims (e.g. very likely, likely, high confidence, medium confidence, etc.). These confidence levels and likelihood selections are a formal system that is stated in the working group reports and summary reports (as well as on the IPCC website) that aid in reporting findings for the general public and the decision-making process of policymakers. The IPCC guidance note is a document (available on the IPCC website) to help authors of the IPCC reports assign levels of agreement to statements consistently and provide transparency in the procedure to the general public as well as policymakers (IPCC). A recent study by Kause et al. (2022) found that experts from different scientific disciplines had different interpretations of the IPCC guidance note, which created confusion on how to integrate evidence and agreement into confidence levels (Kause et al., 2022). The study reported inconsistent confidence levels across IPCC working

groups, citing differing traditions and comprehension of "confidence levels" and "likelihood terms" as interchangeable.

1.3   Access & Knowledge Making for IPCC

One of the most common and available forms of access to the IPCC reports is through their website. People have turned to websites and online platforms as their first resource in search for specific information because websites have vast amounts of up-to-date information that is readily available. This is a key factor in enabling businesses or organizations to create "a suitable online presence in order to be portrayed optimally and meet the information needs of relevant stakeholder groups" (de Jong & Wu, 2018). However, it should be noted that access alone is not enough for policymakers and the public. Visitors of the IPCC website have a variety of not only linguistic backgrounds but educational, environmental, and national backgrounds as well. Access to websites such as the IPCC provides transparency for both experts and non-experts to the state of climate reported by contributing scientists and policymakers.

Often assumed to be a global lingua franca, English language competency is expected in many international contexts, particularly those with Western participants. A side effect of this is that individuals who are less able to speak it, due to learning it as a second or third language, are often seen as inferior in U.S. academic and professional settings (Gonzales & Zantjer, 2015). TPC scholars have acknowledged this inherent bias and seek to recognize the potential these multilingual scholars and professionals have for adapting knowledge for a diverse cultural context (Reeves & Ross, 2021; Agboka, 2013; Gonzales & Bloom-Pojar, 2018; Gonzales & Zantjer, 2015). This is exemplified by diversity and inclusivity issues within the IPCC AR4 and AR5 meetings. Authors of the reports and government representatives from developing countries and those who speak limited or no English were unable to participate in the conversation at full capacity (Reeves & Ross, 2021). As TPC scholars, it is important to note the source and context of the conversations that occur in fields that are outside of the TPC realm. Reeves & Ross's study explores and addresses the positionality, power, and influence that participants of the IPCC reports have. Their findings report that the "...dominance of Western perspectives and Western ways of knowing on author panels led to additional challenges in the deliberative process" (Reeves & Ross, 2021). They explain that non-Western participants were sometimes uncomfortable with the aggressive or hard-hitting deliberative processes that Western authors engaged in as a form of discourse. Moreover, both Western and non-Western participants paid more attention to those who were most experienced at speaking up in group sessions and most comfortable using English.

Another point to consider regarding climate communication is the familiarity and level of comfort of representatives who are newer to spaces like IPCC. Qualitative feedback from the Reeves & Ross (2021) study revealed that the representatives from recently developed countries such as Brazil or Mexico had difficulty participating, as they "had not had a chance to think through the issues about how to get the best out of the international process" (Reeves & Ross, 2021). This points not only to (un)awareness of power relations and institutional structures that move beyond the quality of knowledge and knowledge-making process but also to the extent and forms that the knowledge takes (Lidskog et al., 2022). It follows that the power relations between IPCC participants of different English language proficiency levels affect the content and quality

of the reports. This issue is compounded when one considers how the citizens of these underrepresented countries in the IPCC are often more vulnerable to climate change.

2. Methodology

2.1. *Method 1 - Usability Test*

To shed light on how TPC may address some issues regarding the usability and accessibility of IPCC's climate information, I conducted a usability test (IRB: 1942450-1) for https://www.ipcc.ch/ in February 2022. Usability testing is deeply rooted in TPC–both in theory and practice (Meloncon & St. Amant, 2019). The purpose of usability testing the IPCC website was to collect feedback on how users use the website, such as the problems they encountered using it, findability/searchability of information, and navigation of the website interface (UI). The usability test establishes a baseline of the IPCC website for proficient English users with a high education background and familiarity with general website navigation. Users who do not fit this background will likely have a harder time using the IPCC website.

The usability test provided quantitative and qualitative data to measure the following:

- **The general feeling/layout of the site**
  - Does the layout suggest the route (first-time) users will take to find documents?
- **The procedure for locating reports**
  - Basic search: Is it easy to use?
  - Advanced search: Can users accomplish their goals on the advanced search screen?
- **Language**
  - Can users easily switch language settings on the website?
  - Are there any issues navigating the website with a non-default language setting?
- **Navigation & Accessibility**
  - Can users navigate efficiently when locating documents and reports?
- **Satisfaction**
  - What aspects do users like and which aspects do they dislike?

These points of focus were situated through Barnum's definition of usability: "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified use" (Barnum, 2010). This usability test employed the think-aloud protocol in order to obtain verbal qualitative data. The usability test consisted of scenario-tasks and questionnaires that were task-oriented and directed towards how the user responds to the issues encountered with the IPCC website.

2.1.1. *Participants*

Five participants were selected to usability test the IPCC website. The participants were selected with the following parameters:

- Speak, read, and write in proficient English (Participants without proficiency in English may have experienced additional difficulty in the usability test as the delivery of the usability test itself was in English)
- Age range must be 22-60 years
- Hold a bachelor's degree in any field of study
- Must actively use the internet at least 10 hours per week (proficient digital literacy)
- No prior experience navigating the IPCC website and no subject area expertise in climate communication (non-expert user)

Following Barnum's best practices for website usability testing using the think-aloud protocol, these parameters were based on an initial heuristic evaluation of the website conducted by the author prior to the creation of the 5 scenario tasks (Barnum, 2010). All but one of the participants were from the U.S., and all but one participant had heard of the IPCC as a main source of climate information.

2.1.2 Testing Process

The participants completed a pre-test questionnaire before testing the website. Then participants completed five scenario tasks using the think-aloud protocol. Each scenario task was concluded with a few post-task questions. Once they completed all five scenario tasks, each participant completed the post-test questionnaire that focused on reflecting on their experience using the IPCC website.

2.1.3. Scenario Design

This usability test was initially conducted to test the navigation and functions of the website from the perspective of participants described with the goal of assessing the ease or difficulty of accessing existing content. This usability test did not focus on the user experience of the IPCC site of any particular marginalized groups. The scenarios reflect the issues found from an initial heuristic evaluation of the IPCC website conducted by the author.

Scenario 1: Observing the home page
Scenario 2: Locating a specific report section
Scenario 3: Finding specific information
Scenario 4: Locating technical papers (archive materials)
Scenario 5: Changing the language settings

Although scenarios 1 through 4 do not rely on any background knowledge of reading another language, scenario 5 requires participants to recognize the Spanish language setting option labeled: Español. While there are four other language options to choose from in the drop down, many U.S-based websites and services offer Spanish as an alternative language, so it is reasonable to expect participants to recognize the word.

2.1.4. Usability Test Results

While every participant was able to complete most of the scenario tasks, there were still some recurring points of friction. Several of the participants commented on the ambiguity between the two different types of reports and the unnecessary repetition with the home page, links, and node pages. Some participants were confused by the organizational hierarchy; they were unsure whether they were downloading a chapter or the entire report. The abundance of unfamiliar acronyms and terminology caused participants to acknowledge that they were not expert users. Overall, the test results indicated that the selected participants, who were proficient in English, college educated, and familiar with navigating website content, could mostly access the IPCC website but still had some difficulty on occasion.

	P1	P2	P3	P4	P5
Scenario 1	blue	blue	blue	blue	blue
Scenario 2	yellow	blue	blue	blue	blue
Scenario 3	blue	blue	blue	yellow	blue
Scenario 4	blue	blue	yellow	yellow	yellow
Scenario 5	blue	yellow	blue	blue	blue

Table 1
Scenario task completion by participant (blue=successfully completed task, yellow=unsuccessful at completing task)

2.1.5. Availability of Translated Reports

An additional assessment of https://www.ipcc.ch/ language settings found that while the IPCC website includes language options for Arabic, Chinese, French, Russian, and Spanish, it does not include as many reports or summaries in languages other than English. At the time of this usability test, there were several reports in all language settings that had not been translated and offered "only English". Although the initial scope of this usability test was not focused on determining usability of the IPCC website for non-native English users, a follow-up study that focuses on non-native English speakers proficient in the languages offered in the IPCC website (Arabic, Chinese, French, Russian, and Spanish) would be useful.

2.2. Method 2 - User Analysis

To gather further insight into IPCC site users, an analysis of the website was conducted using freely available tools (an accessibility checker: accessibilitychecker.org, and a site traffic analysis tool: similarweb.com). The purpose of using these tools was to gather insight into the geography, language, accessibility, and retention of real-user information.

The purpose of these tools is to address that while a usability test may provide context for a specific situation in which a user/persona may navigate through the site, it cannot cover real-time users and site visitors of https://www.ipcc.ch/. To address the context of the IPCC site use, the following were used to address who is included/excluded in the design of the website and identify real-user data:

2.2.3. An accessibility checker (accessibilitychecker.org)

An accessibility checker helps to find any initial issues that are not ADA compliant and identify critical accessibility issues. Using an accessibility checker can also highlight issues that may go unnoticed even with a usability test.

2.2.4. Traffic analysis tool (similarweb.com)

SimilarWeb is a traffic analysis site intended for business stakeholders to gain insights about their websites and the websites of their competitors. It provides information on the traffic volume to a particular website, its performance, the sites which link to it, and even the demographics of its users. The findings will include a traffic analysis report of https://www.ipcc.ch/ from April – June 2022 of the Geography section of the Audience tab as well as a screenshot of the incoming traffic section of the Referrals tab.

2.2.5. User Analysis Results

2.2.6. Accessibility of the IPCC website using accessibilitychecker.org

A scan of https://www.ipcc.ch/ found that the website was not ADA compliant and provided a report of 7 critical issues. These issues are:

1. Buttons do not have an accessible name.
2. Background and foreground colors do not have a sufficient contrast ratio.
3. Heading elements are not in a sequentially-descending order
4. <html> element does not have a [lang] attribute
5. Image elements do not have [alt] attributes
6. Form elements do not have associated labels
7. Links do not have a discernible name

All but one (#5, image elements) of the identified issues were present in the usability test report completed by the five participants. These issues were most apparent when testing the language settings on the IPCC website. The accessibility checker can quantify how many recurring issues are present on the site, however, it cannot show qualitative user issues from a user experience perspective.

2.2.7. Traffic analysis of https://www.ipcc.ch/ (SimilarWeb)

Upon running the IPCC website through a traffic analysis tool, visitations in the last 3 months (April-June 2022) show the following 50 countries with the highest number of visitors.

The following comply with the table from SimilarWeb categories:

● Country: Country sending traffic
● Traffic share: Percent of traffic sent to website from this country
● Visit Duration: Average time spent by users on the website per visit

- Pages/Visit: Average website pages viewed per visit
- Bounce Rate: The percentage of visitors that view only one page on the website before leaving

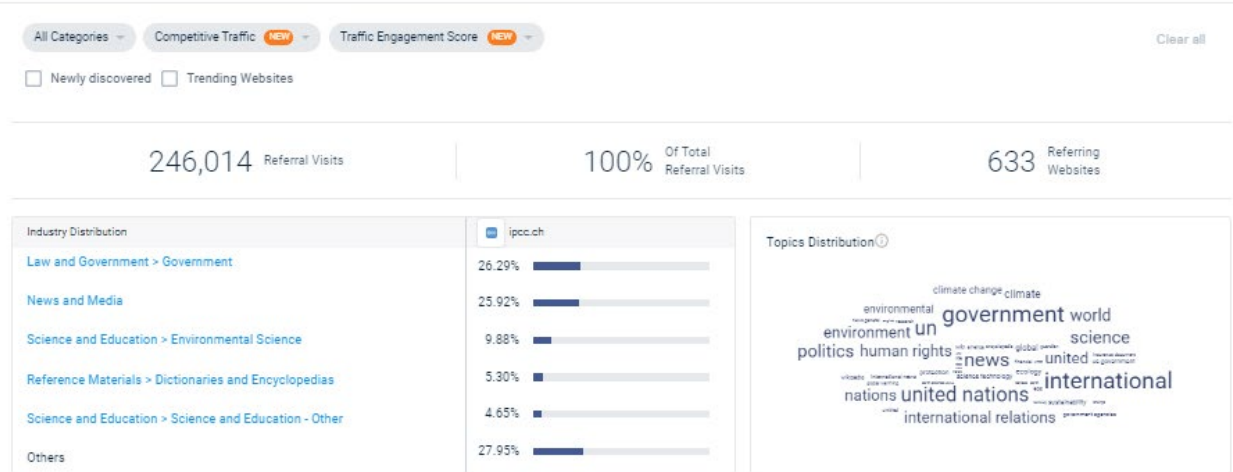|	Country	Traffic Share	Visit Duration	Pages/Visit	Bounce Rate
1	United States	16.48%	0:03:21	3.22	50.67%
2	France	8.37%	0:03:58	4.18	45.12%
3	United Kingdom	6.75%	0:03:59	3.1	50.33%
4	Germany	6.43%	0:03:51	3.45	46.93%
5	India	5.90%	0:03:45	2.66	54.42%
6	Canada	3.96%	0:03:22	3.05	51.72%
7	Australia	3.77%	0:04:31	3.83	42.69%
8	Spain	2.52%	0:03:12	3.01	58.03%
9	Switzerland	2.49%	0:02:53	3.43	49.20%
10	Italy	2.32%	0:05:22	4.21	43.61%

Table 2
IPCC site visitation by top 10 geographic regions (SimilarWeb) (see Appendices for a full list of 50 geographic regions)

The traffic share by country table was copied from the Geography section of the Audience tab of the SimilarWeb report from April to June 2022. During this period, the top four visiting countries by traffic share were all in Western countries, constituting 38.03% of total traffic volume. Of the top ten visiting countries (constituting 58.99% of total traffic volume), only India at #5 was not a Western nation. This is a signal that the IPCC website is not as well-known, or its authority isn't recognized (or used) to the same degree outside of Western locations. It is important to note that site access from these countries, users, and language are not synonymous. For example, a person from the UK may be in Canada viewing the IPCC website in French. Reading data for localization purposes could (falsely) project that the site visitor is from Canada, in Canada viewing the website in English. In this case, a large population of India speaks English as one of the official languages of the country and access the IPCC website content in (mainly) English (National Portal of India). The ten countries with the highest traffic share had a bounce rate of ~50% and (barring Switzerland) spent at least three minutes on the IPCC website.

Figure 1
Incoming Traffic: Referrals (SimilarWeb)

An analysis of the IPCC's traffic results using SimilarWeb's traffic report tool show that
government and news/media industries make up more than half (52.21%) of the IPCC's referral

traffic. Referral traffic is an important component of website traffic because of the nature of browsing websites by users, since not all users will search for the IPCC website directly for climate information. From April-June 2022 most visitors to https://www.ipcc.ch/ came from government (~64,677 visits) or news (~63,791 visits) websites, with a smaller amount of traffic coming from science education sites (~35,745 visits). It should be noted however that the top 20 referring sites by traffic volume all had western domain extensions (.com, .de, .fr). This means that non-Western online spaces are not linking to https://www.ipcc.ch/, a finding consistent with others in this study.

3.   Discussion

Though the IPCC is an intergovernmental organization, its focus is access to mainly English-speaking users. The https://www.ipcc.ch/ translation menu translates limited sections of their website into Arabic, Chinese, French, Russian, and Spanish. This indicates to users that translation is not a neutral conduit and exposes the IPCC's bias in privileging dominant languages and people from privileged contexts while marginalizing people from other linguistic backgrounds. Climate communication is a necessity to policymakers in less developed countries, whose constituents are most at risk to climate change. These policymakers, who are not as comfortable following climate information in English, are unlikely to access the IPCC (website) as a resource and may fall behind on up-to-date climate information.

A site crawl of https://www.ipcc.ch/ found that over half of the content on the site are PDFs (n=224). The response from the usability test (Scenario 2) also showed that the participants expected long reports to be downloadable PDF files. However, a way for the public to have access to some translated content may be to host the reports as web content rather than a downloadable file. This way, browsers would be able to detect and translate to the user's preferred language. That is not to say that this solution would fix all translation issues, but the content would be readable—which is better than not having any way of reading the report at all. Merely hosting report texts in this format does not solve localization issues (let alone good translation). A study on the usability of emergency management websites showed that such websites can benefit from responsive design and following the contextual needs of the varying language, culture, and demographics of users (Cosgrove, 2018). Cosgrove argues for increasing focus of information architecture, creating standardization within levels of organization and customizing based on local needs, and trying new methods (such as rhetorical analysis) that require few to no users for initial testing for improving the usability of emergency management websites (Cosgrove, 2018). As climate change information may be seen as emergency management (albeit on a wider scope and timescale), global environmental assessments (GEAs) could benefit from adopting some of these recommendations.

Participants who are based in the U.S. recognize the gap in content created for non-Western users. As TPC scholars, it is important to quantify and qualify the range and scope of website content translation or localization. Despite conducing a usability test that featured educated and computer literate English-speaking users, the findings nonetheless provide insight into the level of accessibility. Usability problems found in the usability test included language settings, lack of translated information as well as access to it, and content organization. One particular finding that was not anticipated from conducting this usability test had to do with participants'

perception of the site's .ch domain extension. This was demonstrated when more than half of the usability test participants commented on the political nature of the IPCC website and the intended audience. The comments were made regarding the discussion on the validity of the IPCC website as a source for climate information. All but one participant asked if the domain extension ".ch" was a Chinese extension. When the participants were told that ".ch" was a Swiss domain extension, they were more inclined to trust the website as a source for climate information.

Climate communication as a field relies on GEAs such as IPCC and IPBES. As an authoritative source for hosting, accumulating, creating, and sharing the knowledge on global climate information and policy, the IPCC website should consider the impact and power it holds to shape climate communication. In the future, it is possible that IPBES may become a more highly cited source for climate communication among climate TPC scholars as it is currently preferred over IPCC as a public communication site. However, IPCC has acquired a long-standing reputation as an official source of climate information and research. With this position, IPCC as an organization has the power to create international policies and sanctions for climate-related practices that impact human health, environment, landscape, economy, and quality of life. IPCC is the site of reference by news and media outlets, scholarship, policy makers, and government bodies in both domestic and international societies. As Richards (2019) points out in the usability study of visual risk literacy, TPC scholars should take ethical constraints into consideration when evaluating user agency (Richards, 2019). Those working on the IPCC report and technical communicators who report information from the IPCC website should also be aware of the limitations and lack of inclusion of marginalized groups.

4.   Conclusion

This paper addresses issues of inclusivity of IPCC which are reflected in the limitations of the IPCC website as a resource for climate information. Limitations of the organization and practices should be recognized and addressed by TPC scholars who use GEAs like the IPCC (and hopefully others).

For TPC scholars studying climate (specifically using the IPCC as a source), it is important to understand that while translation alone may meet the basic needs of some select users, it is limited regarding contribution to the knowledge, as well as interpretation–a situated knowledge that comes with context (knowledge that non-English speaking users may not have) (Agboka, 2013). TPC scholars and practitioners can participate in making climate change communication more inclusive by performing similar accessibility and usability reviews of other GEA websites, evaluating the organization's GEA process, and communicating the source and position of the contributing participants.

Website improvements should consider not just the experts for translation but the needs of non-experts and non-Western users. Human translation may also lead to issues with assessing and validating knowledge and the knowledge-making process (Borie et al, 2021). Various disciplines and participants of the knowledge-making process have shed light on issues of the 'top-down' approach used by the IPCC. This can be addressed and revised by creating a more transparent system of knowledge validation and knowledge-making. With a potential for increased

discussion and knowledge dissemination about climate, a call for more interdisciplinary collaboration and research may address future implications regarding climate information accessibility and inclusivity in which TPC scholars provide a critical role.

5.   Limitations

The usability test and findings come with limitations, most notably the low number and selection of participants. It is important to note that a repeated usability study may yield different results with participants who speak languages other than English, have other education backgrounds, or a lower computer literacy. My own positionality affects how this usability test is designed and conducted (access to participants who were selected through convenient sampling, initial heuristic evaluation of the website, time constraints of this usability test).

The user analysis tool (SimilarWeb) provides a snapshot of the months April-June 2022 and the number of visitors. In replicating this report, website traffic analysis data will change month-to-month. The user analysis tool (Accessibility Checker) refers to the Americans with Disabilities Act (ADA) compliance; it can only check compliance with U.S. accessibility laws. Other countries and regions may have a higher or lower tolerance and set of guidance for accessibility compliance that is different to ADA. Since the IPCC website is hosted on a Swiss server, it is possible that https://www.ipcc.ch/ is compliant with Swiss accessibility guidelines.

Future studies regarding the usability of the IPCC website may explore marginalized user experiences through a qualitative approach as exemplified by Reeves & Ross (2021). In addition to conducting a traditional usability test, TPC researchers and practitioners studying climate communication may benefit in adopting Simmons & Zoetewey's (2012) call for productive usability for civic websites that require communicators to investigate usefulness and alternative uses from the beginning of the design process; examine and test for patterns that support technical literacy, productive inquiry, place, and multiple user identities (Simmons & Zoetewey, 2012).

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Appendix A: IPCC site visitation by geography (SimilarWeb)

Country	Traffic Share	Visit Duration	Pages/Visit	Bounce Rate
United States	16.48%	0:03:21	3.22	50.67%
France	8.37%	0:03:58	4.18	45.12%
United Kingdom	6.75%	0:03:59	3.1	50.33%
Germany	6.43%	0:03:51	3.45	46.93%
India	5.90%	0:03:45	2.66	54.42%
Canada	3.96%	0:03:22	3.05	51.72%
Australia	3.77%	0:04:31	3.83	42.69%
Spain	2.52%	0:03:12	3.01	58.03%
Switzerland	2.49%	0:02:53	3.43	49.20%
Italy	2.32%	0:05:22	4.21	43.61%
Netherlands	2.31%	0:03:49	3.38	46.07%
Philippines	1.91%	0:01:46	1.79	69.17%
China	1.90%	0:07:15	5.48	45.06%
Brazil	1.68%	0:05:10	5	56.11%
Sweden	1.48%	0:04:42	5.09	46.12%
Mexico	1.33%	0:03:58	3.28	57.44%
Chile	1.28%	0:05:37	9.66	51.06%
Poland	1.13%	0:03:26	2.42	62.25%
Colombia	1.11%	0:03:27	4.42	59.42%
Belgium	1.07%	0:05:11	4.82	39.09%
Denmark	1.01%	0:04:44	4.61	42.85%
Hungary	1.00%	0:06:20	6.2	40.36%
Korea, Republic of	0.98%	0:02:34	3.02	48.35%
Portugal	0.97%	0:04:10	4.14	53.72%
Argentina	0.97%	0:04:31	2.46	51.09%
Finland	0.93%	0:03:26	2.91	50.93%
Norway	0.92%	0:03:40	3.15	40.51%
Indonesia	0.86%	0:05:24	2.22	62.61%
New Zealand	0.75%	0:04:50	3.52	43.63%
Ireland	0.69%	0:02:34	2.51	54.02%
Japan	0.69%	0:03:23	2.74	53.89%
Singapore	0.68%	0:04:03	4.8	51.83%
Turkey	0.63%	0:01:15	1.9	70.09%
Austria	0.62%	0:03:15	2.57	46.55%
Vietnam	0.59%	0:02:45	2.03	65.97%
Peru	0.54%	0:02:42	2.15	53.36%
South Africa	0.53%	0:04:21	4.16	44.89%
Russia	0.52%	0:02:27	2.3	65.10%
Ecuador	0.51%	0:08:37	3.01	47.35%

Malaysia	0.48%	0:04:36	2.46	48.39%
Taiwan	0.47%	0:04:17	4.17	40.50%
Bahamas	0.43%	0:07:43	2.57	37.14%
Pakistan	0.41%	0:02:07	2.19	47.82%
Iran	0.35%	0:05:55	4.52	38.65%
United Arab Emirates	0.32%	0:03:07	2.49	66.69%
Hong Kong	0.30%	0:04:41	3.36	50.23%
Paraguay	0.30%	0:02:17	1.33	72.22%
Costa Rica	0.29%	0:04:00	6.46	35.74%
Kenya	0.29%	0:02:45	1.82	57.42%
Greece	0.28%	0:03:48	3.64	43.20%

Appendix B:

List of articles within TPC for the past five years citing IPCC as a source

Reeves, C. A., & Ross, M. (2022). Writing climate change assessments: scientific author challenges and rhetorical negotiations. *Journal of Technical Writing and Communication, 52*(2), 182-212. https://doi.org/10.1177/0047281621989640

Shirley, B. J. (2021). Post-fact fact sheets: dissociative framing as a strategy to work past climate change denial. *Technical Communication, 68*(2), 41-60.

Tillery, D., & Bloomfield, E. F. (2022). Hyperrationality and rhetorical constellations in digital climate change denial: a multi-methodological analysis of the discourse of Watts Up With That. *Technical Communication Quarterly*, *31*(4), 356–373. https://doi.org/10.1080/10572252.2021.2019317

Walsh, L., & Walker, K. C. (2016). Perspectives on uncertainty for technical communication scholars. *Technical Communication Quarterly*, *25*(2), 71-86. https://doi.org/10.1080/10572252.2016.1150517

Walwema, J. (2021). Rhetoric and Cape Town's campaign to defeat Day Zero. *Journal of Technical Writing and Communication, 51*(2), 103-136. https://doi.org/10.1177/0047281620906128

Translation for Social Justice and Inclusivity in Technical and Professional Communication: An Integrative Literature Review

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Abstract: Despite growing interests in translating for global reach within technical and professional communication (TPC), no cohesive literature review accounts for this new growth. This article provides an integrative literature review of translation scholarship that emphasizes collaboration with multilingual, multicultural communities when designing global technical communication. Drawing on grounded theory and content analysis, the authors reviewed translation scholarship published in five major TPC journals between 1990 and May 2022. We argue that TPC researchers and practitioners need to adopt more justice-driven research frameworks to better understand the complexities of translation for culturally localized usability, especially in multilingual, multicultural global contexts.

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Keywords: translation, integrative literature review, technical communication, localization, social justice

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Introduction

Technical and professional communication (TPC) and translation have an inherent relationship because both professions have the same primary goal—communication for a specific purpose. Both technical communicators and translators share many of the same competencies, including intercultural awareness (Ping, 2012), knowledge of cultural and professional contexts (Melton, 2008), and the ability to incorporate logical and creative perspectives in text production (Dam-Jensen & Heine, 2013). While designing and translating a text, the two professions can greatly benefit from one another if they share basic knowledge about their needs, expectations, and procedures (Cleary et al., 2015). Though both fields are mutually interrelated, they approach text production in different ways.

While translation begins with a document in one language and ends with a document bearing the same meaning in another, technical communication entails creating a document from scratch in a single language (Minacori & Veisblat, 2010). Some early translation research assumed that simply replacing one word in one language with another equivalent in meaning would adapt content to meet the needs of international audiences (Boiarsky, 1993; Doumont, 2002; Minacori & Veisblat, 2010; Thatcher, 1999; Thrush, 1993; & Weiss, 1997). Similarly, early technical communication research assumed that technical communicators could neutrally communicate complex information for general audiences without having any impact on the result (Jones, 2016). Technical communication is neither neutral nor objective; it is political and imbued with values (Haas, 2012; Jones & Williams, 2018; Miller, 1979). Likewise, translating today is a multifaceted process, involving a variety of innovative procedures, collaborative networks, and highly technological environments (Maylath et al., 2015). Thus, translation should not be limited to a traditional and functionalist approach to producing a communicative message in another language; rather, it should be understood as a socially and historically situated act—hence it is political (Yajima & Toyosaki, 2015).

The concept of translation can be viewed from different perspectives since the same word is used for the act and the final product. As a model, translation serves to better understand "multilingual realities of societies, individuals, and texts" (Israel, 2021, p. 125). As a process, translation occurs in a variety of settings, including industry, academia, and community environments (Köksal & Yürük, 2020). As a collaborative activity (Mousten et al., 2010), translation involves the translator acting as a negotiator, mediator, and even an advocate for shifting power toward those who have traditionally been excluded from decision making. This is similar to how the role of technical communicator was originally defined, and how it is now focused toward addressing concerns of social justice and equity through research, pedagogy, and practice (Jones, 2016).

Translating, when oriented toward this vision of social justice and equity, is not only iterative and creative, but also culturally and locally situated (Gambier, 2016). In this sense, translation is a cross-cultural activity that involves encouraging and supporting social justice, equity, and diversity. To achieve this goal, translators need to recognize that the traditional conceptualization of translation does not fully capture its complexity and contextuality when working with multicultural, multilingual communities in global contexts.

Recent TPC scholarship has also highlighted the importance and necessity of making information more meaningful and accessible to those who do not speak English, particularly in the contemporary multicultural, multilingual context (Batova, 2013, 2018; Gonzales & Turner, 2017; Walton et al., 2015). While TPC as a field recognizes the value of globalization and the importance of translation in strengthening global outreach (Gonzales, 2022), translators' roles, expertise, and experiences should be emphasized further in TPC scholarship to support underserved and underrepresented communities. For these reasons, TPC scholars have increasingly viewed translation in connection with localization and user empowerment, rather than simply replacing a text in a source language with a text in a target language with equivalent meaning. For instance, Gonzales and Zantjer (2015) observed translation as a user-localization process, arguing that "culturally-sensitive, global-ready translated content needs to be iterative, sequenced, and responsive to effectively localize meaning across languages" (p. 281). Batova and Clark (2015) viewed translation in relation to the practice of localizing content for a specific culture. We see translation as a moment or an opportunity to acknowledge the varied realities of our communicative environments (Pihlaja & Durá, 2020). Broadly speaking, translation is not only word-for-word replacement process (Batova & Clark, 2015; Gonzales, 2022; Walton et al., 2015), but also an intellectual activity or practice to localize materials to empower users in different cultural contexts, including those in underdeveloped, underserved countries. Considering translation in connection with localization practices for user empowerment, TPC practitioners/translation researchers observe translation as a "culturally-situated, rhetorical activity" (Gonzales, 2018, p. 81), an activity that can be "performed in a justice-oriented manner" (Yajima & Toyosaki, 2015, p. 99).

Despite ongoing discussions about translation and diversity in TPC, our field needs an integrative literature review to better understand the goals and approaches employed in translation research. Surprisingly, no such research has been carried out to examine how social justice approaches to translation benefit technical communication research, practice, and pedagogy. An integrative literature review seeks to bring together representative literature on a topic in order to generate new frameworks and perspectives on the topic (Torraco, 2016). Due to a lack of synthesis in research, reviewing emerging topics that generate new information and a volume of literature on the topic under consideration becomes a challenging enterprise (Torraco, 2016). Because such a review is performed to "make a significant, value-added contribution to new thinking in the field" (Torraco, 2005, p. 358), our study aims to achieve this by holistically understanding:

a) translation practices that empower multilingual users rather than subject them to existing practices;
b) social justice approaches to localized translation; and
c) the extent to which translation research has been conducted for social activism aimed at promoting an inclusive, just future.

Understanding the localized practices of multilingual users can strengthen our commitment to social justice and equity. With the field's current cultural and social justice shifts, we believe it is time to examine how TPC scholars and practitioners approach translation, so that we can

critically reflect on how translation contributes to culturally localized user practices. To this end, our integrative literature review of translation was guided by the following research questions:

- What can multilingual, multicultural communities' translation practices teach technical communicators about the connections between language, power, and positionality?
- What does it mean to translate with multilingual, multicultural communities in the design of global technical communication projects?

To answer these questions, we performed an integrative literature review of translation research in five major TPC journals. As discussed in detail later, our data set consists of 68 (N=68) peer-reviewed journal articles published over the last 30 years (1990-2022). Using grounded theory (Corbin & Strauss, 2015; Urquhart, 2013) and content analysis (Huckin, 2004; Krippendorff, 2019) as research techniques, we analyzed the representative data set to identify emergent and recurring themes by unitizing (segmenting the text for analysis), sampling (selecting an appropriate collection of texts to analyze), and validating (using the consistent coding scheme) the data corpus (Boettger & Palmer, 2010). To provide some background, we begin with a brief overview of translation within TPC and translation studies.

Brief Overview of Translation

Despite efforts to recognize that technical communication involves translation-related skills or practices (Melton, 2008; Weiss, 1997), translation is still largely ignored both in the literature and training of technical communicators (Maylath et al., 2015). While it is beyond the scope of this article to document factors that influenced the evolution of translation and translation research in TPC, this section highlights key aspects to demonstrate how translation has historically developed in parallel and overlapping ways with TPC.

Throughout technical communication history, various theories have surrounded translation, providing insight into how, when, and where translation has been used. Though both fields existed as far back as we know, they especially emerged following World War II. Technical communication emerged much earlier in the United States whereas translation existed in France prior to technical communication (Minacori & Veisblat, 2010). Because translation takes place only after a document is written, determining which came first is a chicken-and-egg situation. Based on our observations of the technical translation and technical communication professions, we can say that translation as a workplace practice in the United States arose from early 1900s' efficiency management structures and efforts to respond to cultural differences for documentation markets.

In the 1990s, international trade expanded dramatically due to the ratification of trade agreements such as the North American Free Trade Agreement (NAFTA) in 1994, the establishment of the World Trade Organization (WTO) in 1995 following the renegotiation of the General Agreement on Tariffs and Trade (GATT) Treaty, and the EU's subsequent enlargement (Gnecchi et al., 2008). Consequently, the volume of technical documentation associated with traded products sharply increased, as did the demand for translation and technical communication in the 90s. In North America, the translator's role evolved to include activities

previously performed by technical writers, whereas many European translators entered the TPC field at the turn of the century (Gnecchi et al., 2008). Just as in technical communication, translating in North America and Europe involved several agents with different roles, responsibilities, skills, and abilities. It is worth nothing that while this is the history of Western translation, translators have been present for a long time in other cultures, such as Indigenous communities.

Recent research also reveals that the fields of translation and technical communication are converging as practitioners initially trained in one field are trained in the other to serve both ends of the documentation market (Gnecchi et al. 2011; Minacori & Veisblat, 2010). The growing convergence of the two professions, particularly in the domain of TPC, necessitates the ability of a translator to integrate cultural factors such as socio-economic circumstances, belief systems, norms, and values into the translated for localized usability, which is associated with meeting users' needs and expectations in the context of use (Acharya, 2022). In short, the relationship and overlap between translation and technical communication has received increasing attention, aiming to serve as many diverse settings and audiences as possible in today's globalized communities.

Because TPC as a field recognized the value of globalization and the role translation plays in fostering global reach (Gonzales, 2022), expanding global access to product information necessitated making that information available in languages other than the original language—in most cases, English (Minacori & Veisblat, 2010), leading to a better understanding of the challenges of information transfer across cultural boundaries. Translators and (international) technical communicators served as mediators by employing a variety of communication channels to meet users' needs across those boundaries. Also, transforming information from the source language into the target language entailed adopting effective approaches. To address these concerns, scholars who adopted a functionalist or communicative approach attempted to avoid the problems of previous approaches such as formal equivalence (i.e., word-for-word or literal translation) and dynamic equivalence (i.e., sense-for-sense translation) (Nida & Taber, 2003). In adopting the communicative approach, the elements of text type, purpose, and communicative situation, also known as rhetorical situation, were highlighted. In fact, translation was viewed as a recreation of the document for a culturally localized new context (Doumont, 2002; Melton, 2008).

Discussions about translation in TPC as a field have also emphasized the need for designing technical products or tools—such as application interfaces, websites, software, online help systems, and print or online documentation—through the lens of localization (Mousten et al., 2010; St. Germaine-McDaniel, 2010); thus, the relevance of translation and technical communication has inherent support. Though translation has long been viewed as an operation that starts with a document in one language and ends with a document with the same meaning in another language (Minacori & Veisblat, 2010), recent translation scholarship in TPC moves toward approaching translation practices in ways that promote social justice and inclusion (Gonzales et al., 2022; Yajima & Toyosaki, 2015). We initiated this integrative literature review acknowledging this new direction in reframing translation work for fostering social justice and diversity.

Methodology

As demonstrated by our introduction and brief overview, translation has been discussed as an important skill, especially as TPC expands globally. Therefore, in this research we ask two central questions: What can multilingual, multicultural communities' translation practices teach technical communicators about the connections between language, power, and positionality? What does it mean to translate with multilingual, multicultural communities in the design of global technical communication projects? In designing this research, we acknowledged that these types of questions need to be addressed in order to enrich our field by engaging in multicultural, multilingual research through "decolonial perspectives that foster reciprocity and push toward social justice" in underrepresented, marginalized communities (Gonzales, 2022, p. 2). To address our central questions, we used Toracco's (2005, 2016) work to shape our analysis. In organizing and locating emerging themes in our representative samples, we used grounded theory (Corbin & Strauss, 2015; Urquhart, 2013) and content analysis as a research technique (Huckin, 2004; Krippendorff, 2019). We collected articles using a broad set of keywords followed by in-depth readings to see which articles dealt with translation.

Sample

To gather a representative data set, we identified the date range 1990 to 2022 (May) and examined sample publications in five major TPC journals.

- *IEEE Transactions on Professional Communication (IEEE)*
- *Journal of Business and Technical Communication (JBTC)*
- *Journal of Technical Writing and Communication (JTWC)*
- *Technical Communication (TC)*
- *Technical Communication Quarterly (TCQ)*

We selected these journals based on previous research practices demonstrated by TPC researchers and practitioners (refer, for example, to Boettger & Lam, 2013; Melonçon & St. Amant, 2018). As we know, academic journals are "the markers of disciplines' knowledge creation and perpetuation" (Boettger & Palmer, 2010) as well as a core source for scholarship in the TPC field (Melonçon & St.Amant, 2018).

We searched the titles, abstracts, keyword lists (including metadata—if the database contained such information) of articles in each publication. In order to broadly capture translation scholarship in TPC, each publication issue was carefully examined, focusing on keyword categories to gain the best possible results. We used the keywords "translation and/in technical communication," "translation and usability," "translation in the international context," "translation and social justice," and "localization and translation." We also included slight variations of these terms, such as "technical writers and translators," "translation for user empowerment," and "translation across borders." Since this study focused specifically on translation scholarship in TPC, we only selected articles that were related directly to translation in a substantive way. In other words, only full-length articles reporting original research papers

(i.e., no commentaries, book reviews, etc.) in the five identified journals during the stipulated time frame were included in our compiled data set. While we acknowledge that TPC-related translation scholarship is published outside of the journals selected, we believe that the identified journals collectively provide a broad and substantive view of translation in TPC. Also, we needed "logical parameters to set boundaries for the study" (Melonçon & St.Amant, 2018, p. 132); otherwise, data sets would still be searched, coded, and analyzed.

From our initial search, we assembled 82 articles as potential sources. We collected data in a cloud-based spreadsheet which we could both access. The spreadsheet had 11 broad headings: year of publication, article author's name, title of the article, journal volume and issue, purpose of the article, research question(s), research method/methodology, argument, open coding, selective coding, and axial coding. In refining the larger set of articles to determine their relevance to translation scholarship in TPC, we evaluated each article as a data source iteratively evaluated to further narrow the sample. This resulted in a study size of 68 (N=68) articles for discussion and analysis.

Data Coding Process

Informed by content analysis (Huckin, 2004; Krippendorff, 2019), we evaluated the representative data corpus for emergent and recurring themes by unitizing (segmenting the text for analysis), sampling (selecting an appropriate collection of texts to analyze), and validating (using the consistent coding scheme) the data set (Boettger & Palmer, 2010). We read the abstracts of the larger data set (N=82) to determine the most salient category of the research in each article. Following the coding of each article, we discussed whether an article would be retained in this data based on the study's topic and the approach used to investigate that topic. After we agreed on the data set (N=68) and our focused research questions, a more in-depth analysis was performed using our coding schema. To standardize our coding process, we created starter codes and tested them on a small portion of the work.

Based on grounded theory (Corbin & Strauss, 2015; Urquhart, 2013), we refined our codes and analyzed our sample, emphasizing patterns and connections over linear inferences. For example, in testing our original codes, we discovered that document translation and localization were frequently used interchangeably, and that to better understand the importance of and need for translation-focused research in TPC, we needed to code more broadly to capture the purpose of conducting such research in the global context.

Adopting Urquhart's (2013) coding procedure, we implemented the stages of open, axial, and selective coding. While open coding allowed us to identify concepts and themes for categorization, axial coding enabled us to engage in continuation analysis, cross referencing, and refining theme categorization generated during the first cycle of coding. We kept our research questions in mind at this point of our analysis. Since both authors represent multilingual, multicultural minorities and had limited background in translation research and scholarship, we also asked questions about our data during open coding: What is the purpose of the article? What data do we have? What does the data suggest? What are the authors telling us? What arguments did they make about translation? How did authors approach their translation process? What were

the concerns of the authors? This process of open coding provided us a moment to think critically on our data.

While reflecting on the data, we selected ideas we thought represented the notions and constructs about translation. We started to tag, define, and describe ideas in the purpose and argument sections of the articles we gathered. After the open code process of tagging, labeling, and making sense of the data, we moved quickly to the second stage of analysis to reduce our data further. Here, we "refined, developed, and related or interconnected" (Gibbs, 2018, p. 72) ideas about translation. Using selective coding, we integrated categories derived from axial coding into cohesive and meaningful expressions. Table 1 demonstrates how we coded the data corpus and Table 2 shows theme categories we generated, including examples of how we defined them and how they showed up in the data.

Purpose of article	Argument	Open coding	Axial coding	Selective coding
In this article, we document how our team of translators, interpreters, technical communicators, and health justice workers is collaborating to (re)design COVID-19-related technical documentation for and with Indigenous language speakers in Gainesville, FL, USA; Oaxaca de Juarez, Mexico; and Quetzaltenango, Guatemala. (Gonzales et al., 2022)	Through collaborations with Indigenous language speakers, translators, and interpreters, social/health justice projects in technical communication can be combined, localized, and adapted to better serve and represent the diversity of people, languages, and cultures that continue to increase in our world. illustrates how Western approaches to creating technical documentation, particularly in health-related contexts such as the COVID-19 pandemic, put communities at risk by failing to localize health messaging for Indigenous audiences.	team of translators collaborate with . . . to produce documents indigenous language speakers localized approaches to better serve and represent communities	collaborative practices working with and/or for indigenous languages localizing technical materials	collaboration language-centric indigenous localization

Table 1: Examples of coding process.

Collaboration	Multilingual/immigrant concerns	Language-centric	Nature of translation
working with/for	indigenous	language transformation	translation as localization
collaborative research	multilingual TPC	bridging language barriers	tarnation as process
collaboration between	immigrants	assessing written documents for clarity	translation as framework
community strategy work	multilingual documents	document accessibility	translation as politic act
mutual understanding	diversity		
	inclusion and exclusion	good translation vs bad translation	translation as rhetorical framework
cross-training and engagement	language and land		translation as skill
holistic process of building relationships	cultural differences	transferring meaning	translation as democratic practice
participatory translation	social justice	translation into other languages	
	empowerment	transferring meaning	translation as recreating information
democratic translation	cultural values	communication failure	
relationship building	power, privilege, and positionality		translation as process of inclusion and exclusion
negotiation		rhetorical and stylistic preferences	

Table 2: Examples of theme categories derived from the coding procedure.

We did not employ secondary raters because our goal was not to quantify the data, but rather to draw connections between thematic categories focusing on our research questions as broad organizational categories for the themes. While we recognize that this might be a flaw, adding more raters does not guarantee reliability or validity (Armstrong et al., 1997).

Results and Discussion

In this section, we provide an overview of five major results that we gathered from the review of literature. Before we dive deeper into the overview of our findings, we make these general claims about the nature, scope, and definition of translation as it relates to social justice:

1. Translation is a rhetorical process which aims to magnify the agency of marginalized or vulnerable populations. For us, issues faced by multilinguals are rhetorical in nature and we can use our skill in rhetoric and language to understand the needs of users and help them solve the problems they encounter.
2. Translation is a complex process which thrives on collaboration between experts and non-experts working together in a mutual environment in hopes to make documents or communication moments meaningful to those who do not speak or understand documents designed by experts or people in authority.

Translation Is A Collaborative Process

What makes translation attractive to technical and professional communication in our quest to fight injustice? The literature on translation sums up the answer in these words: collaboration and community building. In the articles we analyzed, the authors hinted at the fact that translation is either a collaborative process or a community strategy. Others also expressed how translation provided opportunities for collaborative research. In "Redesigning technical documentation about Covid 19," Gonzales et al. (2022) ask: "how can technical communicators work toward social justice in health through collaborative design with Indigenous language speakers? How can technical documentation about COVID-19 be (re)designed alongside members of vulnerable communities to redress oppressive representations while increasing access and usability?" (p. 34). The literature consistently captures translation as having these values: "working with or for," "working together," "working alongside," and "preparing documents for" indigenous people or vulnerable populations.

This scholarship puts forth that translation is not an isolated practice but a mutual collaboration between experts and non-experts. In most cases, experts use their skill to help non-experts to understand a complex process or a communicative moment which non-English speakers struggled to understand or vice-versa. For example, Gonzales et al. (2022) reported their collaboration with a group of interpreters, translators, technical communicators, and health experts to redesign COVID-19 information for multilinguals across three countries: the United States, Mexico, and Guatemala. Similarly, Rose et al. (2017) detailed how they collaborated with a non-profit agency to design health materials intended to educate immigrant patients on how to sign up for health insurance. For technical communicators, and social justice advocates, "translation moments" (Gonzales, 2018, p. 2)—situations that invite us to use our expertise to help those who need us—provide an exigence to recognize the relevance of collaboration or community building for our practice. Of course, collaboration is not new to technical communication scholarship or practice. Agboka's (2013) notion of "participatory localization," Spinuzzi et al.'s (2019) idea of "coworking," or Johnson's (1998) concept of user-centered design communicate the need to collaborate with users or non-experts.

In "Coworking Is about Community," Spinuzzi et al. (2019) openly express community building and collaboration as a central component of technical communication practice (p. 113). Agboka (2013) indicates that design of communication problems should be a process where community members are involved "not as isolated user participation but as user-in-community involvement and participation in the design phase of products" (p. 42). This form of participatory design

values and respects the lived experience and expertise of every community member with the hope of understanding a community's local logics, history, culture, and philosophy. In the articles we analyzed, the authors seem to emphasize the relevance of collaboration or community building, but rarely defined what it meant to collaborate or to form a community for the work of translation or technical communication. This lack of definition for such terms as collaboration or community in our practices is consistent with claims by Spinuzzi et al. (2019) that although collaboration and community are central tenets of co-working, scholars and practitioners fail to define the terms. In more recent years, collaboration and community building in technical communication has been expressed in terms of coalition building, that is, our ability to take collective action to serve people who are marginalized (Walton et al., 2019, p. 21). Translation scholars in our field often work with people who need specific information to negotiate their lived experiences. And in most cases, those who needed help were multilinguals/immigrants or community partners who need to explain technical information to immigrants.

Translation Exists to Protect The Rights Of Multilinguals/Immigrants

Translation for immigrants or with multilinguals is one response to the global flow of people, bodies, concepts, and ideas. Multilinguals or immigrants are mostly at the receiving end of translation. But it does not mean that these multilinguals are merely passive receivers of technical communication and translation expertise. Indeed, they are active co-creators of technical communication translation. Sometimes, they are the translators providing the expertise to technical communicators. We noted, however, that most of the scholarship amplifying the agency of multilinguals targeted Hispanic populations. This is not surprising as the Hispanic population in the United States has seen a significant growth (Passel et al., 2022). Gonzales et al. (2022) used their expertise to design health communication materials for immigrants in the U.S., Guatemala, and Mexico. In another study, Gonzales and Turner (2017) reported their collaboration with the Hispanic center within the Language Services Department in lower Michigan to translate technical documentation. Evia and Patriarca (2012) discussed how they collaborated with Latino construction workers to design safety and risk communication materials for these workers. In the scholarship we have cited, technical communication was used to protect multilinguals' rights to language access (Gonzales, 2022) or safety of construction workers (Evia & Patriarca, 2012).

This notion of working with vulnerable populations to protect their safety or language resonates well with calls made by social justice advocates in TPC (Acharya, 2019; Agboka & Dorpenyo, 2022; Alexander & Walton, 2022; Jones, 2016; Sims, 2022). Specifically, social justice scholars in TPC encourage us to center the needs of marginalized and vulnerable populations (Eble & Haas, 2018; Jones, 2016; Walton et al., 2019) because in a lot of cases, the marginalized and vulnerable people are those who come against oppressive and unjust systems (Rose, 2016; Sims, 2022; Walwema & Carmichael, 2021) or they need information to survive in an oppressive system (Evia & Patriarca, 2012; Rose et al., 2017). Multilinguals are mostly vulnerable because they come from contexts that are both linguistically and culturally different or that they have low levels of literacy (Evia & Patriarca, 2012). Therefore, as technical communicators who profess user advocacy to be the central component of our practice, we must understand that working with

multilinguals to protect their civil rights, language, or safety at the workplace is quintessential. This is how we live our discipline-in-practice.

Translation Is Language-Centered

Traditionally, translation has been narrowly defined as centered on language. In most cases, what we know is that translation aims to change words from one context to another context (Gonzales & Zantjer, 2015). This functionalist definition of translation pervades conversations about translation in the Western hemisphere. Esselink (2000), for instance, defines translation as "the process of converting written text or spoken words to another language. It requires that the full meaning of the source material be accurately rendered into the target language, with special attention paid to cultural nuance and style" (p. 4). In the field of TPC, translation has been used in the same manner. As indicated by Batova and Clark (2015), "Translation is the attempt to duplicate meaning interlingually to produce the same meaning in a different language simply by replacing the words from one language with those of another" (p. 223). The articles we analyzed discussed translation as "a form of written composition" (Eubanks, 1998), a medium for "clarity, careful edit, avoid jargons, and ambiguity" (Datta, 1991), a process of "moving back and forth among languages" (Tuleja, 2011), an attention on "words as referents and as signifying" beyond the translator (Weiss, 1997), or changing the meaning of words from a source discourse community to a target discourse community. Some of the authors also referred to translators as "abstractors" (Koltay, 1997, p. 280) or "meaning makers" (Hovde, 2010, p. 165).

Although language use has been central in the definition of translation, recent technical and professional communicators have called for an expansion of the meaning of translation beyond linguistic differences. This recent shift from a purely linguistic definition stems from the fact that a narrow focus on grammar or linguistic features may pose problems (Batova & Clark, 2015, p. 229) because language is not easily translatable. For instance, while Gonzales and Zantjer (2015) maintained that translation is an "attempt to replicate the meaning of a word from one language to another language" (p. 273), they also encouraged us to see translation as an approach that recognizes individuals' lived experiences. This means there is the need to focus on attempts made by users to contextualize "words from their heritage languages into English" (p. 273). That is, we need to also pay attention to the rhetorical strategies or non-verbal cues multilinguals use when they attempt to move from one linguistic context to another. Such rhetorical strategies include storytelling, gesturing, scaffolding, acting, deconstructing, negotiating, sketching, and intonation (p. 276). In this regard, Gonzales and Zantjer (2015) conceived of translation as "experience-centric" (281) rather than the functionalist approach that only pays attention to the interplay or exchange of words from one locale to another.

Cultural Forces Shape Translation Efforts

The role culture plays in shaping intercultural communication and localization has been central to conversations in our field (Agboka, 2012; Dorpenyo, 2019; Hunsinger, 2006; Sun, 2006, 2012). Specifically, scholars have argued that culture has been narrowly defined and this affects localization and translation processes (Agboka, 2013; Sun, 2012). The narrow definition exists

because methods used to collect data about culture only capture dominant or large cultural characteristics to the neglect of use activities in a locale (Agboka, 2012; Dorpenyo, 2019).

The consequence of this monolithic approach to capturing culture is "poor user experience" (Sun, 2012, p. 5) because the framework captures culture in abstract terms while also separating culture from use situations in a localization process (Sun, 2012, p. 13). More concerning, the action of users is missing because little effort is put in to study users. In essence, users have not been cast as agents of change. Rather, users have been "constructed as passive consumers . . . with little or no agency to create and re-create . . ." (Agboka, 2013, p. 30). Therefore, previous scholars unanimously call for a definition of localization which emphasizes and centers on the user. Agboka (2013), for example, proposed that we reconfigure localization "as a user-driven approach, in which a user (an individual or the local community) identifies a need and works with the designer or developer to develop a mutually beneficial product that mirrors the sociocultural, economic, linguistic, and legal needs of the user" (p. 44); and the core of Sun's (2006 & 2012) scholarly works contend that localization should lead to an understanding of use activities in context.

The articles we analyzed reinforce the power of culture in translation and localization processes. The authors do not fail to remind us of the need for translation to meet both linguistic and cultural expectations (Batova & Clark, 2015), or that cultural difference influences translation (Gonzales, 2022). Culture is relevant to writing and orality (Thatcher, 1999); "cultural conventions influence language" (Boiarsky, 1995); "translators are cultural interpreters" (Artemeva, 1998); "cultural values can shape translation" (Weiss, 1997); "cultural factors affect document design" (Thrush, 1993); and the need to "consider effects of local, cultural, educational, political, and economic context" (Ding, 2010). Therefore, we do not dispute the relevance of culture to translation, but we welcome an extended definition that recognizes the interplay between local and global cultures during translation processes.

Translation Helps To Think About Relationships

Translation is relationship-building and not just the interpretation of words. We believe that the conceptualization of translation as relationship-building helps to reconfigure the definition of translation from a narrow focus on language to an articulation of the connections between humans and non-humans and the role each plays in translation moments. The articles we examined encourage us to think beyond words or language to focus on the role the environment, land, weather, and climate plays during translation processes. For instance, Gonzales et al. (2022) stressed the need to focus on the relationship between language, land, and positionality and Shivers-McNair & Diego (2017) emphasized the relationship between translation, technical communication, and design. These forms of relationships are necessary because they attune us to reflect on our positionality, power, and privilege (Walton et al., 2019) in translation moments. More so, scholarship in globalization studies creates a dichotomy between translation and localization. In some instances, localization is placed above translation in the process of globalizing or internationalizing products (Dorpenyo, 2019; Esselink, 2000; Batovia & Clark, 2015). Here are two excerpts from scholarly sources about localization and translation:

To be clear, localization, as I use it here is about the adoption, adaptation, and incorporation of technology to meet local exigence, and not about translation (Gonzales, 2018), because translation has the proclivity to focus on attempts made by users to "replicate the meaning of a word from one language to another" (Gonzales & Zantjer, 2015, p. 273). The implication is that translation, as a form of localization, only pays attention to language use, but localization should be beyond the focus on language. (Dorpenyo, 2019, p. 369)

Translation is the attempt to duplicate meaning interlingually to produce the same meaning in a different language simply by replacing the words from one language with those of another. *Localization*, in contrast, is the attempt to meet both linguistic and cultural expectations by transferring the meaning of technical texts interlingually and intralingually, . . . adapting texts to meet the rhetorical expectations of different cultures. Arguably, no translation can be done without at least some localization (e.g., changing metric measurements to U.S. customary units), but in the translation approach, the goal is to compose a text only once in a way that will serve as many audiences as possible and then to translate that one piece of writing into multiple languages. (Batova & Clark, 2014, p. 3, emphasis in original)

These forms of definitions, we maintain, create needless hierarchy and tension among experts and processes that aim to help users use information to accomplish their goals. Instead of creating hierarchy or tension, we need to see the relationship between translation and localization.

Implications For Research and Practice

Considering the need expressed in the translation literature, one direction the TPC field can take is research focused on the role humans and non-humans play during the translation process. While some scholars have acknowledged the connections between languages, intercultural abilities, collaborations, and technological and thematic awareness needed for effective translation (refer, for example, to Pihlaja & Durá, 2020; Rose, et al.; 2017), others recognize a paradigm shift toward building relationships between language, land, cultural values, and positionality (refer, for example, to Gonzales, 2022). Translation research on these types of relationship building is necessary because they prompt us to consider our power, privilege, and positionality (Walton et al., 2019). We acknowledge that translation is a complex process that thrives on collaboration between experts and non-experts working together in a mutual environment. In building relations with other agents in the process of conducting research on translation, researchers need to pay attention to how multilinguals employ rhetorical strategies, including storytelling, gesturing, negotiating, sketching, and scaffolding, to contextualize meanings (Gonzales, 2018). In this regard, researchers need to focus on how translation as a collaboration process increases access and usability of the translated and thus redress inequities and oppression.

Another direction the TPC field needs to pursue is that of localized translation for redressing injustice and inequality. In reviewing the translation literature over the last 30 years, we noted

that the question of inclusivity and social justice—that is, translation as a process to deconstruct "structural or disciplinary domains of linguistic power" (Walton et al., 2019, p. 123)—in relation to promoting diversity and cultural difference in contemporary global contexts is not well addressed in TPC. Scholars have reported the need for engaging in translation research to better understand translation not only as the process of transforming words from source language to target language, but also as an approach to amplifying the agency of multilinguals or vulnerable populations (Batovia & Clark, 2015; Dorpenyo, 2019; Gonzales, 2022). However, translation research on how cultural differences influence language, how misunderstanding cultural values affects translation, and how, in some instances, localization takes precedence over translation in the process of globalizing technical products is very limited in our field. TPC research on translation as a collaborative process for redressing injustice and systemic oppression in resource-constrained contexts is also scarce in the field.

As TPC goes global, understanding another culture's localized translation expectations requires practitioners to gather data by considering translation relationships or community building for addressing multilinguals' concerns associated with injustice and inequity. As argued by Pihlaja & Durá, (2020), knowledge of both source and target languages, intercultural abilities, information-mining skills, and technological and thematic awareness are needed for effective translation. In this sense, understanding the diverse realities of communication spaces is integral to translation practice. Also, translation, as a form of localization, entails the use of language that is governed by different norms and conventions in various situations (Dorpenyo, 2019). For these reasons, approaching translation as a justice-oriented design framework can allow practitioners to recognize the value and importance of language diversity and "culturally localized experiences" (what an individual observes, encounters, and experiences in their local communities) (Acharya, 2019, p. 22). We openly acknowledge that approaching translation from a social justice perspective opens up new avenues for centering marginalized, unheard voices. To build a just future, practitioners therefore need to recognize that translating is not a solitary endeavor but rather a collaborative effort geared toward building relationships between experts and non-experts, between humans and non-humans, and between, in Gonzales's (2022) words, "language, land, and positionality" (p. 7). Along with TPC's recent shift toward cultural and social justice turns, practitioners need to consider translation as a user localization practice that amplifies the agency of marginalized and vulnerable populations, rather than simply as a language conversion process.

With the international spread of business and global migrations in recent years, use of translated technical materials has increased worldwide. As these migrations continue to rise, communication and design needs of multilingual, multicultural people remain in high demand for them to integrate successfully into the world economy of today and tomorrow. These trends mean that the demand of the global economy involves creating more effective, usable information from a localization perspective. For instance, in the United States, the number of native Spanish speakers has surpassed that of Spain, and many of these speakers prefer materials in Spanish to those written in English (Romero, 2017). Often, translating today requires multiple agents with distinct roles, responsibilities, and skills, as well as multidisciplinary techniques and collaborative networks in highly technological distributed environments (Maylath et al., 2015). Since translation is concerned with social justice (Yajima & Toyosaki, 2015), localization

(Gonzales & Zantjer, 2015), and collaboration or what Walton et al. (2019) call "coalition building" (p. 8), practitioners should recognize how translation as a process or moment can operate as a justice-oriented framework to facilitate understanding communication needs of underserved, underprivileged populations across global and local contexts. Essentially, practitioners have weighty responsibilities for meeting such needs of multicultural, multilingual groups through connections to other factors (such as language, culture, land, and positionality) contributing to building a just future.

Limitations

As with any study, this integrative literature review has strengths and limitations. One such limitation is the scope of the project. In our review, we did not include translation-related publications from sources such as professional blog postings, magazines, podcasts, and other journal venues. Although we believe that an expanded version of our literature review would consider such outlets, that was not the stated goal of our study. So, we chose to focus on texts about or with inferred relationships to translation that were published by five major venues in the TPC field. Certainly, an expanded version of the review might synthesize knowledge on the topic by offering different perspectives, doing so carefully and thoughtfully would be enormously labor intensive and time consuming. We also chose not to pursue questions related to translator's roles in workplace communication and their relationship with audiences across cultures. It would have been possible to generalize a relationship between social justice, localization, and translation if we had included publications on translation from other fields, but these publications were beyond the scope of this project. Furthermore, other researchers who examine the same corpus data may arrive at different conclusions and implications.

Finally, while we strove to be thorough in this research, our scope resulted in several other research design limitations. For example, we were at times forced to find workarounds for the methods to determine publications for inclusion by limiting the scope of the project (for example, differences in how one outlet uses keywords and metadata versus another). We discussed these issues together and responded to them as they arose, always with the goal of assembling the most complete sample possible within the constraints of our study. As a result, we had to make decisions about published work we knew existed but could not include because it was not published in the five identified journals. For instance, Minacori and Veisblat's (2010) article "Translation and Technical Communication: Chicken or Egg?" was published in *Meta: Translator's Journal.* To make our review more meaningful and comprehensive, we included such sources in the introduction and other sections.

Conclusion

Our integrative literature review demonstrates that literature from TPC's five major journals discusses translation not only as a word-for-word replacement process, but also as relationship-building between humans and non-humans, including language, land, and positionality. The review also shows that the field of translation and technical communication are converging and merging, as both translators and TPC practitioners initially trained in one field seek cross-training in the other, in part to develop successful documentation in the global context (Minacori

& Veisblat, 2010; Gnecchi et al., 2011). At the same time, the literature demonstrated the need for adapting technical materials or products, including print and online documentation, for localized usability, which is associated with addressing the needs and expectations of multicultural underserved users in the target culture. Thinking of translation not as simply relating to the process of transforming words in one language to another equivalent in meaning but actually situating the process for promoting social justice and equity is important moving forward for TPC to develop user-cantered, localized content, especially for those who are overlooked, underserved, and/or oppressed in the margins. Although theoretical conversations between technical communication and translation have been emerging within TPC scholarship for some time, TPC researchers and practitioners need to better understand how the connection between these fields' activities are being enacted by professionals developing multilingual content to empower users in resource-constrained international contexts.

As demonstrated in our study, translation as a topic has recently begun to shift TPC's disciplinary practices and research from solely transforming information across languages and cultures to addressing linguistic and cultural expectations of a target culture for fostering social justice and equity through the implementation of rhetorically nuanced justice-oriented frameworks. This shift in how we approach translation has clear implications for how we need to approach TPC research and practice for promoting social justice in globally changing environments. A translation, seen from a social justice perspective, becomes the afterlife of a text that becomes more inclusive and empowering in nature. Essentially, we as a field need to reconceptualize translation and continue working with historically marginalized communities in global contexts to shape and change the future of TPC with what Gonzales (2022) calls "user-localized translation" that focuses on localizing content to "best address the expectations and use patterns of individuals from another culture" (p. 273).

To address the recent calls for localized translation research in building an inclusive form of TPC (Batova & Clark, 2015; Dorpenyo, 2019; Gonzales, 2022), our integrative literature review of translation in the field suggests the need for adopting more viable and justice-driven approaches and orientations for engaging with translation research by leveraging the presence of language diversity and cultural differences. The attention to localized translation for social justice and equity is still at the emerging stage concerning multilingual content development and designs from user-localization perspectives in the resource-constrained, international context.

Looking at translation in terms of simple one-to-one word replacement from one language to another may fail to account for language diversity, equity, and inclusion negotiated as ideas shift and move between lands and bodies, particularly in multilingual global contexts. As Gonzales says (2022), "Language diversity should constantly account for the interlocking relationships between language, land, and bodies that are always at play in multilingual communication" (p. 14). In essence, as translation for localized usability gains momentum, TPC practitioners should reflect on how they can contribute to a just and equitable future without impacting the lands, languages, and people across cultures and contexts, as well as how they can meet the needs and expectations of target users adapting contents for a specific culture, including those who have been overlooked, underserved, or marginalized, as well as those from non-Western cultures.

Suggestions For Future Research

This study suggests that translation is more than just replacing words from one language to another; it also considers cultural factors to convey meanings of content and design in specific contexts of use. The implication is that the translator's responsibilities extend beyond word replacement to include content and design adaptation across cultures and languages. The study also reveals the need for further research on translation to address TPC's longstanding commitment to social justice and equity through empirical studies that can validate current understanding of the intersection of translation, technical communication, and design in diverse organizational or workplace settings at local and international levels. Our integrative literature review of translation in TPC scholarship also indicates the importance and value of localized translation as well as the need to train the next generation of TPC practitioners more extensively to address the needs and skills of multilingual, multicultural audiences in diverse contexts. Given the consistent calls for strengthening our commitments to social justice and inclusivity, significant further studies on translation are needed to navigate linguistic and cultural differences to accomplish these commitments. As such, we strongly believe now is the time to act to fulfill TPC's commitment to such agendas through our research and practices that focus on reframing translation.

While working on this review and reading dozens and dozens of articles and other materials on translation, especially in TPC scholarship, we now have more questions than answers, including:

a) What is (or should be) the role or place of technical communicators as translators in integrated content environments, where they collaborate with diverse teams from various linguistic and cultural backgrounds to produce a variety of technical-related materials for multilinguals who are primarily at the receiving end of translation?

b) To what extent have content and design been studied and produced in contemporary organizational or workplace settings to address multilingualism and immigrant concerns in the global context?

c) What strategies are adopted by translators in a contemporary organizational setting to transform content for multicultural, multilingual audiences, especially for those who are underserved and underprivileged user groups, in today's globalized age?

d) What are the differences and/or similarities in how technical communicators approach translation in the West versus resource-constrained or resource-mismanaged non-Western contexts?

Content, from a localized translation perspective, should be transformed to meet user needs and expectations across cultures and languages. To address such needs and expectations, technical communicators can work collaboratively with translators and interpreters, as well as multilingual communities in the target culture to produce culturally sensitive, globally ready content. TPC scholars also advocate collaboration with multilingual communities in the development of technical materials or tools available in languages other than English, both within and outside the United States (Gonzales, 2022; Walton & Hopton, 2018; Walwema, 2020). As we move forward to build a globally-oriented just future, TPC scholars and practitioners must commit to investigating and addressing the oppressive effects of specific translation for specific users,

particularly those in underserved and underprivileged communities, both within and across languages and cultures. We as a field must comprehend how such translations can serve as exclusionary sites of injustice and function as an oppressive activity in those cultures.

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"Descendants of Survivors": Tensions in Translating COVID-19 Vaccine Promotion Videos in Hawai'i

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Abstract: Technical communication at the intersection of public health and advocacy engagement requires critical analysis to ensure rhetorical ethics are prioritized over expediency. In this content analysis, I examine video transcripts from a Hawai'i-based collaborative encouraging Native Hawaiians and Pacific Islanders toward safe health practices and COVID-19 vaccination. I also include a reflexive narrative of the research process and challenges of translation as insider/outsider and researcher/translator. This article centers the early iterations of research and reflexivity—particularly how positionality may complicate the pursuit or articulation of research—and provides transparency for scholars launching into translation-based technical communication projects.

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"Aia ke ola i ka waha; aia ka make i ka waha."
Translation: "Life is in the mouth; death is in the mouth."
Meaning: "Spoken words can enliven; spoken words can destroy."
—'Ōlelo No'eau: Hawaiian Proverbs & Poetical Sayings (Pukui, 1983, p. 9)

Introduction

On July 28, 2022, the Hawai'i-based news station *Hawaii News Now* (KHNL/KGMB) reported on a scam message written in 'Ōlelo Hawai'i (Hawaiian language) and sent as an Instagram direct message (Gutierrez, 2022). While fluent speakers of 'Ōlelo Hawai'i verified the message was indeed a scam—and a poorly translated one, such that could be constructed through Google Translate—the recipient of the message, who is not fluent in 'Ōlelo Hawai'i, had also recognized errors in translation. Language experts suggested that the recipient's Instagram profile, which included an 'Ōlelo No'eau, a Hawaiian Proverb like the one opening this article, allowed scammers to target people in their own language in an attempt to form a relational connection. The takeaway from the news story: "E maka'ala"—or "beware"—that "although the [direct message] had multiple errors, as online translation services improve, scammers will try to take advantage, learning about your culture through your online posts" (Gutierrez, 2022).

The message from the news story sets on guard an audience victimized by and distrusting of interactions with "outsiders," as Hawai'i's history of colonization involved the harmful delinking of Kānaka Maoli (Native Hawaiian people) from their language and land (Aiu, 2010). This history, along with present threats to Native Hawaiian and Pacific Islander (NHPI) bodies, lands, and languages, make scholarly research and communication centering NHPI populations an extremely careful endeavor. The ethical, relational, and localized technical and professional communication (TPC) research approaches within this community can thus be quite intimidating, especially for novice, non-Indigenous researchers such as myself. While I recognize the marginalization of many "local"[1] demographics in Hawai'i (of which I am part and will discuss in further detail), NHPI populations have faced multi-layered subjugation, first from colonizers and later through plantation-era settlers from around the world who altered and continue to influence Hawai'i's cultural, linguistic, and political landscape (Trask, 2008).

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[1] From within the Kanaka Maoli (Native Hawaiian) scholar-activist community, there has been controversy about the usage of the term "local" by people in or from Hawai'i with a settler colonial history, including for people of Asian heritage, such as the Japanese side of my family (Fujikane & Okamura, 2008). In a chapter titled "Settlers of color and 'immigrant' hegemony: 'locals' in Hawai'i," Kanaka Maoli scholar-activist Haunani-Kay Trask argued that "calling themselves 'local,' the children of Asian settlers…claim Hawai'i as their own, denying indigenous history, their long collaboration in our continued dispossession, and the benefits therefrom" (Trask, 2008, p. 46). Trask (2008) also wrote that "exploitative plantation conditions thus underpin a master narrative of hard work and the endlessly celebrated triumph over anti-Asian racism…Asian success proves to be but the latest elaboration of foreign hegemony" (p. 47). (For additional history, see *The Making of Japanese Settler Colonialism: Malthusianism and Trans-Pacific Migration, 1868–1961* [Lu, 2019]). Making these connections after the conclusion of my research microstudy, during the time of reflexivity that followed, fundamentally changed how I will approach articulating my positionality in future projects, particularly in my usage of words that connect me to the land, such as "from," "roots," and "local," which require further delineation than I had previously offered. I see this action as a move toward social justice through a language-based returning of power to the Indigenous community by acknowledging and situating myself within this settler colonial history rather than claiming rights to a place after longstanding family residence.

The ways TPC scholars approach decolonial or social justice-based research (and ensuing publication) with/in Indigenous groups depend on relational contexts between the researcher and community (Smith, 2021) and attunement to holistic Indigenous relationships and experiences (Rivera, 2022). Within this article, decoloniality refers to extending beyond "revealing the ways that colonialism continues to operate and to affect lives…as well as to show the unmitigated damage inflicted by past colonial practices" (Agboka, 2013, p. 298). Rather, decoloniality also requires mutual motivations and collaboration of researcher *with* Indigenous community toward the returning of land, power, and sovereignty to the Indigenous population (Itchuaqiyaq, 2021; Itchuaqiyaq & Matheson, 2021).

Decolonial research involving health and medicine within NHPI populations first necessitates recognition of the transmission of diseases brought to Hawai'i by colonizers, which rapidly decimated the Kānaka Maoli population and led to inhumane treatment of those perceived to show signs of illness (e.g., see Imada, 2022). Historically, as well as in the present-day COVID-19 pandemic, NHPI populations also faced inequitable access to health information and care, experiencing greater health disparities and lower health literacy than other groups in Hawai'i (Riley et al., 2021; Sentell, 2011). Thus, technical and professional communication geared toward NHPI and other Indigenous groups requires a localized approach that goes beyond mere translation of health information from one language to another, instead facilitating "the transformation of ideologies and worldviews away from Western ideals…[which] cannot be achieved without close collaboration and coalition-building with Indigenous language speakers" (Cuevas & Gonzales, 2022, p. 20).

In this article, I describe a research microstudy analyzing COVID-19 vaccination communications designed with/in the local community and targeting NHPI populations situated at higher risk for the disease. After identifying localized themes from the primarily English language and partially 'Ōlelo Hawai'i communications, I take a process-oriented approach to the study by addressing tensions of translation in the data coding process and my positionality as an insider/outsider researcher. I conclude with recommendations for proceeding with the next phase(s) of decolonial TPC research with consideration of cultural knowledge gaps and translation needs for engaging in such future studies.

Collaboration and Advocacy

To address the urgent need of bringing public health information and advocacy to NHPI communities, the Hawai'i House Select Committee on COVID-19 Economic and Financial Preparedness formed the Hawai'i COVID Collaborative in August 2020. This collaborative is described as a hui (partnership or alliance; Pukui & Elbert, 1986) of healthcare organizations and private businesses in Hawai'i with the purpose of empowering residents to make safe, healthy, and informed decisions in response to COVID-19 (State of Hawai'i, 2022).

A month after its launch, in September 2020, the Hawai'i COVID Collaborative launched the COVID Pau Project. In addition to community outreach, the project included a website that could be viewed in multiple languages, including 'Ōlelo Hawai'i. It was updated daily with a dashboard of metrics: COVID-19 cases, hospitalizations, and an economic index prepared by

data analysts and visualization specialists. The site also provided resources, island-specific informational links, and videos encouraging residents to follow recommended guidelines by the Centers of Disease Control and Prevention. As well, after the roll-out of COVID-19 vaccines in spring 2021, the COVID Pau Project encouraged and facilitated access to vaccination, specifically targeting NHPI populations.

According to the Hawai'i Department of Health, a surge in COVID-19 deaths during September 2021—a year after the COVID Pau Project's launch and six months after vaccine rollout in the region—hit NHPI communities harder than others. Within a span of "two weeks, Native Hawaiians…accounted for up to 40% of the state's COVID deaths" (Solina, 2021). The COVID Pau Project thus increased efforts to reach NHPI communities, aligning with state officials' stance that "the key to convincing more people to get the shot is the right messengers" (Solina, 2021) in addition to considerations of messages and languages.

The timeframe of the COVID Pau Project's intensified efforts to facilitate vaccination, throughout the fall of 2021, aligned with a research microstudy project that I needed to complete in my doctoral coursework in technical communication and rhetoric. I chose to examine the COVID Pau Project in response to Jones's (2016) stance of technical communicators as advocates and Moeller's (2018) call for critical assessment of health-related communications of advocacy organizations, especially surrounding ideas of expediency to solve a health problem. A hurried end-goal, Moeller argued, could result in means-to-an-end rhetoric with harmful messaging to marginalized groups that an organization aims to support and protect. From the outset, I could determine that the COVID Pau Project fit Moeller's (2018) cautionary frame of potential expediency in advocacy engagement, as the 'Ōlelo Hawai'i word pau translates to finished or done (Pukui & Elbert, 1986). The name of the initiative itself communicates urgency and anticipation for the pandemic's prompt and definite end. Assessing the rhetorical messaging from this group through a small-scale research project thus became a way for me to engage in early stages of my potential research at the intersection of the rhetoric of health and medicine and social justice without yet engaging in direct interactions with research participants from marginalized communities.

Vaccine Communication

Public health discourse about mitigating the spread and severity of COVID-19, including vaccination, has sparked controversy at local, national, and global levels. In *Vaccine Rhetorics*, with research conducted prior to the COVID-19 pandemic, Lawrence (2020) established vaccines as material objects marked by urgency, which demand humans to perpetually react to how vaccines "act in the world" (p. 14). Vaccines as material exigencies thus lead to controversy but must be addressed to understand the ways in which they affect human action and how rhetorical appeals may be more effective (Lawrence, 2020).

In a study on vaccine hesitancy, Ihlen et al. (2021) utilized the rhetorical situation "as a framework to discuss the constraints on and possibilities for content strategies regarding public authorities' initiatives to build trust in vaccine programs and, hence, counter vaccine hesitancy" (p. 2). Ihlen et al. (2021) situated vaccine hesitancy as not necessarily irrational, claiming that pro-vaccine messaging "should be tailored to the various hesitancy drivers" (p. 1). In line with

Lawrence's (2020) material exigency framework, identifying nuanced discourses within vaccine debates positioned vaccine arguments as a spectrum where "many rational, reasonable people actually exist along the middle of the spectrum" (p. 21).

Ihlen et al. (2021) also found perceptions of trustworthiness to be situational and negotiated, with the character of the speaker holding greater importance in instances of uncertain information. As well, relationality through establishing common ground increased speaker trustworthiness (Ihlen et al., 2021). A general distrust of colonial messengers communicating to marginalized communities has thus fostered skepticism of initiatives or mandates relating to public health, regardless of the message scope or severity. Within many communities of color, violence and persecution resulting from harmful, unethical medical and research practices account for the understandable longstanding hesitancy and resistance to medical interventions (Washington, 2006).

Charles (2022) problematized the term "vaccine hesitancy" among Afro-Barbadian communities in Barbados, positing that the connotation of "nonadherence and noncompliance…fails to capture the multiple affects and experiences involved in vaccination decision making" (p. 7). Instead, Charles (2022) reframed "vaccine hesitancy" as suspicion, an "affective relation that circulates in the various socioeconomic, political, cultural, and historical formations that contextualize the vaccine…and longer transnational histories of slavery, capitalist extraction, and public health" (p. 7).

Applying transnational and historical research on vaccine communication to inform strategic messaging within more localized contexts such as NHPI populations requires knowledge of and collaboration with communities in Hawai'i. Riley et al. (2021) identified Hawai'i residents' priorities during the COVID-19 pandemic, which revealed a focus on economic stability, chronic care management, inclusion of alternative healthcare options, food security, and healed land with locally sourced food. Data from such a study can inform localized approaches to connect vaccine communication to community goals, even those beyond issues of personal health.

In describing strategies to appeal to local populations about vaccine messaging, the Hawai'i COVID Collaborative highlighted its storytelling power, where reminders of historical vaccine mandates by Hawai'i's monarchs (for smallpox) "allows people to rethink their positions on vaccinations and mandates" (State of Hawai'i, 2022) through the ethos of trusted messengers from within the community and culture. Jones and Walton (2018) positioned narrative as "a promising tool for engaging explicitly with issues of diversity and social justice because of its capacities for fostering identification, facilitating reflexivity, interrogating historicity, and understanding context" (p. 243). Rivera (2022) described the Indigenous method of testimonios, in which "an individual narrates a holistic experience that links a personal account to the collective experience of the community to which the individual belongs, which yields valuable information to examine the cultural and social roots of an issue" (para. 3). As well, in a meta-analysis of narrative's persuasive effects within health communications, Shen et al. (2015) found that audio and video narratives had greater effects than print-based narratives.

With both broad and localized discourses relating to vaccine communication and local interests, along with the exigence described by Moeller (2018), I turned to the research question for my microstudy project: What are the rhetorical themes of Hawai'i COVID Pau video narratives?

Methods

In this content analysis, I selected 11 videos from the COVID Pau Project's YouTube channel (COVID Pau, 2021) for qualitative data coding. I focused on these 11 videos because they were posted within a six-month timeframe, from May through early November 2021, when COVID-19 vaccines were available in Hawai'i but disproportional cases and mortalities were occurring among NHPI populations (during September 2021). These short videos ranged in length from 17 seconds to three minutes and 11 seconds. I included PSA-style videos intended to be short television spots or social media posts. I excluded videos from the YouTube channel that were considered press releases or detailed update videos, which tended to be much longer and for the specific purpose of reporting information rather than persuasive messaging toward vaccination for targeted audiences.

During the process of video transcription and data coding following Saldaña (2021), I used research memoing to record my observations and insights as well as to facilitate consistency and thoroughness of the coding procedure. After data coding, I organized the codes into related groups to identify prominent thematic messages within the video narratives. I then assessed the codes for a second time, individually within each theme, to ensure that I had understood the context of each code, as some portions of transcripts were in 'Ōlelo Hawai'i. I moved several codes to different thematic groups as necessary, based on context.

Challenges of Translation

Because of my limited proficiency of 'Ōlelo Hawai'i, I faced uncertainty translating and therefore coding several instances of words or phrases from the video transcripts. For example, lyrics to a song included 'Ōlelo Hawai'i phrases I was not familiar with, which required additional research. Consulting a native speaker of 'Ōlelo Hawai'i would have strengthened both the accuracy of translation and increased the likelihood of coding within appropriate contexts. As well, I coded the data alone and did so twice before analyzing the codes and organizing them into themes. Collaboration with a second data coder would have worked to establish inter-rater reliability with transcription coding as well as organization of codes into themes (Saldaña, 2021). While the parameters of the microstudy project did not require these additional checks and balances with coding, they warrant serious consideration for future projects where the implications of the research and engagement with the community are greater.

These challenges with translation affected me as a researcher by reinforcing self-doubt and outsider status, which was difficult to admit both during the data coding and later upon critical reflection, as I used the project as a springboard to determine the feasibility of continuing in this research trajectory.

Rhetorical Themes

Using Saldaña's (2021) qualitative data coding methods, I identified 90 unique codes, from which I categorized codes into five themes: 1) lāhui (nation/race) identity and survival; 2) following aliʻi (chiefs/monarchs) to victory; 3) power to decide what is pono (right/righteous); 4) cultural value of kuleana (responsibility); and 5) mutuality of concerns. Moving several codes to different thematic groups upon my second assessment of the context of each code did not result in additional or renamed themes. I briefly discuss the themes below.

Theme 1: Lāhui Identity and Survival

Lāhui is the ʻŌlelo Hawaiʻi word that refers to a people or a race (Pukui & Elbert, 1986). Video transcripts included repeated call-to-action phrases such as "for your lāhui" or "do it for your lāhui," referring to the reason to get vaccinated being to ensure the protection and perpetuation (i.e., the futurity) of an entire people. All individuals communicating these codes were local to Hawaiʻi and representative of diverse demographics (e.g., age, race, gender, etc.). However, it is uncertain whether all speakers were of NHPI ancestry.

Theme 2: Following Aliʻi to Victory

Aliʻi are chiefs or monarchs from the days of the Kingdom of Hawaiʻi (Pukui & Elbert, 1986). Three of the 11 videos were historical in nature, and coding identifying messages of how aliʻi implemented quarantine and vaccination mandates during disease outbreak (smallpox) more than 100 years ago. In connecting past epidemics with the current COVID-19 pandemic, messaging in these videos suggested that aliʻi did their part and now people in Hawaiʻi today need to do their part by following the example of ancestral leaders.

The following transcript from an English language video in the study, titled "Alexander Liholiho Took Action | A History of Hawaiʻi" (COVID Pau, 2021) and read by a speaker with local intonation (though not necessarily of NHPI ancestry), mainly includes coded messages under the first two themes:

> *From 1853 to 1854, an estimated 7,000 Hawaiians died of smallpox, nearly ten percent of the Kingdom's population. The intensity of the epidemic led Liholiho to make vaccination mandatory for both residents and visitors. Vaccination officers were appointed to each island. Information about the vaccine and where to get it was published in newspapers. Our ancestors did their part to ensure we could thrive today. As descendants of survivors, we too must take action. For our people, for our future, get vaccinated.*

Along with containing explicit calls to action toward vaccination, however, the messaging of the videos also create space and encourage agency for individual decision making, as described in the next theme.

Theme 3: Power to Decide What is Pono

The word pono translates to righteousness or right actions (Pukui & Elbert, 1986). Coding included messaging that encouraged residents to get vaccinated, but only to do so if vaccination

was right for them, as individuals, based on what they knew. As well, coding included messages to take protective measures if they chose not to get vaccinated.

For example, in one video, the interviewee, who identified as NHPI, stated that she "tried to make sure we were…in line as much as we knew how with what was pono for [her daughter] and for our family." My memoing during the transcription and coding processes included the following consideration:

> At the end of the parenting video, the participant says to get vaccinated if it makes sense for you. Essentially, the messaging is to get vaccinated but to still use individual common sense and situation to base one's decision, rather than across-the-board encouragement to get vaccinated. This might be different from other video messaging.

This theme of individuality in decision making indeed works rhetorically and in tandem with the Hawai'i COVID Collaborative's strategy that the "video simply invites viewers to think about vaccinations and decide for themselves what they should do, and intentionally avoids a hard call to action that demands people to be vaccinated" (State of Hawai'i, 2022).

Theme 4: Cultural Value of Kuleana

Kuleana is a Hawaiian value that means responsibility (Pukui & Elbert, 1986). Unlike codes related to lāhui, ali'i, and pono themes, the actual word kuleana did not exist in the video transcripts as uttered by speakers. However, there were multiple instances of coding in relation to personal responsibility as a cultural value. Messaging within this theme especially connected to the sense of responsibility to prioritize the care of local communities, families, children, and for individuals themselves.

Theme 5: Mutuality of Concerns

This final theme included coding that reflected an understanding of what local residents find to be important, concerning, or needed during the COVID-19 pandemic. These topics of mutual concern included the economy in the state of Hawai'i, hospitality and restaurant industries, and generally getting back to situations of normalcy, much in line with resident priorities found in the study by Riley et al. (2021).

In the next section, I combine my research study limitations with a reflexive narrative about my approaches and positionality as a researcher.

Research Reflections

Engaging in reflexivity is a decolonial scholarly approach that Kahakalau (2019) described as a way for "researchers to take time to reflect and allow ancestral 'ike (knowledge) and recent insight to interact and surface as new knowledge" (p. 14). Kahakalau (2019) also discussed a Hawaiian methodology called Mā'awe Pono, wherein one phase (Ho'omōhala, or incubation) involves distancing and then returning oneself to the research in order to reflect. With these approaches overlapping with research practices guided by my doctoral program and methods

courses (e.g., reflexivity), I returned to the research microstudy with new insight about both the research process and where I stand within it.

Reflexivity about the reasons behind my grappling with data translation, coding, and analysis during the microstudy project led to a much deeper understanding—and acceptance—of who I am and the boundaries and constraints of my current situation as a researcher/translator. While disclosing my own limitations, as well as those of my study, is uncomfortable and anxiety-inducing, this radical transparency in the TPC field is needed to reveal the realities and messiness of research, especially with studies involving marginalized communities, localization, and translation. These candid accounts, such as the inclusion of memoing or admissions of insider/outsider self-doubt, also work to dispel assumptions about what early iterations of research look like. As a student, I have gained much from reflexive writing, whether reading published scholarly work or journaling on my own.

Pihlaja and Durá (2020), following a translation-based study focusing on the complex roles of the student/researcher and advisor/translator, stated that "thanks to the critical work by feminist, cultural studies, and decolonial scholars, academic publishing is adapting to accommodate these affective, relational dynamics, demanding they too serve as an integral aspect of project documentation and research pedagogy" (p. 372). From my perspective as a doctoral student, reflexive studies from scholar-teachers engaging in "messy" research in TPC or adjacent fields (e.g., Jones, 2014; Pihlaja and Durá, 2020; Shaw et al., 2019; Small & Longo, 2022; Walton et al., 2015) create learning spaces for students to start going—and possibly "failing"—forward (Rickly & Cargile-Cook, 2017).

My biggest concern as I attempted my microstudy project was uncertainty about whether I belonged doing it at all, based on my positionality. Kerstetter (2012) described Banks's (1998) "four categories of positionality—indigenous-insider, indigenous-outsider, external-insider, and external-outsider—that represent differences in researchers' knowledge and values based on their socialization within different ethnic, racial, and cultural communities" (p. 101). With many spaces in which to exist somewhere in the middle as a researcher, I must be able to articulate not only my positionality but how the ways in which I approach my research could potentially affect it at all stages. Thus, I developed the following positionality statement within the context of this project:

> *Rosanna Michiko Vail (she/her) is a cisgender woman born and raised on the island of Kauaʻi in Hawaiʻi, where her grandmother taught her to read in English at the age of 3. At age 18, she first ventured beyond the Hawaiian archipelago for educational pursuits, earning a B.A. in English/Writing. A first-generation graduate student, she earned a master's degree and is pursuing a doctoral degree in technical communication and rhetoric. She is the first biracial person in her direct lineage, with a Japanese father and a Portuguese mother, whose ancestors on both sides emigrated to the Islands to work on plantations. As a fourth-generation settler who is not Native Hawaiian and no longer resides in Hawaiʻi, she is fluent in English and Pidgin English (Hawaiʻi Creole English) and has limited knowledge of Hawaiian, Spanish, and Japanese languages. Growing up on Kauaʻi, she learned and practiced Hawaiian value ethics that instinctually and continually inform her personal, academic, and professional understandings and*

decisions, including within her job as an editor in the sciences. Her research interests are turning toward Indigenous methodologies and rhetorics of health and medicine in Hawaiʻi, and she identifies as both insider and outsider during research processes. She approaches data with certain tacit knowledges, assumptions, and cultural expectations while lacking fluency of the Hawaiian language or the full scope of Hawaiian customs and traditions. In future research, she will rely on Hawaiian/English translation from fluent speakers, when necessary, as well as inter-rater reliability in qualitative data coding methods.

The qualitative data coding process amplified my status of external-insider, with my exact position shifting within this liminal space depending on what I had translated. For example, in one instance of coding Hawaiian value ethics, I felt very connected to the community and culture. In another instance, I felt more distanced from the community and culture because of a lack of familiarity with the people or content depicted or stated. A passage from my research memo included these considerations:

> *The "do you identify as vaccinated" video does not identify the musicians in the video/text, only in the YouTube description. I wouldn't know who the group or musicians are if I saw that PSA on television. Is this rhetorical? If you know, you know? Or is the video spot too short to include on-screen text? Or an oversight? This is an instance to code for what is not said/included…I need to be sure to translate the Hawaiian words and phrases as well, and code them.*

This increasing discomfort about my (in)ability to recognize and translate visual or textual data from transcripts conflicted with the research moments that connected me to the lāhui. Next, I offer considerations for proceeding in this line of research, particularly for those identifying as outsider or insider/outsider to a community.

Going Forward

The following takeaways are from my perspective as a novice researcher encountering many TPC and qualitative research ideas for the first time during and following my microstudy. However, I believe that more experienced TPC scholars may also benefit from these takeaways, especially if considering engaging in community-based studies with/in Indigenous groups or preparing classroom activities that prepare students for such research.

Takeaway #1: Positionality Is a Resource in Flux

In an article by Itchuaqiyaq and Matheson (2021) about what decoloniality in TPC means, co-author Itchuaqiyaq acknowledged a moment of being both "wholly Indigenous" and "wholly an invader" (p. 304). She mentioned the disconcerting likelihood of being able to "get away with" what she was trying to do because of her connections and involvement with Indigenous communities, methods, and her own Indigenous body. From my own non-Indigenous, liminal, and shifting position, I appreciate her transparency and share her concerns. We as TPC researchers cannot engage in decolonial work without first addressing the hard truths about ourselves and our potential to cause harm, even inadvertently, from our research decisions and views.

The lens through which I see the world was in the process of refocusing during the time I wrote the first draft of this article, as I came to terms with my own settler identity, linguistic limitations, cultural knowledge gaps, and whether I could—or *should*—pursue higher-stakes community-based research in Hawai'i after my microstudy project. Positionality changes over time and influences research in different ways from project to project; thus, I recommend researchers utilize positionality statements as resources, referring to them before and throughout community-based research. Revisiting positionality is crucial for researchers seeking to strengthen relationships with communities or coalitions, requiring a willingness and capability to articulate how research—and more importantly, people—may be affected. Although I have not interacted directly with Indigenous communities in a TPC research capacity, I can attest that any "outsider" will need to clearly explain exactly who they are, what they want from that particular community, and why. Writing a positionality statement, even with a specific project in mind, was more difficult than I had anticipated but has equipped me for future research study design and scholarly interactions. Activity prompts such as Duvall et al. (2021) can assist in developing a positionality statement.

Takeaway #2: Community Trust Is a Slow-Build and Permanent Commitment

The content analysis method in my microstudy was an intentional, safe choice for me as I began testing the waters of a possible research trajectory involving an Indigenous community. I received advice from several TPC scholars to build up from such lower-stakes projects, knowing that my research starting out will be clunky and messy, and then to learn from it and eventually move toward the larger, higher-stakes projects when I'm ready. In other words, start small, and don't rush it.

Time is an important factor as I consider ways that my future research might contribute toward decoloniality—the actual "restoration of sovereignty of Indigenous peoples, lands, and knowledges" (Itchuaqiyaq & Matheson, 2021, p. 308). The next steps to community-based research will still involve much patience and very slowly starting and strengthening relationships. Trust from within marginalized and historically harmed communities does not happen overnight, nor does it (or should it) happen for researchers who try to expedite deeper connections for some type of professional or personal gain. Settler and Indigenous conceptions of time are incongruent (Kimmerer, 2018; Rifkin, 2017), and although going slowly tends to conflict with expectations often put on researchers in both academic and industry settings, the relational pace should be set by the Indigenous community in a move toward decolonizing research.

Takeaway #3: Pivoting Is an Intentional Action to Restore Power

While I maintain that it was the right choice for my microstudy to remain *micro,* without going overboard at that stage, I would have considered pursuing inter-rater reliability with a second data coder or consulting with a native speaker of 'Ōlelo Hawai'i had I realized ahead of time that some portions of transcripts would be at a level I could not seamlessly translate myself. The need to pivot a research approach can happen at any time during the research process. However, rather than pivoting *in response to* unexpected methodological problems that arise, I recommend

pivoting as an intentional disruption to help ensure ethical research processes for decolonial TPC work. This also supports a feminist research approach of reflexivity occurring throughout a project involving participants rather than only after its conclusion (e.g., Selfe & Hawisher, 2012).

Inquiries into why I am making certain research (and personal) decisions, especially as a non-Indigenous scholar, as well as how I am actively working toward decoloniality in my research, produce opportunities to pivot. The following questions encourage critical reflection:

- How does my research design account for my linguistic and cultural knowledge limitations? What are the implications of engaging in research with such limitations?
- How can I prioritize language revitalization and find ways to amplify language and culture as a permanent action of care with/in a community?
- Who am I accountable to in this research? Who has authorship or acknowledgment?
- Who or what could be harmed through this research (including myself)?
- What should not be shared outside of the community?

Most importantly, I consider whether pursuing a particular project at the current time is the right decision for me (i.e., is it pono, or right?). I constantly check if I am still willing to walk away from a project or an entire research trajectory if that is the right call, regardless of how such a change might slow my educational progress or be misunderstood in an institutional setting. The biggest research pivot is choosing to be removed from a project or position because doing so would serve to amplify the voices that should instead lead a particular research situation.

Conclusion

Understanding local communities is necessary for researching health communication and facilitating public health and safety, whether in the context of COVID-19 or other diseases. The examination of messages from advocacy organizations helps technical and professional communicators, as advocates, to ensure that information, persuasion, and calls to action are enacted with appropriateness and care for communities. While the rhetorical themes from the COVID Pau Project video narratives aligned with NHPI identities, histories, cultural values, and common goals, the larger impact of this early research endeavor involved lessons learned throughout the process of engaging in and reflecting upon the research. I am now more equipped to design future research studies with consideration to the relational interactions with participants as well as how to ethically respond to my limitations as a researcher/translator.

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Translation's Value to Queer Orientations to Technical Communication: On Claims to Interpretive Authority

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Abstract: This essay considers recent scholarship that adopts a queer orientation to technical communication research, education, and activism. I suggest that this scholarship would benefit from further engagement with discussions of technical genres ongoing across both queer and trans* studies, and I posit translation as a potential methodological and theoretical throughline toward such consolidation. In contrast to assumptions of translation as the neutral movement across discreet languages, this article traces how technical communicators and scholars across both queer studies and trans* studies have adopted a relational approach to translation that foregrounds the often messy, embodied negotiations of agency and power that occur as meaning is transformed across language representations and genres.

Keywords: Genre**,** Queer, Transgender Studies**,** Translation/Technical Translation**,** Uptake

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1. Introduction

As the field of technical communication works to realize commitments to social justice, a growing body of scholarship has emphasized not only the need for diversity via social justice theoretical frameworks, but a recognition that diversity alone does not guarantee inclusion or transformations of systems that "assume an anticultural, Westernized, heteronormative, and patriarchal positionality" (Jones, Moore, & Walton, 2016, p. 223; see also: Jones, 2016; Kaiser, Major, Jurcevic, Dover, Brady, & Shapiro, 2013). From this premise, Jones et. al. offer a long antenarrative of social justice efforts in and beyond technical communication and argue that considerable more work needs to be done, including, as they posit by evoking Faris (2015), "any work at all that acknowledges the need to queer technical communication" (p. 223). As an emerging queer scholar, I join this call for intersectional and inclusive social justice work, and I have been encouraged by recent engagement by technical communicators following Ferris' (2015) and Jones et. al.'s calls for projects that take up questions of queer and trans*[1] thought, lived experiences, and ways of being in the world (e.g. Alexander & Edenfield, 2021; Cox, 2018; Edenfield, Holmes, & Colton, 2019; Ramler, 2021). Specifically, this work moves beyond reductive notions of "queering" that insist that singular LGBTQ+ identities may transform communication without interrogating the multiplicity of ways that queer and trans activity may manifest. Instead, *queer* operates as a mobile space and political marker; in describing myself as an emerging queer scholar, for example, I am not using queerness as a synonym for my gay identity, but rather as a political space and an identification with what queer rhetoricians such as Smilges (2022) define as a project of making "a space for marginalized populations to coalesce across lines of difference" (p. 4) and "an inherently racialized, gendered, and disabled space that exceeds any neat identity category" (p. 67). In a similar vein, Stryker (2004) has long argued that trans theories and lives often get subsumed into a leveling of difference through association with queer studies, such that "transgender phenomena are misapprehended through a lens that privileges sexual orientation and sexual identity as the primary means of differing from heteronormativity" (p. 214). Instead, intersectional and ongoing queer and trans projects contribute to the work of destabilizing heteronormativity as well as Whiteness, racial capitalism, ableism, and other inequities of power that mediate relationships and languaging practices, including through the labor of technical communication, by considering the complexity both of resistance to these inequities and of space making for alternative ways of navigating the world (rather than classifying texts).

This intersectional labor cannot be accomplished by just one or even a few technical communication scholars. As Gonzales has argued through her collaborations with Indigenous scholars and epistemologies, social justice work requires "deliberate attunement to the

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[1] In line with Edenfield et al. (2019), *trans* in this article operates as an "umbrella term to refer to *transgender, transexual, nonbinary* and other *gender expansive identities.*" At the same time, the inclusion of an asterisk in trans* here points to what Hayward and Weinstein (2015) refer to as the "prehensile, prefixal nature of *trans-* and implies a suffixal space of attachment that is simultaneously generalizable and abstract yet its function can be enacted only when taken up by particular objects (though never any one object in particular): trans* is thus more *and* equal to one" (p. 196). This understanding of trans* as prefixal and therefore both "more *and* equal to one" indicates for Hayward and Weinstein both a critique of humanism and Western posthumanism, and we might also see the complexity of conceptions of theories of movement here that do not overlap evenly with queer orientations to identity and singularity, which a trans* orientation to translation speaks to directly.

relationships between language, land, and positionality," (2021, p. 1), as well as transdisciplinary alliances and cooperation with others outside of our academic circles and contexts (2020). To consider my own research, social justice commitments, and positionality as a White, queer, cisnormative male living in the United States and with the stability and precarity of studying as a graduate TA, I want to begin this article by making visible the transdisciplinary relationships as Gonzales defines them that motivate/that I hope to extend through this work. Specifically, I am interested in furthering the relationships already being fostered by QTTC projects, which often apply queer theory to trans narratives, by engaging directly with work across trans studies in addition to queer theory. Given the complicated history of queer theory's engagement with trans experiences, and given the seeming newness of interest in technical communication's direct engagement with queer and trans thought, it is worth pausing to consider technical communication's relationships to theories both in and beyond queer and trans studies. I do not want to fetishize disciplinarity or draw an easy distinction between queer theory and trans studies; instead, I am suggesting that it is worth foregrounding how my and our collective technical communication scholarship participates in, builds from, has overlooked, and might contribute to the much broader conversations about language, place, and technical communication occurring both across and separately in queer and trans studies, even if such work has not labeled itself explicitly as technical communication. In doing so, I want to work against disciplinary silos and critically reflect on the ways that technical communication scholarship positions the "newness" of social justice projects.

Even as relatively few articles across technical communication's most visible journals have historically cited queer theory, it is important that we do not start from scratch or uncritically apply queer theoretical lenses to our social justice projects – especially those related to trans thought and communicative practices that manifest tactically outside institutional spaces. Given my positionality, I have turned to Hale's (2009) "Suggested Rules for Non-Transsexuals Writing about Transsexuals, Transsexuality, Transsexualism, or Trans_____" as a text for continual reflexivity throughout the composition of this article. In this open-access text, Hale calls for scholarly care and relational humility while arguing against the fetishization of trans, the reduction of trans into a singular or coherent narrative, or the notion of "one transsexual discourse at any one temporal and cultural location." Instead, he suggests, "Focus on: What does looking at transsexuals, transsexuality, transsexualism, or transsexual _____ tell you about *yourself*, *not* what does it tell you about trans." Foregrounding these questions means recognizing my own subject positioning as well as the need for greater accountability by technical communication projects to the multiplicity and complexity of conversations occurring across queer and trans* studies. In this article, then, I abstain from making an argument that takes up primary sources and communicative practices to make claims about trans* as a singular identity category or narrative. Instead, I ask how further engagement with and accountability to the multiplicity of both queer and trans subjectivities and scholarship, including queer and trans of color critique, transnational orientations to gender and sexuality, and scholarship that intersects with dis/ability studies, might transform social justice commitments in technical communication as ongoing praxis.[2] Ultimately, I suggest that a critical approach to translation

[2] This is not to say that no engagement by technical communication with queer and/or trans studies exists; to the contrary, studies beyond those that I summarize in this article, such as Ramler's (2021) piece on Tumblr discourse,

might offer a theoretical point of intersection among trans studies, queer scholarship, and technical communication methodologies working to uncover and generate relationships among languages, genres, and queer and trans claims to interpretive authority.

Such a perspective of translation moves beyond assumptions of the neutral movement of meaning across two discrete languages and foregrounds negotiations of power, identity, and claims to interpretive authority. This article follows two trajectories: first by highlighting translation's theoretical value in weaving together technical communication, queer theory, and trans studies, and second by showing how translation methodologically enriches and extends analyses of technical genres and discursive practices of interest to queer and trans scholarship. By working to forge relationships across these academic conversations, I recognize that I am able to participate in and communicate with almost entirely privileged registers of English in relation to these conversations and the theme of this journal's inaugural special issue, as well as the limitations of any review of literature and the conventions and length of an article genre. My goal in moving across these conversations, then, is to foreground exclusively a theoretical and methodological intervention that seeks to deepen technical communication's accountability toward and relationships with queer and trans studies and the extra-institutional discourses centered in this scholarship. As this literature emphasizes, translation as relational work across named languages and genres always involves active interpretation practices and failures at reproducing pragmatic and textual equivalence, so I am doing a balancing act in this article in reporting on and delineating a brief history of transdisciplinary scholarship across queer and trans studies that takes up questions of translation and technical communication while acknowledging that all writing involves interpretation and messy engagement. To make visible my own interpretation practices, I engage with a few texts deeply rather than aspiring to the scholarly breadth typical of reviews of literature. Following closely and being accountable to the scholarship of queer and trans scholars who have already made visible their interpretive practices would further seem an appropriate path forward toward connecting these conversations given my positionality as an emerging queer, cis scholar. Finally, I ask how translation might help us envision new ways of relating– at times through attunement to technical communicators' resistances/refusals to translate, but also at times by embracing translation's loss.

2. Agency and Interpretive Authority in Translational Projects

Questions of interpretive authority have long been taken up by queer and trans scholarship and specifically foreground much work by trans studies on translation. This work often extends from an influential and important essay through which Sandy Stone (1987) responded to feminist author Janice Raymond's transphobic and deeply personal attack on her involvement in Olivia Records by lambasting Raymond's efforts to deliberately exclude her from women's activist and social spaces. To both redress Raymond's transphobic views and tackle the ideological issue she saw undergirding them, Stone's essay moved from narrative calls for her inclusion into feminist spaces to a manifesto by demanding both a jettisoning of the gender binary in feminist discourse altogether and greater visibility for trans bodies in feminist spaces. Instead of a "third gender" labeling, Stone offered a reading of the body as a "genre—a set of embodied texts" (p. 165)

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cite queer orientations to technical communication both within and (refreshingly) beyond academic conversations. I hope to extend and deepen such accountability and engagement through this project.

capable of eluding binary-inflected discourse. Through this conception of body as genre, Stone both evoked a term with a long philosophical history of association with gender and highlighted the discursive dimension to claims about trans rights, identities, and knowledge production. Her reading of trans bodies as social "embodied texts" with "inter-textual possibilities" (p. 166, emphasis original) offered a perspective of trans interpretive authority that implicates rhetoric, and particularly rhetorics of genre and mobility. These questions of interpretive authority and embodiment have been taken up across trans studies in the twenty-first century and particularly by queer and trans of color critique (e.g., Awkward-Rich, 2020; Gopinath, 2005) as a way of moving beyond static notions of trans embodiment and toward intersectional resistances not only to heteronormativity, but also to the nation state, material and class inequalities, ableism, and White supremacy.

Such work represents a transdisciplinary effort that has recently come to include technical communication. The development of novel digital and medicinal technologies designed specifically for transgender bodies has been accompanied by the composition of novel tactics for communicating about and theorizing the role of such technologies—often engendering dissonance among heteronormative institutions, health care providers, and trans individuals themselves. Edenfield et al. (2019) offer an important rhetorical analysis of such genres by locating the technical tactics of trans people designing instruction sets for others undergoing hormone therapy.[3] They draw from Barad's (2015) notion of *agential realism*: the idea that individuals' interactions are shaped unpredictably from the activity and memories of technologies around them. From this premise, Edenfield et al. highlight the agency of trans individuals composing do-it-yourself (DIY) user manuals from their own experiences transitioning while also revealing how these writers' individual creative agencies interacted with the memories of other bodies/genres and technologies. For example, they narrate how the comment and editing tools of one manual, *Mascara and Hope* (2013), "function as palimpsests to the original text, which itself is already stitched together… from various official, anecdotal, and informal sources" (p. 186). This stitching together of individual and technological memory ultimately foregrounds what they call a queer tactical technical communication (QTTC) that, like Stone's manifesto and Jones' et al's (2016) antenarrative, moves beyond blanket calls for a diversity of LGBTQ+ perspectives. Instead, a QTTC project considers the limits of individual creative agency within institutions that reinforce heteronormative epistemologies and moves for technical communicators to be open to the kinetic potential of unpredictable, extra-institutional, and ultimately queer tactics of those constrained by such institutions.

This scholarship has been vital to technical communication's efforts to recognize extra-institutional, tactical discursive practices of care by trans communities (Edenfield, 2021; Edenfield et al., 2019), as well as to critique technical documents that enact violences against queer and trans communities via heteronormative epistemologies (Moeggenberg et al., 2022) and White supremacy (Alexander & Edenfield, 2021). In this article, I want to put such work further in conversation with similar projects occurring across queer and trans studies while acknowledging the complicated history of queer theory's engagement with trans people's

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[3] Tactics differ here from strategies in technical communication. While strategies help users follow processes designed to integrate into institutional contexts, tactics involve "individualized appropriations of strategies as implicit forms of resistance" (Edenfield et. al., 2019, p. 181).

experiences (Halberstam, 2020; Robinson, 2020; Salamon, 2010); I am especially sensitive to arguments by trans scholars who have critiqued queer studies as at times engaging in a leveling of difference by overstating trans as nonconformity. What I want to avoid is the recycling of a new materialist or otherwise queer critique that may conflate queer and trans theory in ways that some theorists accuse academics and even Barad herself of doing (see Chu & Drager, 2019) and that justifiably engenders skepticism by some trans scholars of projects that involve queer methodological interventions into trans studies. Such considerations are necessary if we are to hold technical communication accountable to trans knowledge production. What makes a QTTC project divergent from such conflations are the ways in which it takes seriously the medical and technical aspects of trans knowledge production and claims to interpretive authority, while also methodologically helping to make visible the linguistic, discursive, and generic negotiations of such claims. If we understand Edenfield et. al.'s approach to queerness, for example, as speaking more to multiplicities of agency and discourses in every tactical technical communicative act than an attempt to uncover the queer activity of trans bodies, then a queer project by this definition may hold more value than research in which "*queer* and *trans* are obviously synonyms" (Chu & Drager, 2019, p. 112).

Moreover, there are multiple important parallels between QTTC projects that center the needs and technical discursive practices of queer and trans individuals/communities on the one hand, and the ongoing work in queer and trans studies on the other. I want to put in conversation, for example, analyses of technical and extra-institutional genres by queer and trans scholarship that demonstrate technical communication's historical and present role in debates over queer and trans claims to interpretive authority, which predate the digital age, contemporary medical technologies, and technical writing as a field. This history matters because considering technical communication's atavistic role among queer and trans activist groups and communities and research bears on, and complicates, ongoing, contemporary discussions by scholars in both technical communication and trans studies, and greater accountability to these histories may allow technical communication to contribute to these conversations without expropriating knowledges. Ultimately, this article follows both currents of accountability and contribution via theoretical and methodological critique.

Such critique is possible via a critical engagement with agency in/and translation. I take Stone's notion of the body as genre as a point of departure, asking how technical communication's long held application of rhetorical genre theory, and especially understandings of genres as social actions (Miller, 1984) and therefore agentive, might reveal tensions in agency across bodies in texts in ways in line with claims such as Stone's to interpretive authority. I capture such negotiations through the theoretical and methodological affordances of technical translation, which I define not as the neutral movement between two languages, but as the embodied transformations of genres and named languages often constrained by institutions and systems of power. I come to this definition through a synthesis of research on translation in technical communication (and salient work in rhetorical genre studies) with the emerging subfields of queer and trans translation studies. In the final section of this piece, I suggest that the kind of labor envisioned by a QTTC project has already begun across queer and trans studies, and I turn to recent methodologies in these areas to show how technical compositions can displace opportunities for productive alliances and alternative relationships among queer and trans individuals and those from other and at times intersecting positionalities, and poignantly those in

dis/ability studies. I will close this article by considering some of the affordances and considerations necessary for making technical communication both accountable to and productive in relation to ongoing research on translation and technical communication in queer and trans studies.

3. Defining Translation's Value toward a QTTC Project

Translation has been of sustained interest to queer and trans studies. The inaugural issue of *Transgender Studies Quarterly* (2014), for example, compiled a list of keywords and definitions salient to the consolidation of Transgender Studies as a field. Here, A. Finn Enke justifies including translation among these keywords as "a necessary and profoundly hopeful act for those who trans gender" (p. 241). Enke understands translation as both an act of creation: a transformation of a text into a new form, and an act of illusion: the concealing of both the translator's labor as well as any markers that an original existed in the first place. They also understand the term transgender itself as "an explicitly imperfect translation" that "carries institutional and imperial discipline: to be named and to name oneself transgender is to enter into disciplinary regimes that distribute recognition and resources according to imperial logics" (243). Such a conception clearly diverges from assumptions of translational praxis as neutral movement across two discrete languages, a move called for and furthered by multiple technical communication theorists (Gonzales, 2021; Weiss, 1995). Instead, a focus on *distribution* reveals translation's inherent failures at achieving equivalence, its rhetorical demands on individual translators, and its dependence on the multiple agencies of bodies, texts, and technologies (if such terms are inseparable). Further, it reveals translation across genres as spaces for articulating the retroactive and carceral policing of trans* bodies by heteronormative, imperialist, White supremacist, and institutional literacies while fomenting opportunities for alternative interpretations and resistance (Bassi, 2017; Savci, 2017). In other words, translation's indeterminacies become spaces for exposing heteronormative epistemologies that demand the policing of gender and language via imperial logics. If a QTTC project centers extra-institutional discourses of resistance and care, then translation's failures as exhibited by queer and trans* translation theory seem a beneficial point of departure.

In this section, I offer a review of research to define translation's indeterminacies along two fronts – translations across language representations and translations across genres. I argue that both these forms of transformation are necessary to capture moments when translation fails. While technical communication has developed considerable research in both areas, only the former has typically been referred to explicitly as translation research, while translation across genres has been explored by a range of approaches from actor-network theory (Spinuzzi, 2005) to rhetorical genre theory (Emmons, 2009). Yet both Enke's (2014) and Stone's (1987) understandings of translation and genre above illustrate that these distinctions are slippery when accounting for how meaning making practices salient to gender and sexuality are negotiated across bodies, texts, and languages. Instead, I put theories of translation in technical communication and related fields such as rhetorical genre studies (RGS) in conversation with the growing subfields of queer and trans translation studies to argue for a critical perspective of translation that holds both forms of transformation and consequently allows for the more distributed understanding of agency theorized by a QTTC project.

Such a transdisciplinary approach may seem novel because technical communication and queer and trans theories appear to have different historical exigencies and methodologies for theorizing translation. These lineages have engendered parallel academic critiques using an overlapping but often separate vernacular, but I see notions of genre and distributed agency as what aligns them, which scholars such as Edenfield et. al. (2019) and Moeggenberg et. al. (2022) also make a pillar of QTTC. For example, the going definition of translation in technical communication is the "written transformation of information across languages" (Gonzales, 2021, p. 3). While this definition may appear to parallel definitions of translation in related fields in/adjacent to writing studies, technical writing's emphasis on collaboration and on technology displaces the singular author-as-agent model still prevalently assumed elsewhere in rhetoric and writing studies.[4] We see this in Gonzales' (2018) manuscript on translation moments, which offers a complex understanding of transformation that tacitly accounts for distributed notions of agency. Specifically, *translation moments* capture the rhetorical aspects of transformation that foreground the "layering of modes and media, with critical attention to how modes like visuals, sounds, and words *work together* in creating meaning for various stakeholders" (p. 40, emphasis added).

This notion of "working together" puts less pressure on the individual translator to engender an always illusive, equivalent translation by focusing on the multiple agents involved in the transformation of language representations. For example, Gonzales here affords words and orthographies themselves agency– regardless of whether they are produced via sound, digital device, or text, while her focus on memory still privileges human recollection of linguistic and cultural interaction. In addition, she draws from American Indigenous language heuristics to emphasize embodiment and to foreground slippages of racial and linguistic diversity through the "co-construction of multimodal elements in languaging, remembering, and learning, through dance, theater, and labor with the land" (p. 50), considering human action and gestures as modalities necessarily implicated by translation in and through engagement with genres. To illustrate this, Gonzales describes how Sara, a professional translator with whom she worked while collecting data for her study, used gestures to translate. While anyone who has moved across languages has made use of gestures while struggling to recall a word or phrase, Sara scaffolds gestures onto her linguistic knowledge to translate across both languages and genres simultaneously. When translating a flyer, for example, Sara gestures to show a conscious choice about where to begin using Spanish based on previous experiences translating similar flyers. Her gestures point to moments in which "she envisioned and decided between various sentence structures that would facilitate understanding for Spanish-speaking users interacting with this flyer" (p. 97). At the same time, her use of digital tools to translate the flyer, such as WordReference, help Sara not only recall but decide among different vocabulary options grounded in cultural knowledge about her local Spanish-speaking community in Michigan.

Gonzales' work reveals how bodies might communicate as much as or more than spoken or written texts, interact with other technologies, and inflect how not only languages are translated,

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[4] Notable exceptions include multimodal and new materialist work in composition (e.g. Rhodes & Alexander, 2015), which engages with queer theory at times but does not directly deal with translation, as well as Jordan's (2015) critique of translingualism, which does not explicitly engage with translation but does account for distributed understandings of agency in translanguaging.

but also genres. Moreover, these translation practices are tactical because they often resisted (as opposed to integrating into) dominant and institutionalized notions of translational equivalence and praxis while implicating race and ethnicity. Similarly, case studies of Indigenous NGO workers in the Kyrgyz Republic show how relationships—to both communities and the land—can also influence tactical translation even without digital technologies. A study by Feaux de la Croix (2013) observes how local Kyrgyz NGO workers account for the physical spaces of their work when engaging in translational practices—as well as broader Kyrgyzstani fears about the selling off of Indigenous land to foreign neighbors and/or wealthy elite. In one case study, a local translator, Anarbek, jettisons the format of a *trening* seminar he is required to offer through an international NGO that aims to promote democracy in the Kyrgyz Republic. Rather than beginning the seminar with icebreakers, for example, Anarbek commences translations of different seminar components with references to the ecological significance of Kyrgyz land, such as "We all love the mountain pastures, go there after the 15th of May" (p. 224, translated by Feaux de la Croix). As Anarbek moves among English and Kyrgyz, he also translates the *trening* model as a genre to prioritize relationships with local elders and land over professional relationships with NGO administrators in the West. Doing so engenders subjective success of the seminar, but also points to the value of identifying translation's relational potential and Kyrgyz understandings of the slippages between Indigeneity, race, and geography.

The labor of translators such as Anarbek and Sara reveals how critical attention to translation in technical communication makes visible distributions of agency and extra-institutional discourses envisioned by a QTTC project. In each case, multiple agents enacted agency and facilitated the transformations of meaning not only across named languages, but also across genres, and in doing so they renegotiated and/or affirmed the relationships among translators and their audiences. This research reveals the significance of accounting for embodied, ecological, and linguistic agency in technical communication, but to fully capture generic agency in this review, I want to turn to research both in queer and trans translation theory, the latter of which often stems from Stone's exigency by recognizing the agency of the self in translation across bodies-as-texts. Ultimately, attention to generic agency scaffolds empirical methods useful both to the participatory methods and methodologies used to uncover translation practices described above and to historical inquiry in queer and trans studies.

4. On Translations' Theoretical Value: Transdisciplinary, Generic, and Transnational Affordances

This means sorting through and selecting from genre's (and rhetorical genre theory's) multiple genealogies and intersections with technical communication. I understand genres as typified, "intersubjective" and nameable (Bawarshi, 2016, p. 243) responses to situations: social actions (Miller, 1984) that mediate how individuals and communities ideologically and (socio)linguistically respond to recurrent situations (Devitt, 2015). Genres can make discursive patterns visible or intuitive to technical communicators (Henze, 2018), although Schryer (1993) has noted that even the most ritualized genres are only ever stabilized-for-now and negotiated for new contexts. Through this lens, the fields of rhetorical genre studies (RGS) and technical writing have engaged in mutually-transformative critical inquiry to uncover how various genres, ranging from YouTube Geiger counter videos (Rea & Riedlinger, 2016), to text messaging (Sun, 2006), to accessibility guides (Kain, 2005), to neighborhood zoning policies (Dryer, 2008)

become sites for both occluding and negotiating systems of power among and within communities.

However, scholars who take a rhetorical approach to technical genres also recognize the limits of the agencies of genres, viewing them instead as in distribution with other agents. As Freadman (2012) cautions, "no genre can do more than predict the kind of uptake that would make it happy, and no speaker or writer can completely secure an uptake" (p. 560). In consequence, genre scholars have found a renewed interest in *uptake theory*, which conceptualizes the indeterminacies between genres as the sites where language users grapple with histories of power and materiality to integrate or intervene in the performance of genres. This view of uptake I consider a form of translation. The concept of uptake is often traced back to speech-act theory (Austin, 1962) and has been traditionally defined as the process by which an illocutionary force, for example, "we find the defendant guilty," elicits a perlocutionary effect, such as a judge then disseminating sentencing instructions. While this process at times appears instantaneous and intuitive, it involves a complex negotiation of power relations dependent on both the relational contingencies of the immediate context and past serializations of the genre serving as the illocutionary act. Uptakes always occur as writers and speakers cross language and generic boundaries (read: translation) and are often occluded by the resulting performance, the kind of concealed "illusion" Enke (2014) theorized above. This leads Freadman to define uptake as a "force," the "bidirectional relation that holds" (p. 40) together genres and generic performances. While Freadman's definition has been further complicated by some theorists (Dryer, 2016; Emmons, 2009), it remains the going operationalized definition of uptake in most empirical, rhetorical genre scholarship to date and provides a concrete definition of translation across genres.

Queer theorists have also importantly complicated speech-act theory's understanding of uptake—a theoretical bridge I seek to construct across technical communication and queer and trans approaches to translation. First, queer theory helps us critique Freadman's notion of translational bidirectionality as restrictively binary in thought and scope. In a groundbreaking feminist, queer theory manuscript, Sedgwick (2003) takes issue specifically with the notion of the singular illocutionary force eliciting a perlocutionary effect. Instead, she argues that queer bodies often generate knowledges and navigate situations by drawing from multiple illocutionary positions to elicit a range of effects that refuse to sanction or reify the relationship between themselves and the systems of power to which illocutionary genres suppose they might succumb. Rather than a "bidirectional relation that holds," then, queer knowledges often function outside of generic uptake performances, as periperformative "site[s] of powerful energies that often warp, transform, and displace, if they do not overthrow the supposed authorizing centrality of that same performative" (p. 75). Thus where rhetoricians have been historically concerned with elucidating power imbalances and social violences maintained/occluded/invented through bidirectionality in the indeterminacies of genres, Sedgwick calls for a turn to the alloreferential speech acts that queerly upend those relations of force altogether. Such an approach to speech acts that looks beyond singular illocutionary forces scaffolds rhetorically onto the distributed agency and multiple ontologies a QTTC project seeks to locate via extra-institutional discourses.

These ruptures in uptakes become a point of departure for understanding the goals of queer and trans translation theorists, who are interested in exposing translation's always elusive lack of

equivalence and value in speaking to queer and trans conditions of being in the world. While no singular definition of queer translation exists, those identifying their work with queer translation theory are generally interested in how consolidating queer theory and translation studies displaces the role of the individual translator, grapples with myriad epistemologies that displace or further projects of homonationalism via monolingualism, and centers collective and relational illocutions and negotiations of meaning. In other words, queer translation theorists seek to locate alternative and transnational relationships that translation's indeterminacies and multiple illocutions generate and/or bring to the fore. For example, Bassi's (2017) work considers uptakes of the "It Gets Better" YouTube video across iterations of the genre and into Italian to show the heterolingual, alternative relationships writers may foster via translation. These YouTube videos regularly feature a common trope of gay or lesbian individuals or couples moving from rural areas to cities, gaining stable employment, and coming out to an accepting, cosmopolitan community via discourses that evoke stereotypical conceptions of the American dream. However, one of Bassi's focal Italian participants, Stefania, identifies in her video as transgender but explains her process of "coming out" by framing herself not as "the citizen-subject demanding their rights," but as a "creatura" (or creature) (p. 244). In doing so, she displaces Western notions of the human and neoliberal premises of financial stability and success to engender posthuman relationships and self-acceptance in her rural community. Locating multiple illocutionary positions (my reading) in Stefania's uptake of the "It Gets Better" genre thus allowed Bassi to analyze Stefania's alternative politics and relationships that diffracted from the general neoliberal actions the genre typically performs.

Refusals such as Stefania's to meet the political demands and homolingual limitations of equivalent translation, neoliberal genres, or vernaculars that extend heteronormative epistemologies are often conceived by queer translation theorists as failures. Queer translation theorist Savage (2020), drawing from Halberstam (2011) and Sedgwick (2003), shows how queer translators transform experiences failing into opportunities to recognize, celebrate, and legitimize non-normativity. They argue that "in failing, other goals can be sought, and other values promulgated"; failing offers opportunities to challenge those power structures that seek to secure a domesticated (Venuti, 1995) translation. In recognizing that something is missing, incomplete, or disidentified, failure also draws attention to what is lost even in those translations that seem to mirror one another closely. Moreover, Savage draws from Basile (2017) to suggest that failures to clean up after/conceal that translation has occurred often only exacerbate conditions of fixity against non-normative bodies. Basile uses the metaphor "coming undone" to show how queer translation leads to the "unruly material entanglement of signifiers and of bodies… how a language or a subjectivity's ideational existence as discrete and separate entities is a provisional fiction that requires a constant, and always *retroactive*, policing of boundaries to be kept in place..." (p. 31, emphasis original). This emphasis on retroactivity gestures toward the power of translation to hide the fact that uptake negotiations have occurred at all, that languages do not come into messy contacts, and that genres seamlessly form genre sets and chains. Oppressive ideologies, such as monolingualism or additive multilingualism, shame us into "cleaning up after the fuck" translation, in which the self is "ghosted out" (p. 31) of discourse and replaced by a cleaner, more domesticated representation.

Recognition of failure in translation means considering how translational forces briefly "come undone," before they are policed, put back together, and reproduced. Thus a queer translational

approach to failure would allow writers the ability to "spend time with uptakes" (Bawarshi, 2016, p. 248) before this policing begins and consider what they lose in the process. Through this lens, Basile (2017) and Savage (2020) are calling for a radical reframing of loss in translation, a loss that can be leveraged across radically different genres and/or languages as well as the same genre translated across two or more languages/repertoires. Working at the intersections of Icelandic and English, Savage (2020) perceives this loss intimately and relationally:

If there must be loss in translation, it is not the loss of a less-than, subpar, inferior, betraying product, but the potential loss inherent in radical vulnerability, in partial knowledge, in failing, which allows for this textual encounter to occur. It is a loss inherent in language, writing, textual production, and communication that structures the instability of texts, words, *and* selves, that emphasizes the other that is within us already, in our language, in our texts, in our psyche.

Savage's conception of loss here adds queer valence to Bakhtin's (1986) notion that all speech "is filled with others' words" (p. 89), intimately engaging multiple "others" across temporalities. When this loss is embraced, Savage views the potential as twofold: generating new relationships and new meanings. Creating new meanings involves taking a more radical, translingual approach across the artifacts of uptakes (to use Dryer's term). In describing their translation of Icelandic composites into English compound nouns (e.g. forming new words like "realwoman" and "plasticbagman"), Savage describes purposefully omitting punctuation and spacing so as to more closely resemble Icelandic while simultaneously creating a disruption in the translation in English that would not be read so radically by an Icelandic reader. In so doing, they purposefully flout equivalence, privilege Icelandic ways of meaning making, and highlight to future readers acknowledgement that translation has occurred. At the same time, something has changed in the original, for now the lines in the poem that employ these terms appear disruptive in a way never intended by the author. In the uptake translation, Savage refracts a part of themselves into the text and acknowledges the "psychological work" that accompanies intimately engaging with someone else's experience with the knowledge that they can never truly represent those experiences. They then complicate the lexico-grammatical structure of the original in a way to privilege Icelandic ways of knowing, fracturing the asymmetrical power relations that typically hold the translations together seemingly bidirectionally, offering the only current English translations of these poems, producing but not reproducing.

At this point, it is worth pausing to consider Enke's (2014) definition of translation with which I opened this section: a hopeful act that involves exposing and rejecting how negotiations of meanings and bodies are retroactively policed and concealed through the translation process. The queer translation literature that I have covered so far reveals how scholars have leveraged translation's loss via such rejection; these approaches complicate and coincide with our understanding of translation in technical communication by revealing how negotiations of meaning become sites for embodied memory, vulnerability, alternative relationships and ontologies, and ultimately failure and refusal to conform to such policing. As a QTTC project seeks to find shared values and connections across queer theory and extra-institutional technical discourse, attention to shared translation epistemologies seems particularly fruitful. Specifically, I believe translation scaffolds important theoretical complexity and an emphasis on distributed generic agencies (via uptakes) to the queer phenomenological lenses taken up so far by a QTTC project. This includes Moeggenberg et al.'s (2022) framing of technical genres as "objects that

we orient ourselves to" (p. 414) to analyze an Equal Employment Opportunity (EEO) form for its accessibility for trans employees. Their study reveals how a genre generates rhetorical force that may circumscribe a patient's mobility through health systems and institutions, such as when an EEO leaves out important information regarding gender affirming care. They posit that genres (like translators) also often "outright fail" (p. 417), and I am suggesting that we might understand such failure as occurring through the uptake translation of the genre. A queer orientation to translation might ask how this uptake participates as one of a series of illocutions historically sedimented across institutional, State, and other documents, as well as how individuals draw from other illocutionary forces[5] to make claims to interpretive authority, as Edenfield et al. (2019) depict via *Mascara and Hope.*

But why would Enke (2014) argue that such queer translational perspectives inspire hope to trans communities in particular? And since a QTTC project often centers the needs and claims to interpretive authority of trans lives while making its goal to "act justly toward trans people," (Moeggenberg et al, 2022, p. 427), how have such queer approaches to translation been meaningful to trans communities and scholars facing urgent conditions of inequality? Enke picks up queer translation theory's attention to failure in answering these questions: they suggest that *"transgender"* as a term *"*translates an infinite multiplicity into a single disciplinary body. But this project fails, and its failure incites creative elaboration… Transgender demands above all the need for more context, more story, and thus the translation *into* transgender never arrives and rests" (p. 243, emphasis original). The need for more story, for more distributed uptakes, and ultimately for more attention to race, ethnicity, and global material inequality, when translating transgender shows up across translation scholarship in trans studies. Robinson (2019), for example, argues that the terms transgender, translation, and translingualism "are all 'stories' that get left out" (xii) by binary logics that Gramling and Dutta (2016) might associate with "cislingualism" (p. 337)—a vernacular which foregrounds colonial, heteronormative, monolingual ideologies in the uptake of texts, including technical genres.

Gramling and Dutta call for a centering of transnational stories in trans studies to work as part of an ongoing (but never finished) effort against neoliberal notions of objectivity and White supremacist notions of linguistic norms simultaneously. They ask, "How can transgender notions of what a text is… yield new sensibilities" (p. 339) about the nature of the translator? This question reverberates across translation scholarship in trans studies, as scholars such as Rose (2016) call for a reframing of the translator as an active agent in the meaning making process. Like Savage (2020), Rose's analyses of trans memoirs illuminates translation's potential for creativity and interpretive authority over genres-as-bodies by purposefully failing to pursue equivalence or conceal changes to a perceived singular original, for example, through choices of grammatical gender. Conversely, translation scholars who analyze technical and medical

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[5] It is worth critiquing this notion of *force* altogether, and turning to other notions that define such force rhetorically, queerly, and/or transnationally. I see potential connections, for example, between translational force and Smilges' (2022) notion of *rhetorical energy,* defined as "the signifying aura that surrounds marginalized people" (p. 46). This concept draws from affect theory to show the often unsaid, embodied attunements that transform bodies as significations collide, with a special emphasis on the "thick" rhetorical energies surrounding *queer,* "where our mere existence is a powerful rhetorical force" (p. 39). In other projects, I have considered the value of conceptualizing this force as *friction,* drawing from work by Tsing (2005) and others to capture the transnational *and* localized nature of such forces.

documents question how translation often displaces complexity in representations of trans identities in the (global) traffic of meaning (Johnson, 2015; Jarrin, 2016). Taken together, these interrogations chart one of many paths forward for translation scholarship in trans studies, asking how the term transgender itself fails to translate, and how such failures might invite ongoing attention and accountability to a diversity of stories as well as queer oriented and trans peoples' authorities to interpret those stories.

Many approaches to translation in trans studies consequently take a markedly transnational approach, as represented by the translation section of the field's leading journal, *TSQ: Transgender Studies Quarterly.* For example, Rizki (2021) opens a recent translation section of *TSQ* by pointing to its transnational scope and posits that to ethically account for how we "translate concepts such as *trans, brownness,* and *gender* among others, we must attend to the material, political, and cultural frameworks that freight such concepts with which they travel" (p. 533). Such transnational work requires methodologies that allow relationships– to contexts and communities in which power is regularly and reflexively considered– to determine theories and methods for uncovering communicative practices, rather than *a priori* theories, vernacular, and epistemological variables: methodologies that recognize that "relationalities exist between all things… as well as traverse temporalities and spaces" (Fitzpatrick and May, 2022, p. 18). Moreover, they require that research methods avoid uncritically translating Anglophone discourses of sexuality and of trans identities across contexts in ways that prioritize White vernaculars, racial-capitalist aspirations, and Western conceptions of gender and sexuality. Savci (2017) argues, for example, that Western scholars' unwillingness to cite non-English texts or engage ethnographically in registers beyond English circumscribes any "questioning [of] sexual epistemologies and their co-articulations with racialization, colonialism, imperialism, medical, psychiatric and penal institutions, and neoliberal capitalism" (p. 81). Jarrin's (2016) transnational scholarship similarly traces and critiques how Anglophone discourses of transexuality displace alternative sexualities among working class Brazilian communities. Through extended ethnographic research among hospitals offering plastic surgery to working class populations, Jarrin centers individuals who consider themselves *travestis,* whose disinterest in the label of transgender stems from its association with Anglophone identities as well as sex-reassignment surgery. Jarrin shows how *travestis* face restricted health care access within the Brazilian medical system through their untranslatability into the "dominant Anglophone paradigm" (p. 365), as well as how the Brazilian state affords the medical industrial complex the ultimate authority to determine how trans bodies are interpreted against that Anglophone paradigm. Similar to the findings of Gonzales's collaborative research with Indigenous translators (2021), Jarrin's work cautions us from understanding translation as necessarily an emancipatory or liberatory act and asks us to consider whose interpretive practices and material conditions are excluded or rendered institutionally invisible or untranslatable.

Through this lens, the critical perspectives of translation I have been consolidating so far matter not only for putting queer theory, trans studies, and technical communication in conversation, but for considering how Western, Anglophone, and White epistemologies travel transnationally on the one hand, and how queer and trans claims to authority become entangled with the medical industrial complex on the other. I see this scholarship, for example, as one means for continued engagement with Alexander & Edenfield's (2021) call for more research that probes the intersections of race and gender "to consider available structures (strategies) through which

individuals can enact agency (tactics)" (p. 249). Throughout this section, I have argued that such a critical perspective on translation across *both* language representations and genres allows us to locate multiple illocutionary acts as theoretical and methodological points of departure for analyzing tactical transformations of meaning. Such an approach suggested translation as adding complexity to QTTC's ontological interventions into technical communication scholarship by foregrounding translators' often messy negotiations of agency across genres, bodies, languages, and ecologies. By placing technical communication further in conversation with queer translation theory, I also emphasized translation's loss, and I argued that a queer framework helps us envision how translations generate, negotiate, and displace relationships among the technical translator and myriad agents. In beginning to introduce conversations on translation theory in trans studies, I further asked how ongoing attention to trans claims to interpretive authority– a central question in trans scholarship since Stone's (1987) groundbreaking work– necessarily evokes transnational and racialized questions of translational praxis with material consequences for trans bodies. As I will argue in the next section, greater accountability to trans scholarship and specifically this body of literature's methodological grappling with linguistic and generic translation might extend QTTC projects in technical communication to explicitly foreground embodied knowledge practices, non-expropriative knowledge production, and accountable/situated work.

5. Generating and Displacing Relationships: The Methodological Possibilities of Translation

In the previous section, I considered the theoretical complexity and opportunities afforded through putting queer and trans* scholarship and technical communication in conversation. This scholarship foregrounds all acts of translation as involving interventions and interpretations by the translator. Rather than engaging in such translational practices alone given my subject positions, in this section I review recent scholarship in trans studies with particularly robust, critical methodologies and methods for engaging with technical and professional documents, as well as the primary sources implicated in that scholarship. These scholars expose through attention to generic mobility a long history of harmful technical communication practices of legal and medical professionals and their impact on trans identities and relationships. I argue that our field would benefit from becoming accountable to and learning from the history of these practices and scholarly conversations when researching with and advocating for trans communities, and I view deep engagement with the limited works referenced here (as opposed to a broad overview of scholarship) as a means for making translation's methodological contributions visible and thus only as a point of departure.

I have selected these texts for their apparent connections with the technical genres highlighted by scholarship that explicitly identifies with a QTTC approach. These genres often include technical medical genres composed external to hospitals or regulatory institutions. As previously mentioned, Edenfield et al. (2019) analyze medical procedural manuals and in particular *Mascara and Hope* (2013), a digital do-it-yourself guide to medical transition, while Edenfield (2021) has looked at practices of "homebrewing" and other medically-inflected, extra-institutional discursive practices performed by trans communities during the global pandemic. Other projects have taken up queer theory to analyze technical documents designed for those who do not identify as trans and yet necessarily implicate trans rights and communities, such as

Moeggenberg et. al's (2022) articulations of the social actions and failures of the Equal Employment Opportunity (EEO) statement. Alexander and Edenfield (2021), although less engaged with queer theory, emphasize through an intersectional feminist lens the need for idiosyncratic and overlapping attention to race and gender, and of extra-institutional tactics of self-care. In my reading, what unites many of these analyses are questions of interpretive authority, as authors ask how individual and collective agencies become displaced or rendered invisible through the composition and uptake of technical genres.

In this section, I want to follow closely the methodologies of authors operating across queer and trans studies who grapple with claims to interpretive authority to reveal technical writing's long history and unsettling implications in the negotiations of such claims. In opting for close reading of a few (of many important) recent texts rather than a broad overview of scholarship, this review of research prioritizes depth over a typically broad scope that locates a "gap" in scholarship. I ask how approaching these texts through the lens of translation offers theoretical and methodological complexity for understanding how such displacements occur via generic and linguistic mobility. Given QTTC's interest in how both regulatory and extra-institutional documents act on/against trans communities seeking healthcare, I want to begin by looking at conversations in trans studies regarding how the Americans with Disabilities Act (ADA) shaped and displaced relationships among individuals identifying as trans and/or disabled and interacting with the medical industrial complex. I want to show how reading these authors' methodologies through a vernacular of translation further reveals how the agency of the ADA as a single illocutionary act-as-genre has traced lasting discursive residues with material consequences for trans communities in particular.

Two methodologically complex approaches to considering the impact of the ADA on trans lives and claims to authority have been detailed by Awkward-Rich (2020) and Puar (2015). Neither of these texts would be obviously legible as technical communication scholarship, nor are they making arguments primarily about communication or writing. In her analysis, for example, Puar situates the ADA within broader discourses of inclusion/exclusion popular in public discussions about trans rights, arguing that the politics of inclusion depend upon "the same terms of recognition that rely on such elisions" (p. 46). This premise places Puar genealogically in line with Stone (1987) and only parallel to social justice initiatives in technical communication that move critique beyond inclusion/exclusion narratives (e.g., Jones et al., 2016). My reading of Puar's article's framing argument—that the transnormative subject has become at times complicit with neoliberal assimilationist motives through a racialized vernacular of productive societal integration— locates questions of trans belonging and authority as inherently rhetorical. This framing asks, how might we retroactively historicize how this vernacular has become circulated and transformed to "produce new biopolitical failures" (p. 46)? I want to suggest an understanding of Puar's inquiry along these lines as one inherently concerned with the challenge of locating and deconstructing generic translations-as-uptakes in which one of the earliest illocutions she uncovers is the genre of the ADA; this inquiry also reveals the role of technical communication in shaping understandings of trans agency before the digital age in ways that inflect contemporary discourse across trans studies. Moreover, I ask how translation as a methodology tacitly practiced by Puar can help guide a search for the retroactive covering up of rhetorical practices of selection similar to what Enke (2014) called translation's illusion of a uniform final product. Thus, considering Puar's work here reveals the importance of

accountability to these histories by technical communicators, while thinking rhetorically slant (Rhodes, 2019) about Puar's methodology holds productive potential for more fully appreciating the role of the ADA in discourses of trans interpretive authority.

A focus on the agency of the ADA reveals how this genre's uptake secures more than the provisions of certain protections against discrimination to specified individuals/groups with disabilities. Instead, Puar, drawing from Barry (2013), shows how the ADA acted as a "moral code" (p. 49) for determining both which individuals the government deemed worthy of protection and integration into society and those groups rendered beyond the bill's scope and therefore either able bodied or unworthy of institutionally sanctioned care and/or protection. Most notably, the ADA included in its legal protections individuals with HIV+ status despite intense stigmatization aimed at such diagnoses at the time, while it explicitly excluded other groups defined as experiencing "gender identity disorders (GID) not resulting from physical impairments" (p. 48). The ADA even went as far as to explicitly link GID to pedophilia as well as even kleptomania and illegal drug abuse. Puar is able to read these distinctions by the ADA as engaged in a project of moral determination by tracing the ADA back even further to the *Diagnostic and Statistical Manual of Mental Disorders* of 1980 as well as to an earlier iteration as the *DSM-II* in 1974. The indeterminacies and ultimate translation of the *DSM* to the ADA ultimately becomes a site for loss and displacement.

While comments from senators of the United States Congress at the time do offer some context for framing the choice to protect some groups and not others, it is the ADA's own location of the *DSM* as its generic precursor that reveals the pernicious underbelly of a bill perceived as otherwise progressive for the time. Despite the *DSM* in 1980 listing GID as a disability and therefore worth protection, and despite the ethos the ADA attributed to *DSM,* Puar details how lawmakers still engaged in a process of selection in which the unequivocal authority of the *DSM* brushed against and ultimately succumbed to the lawmakers' own moral judgements concerning who deserved legal protection and unqualified medical access. Puar describes these exclusions to argue that the ADA "redefines standards of bodily capacity and debility through the reproduction of gender normativity as integral to the productive potential of the disabled body" (p. 49), leading to new forms of ablenationalism. Moreover, Puar notes that these exclusions placed trans activists in a bind in which they sought to affirm trans existence as a completely whole (and therefore able-bodied) way of being in the world while simultaneously recognizing that exclusion from disabilities protections meant facing difficult and immediately realized forms of discrimination in workplace, medical, and legal settings.

While Puar centers her argument here around what Miller (1984) might call the social actions the ADA performs, a focus on translation emphasizes that such actions cannot be severed from the agency of its source material of the *DSM* and the lawmakers who selected it as well. Although the Senate's generic translation decisions that Puar recognizes in what I am calling the uptake of the *DSM* certainly reinscribed prejudiced notions of gender-normativity into legal discourse, a focus on translation reveals that the very selection of the *DSM* in the first place, a genre with distinct social functions and professional authorships, requires scrutiny, as well as both genres' continued uptake in trans academic discourse. Specifically, the location of a descriptive professional document as the perceived singular genre to be taken up bidirectionally (to use Freadman's 2002 terms) for use in governmental generic production allows the ADA to do more than redefine standards of bodily capacity: it also further cements the complex identities of trans

and dis/abled individuals into epistemic categories. In other words, the ADA is only able to secure "the maintenance of gender normativity as a requisite for disabled status" (Puar, 2015, p. 47) because it is placed as a translation of a medical document never intended to serve as a legal genre, and the different perlocutionary purposes for those genres become retroactively erased in the translation process. While the perspectives of disabilities, LGBTQ+ rights, and other activists certainly played an important role in the crafting of the ADA, its continued and almost singular attachment to the *DSM,* an association continued in Puar's work, highlights its ongoing translation (uptake) in contemporary discourses of trans and disabled categorization as descriptive, epistemic conditions.

Awkward-Rich's (2020) archival methodology further articulates how these epistemic conditions became taken up by trans activists themselves. He highlights a debate published in a trans community newsletter, *Renaissance News,* surrounding the uptake of the ADA as historically significant to contemporary alliances and frictions among trans and disabled activists and academics. The author(s) of *Renaissance News* foreground's Puar's argument as they grapple with frustrations about the pathologizing of trans identities exemplified by the *DSM* on the one hand and the inability to advocate for legal protections through the ADA on the other. Their hypothetical conceptual example is a "transvestite with polio," who the author recognizes would be protected by the ADA *only* if discrimination against them hinged on the basis of their polio diagnosis without "religiously bona fide" sexual prejudice. The *Renaissance News* piece thus holds the highly material concerns about lack of access to health care, even for less stigmatized conditions such as polio, in juxtaposition with the haunting power of description. They argue "lumping us in with those who have an unfortunate—but real mental illness perpetuates the notion that people who dress as the other gender, or who believe themselves to be the other gender, are sick" ("Who's Disabled?", p. 3). These very real concerns reflect the power of what Freadman (2012) calls the relational force that holds genres together, and the work by Awkward-Rich and Puar reveals how the epistemic categories of disabled and trans have become at this point so secured in the translation of the ADA and *DSM* that they now define the terms of debate even among those individuals whose situated experiences seemed well positioned to bring those epistemic categories into crisis. Moreover, these translations further sedimented a racialized articulation of both epistemic categories. For example, Awkward-Rich posits that in San Francisco (as the focus of his study) and across the United States, "gender normativity…was taken to be a property of whiteness, which is what produced individual (presumed white) gender nonconforming people as problems, curiosities, and people to be fixed" (p. 26), as opposed to Chinese gender nonconforming people at the time, whose existence was taken up by public documents such as San Francisco newspapers as evidence of racial difference and as justification for societal exclusion. In sum, these authors reveal how claims to interpretive authority and agency frequently become negotiated, if not attenuated, at the level of genre in that they seemingly must contend with bidirectional uptake residues traced by these documents' descriptive, hetero-ableist, racialized, and identarian vernaculars in translation.

These conversations highlight the consequences of technical communication unaccountable to trans knowledge production. They also reveal the relational stakes of privileging the agency of a singular genre as the only illocutionary force State institutions acknowledge in discussions of

trans claims to human rights and authority.[6] Puar and Awkward-Rich, as well as other related theorists such as Hong (2002), seek to understand the process of what I am reading as uptake selection that occurred within these transformations from a historical and archival methodological perspective; Puar, quoting Hong, summarizes such inquiry by arguing that "understanding why a dozen conditions were removed becomes an important task" (p. 49). Like Jarrin's (2016) transnational ethnographic scholarship described in this article's previous section, Puar further reveals how these removals participate in racialized medicinal practices via cisableism, which, like cislingualism, treats as the norm the White, cisgendered, abled individual legible through standardized medical vernaculars. How could translational methodologies in queer and trans studies as well as technical communication build from such a project? How might we go about questioning the singular ethos of medical genres such as the *DSM* and instead isolate the myriad, multiple illocutions at play yet covered up in this generic translation? How might we account for ableist and racial inequities in these selections? Such questions would mark the ruptures in relationships that occur specifically when translation's multiple agents are prevented from being retroactively occluded for the sake of epistemic bidirectionality. By assuming as equivalently authoritative the *DSM*s of 1974, 1980, and the ADA, the translation practices of the ADA's composers and enactors would be revealed not only to have complicated trans legal protections in myriad settings on moral grounds, but to have displaced trans and dis/abled persons' embodied agencies through an ontological overstatement of a singular genre's agency – consequently rendering invisible those bodies with overlapping trans and disabled positionalities with implications for how genre analysis occurs in research with populations identifying with such positionalities. Translational methodologies would build from the isolation of the ADA's effects to "produce new biopolitical failures" (p. 46), as Puar convincingly envisages, to also how make visible how those failures might become productive sites for critiquing singular visions of textual agency and creating intersectional relationships outside of imperialist State discourses toward QTTC uptakes of disidentification and care.

Attention to translation may also contribute to, compliment, and be shaped by contemporary efforts in disability studies that interrogate what Skyer (2019) refers to as discursive regimes related to technical, medical, and legal genres, including the ADA. This research similarly centers questions concerning how texts enact and displace claims to interpretive authority (Campbell, 2009). As Skyer contends, disability activists have long recognized the agency of the ADA as a genre and its both "productive *and* destructive potentiality… [as] an immense vehicle of legal power" (p. 4, emphasis original). While Puar's analysis of the ADA as described above looks backward to the *DSM-II*, Skyer's analysis of the ADA follows discursive regimes via genealogical methodologies and discourse analysis methods to show how the ADAs of 1990 and 2008 progress to define and classify individuals toward future integration into a capitalist society. The goals of such integration privilege teleologies of economic productivity as opposed to immediate self-determinacy and liberation. I want to suggest that attention to translation across both languages and genres might theoretically and methodologically compliment these and other critiques of the ADA's discursive regimes by interrogating how such regimes are translated transnationally and taken up by myriad technical documents with ramifications for disabled as well as queer and trans communities' claims to interpretive authority. At the same

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[6] Similar important conversations about the ADA are ongoing in disability studies as well (see: Campbell, 2009; Skyer, 2019).

time, bifold attention to discursive regimes and translation importantly questions the descriptive agency and "destructive potentiality" of the ADA and other so-called authoritative documents as they are represented by such technical communication scholarship (Kain, 2005).

Technical genres taken up by the medical industrial complex do not pose the only texts through which translation epistemologies might further connect technical communication and queer and trans scholarship. Another point of commensurability might come through what Johnson (2015) calls *translation regimes,* or "the set of implicit or explicit principles, norms, rules, and decision-making procedures through which single, commensurable data states are selected to represent conditions in the world" (p. 162). Similar to discursive regimes, Johnson has shown how translation regimes act as political processes through an analysis of the Utah System of Higher Education's (USHE) data standard for gender – data standards that render invisible gender-nonconforming people through a binary selection of sex via data collection processes and artifacts. I believe that Johnson's delineation of multiple kinds of translation regimes and their impacts on trans bodies, including descriptions of atomizing and normalizing translations, for example, might productively engage with Moeggenberg et al.'s QTTC analyses of the Equal Employment Opportunity Commission's self-identification templates. Through attention to translation regimes, QTTC projects might consider the social and digital locations through which technical documents crafted with/for trans communities are designed to move, as well as interrogate how the transnational mobility of such documents might participate in reproducing White, Anglophone rhetorics of gender and sexuality vertically across communicative scales, or what Gramling & Dutta (2016) call "an anglophone disciplinary and discursive disposition [that] will inevitably continue to lead policy makers, public intellectuals, and academics to fall back on ethnocentric and monolingual frameworks and resources" (p. 345). How can technical communication methodologies attuned to translation regimes further operate inline with transnational translation scholarship described by Jarrin (2016), Gopinath (2005), and others to displace singular notions of trans communities and forms of care?

Translational methodologies also ask what relationships are generated and displaced both by our own scholarly interpretation of technical communication practices and by the representation of those practices in our disseminated work. To reframe Rizki's (2021) translational questions of the prior section, how do our terminologies and methodologies travel through our scholarship, and how do our translations participate in disciplinary siloing or singular epistemologies? Put another way, how might our scholarship displace some communities even as we call for justice for other communities? Even Puar's (2015) work described above, while lauded for its complex methodology and critiques of neoliberal-abilism via racial-capitalism, has been critiqued by scholars of dis/ability such as Goodley, Lawthom, Liddiard, and Runswick-Cole (2019) for using debility as a stepping-stone for other political projects– such as a condemnation of the medical-industrial complex or the Israeli nation-state– "rather than a development of the potential of disability politics" (p. 981). These scholars ask "where does this leave disability as the motivating subject of analysis, politicization and generator of emancipatory theory and practice?" and raise questions of tokenization. Goodley et al.'s and similar critiques (see Smilges, 2022) point us to the need to do more than locate multiple illocutionary forces in the translations of technical documents, but also to consider how the uptakes of our own scholarship might lead to a more accountable and relational research praxis.

6. Implications

Through a review of research, this article has considered the value of translation as both a critical theory and methodology productive for ongoing QTTC projects while also working toward greater accountability and engagement by technical communication with queer and trans scholarship. Whether attempting to mine the archive for generic artifacts to make posthumous claims of trans figures of the past, or whether contending today with discourses of wholeness/ability still inflected by violent epistemologies, translation remains a site where claims to queer and trans authority become voiced, described, taken up, or, to evoke Basile (2017) come undone. Through such engagement and accountability, our field may be able to engage ongoing conversations surrounding technical discourse occurring across queer and trans studies. In addition, we might ask, how might technical translation complicate epistemological binaries that scholars such as Chu and Drager (2019) have accused even Stone (1987) herself of tacitly fomenting? In framing the body as a genre and thus moving away from a technical/medical definition of trans bodies, Chu and Drager argue that trans studies has become "rooted in… binaries of vernacular versus medical and authentic versus inauthentic" that place pressures onto trans bodies to always exert agencies of resistance and political transformation. Instead, they call for attention to the "messiness, contradictions, disappointments, and unexpected outcomes" of trans inquiry beyond "an obsession with resistance and radicality" (p. 107). These concerns have been echoed and responded to by other scholars working at the intersection of dis/ability, queer theory, and trans studies such as Smilges (2022) who similarly ask how scholarship such as Puar's (highlighted above), which calls for trans people to reject the medical industrial complex altogether (in part via a refusal of all discourses surrounding the ADA), engages in a leveling of difference and agency that "seems to demand that trans people sacrifice the meager offerings of disidentification at the risk of making their lives even more precarious" (p. 168). I see theoretical and methodological value in the relational approaches to translation that I have delineated in this article that could support ongoing efforts to bring into relief such binaries in ways that both foreground queer and trans claims to interpretive authority and point to the need for future scholarship that further engages dis/ability studies,[7] queer and trans of color critique, Indigenous epistemologies, and other intersecting and critical approaches to meaning making.

Finally, technical writers cannot take our own canon as a singular illocution for QTTC projects when trans studies and queer studies are taking on this kind of labor already. Instead, as we consider the social justice aims of this new journal and respond to the seeming newness of queer and trans approaches to technical communication, it is worth acknowledging that neoliberal academic forces in the Western academy thrive off of "newness" and often demand an arrival at answers and the retroactive covering up of the messy relations that make our articles and answers possible. Such projects will always fail. Conversely, queer and trans orientations to translation scholarship reflects a long, difficult indeterminacy of intimate relations that grapple with

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[7] I am particularly interested, for example, in how activists and scholars of dis/ability beyond those cited in this article might speak to Edenfield et. al.'s (2019) repeated rhetorical framing of a QTTC project as necessarily oppositional to identity politics. As Smilges writes in *Queer Silence*, for example, "Disability studies… urges queer studies to move past its political skepticism of identity politics to engage more deeply with the rhetorical implications of identification as they are bound up with embodyminded significations that people do not choose for themselves" (p. 66).

available and continually revised knowledges and "the proliferation stories" (Enke, 2014, p. 243). By putting technical communication and related fields' work on translation in conversation with queer orientations to translation, I have attempted to show how technical communicators might understand not only translation's artifacts but also the other illocutions, discourses, and identities displaced as writers move across languages and genres. Such work reveals the relationships generated/displaced in technical translation, but also our own relationships, scholarly identities, and accountabilities to queer projects and trans lives—an intersectional identity politics more in line with the vision delineated by the Black feminist writers of the Combahee River Collective and the analyses of care networks by Alexander and Edenfield (2021) than a reductive identity politics predicated on singularity and "essentialism often grounded in gay, lesbian, or bisexual identities that tends to explicitly or implicitly exclude alternative forms of queerness" (Edenfield et al, 2019, p. 178). Through engagement with scholarship on translation across trans studies, I hope to have moved our vision for advocacy toward the transnational as we dissect the Anglophone and Western discourses that define our efforts. Moreover, if technical texts and translations have long acted as sites for displacing relationships on the grounds of sexual orientation, race, and ability, then we must tread carefully in our engagement as researchers to participate in the actual transformation process. We might ask instead how technical communication broadly and a QTTC project specifically can contribute to loosening the binaries of vernacular and medical that Chu and Drager (2019) critique, and how our theories and methodologies might inspire new participatory methods that expose and leverage the failure inherent through translation's loss.

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The Problem with Common Ground: Translation and Colonial Logics in the 'Imiloa Astronomy Center Online Interface

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Abstract: The 'Imiloa Astronomy Center attempts common ground with Native Hawaiians who protect Mauna a Wākea from occupation by astronomical research. Through interface analysis of the 'Imiloa website, I consider navigation in three ways: a traditional Hawaiian practice of culture, a user interaction within a digital interface, and a rhetorical figure that steers users through colonial logics. I argue that the 'Imiloa interface creates a colonial user experience by translating Hawaiian knowledge into Eurowestern frames of knowledge, excluding the political meaning of Mauna a Wākea, and appealing to an ethical tourism ethos. I suggest reflexive approaches of interfacing with cultural knowledges.

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Navigation is a Native Hawaiian form of both science and culture and serves as an important organizing aspect of Hawaiian life. Navigation includes "relevant knowledge about the stars, currents, waves, birds, winds, clouds, marine life, flotsam, and all the rest of the ocean environment, in addition to the skills of handling a canoe and its crew" (Kanahele, 1986, p. 300). Astronomy was also "an important subject to the Hawaiians of old ... everything moved in a kind of cosmic rhythm. They lived not in a static but in a dynamic universe, and the Hawaiians understood this not only from natural observation but also from the mythological accounts" (Kanahele, 1986, p. 142). This account of astronomy and navigation in Hawai'i pre-contact shows these practices weren't just scientifically significant, but also culturally significant and that they guided Hawaiians in their way of being then, today, and in futures to come. Astronomy guided and mapped not only nautical navigation, but also rhetorically informed how Hawaiians navigated their relationality with people, the environment, and the universe.

In digital contexts, navigation is also part of user interaction within digital interfaces. There are many ways a user interacts with an online interface, whether by clicking, scrolling, or other numerous activities an interface allows. Navigation, or how an interface steers a user through itself, is another form of interaction. These interactions are always guided and influenced by the interface which has its own goals and motivations and these are also inherently rhetorical. Part of my work in this article is to theorize navigation as a rhetorical figure.

Rhetorical navigation is the act of steering cultural thought or knowledge through colonial frames of meaning to re-express them within colonial logics. In the case of the 'Imiloa, rhetorical navigation constructs a discursive timeline where traditional Hawaiian navigation inevitably leads to modern astronomy practices. Traditional Hawaiian navigation's significance is constructed only as a precursor to modern astronomy, and its merit is based only on its relevance to the telescopes on Mauna a Wākea rather than holding their own value. The end result of the rhetorical navigation of the 'Imiloa interface is a temporal determinism that justifies modernity as the current constitution of time and knowledge and the telescopes that currently occupy the summit of Mauna a Wākea. Thus, I am interested in navigation in three ways:

- as a Hawaiian practice of science and culture,
- as a user interaction within digital interfaces,
- as a rhetorical figure that steers users through colonial remediations of other cultures.

I look at navigation in all three ways to analyze how Hawaiian history, knowledge, and culture are colonized and steered into trajectories and frames of modernity and Eurowestern thought.

To this end, I look at the 'Imiloa Astronomy Center's website, imiloahawaii.org, as an interface that utilizes rhetorical navigation through translation. The 'Imiloa is a museum located on The University of Hawai'i at Hilo campus and is an effort to "showcase the connections between the rich traditions of Hawaiian culture and the groundbreaking astronomical research conducted at the summit of Maunakea" ('Imiloa, 2021). The 'Imiloa opened in 2006 and promotes the "understanding of navigational methods as an Indigenous form of science and engineering" (Swanner, 2017, p. 313). It was constructed for the direct purpose of appealing to Native Hawaiians opposed to telescopes on Mauana a Wākea by bridging contemporary practices of astronomy with traditional Native Hawaiian culture and values. It is an attempt to find common

ground between the two traditions of stargazing. The ʻImiloa's tagline is "sharing Hawaiʻi's legacy of exploration" (ʻImiloa, 2021), and is a "material representation of hybridized scientific and spiritual narratives about the mountain" (Swanner, 2017, p. 313). The ʻImiloa is maintained by the Institute for Astronomy (IFA) which is an organization within the University of Hawaiʻi system. The IFA leases land on the summit of Mauna a Wākea (more commonly known as Mauna Kea) for the State and grants telescopes to various schools, countries, and organizations.

Cultural Approaches in Technical Communication

I want to respond to and extend technical communication scholarship that has discussed issues such as power, meaning, and belonging within the parameters of cultural knowledge in scientific or technological contexts. These issues have been topics in technical communication since the early 1990s (Slack et al., 1993). Since then, technical communication has been turning to different approaches for including cultural knowledges as foundational. These approaches, such as Godwin Agboka's (2014)'s decolonial methodology, Natasha N. Jones's (2016) technical communicator as advocate, and Cana Itchuaqiyaq's (2021) Indigenous virtue ethics are examples of technical communication that prioritize cultural knowledges without maintaining modernity as the center of technical discourse. These approaches are important to my study of navigation as they demonstrate how to detach from the seemingly predeterminism of modernity. That is, how to step off the path that modernity steers us towards particular colonial arrangement of time, space, and knowledge.

For instance, Agboka (2014) argued for a decolonial methodology toward centering social justice as the main objective of technical communication as well as a means of investigating what kind of research questions are articulated and pursued (p. 318). Additionally, Jones (2016) argued that decolonial methodologies should "seek coexistence and reciprocal dialogue" (p. 350). Also, Itchuaqiyaq (2021) advocated for Indigenous virtue ethics as a methodology for technical communications to be locally situated within and beholden to communities in technical communication research (p. 34). All of these scholars question the epistemological foundations of technical communication and the inequalities they reiterate through research. I see this article following this trajectory in that it questions some epistemological foundations of technical communication research and how it can build investment in modernity as a logical endpoint.

And so, navigation is an important rhetorical figure to pursue as it is the process that modernity arrives and justifies itself by. The intent of this chapter is not to degrade the ʻImiloa nor the work of the people who have put effort and critical thought into the technical and scientific programs at the ʻImiloa—which includes Native Hawaiians. Instead, I aim to demonstrate the kind of translation and navigation work technical communication must de-link from. Mignolo (2007) defined delinking as a "de-colonial epistemic shift and brings to the foreground other epistemologies, other principles of knowledge and understanding and, consequently, other economy, other politics, other ethics" (p. 453). That is, I advocate for ways to communicate cultural forms of science and technology that don't further solidify modernity as the center of technical discourse and an inevitable endpoint. The attempt to build common ground between traditional Native Hawaiian navigation and the IFA only serves to translate Native Hawaiian culture into expressions that justify modernity and the IFA's current stewardship of Mauana a Wākea. As I argue, a true consideration of Native Hawaiian navigation would lead to other

possibilities outside of IFA's current practices rather than justifying them. In other words, engagement with Hawaiian culture should navigate to non-colonial astronomical practices rather than giving grounds to occupy Native land through astronomical research. An ethical technical communication of Hawaiian culture should provide a stepping-off point from modernity, not a bridge to crossover. This conflation is the underlying problem with common ground. In the next paragraph, I outline my argument in this article.

I first contextualize my own positionality as a white settler from Hawai'i and my personal interest in the technical communication of Hawaiian culture and the 'Imiloa. Next, I review previous scholarship on interface analysis to explain how interface analysis can identify and map colonial logics. I then begin my analysis of the 'Imiloa interface. I first analyze the center's translation of its name, 'Imiloa, to Eurowestern expressions of exploring and discovery. I then analyze the home page paying special attention to the organization and communication of the Hawaiian Mānaiakalani and Kekāomakali'i constellations in the interface. I make the argument that these constellations in the interface only serve as a starting point and a beginning to the rhetorical navigation the interface steers users through. I then look at a different section of the interface titled Palapala Holoholo. In this section, I describe how colonial temporal and spatial experiences of Hawai'i, specifically the Big Island, are mediated through an ethical tourism ethos and user experience. I then end by making some suggestions for interface design and content strategy when centering cultural information.

Building Settler Allyship

I focus on the 'Imiloa interface in context with the contested construction of the Thirty Meter Telescope (TMT). My scholarly interest in rhetoric is very tied to Hawai'i and the Thirty Meter Telescope, and my engagement with rhetoric began to show me how my surroundings were constructs of settler colonialism. My start with rhetoric in university coincided with the beginning of the TMT protests in 2015 while I was an undergraduate at the University of Hawai'i at Mānoa. In between my undergraduate and MA, I enrolled a Native Hawaiian rhetorics course. The first day of this class was spent discussing the TMT. Beginning to understand the TMT from perspectives grounded in Native Hawaiian rhetorics. I realized how my own identity was wrapped in the politics of colonialism, and how my sense of place was a construction of settler colonialism.

As a white settler, I began to recognize how Hawaiian culture, while ubiquitous, was usually presented in colonial frames. Hawai'i is often mentioned as the ideal for a multicultural melting pot. I have also witnessed how multiculturalism and diversity are used as a means of maintaining colonial power and white supremacy. That is to say, Hawaiian culture can be centered and emphasized, but can also be used to express colonial logics through the way they are framed. Hawaiian knowledge that doesn't respond to Hawaiian rhetorical sovereignty, or the ability for peoples to "decide for themselves the goals, modes, styles, and languages of public discourse," only reinforces modernity (Lyons, 2000, pp. 449-50). The TMT was the first instance where I took notice of Hawaiian culture being expressed through colonial frames. Candance Fujikane (2021) uses the term settler ally to "encompass the imaginative possibilities for our collaborative work" on decolonization in Hawai'i (p. 14). Towards a praxis for settler allyship, I want ways for settlers in Hawai'i to ethically respond to Hawaiian culture that are not appropriative. Instead,

consideration of Hawaiian culture should respond to Eurowestern knowledges in ways that unsettle and interrupt usual patterns of meaning-making. In this way, settlerism can inhabit the peripheries of decolonial futures and develop settlerism that is obligated to Native Hawaiians.

The 'Imiloa interface is composed and designed by organizing visuals and representations of Hawaiian culture to express similarity and proximity with contemporary astronomy practices of the IFA on Mauna a Wākea. In this way, Hawaiian culture is translated into modernity within the interface of the 'Imiloa. I'm interested in the process of how the 'Imiloa website organizes and gathers Hawaiian culture and how they are then translated as expressions of the IFA. I find that the Hawaiian visuals and knowledge used in the 'Imiloa interface function within a settler colonialism in that they translate Hawaiian navigation in an arrangement where:

- traditional Native Hawaiian navigation practices are translated into contemporary expressions of the IFA without any acknowledgment of continued colonial violence or dispossession by the IFA
- traditional Native Hawaiian astronomy is relegated to the past where they are acknowledged, but unable to participate in contemporary astronomy and thus the (IFA) can make claims toward stewardship and occupation.

The temporality of the 'Imiloa interface is organized around colonial logics because Hawaiian culture is unevenly brought in proximity with the telescopes on Mauna a Wākea. This translation creates a temporality wherein Hawaiian culture is inevitably steered to the telescopes on the summit of Mauna a Wākea. This constructed linear timeline between Hawaiian astronomy and the telescopes creates authority to claim stewardship of the mountain. a

The 'Imiloa interface can act as an example of how interface analysis can aid technical communication to center diversity and equity without also perpetuating modernity as the center or end point of technical discourse. Interfaces are often "the ideological and material legacies of racism, sexism, and colonialism" and "are continuously written and re-written along with more positive cultural legacies" (Selfe and Selfe, 1994, p. 484). Thus, I turn to the interface of the 'Imiloa website to understand how colonial logics rhetorically navigate Hawaiian culture into re-expressions of colonial logics and modernity. If translation in the 'Imiloa website perpetuates colonial logics, as I argue, then it is important to recognize how so and to critically reflect on the ways that the online interface acts as an extension of colonial astronomical practices on top of Mauna a Wākea. To this end, I conclude this article by making some suggestions and practices for a critical and reflexive approach to interface design and content strategy when considering cultural knowledge and values.

Additionally, I argue that science and technology are not merely symbolic of settler colonialism, or unfairly targeted because of historical wrongs as some advocates of the TMT have argued (Big Island Video News, 2015). Rather, the habits and logics of science and technology, and the communication of these fields can often repeat the rhetorics of settler colonialism. The 'Imiloa interface is a key object to further study to question how technical communication, translation, and settler colonialism all work together. Translation isn't only equating the words and meanings of one language to another, but can also equate cultural logics. Translation moves expressions from one set of meanings and cultural logics into a different frame of meanings and cultural

logics. I make the argument that, in environments of uneven power dynamics, translation can organize, gather, and re-express colonial logics in ways that can be understood as acts of reterritorialization. Thus, in the next section, I describe methods for interface analysis in technical communication. Specifically, I review methods of interface analysis concerning colonial logics. In particular, I review navigation, both as a specific type of user interaction, but also as a rhetorical figure that creates a discursive path and guides users through that path informed by colonial logics.

Identifying Colonial Logics within Interfaces

Interface analysis is a mode of inquiry that views online interfaces as texts with dynamic interactions which guide or persuade users of the interface to follow a certain design or logic. Jennifer Sano-Franchini (2018) wrote that "[c]ritical interface analysis, a method that layers theory, critique, and reflection" is "constructed from the idea that writing and design are epistemic, and that human beings make knowledge and meaning from the interpretation—whether conscious or subconscious—of signs, including alphabetic textual and visual design" (p. 391). In addition to its textual and design features, interfaces can also be analyzed through their interactivity. Michelle Sidler and Natasha N. Jones (2009) wrote that "[i]nterfaces, as interactive hypertexts and spaces of community ... are both an inventive tool and a deliberative space" (p. 30). In other words, interface analysis considers more than the interface as a static text but also includes dynamic activity within the interface that it encourages and the results of such interactions. To study the activity that interfaces facilitate, Sano-Franchini (2018) focused on four main interactions within Facebook's interface—"browsing, reacting, commenting, and posting" (p. 391). Sidler and Jones (2009) considered "interface characteristics that highlight invention and delivery through engagement with the public and private, including navigational tools, information databases, sophisticated graphics, and interactive and social networking applications" (p. 34). The main takeaway is that interface analyses look not only toward textual and design features but also types of interactions within interfaces as rhetorical acts in how they enact a particular logic in the design of the interface.

I am interested in interface analysis as a technical communication method that investigates colonial logics and how they manifest within interfaces and how interfaces mediate cultural knowledge. Specifically with navigation as the particular type of user interaction. Additionally, interface analysis can show how navigation as a rhetorical trope guides users within a cultural mediation to enact settler logics as an user experience in how Hawai'i is mediated in online spaces.

Interfaces have also been conceived as maps of the socio-cultural and as extensions of institutions and organizations in how they assemble information and objects together in a way that mediates a particular experience and logic. For instance, Knight et al. (2009) wrote that the interfaces of technical writing program websites operate "as rhizomatic social and intellectual maps" (p. 190). Additionally, Selfe and Selfe (1994) argued that "[c]omputer interfaces ... are also sites within which the ideological and material legacies of racism, sexism, and colonialism are continuously written and rewritten" (p. 484). They further state further that: "the virtual space represented by these interfaces ... the values of our culture—ideological, political, economic,

educational—are mapped both implicitly and explicitly, constituting a complex set of material relations among culture, technology, and technology users. (pp. 485)
Interfaces conceived as maps demonstrate the socio-cultural influences that make themselves known in the design and arrangements of interfaces. Conceived as maps, interfaces guide users along these socio-cultural sets of relations through interface interactions as a mode of rhetorical navigation.

Interfaces are also often thought of as extensions of institutions and organizations as well. For instance, Knight et al. (2009) wrote that interfaces of academic program websites should be situated "as part of the larger spatial context of institutions ... we situate the web sites ... as important institutional spaces that serve as interfaces to particular values, beliefs, and practices" (pp. 191–2). Additionally, Sidler and Jones (2009) wrote about how interfaces are utilized by advocacy organizations related to genetic research as an online extension of their work by generating civil advocacy through invention and deliberation in the interface (p. 29). As extensions of institutions and organizations, interfaces are thus highly rhetorical mediums where logics of colonialism and other hegemonic powers that helped build institutions are rearticulated and repurposed. Selfe and Selfe (1994) wrote that "it is important to identify the cultural information passed along in the maps of computer interfaces— especially because this information can serve to reproduce, on numerous discursive levels and through a complex set of conservative forces, the asymmetrical power relations" (p. 485).

Thus, interface analysis "blends theory, critique, and reflection on embodied experience in a recursive fashion, understanding that the relationship across the three can lead to an intentionally reflexive critical approach" towards understanding how socio-culture relations of organizations and initiations mediate online experiences (Sano-Franchini, 2018, p. 391). My intervention in interface analysis is to respond and extend to the scholarship I've cited above. That is, to recognize interface analysis as a method to not just understand navigation as a type of user interaction, but a user experience that rhetorically steers a user through a mapping of colonial logics.

To map colonial logics in interfaces, I first identified when Hawaiian culture or knowledge was expressed in the interface. Then, I determined where the Hawaiian culture led in the interface. This could be a different page, or it could be another idea or piece of information presented in the interface. I also considered how Hawaiian knowledge was being used in juxtaposition to other items. I also considered actions allowed in the interface. What were the types of interactions I could perform, or not perform? With what knowledges could I perform actions? What areas in the interface were rhetorically inventive? I also studied how commonality was constructed and presented between Hawaiian culture and IFA practices. What cultural ideas were privileged in these comparisons? How did the content strategy balance its mediations of two cultures? In my analysis, I decided to focus on navigation because I found that there wasn't a lot of interaction in the interface, even in places they promoted it. My main mode of interaction with the interface was navigating through it.

Navigation is a rhetorical figure particularly related to user design that guides users through a particular assemblage informed by colonial logics. Interfaces not only compose assemblages but also guide users in particular paths through them. In the example of the 'Imiloa interface,

translation is a key aspect of this process. Bringing elements of traditional Hawaiian culture forward in time to tie them together with the telescopes on the summit of Mauna a Wākea translates them into expressions of the IFA. Thus, a settler mediation is constructed through interface design, content strategy, and the interactivity of the interface. Despite attempting to be common ground, the 'Imiloa interface instead acts as a colonial mapping of Hawai'i. The interface navigates users through this map to mediate a colonial temporal and spatial experience of Hawai'i. Translation becomes a key element of the assemblage practices of the interface. The analysis that follows aims to identify the ways the 'Imiloa interface accomplishes such rhetorical navigation.

In this next section, I analyze the 'Imiloa interface and how it creates a logic of possession through whiteness via translation (Arvin, 2019). That is, by translating "'Imiloa" to Eurowestern concepts of "exploration," the interface also navigates both the user and Native Hawaiian culture into colonial logics of IFA practices of astronomy on Mauna a Wākea. This process of translation follows the logic of possession through whiteness in how whiteness possesses Indigeneity in the interface by recontextualizing Indigeneity within frames of Eurowestern knowledge.
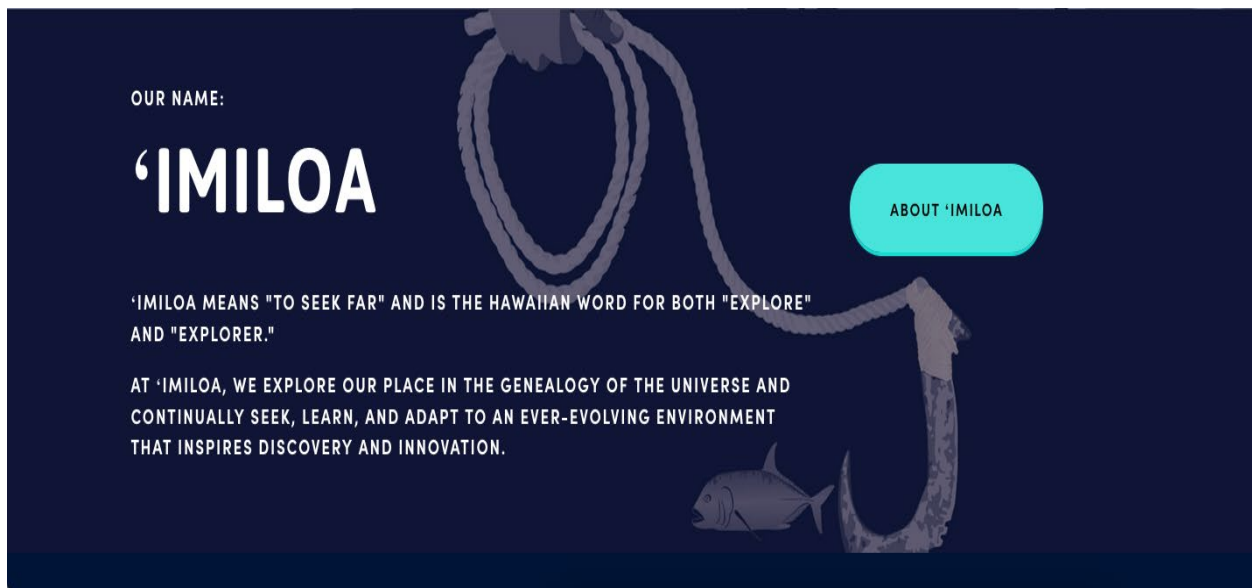

Figure 1
Translation of 'Imiloa Name from 'Imiloa Website. Screen Capture by Matthew Homer

Translating Hawaiian Culture

The 'Imiloa interface is an attempt to create a digital space where traditional Native Hawaiian navigation and culture are harmoniously weaved together with modern astronomy imitating the actual 'Imiloa museum. The 'Imiloa was constructed to appeal to Native Hawaiians who were opposed to the telescopes on top of Mauna a Wākea. The 'Imiloa is an attempt at common ground, an attempt at bridging two different traditions of star gazing. Yet, its interface design elements such as the unproblematized translation of "'Imiloa" to terms such as "explore" and "discovery," along with the lack of acknowledgment of colonialism or political struggle alongside Hawaiian visuals creates a colonial assemblage through translation.

The ʻImiloa interface follows the IFA's pattern of appealing to Native Hawaiians by equating Hawaiian culture with IFA's own modes of knowledge production. One example can be found in the repeated use of a quote from King David Kalākaua by the IFA. In 2000, the IFA published a pamphlet that quoted Kalākaua:

> It will afford me unfeigned satisfaction if my kingdom can add its quota toward the successful accomplishment of the most important astronomical observation of the present century and assist, however humbly, the enlightened nations of the earth in these costly enterprises. (Swanner, 2017, p. 306)

This quote has been used again and again by astronomers and supporters of the TMT to "dramatically extended the timeline of Maunakea's association with astronomy" (Swanner, 2017, p. 306). This Kalākaua quote had been prominently featured on TMT's own website until only recently and has been circulated online by TMT supporters.

This quote has been decontextualized and re-expressed in colonial thought to justify the IFA's stewardship of Mauna a Wākea. As Bryan Kamaoli Kuwada (2015) wrote: "[w]hat the quote is referring to is Kalākaua's excitement about the 1874 expedition that had arrived in Hawaiʻi for the transit of Venus ... They [anti-Mauna people] want the story where the words of Kalākaua will enlighten the ignorant Hawaiians of today about the importance of 'progress'" (Kuwada, 2015). The use, and reuse, of this quote by the IFA attempts to create common ground between Native Hawaiian culture and the IFA. Yet, the common ground is built upon the rhetorics of Eurowestern logics. The use of the quote bypasses the arrest of Kalākaua's sister and successor, Queen Liliʻuokalani, the illegal overthrow of the Hawaiian monarchy, and the continued colonial occupation of his land. By "forgetting" the overthrow, the use of Kalākauaʻa quote creates a direct and continuous timeline between Kalākaua's interest in astronomy and the telescopes on Mauna a Wākea. This temporal logic discursively places Hawaiian navigation as a precursor to the telescopes and within the proprietorship of the IFA. Thus, the IFA can make an argument as the rightful successors to astronomy in Hawaiʻi based on their hold on this unethical assemblage. This common ground isn't common at all. With the absence of the political and rhetorical sovereignty of Native Hawaiians, this common ground is in fact built upon colonial and Eurowestern rhetorical ground.
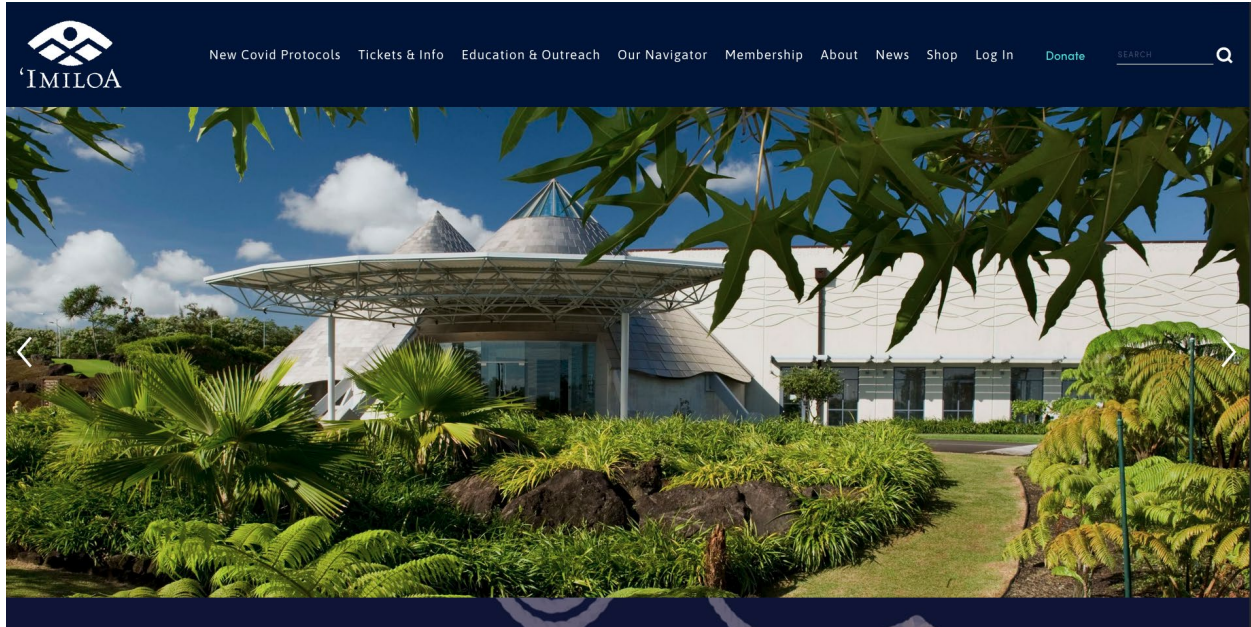
Figure 2

Home Page of 'Imiloa Website Featuring the Front of the Museum. Screen Capture by Matthew Homer

Navigating the Home Page

I bring up the example of the Kalākaua quote because it elucidates the same colonial logics that can be found in the interface of the 'Imiloa website. The 'Imiloa website utilizes what I would categorize as a fairly simple and common design [see figure 2]. The site is immediately visual, with rotating banner images in the center of the screen. These banner images are mostly advertisements for current exhibitions, but also include an image of the exterior of the museum and a landscape image that includes the museum in frame with the Pacific Ocean. In terms of navigation features, above these images is a navigation bar with links to various parts of the site along with the 'Imiloa logo to the top left. The navigation links include "Tickets & Info," Education & Outreach," "Our Navigator," and "Membership" ('Imiloa, 2021). Each navigation link contains a dropdown menu to more specialized sections of the site that appears when users hover their cursor over the links. These links serve as the main means of navigation on the site and are appropriately placed above the banner images. Additionally, a search feature and a "Donate" link that is differently colored for stronger contrast.

The 'Imiloa website includes various links throughout the page as a means of navigation. The home page mostly contains information and Hawaiian navigation culture, but as you navigate beyond the home page, the information delivered is mostly practical information needed to visit the museums in person or advertisements for current exhibits. The navigation on the site aims to steer the users to current exhibitions and to visit the museum in person. I will write more about navigation and how it creates a map of colonial logics within the interface later in this article.

Translating as Possessing Hawaiian Culture

The visuals included in the interface and how they are assembled with contemporary telescopes of Mauna a Wākea create a particular translation of Indigeneity in Hawai'i and their practices of astronomy within Eurowestern frames. Once you scroll down past the banner images, you come to a section of the interface that explains the name 'Imiloa [see figure 1]. According to the interface:

> 'Imiloa means to 'seek far' and is the Hawaiian word for both 'explore' and 'explorer.' At 'Imiloa, we explore our place in the genealogy of the universe and continually seek, learn, and adapt to an ever-evolving environment that inspires discovery and innovation. ('Imiloa, 2021)

Behind this text is a background illustration of the Mānaiakalani constellation. The Mānaiakalani is "a triangle of stars in the northeast represents a coil of fishing line that belongs to the demigod, Maui. It extends southward and is tied to the top of a fishhook-shaped constellation. It fishes along the bottom of the sea for a magical Giant Trevally, Pimoe, Sagittarius" ('Imiloa, 2021). The constellation is illustrated to show an arm and hand holding a coiled rope attached to a fishhook next to a Trevally fish, or ulua.

If a user continues to scroll down, they are then shown another background illustration of a Hawaiian constellation. This illustration is of Kekāomakali'i, or "The bailer Makali'i. According to the site, "Kekāomakali'i resembles the shape of a Canoe Bailer, with the scoop of the bailer carrying Orion and other stars overhead and 'pouring' them out towards the west." This illustration is harder to see as it's hidden under Google Map application that demonstrates where the 'Imiloa is located. Included is text that reads "Sharing Hawai'i's Legacy of Exploration" ('Imiloa, 2021).

The 'Imiloa website functions as a colonial translation in that it takes these representations of traditional Hawaiian knowledge and translates them into Eurowestern frames to possess Hawaiian knowledge. Namely, the translations of the Hawaiian constellations are only background, or a starting point. These constellations are of vital importance to Hawaiian navigation and culture at large, yet are used only as a starting point to navigate users towards present day astronomy. Maile Arvin (2019) wrote that, "I see possession as expressing more precisely the permanent partial state of the Indigenous subject being inhabited (being known and produced) by a settler society" (p. 16). Hawaiian culture is placed in proximity to present-day astronomy in Hawai'i. They are decontextualized from pre-contact Hawai'i and recontextualized within a current struggle over cultural meaning and protection of Mauna a Wākea. Yet, the recontextualization of these visuals does not acknowledge Hawai'i's history of colonialism nor Hawaiian initiatives to gain political sovereignty and land back.

Additionally, the seemingly unproblematic use of the terms "explore" and "discovery" in relation to Hawaiian culture not only shows an insensitivity but an obliviousness towards Hawaiian political sovereignty and decolonization. While 'Imiloa does mean "to seek far, explore; distant traveler, explorer" (wehewehe.org, n.d.), the uses and connotations of those terms are different.

This finding echoes Sano-Franchini et al.'s (2015) similar finding of a "superficial nod to the Hawaiian language" on Hawai'i's official tourism website.

The translation of the word "'Imiloa" to "explore" demonstrates how the logics of possession through whiteness operates through translation. Arvin's (2019) theory of the logic of possession through whiteness reconceptualizes settler colonialism from a rigid structure to an assemblage that possesses Indigeneity through recontextualizing Indigenous knowledge. By reterrorizing Indigeneity as expressions of white knowledge, whiteness can then claim authority over Indigeneity and possess it. This theory demonstrates how settler colonial interface logics decontextualizes and recontextualizes Indigeneity within Eurowestern knowledge production.

Figure 3
Illustration of How Rhetorical Navigation Works in the 'Imiloa Interface

The section below describes how temporal and spatial experiences of Hawai'i, and the Big Island, in particular, are mediated through the 'Imiloa interface that appeals to the ideals of the ethical tourist. A page in the interface, Palapala Holoholo, is a map of the Big Island that showcases tourist destinations. In this map, Hawaiian knowledge and culture are recontextualized to construct an ethical method of visiting the Big Island. In particular, Hawai'i's scenic beauty and wildlife are centered while Native Hawaiian people are mostly absent in this mapping of ethical tourism in Hawai'i. This map shows another example of the 'Imiloa interface as an unethical assemblage because of how Hawaiian culture is reterritorialized within colonial logics.

Figure 4

Various Locations Along the Map of Palapala Holoholo. Screen Capture by Matthew Homer

Creating Ethos of Ethical Tourism

The 'Imiloa interface constructs a settler user experience through its delivery of information and navigation features which curates a temporal and spatial experience of the Big Island informed by tourism and settler logics. In other words, the interface organizes users towards visiting the museum in person, "[w]hether Kama'āina [resident] or visiting," ('Imiloa, 2021) interplaying into a settler colonial matrix that also includes tourism where Hawai'i is portrayed as an always welcoming place exhibiting the "aloha spirit" often with Native Hawaiians marginalized into service or entertainment roles or not present at all (McDougall and Nordstrom, 2015, p. 172). Particularly, a section of the interface titled "Palapala Holoholo," showcases a route of attractions tourists can take to "explore ... the expansive natural wonders of Hawai'i." ('Imiloa, 2021). This particular section of the interface emphasizes the natural wonders of the Big Island absent of any Native Hawaiian people. It also plays into the ideals of the ethical tourist by recontextualizing Hawaiian terms and values in those terms. This process results in an experience of the Big Island navigated through a progressive or ethical ethos of the liberal tourist. The navigation of this page follows the same logics of visiting Hawai'i as the tourism industry and mirrors the temporal and spatial experience tourists typically have of the Big Island or Hawai'i generally.

Palapala Holoholo is a page within the interface that features a map of the Big Island with pins highlighting different natural attractions. These attractions include Volcanoes National Park, the Pu'u Wa'awa'a Cone Trail, Hawai'i Wildlife Center, Pololū Valley, Kaulana Manu Trail, and the 'Imiloa itself. Included in these map pins are YouTube videos explaining each site. As the interface itself explains:

> [t]he word 'palapala' in Hawaiian is representative of any kind of documentation; to write, to journal, and even to print or make drawings or designs. The word 'holoholo' in Hawaiian means to go for a walk, ride, sail, or stroll; it is meant for leisurely adventures and pleasant travels. This Palapala Holoholo is your explorer's journal filled with tips, trails, and exploration information to help you with your 'imi loa adventures through some of the different landscapes that make up this beautiful island of Hawai'i. ('Imiloa, 2021)

While claiming to be a journal and a "space for documentation" ('Imiloa, 2021), there is no feature that allows for writing or any sort of correspondence back to the interface. The Palapala Holoholo is more of a map with no means of interacting back with the interface despite translating "Palapala" as documentation. This section of the interface, however, does document in its own way temporal and spatial experiences of the Big Island.

While having a Hawaiian name and highlighting Hawai'i's scenic imagery, Native Hawaiians are themselves marginalized in the Palapala Holoholo section of the 'Imiloa interface. The videos that spotlight each tourist attraction focus on wildlife or scenic landscapes. The only possibly Native Hawaiian person featured is in "The Pono Pledge" video. I will write more about this video below. This absence of Native Hawaiian people emphasizes a tourism paradise by focusing on nature and Hawaiian culture absent of actual people. As Sano Franchini et al. (2015) wrote about images of land to promote tourism in Hawai'i: "[e]ach of these images features activities deeply tied to land, activities through which one might not only come 'closer to nature,' but perhaps even conquer nature. Moreover, there is little that might remind one of urban life, inflecting a sense of 'Hawaii' as primitive" (p. 234). This rendering of Hawai'i matches traditional presentations of Hawai'i in such media as Elvis films that take place in Hawai'i. That is, Native Hawaiians are imagined within nostalgic frames and displaced, or, quite literally absent from modernist depictions of Hawai'i.

The Palapala Holoholo section of the interface also appeals to ideals of ethical and sustainable tourism. The first "stop" of the Palapala Holoholo navigation is the "Pono Pledge," an initiative of the Island of Hawai'i Visitors Bureau (IHVB) that "encourages safer responsible and respectful tourism. Its eight principles are simply stated, but cover a wide range of situations, experiences, and thought-provoking possibilities for visitors on vacation, and for Hawai'i residents a well" ('Imiloa, 2021). The pono pledge consists of the following eight principles quoted below:

1. I pledge to be pono (righteous) on the island of Hawai'i
2. I will mindfully seek wonder but not wander where I don't belong
3. I will not defy death for breathtaking photos, trespass, or venture beyond safety
4. I will Mālama (care for) land and sea, and admire wildlife only from afar
5. Molten lava will mesmerize me, but I will not disrupt its flow
6. I will not take what is not mine, leaving lava rocks and sand as originally found
7. I will heed ocean conditions, never turning my back to the Pacific
8. When rain falls ma uka (inland), I will remain high above ground, out of rivers and streams ('Imiloa, 2021)

This map pin includes a link to ponopledge.com, a site maintained by the IHVB. Like

the Palapala Holoholo, the Pono Pledge uses Native Hawaiian words and meanings to advertise and assent to tourism. It also emphasizes wildlife and geophysical features rather than Hawaiian people. The meaning of pono, a sacred and moral responsibility to do good in accordance with Hawaiian values, is recontextualized within the frames of references of the Hawaiʻi tourism industry to position tourism as ethical. This decontextualization of pono from its cultural meaning is possessive and recontextualizes the ethics of pono in proximity to whiteness. As Kyle Kajihiro (2021) wrote, "If tourism and militarism within capitalist and colonial relations are inherently extractive and violent, then a more 'woke' (hip and socially aware) tourism can never be a real alternative" (pp. 145–6). The Pono Pledge not only navigates users of the interface towards tourism resources but this navigation mirrors how romanticized notions of Hawaiʻi are rhetorically constructed through recontextualized Hawaiian terms and cultural values away from Native Hawaiians and instead towards settler logics of possession through whiteness.

What the Palapala holoholo section demonstrates is how the ʻImiloa interface uses translation of the Hawaiian language to give itself permission to document Hawaiʻi in its own frames. They translate "Palapala" as documenting or writing and advertise the section as a "space to document," (ʻImiloa, 2021) but there is no space within the interface to write. Instead, the interface maps colonial logics onto the land and navigates users through colonial temporal and spatial experiences of Hawaiʻi. As such, colonial logics become the user experience of the interface. In this next section, I expand on ideas related to navigation. Specifically, I theorize navigation as a rhetorical figure that steers users of the ʻImiloa interface through specific colonial logics. While the interface organizes Hawaiian culture and astronomy in a way that maps them in an unethical assemblage, the interface also has to navigate users through this assemblage. This navigation is motivated by colonial control of meaning through translation.

Figure 5
Palapala Holoholo Front Page. Screen Capture by Matthew Homer

Navigating Users Through Colonial Logics

While the Palapala Holoholo utilizes Hawaiian terms and knowledge, they do so to describe practices of tourism. Rather than moʻolelo or other performative acts to mediate a Hawaiian understanding of place, Hawaiian terms and knowledge are translated and re-expressed to re-inscribe colonial experiences of Hawaiʻi. In other words, Hawaiian knowledge is used to mediate a colonial spatial and temporal experience of Hawaiʻi to outsiders. The navigation of the ʻImiloa interface essentially maps out the colonial logics within the ʻImiloa interface. Navigation is a key theme throughout the ʻImiloa interface as the museum focuses on traditional navigation methods of Hawaiians as a Hawaiian form of science and technology. These traditional navigation methods are used by the ʻImiloa and IFA in an attempt to create common ground, but instead, construct a false timeline inevitably leading to the status quo of the telescopes on Mauna a Wākea.

In this process, navigation, both as a key theme and as a user experience in the interface, is decontextualized from Hawaiian understanding. Navigation, instead, is a mode of interaction that steers users along the constructed colonial logics within the interface. Navigation, as both a user interaction and a rhetorical figure, as I've argued throughout this chapter, is the means that steers Hawaiian history into trajectories of colonial modernity and Eurowestern frames of thought. In the interface, "navigation," the term itself, is used in conjunction with the terms "explore" and "discovery." As mentioned earlier in this chapter, the unexamined use of terms like "explore" and "discovery" orients the user toward a colonial gaze to temporal and spatial constructs of Hawaiʻi. Hawaiian culture related to navigation is likewise also reoriented in proximity to colonial logics.

Beyond navigation as a theme, the actual user navigation within the interface creates and maintains a path of Hawaiian culture in proximity to whiteness. Navigation within the site begins with visuals and representations of Hawaiian knowledge, but always steers the user towards exhibits related to modern astronomy. Or, in the case of Palapala Holoholo, tourism of Hawaiʻi. Navigation, then, becomes a mode to map the ownership and possession of Hawaiian land, thought, and peoples. By following the path that the interface lays out, the logic of navigation is not of Hawaiian values, but navigation among colonial logics. The user experience of this interface becomes colonial simulations of Hawaiian culture rather than a truer or deeper understanding of Hawaiian culture on its own terms.

The translation practices of the ʻImiloa interface function within a settler colonial assemblage in that they organize Hawaiian visuals and knowledge with IFA's current astrological practices and navigate the user through the colonial logics of this arrangement. A timeline is created where traditional Native Hawaiian astronomy practices continued into contemporary astronomy practices without any occurrences of colonial violence or dispossession creating an imaginary colonial past. The ʻImiloa interface creates this temporality by bringing these elements together and then navigating users through the assemblage in a particular route. With traditional Native Hawaiian astronomy relegated to the past where they are acknowledged, but unable to contemporarily participate, the IFA can make claims of stewardship of Mauna a Wākea and astronomical practices that take place there. If the IFA and the ʻImiloa engaged in a serious engagement of Native Hawaiian land-based rhetoric, alternatives to current astronomy practices

would have emerged. Instead, Native Hawaiian astronomy was navigated to legitimize and justify current astronomy on Mauna a Wākea. The ʻImiloa interface just reifies modernity rather than alternatives to modernity. Hawaiian futurities and users of the interface are then re-oriented to the present.

Discussing Cultural Interface Design and Content Strategy

The coloniality in ʻImiloa interface is not a unique nor isolated incident in how Hawaiian Indigeneity has been communicated by museums in Hawaiʻi. In fact, Native Hawaiians have long had tenuous relationships with how Hawaiian culture is communicated. In regards to the Bishop Museum located in Honolulu, Lisa King (2015) wrote that the

> uneasy relationship with its Native Hawaiian collections and with the Native Hawaiian community it claims to serve has been document for example in a number of scandals in the late twentieth century over the keeping of and access to sacred objects and iwi [skeletal remains]; the contract archaeology it has engaged in for the sake of funding, often to the detriment of Native Hawaiian sacred and cultural sites; and a lawsuit concerning the keeping and study of the Mokapu ancestral Hawaiian remains. (p. 128)

Angela Haas (2015) similarly wrote that "museums have historically promoted a colonial consciousness of consumption and nostalgia with the visual rhetoric of museums that typically produces ahistorical, fetishized, and simulated rhetorics of Indianness, and then how these fictions have been taken up by both non-Natives and American Indians and are often re-inscribed in culturally destructive ways" (p. 196). So, the Bishop Museum and other museums in Hawaiʻi have commonly constructed a temporality in their halls and displays that trap Native Hawaiian people and culture in nostalgic contexts that discursively marginalize them in contemporary society.

While the Bishop Museum has improved in how they handle Native Hawaiian visual and cultural objects, they and other education institutions in Hawaiʻi rarely consider the political or decolonization as a part of Hawaiian culture. In 2005, Bishop Museum attempted to improve how they presented Native Hawaiian culture with the renovation of Hawaiian Hall. King (2015) wrote the new Hawaiian Hall is a "reclamation of the space for Native Hawaiian culture" in the "visual and content orientation towards a distinctly Hawaiian worldview" (p. 138). Yet, she also warned that Hawaiian Hall "provides a foundation for presenting Native Hawaiian claims for political sovereignty—all without articulating anything substantial about political sovereignty itself. Thus, what may be spoken is limited, as is what rhetorical sovereignty can be enacted there" (King, 2015, p. 139). Likewise, Kuwada (2015) stated how "[i]n this ongoing fight over the telescopes atop both Mauna Kea and Haleakalā, proponents of the telescopes often try to offer us insights about our history and culture to explain why we should give up and just let them build the damn things" (Kuwada, 2015). What both of these quotes demonstrate is how museums and other educational institutions can center Native Hawaiian culture and knowledge, yet still stifle political and rhetorical sovereignty, and thus, these attempts remain colonial.

The ʻImiloa interface offers a compelling example of complicating factors of translation, technical communication, and colonialism. The interface attempts to build common ground

between the IFA and Native Hawaiians community that disapproves of the Thirty Meter Telescope and their control of the summit of Mauna a Wākea. The interface demonstrates how the Hawaiian word "'Imiloa" is translated to import Eurowestern notions of "explore" and "discovery" onto traditional Hawaiian navigation. This translation justifies the IFA's stewardship of Mauna a Wākea. Additionally, translation of Hawaiian navigation is also accomplished through assemblage. By placing visuals and objects of Hawaiian knowledge and culture in proximity, they are translated and re-expressed by the IFA. Thus, Hawaiian navigation is mediated through colonial logics and this mediation of culture becomes the main user experience.

Based on the 'Imiloa interface and scholarship on Hawaiian epistemology and technical communication scholarship discussed throughout, I present a set of suggestions and practices for a critical and reflexive approach to interface design and content strategy when interfacing with cultural knowledge and values.

Include the political when centering cultural knowledge and values. The absence of the political is itself a political act. Additionally, culture and the political are not separated, but rather are intertwined elements. You cannot properly represent Hawaiian culture on its own terms without the inclusion of politics. Marie Alohalani Brown (2016) wrote that "the renaissance, revitalization, and reclaiming [of Kanaka values and knowledge] is not happening in a social, cultural, spiritual, or political vacuum. 'Oiwi religiosity/spirituality has always been and continues to be tied to the 'āina, but it was also and continues to be tied to politics—now a clash between settler and indigenous values and politics of place" (p. 163). Politics is constitutive of Hawaiian relation to land and place. The absence of political issues within the 'Imiloa interface only works to marginalize the rhetorical sovereignty of Hawaiians. As Selfe and Selfe (1994) have argued, interfaces are highly political spaces both in how it depicts culture and what it leaves out. When designing interfaces that aim to center cultural knowledge, it's important to include the political so as not to also exclude the rhetorical sovereignty of the cultures you're aiming to build common ground with. Otherwise, interfaces would replicate colonial conditions.

Center transformation as the primary purpose of the technical communication of cultural knowledge. Engage culture to find new alternatives to the present. Common ground that technical communicators build in relation to cultural knowledge should be leading to new possibilities. Otherwise, culture becomes subjugated to modernity. Kristin L. Arola and Adam Arola (2017) wrote that an unethical assemblage uses an "object out of context and assembles it not for transformation but reterritorialization (p. 217). The 'Imiloa interface is an unethical assemblage because it achieves precisely this outcome. It reterritorializes Native Hawaiian knowledge via translation as expressions of the IFA and keeps Hawaiian culture essentialized in the past. Colonialism and modernity are reified through the reterritorialization of Hawaiian navigation within colonial frames of knowledge.

A truer engagement with Native Hawaiian culture within the interface would have led to different possibilities to the current astronomy practices of the IFA rather than justifying them. Sano-Franchini et al. (2015) argued that "culture is shifting and complex—that cultural artifacts and embodied identities are grounded in histories, and that decisions and acts that take place now impact the status of people in the future" (p. 240). And so, the communication of cultural forms

of science and technology should prioritize transformation and futurity rather than the present or the past.

Examine what "rhetorical ground" translation and common ground are being built upon. If acts towards building translation or common ground are held within colonial frames of thought, they are not common or in-between at all. Rather, they are built upon Eurowestern epistemological ground. Arvin (2019) argued that:

> in colonial conditions, knowledge is the important agent of possession—a word with which I purposefully invoke its bodily, haunting, supernatural connotation. Demons and spirits, rather than (and anathema to) the logic of science, are commonly identified as the agents of bodily possession. But many have noted that modernity and science are in fact haunted, obsessed with the eradication of the premodern and the exorcism of ghosts. (p. 24)

That is, knowledge is a predominant mode of possessing Indigeneity. Producing Indigeneity within Eurowestern frames of thought becomes a process of colonial possession of Indigeneity. Similarly, Angela Haas (2015) wrote that these false conceptions of Indigeneity "accumulate and contribute to the perpetuation of a colonial rhetorical assemblage, one that situates American Indian peoples and intellectual traditions outside (post)modern society and correspondingly resistant to the tools and technologies that have signified Western (post)modernity" (p. 189).

Both Arvin and Haas show how settler colonialism fictionalizes and possesses Indigeneity by re-expressing them within colonial knowledge. Through this process, colonial logics become the epistemological foundation for translation and common ground. Rather than centering only on the abstract concept of "culture" then, designing interfaces toward goals of rhetorical sovereignty would better promote equity and social justice in the technical communication of culture.

Additionally, when attempting to build common ground between modernity and other traditions of science and technology, that common ground should also work to re-examine or deconstruct modernity. In other words, don't just acknowledge cultures, but inquire how these cultures can help you critically reassess or re-learn your own knowledge production methods in new ways. This re-evaluation constitutes a mode of de-linking from the colonial logics of modernity's meaning-making.

The 'Imiloa interface is the type of colonial haole assemblage that I argue needs to de-link from. The political is cultural, and assemblages using depictions or visuals of Hawaiian culture that omit or obscure the political inevitably lead to colonial modernity as its rhetorical grounding—especially assemblages that attempt to create command ground between modernity and traditional cultural knowledges. This limits the rhetorical sovereignty of Native Hawaiians and thus these assemblages can be considered unethical in the ways they are out of sync with Hawaiian values. By not fully acknowledging Hawaiian political sovereignty movements, land back initiatives, or other issues of Hawaiian political advocacy, the 'Imiloa interface reterritorializes Hawaiian culture and rhetorics away from any decolonial futurity. It is an unethical assemblage because it isn't rhetorically responsive to political nor rhetorical sovereignty and thus coloniality acts as its principal logic. Also, I consider it unethical in the

ways that the lived experience of Native Hawaiian navigation and astronomy is temporally assembled so that their inevitable arrival point of Hawaiian Indigeneity is modern science as it is already practiced with telescopes on the summit of Mauna a Wākea.

Additionally, I hope that this article shows how technical communication needs to incorporate the political with minoritized knowledges to avoid such colonial framings in their texts. Sidler and Jones (2009) wrote that "[c]areful examination of interface technologies ... requires that technical communicators be consciously aware of rhetoric inherent in scientific and technological information and the effect that rhetorical decisions about interface technologies can have" (p. 46). Especially, I would argue when it comes to relating minoritized or Indigenous knowledges to non-expert audiences or attempting to "bridge" two different cultural technological knowledges. When common ground is built in the absence of the political, modernity serves as the rhetorical grounding. Thus, the 'Imiloa—as an attempt at command ground—ends up reifying the colonial control of meaning as the infrastructure foundation. Science and technology, likewise, are not merely symbolic of settler colonialism but play an active role within the assemblages of settler colonialism. Science and technology often act as a sort of border between the modern and the non-modern. Where science and technology places those borders reterritorializes the places and peoples at those borders in specific temporal arrangements and redirects trajectories of futurities. And in this way, claims to land, peoples, and cultures are made and maintained.

The determinism of modernity can seem inevitable. Yet, modernity is not a destination; we never actually arrive. Rather, we are constantly being driven, pushed, and maneuvered in modernity's direction. The TMT was a moment in time that I understood as a stepping off point. Alternatives to modernity are available if we dig up the rhetorical ground we stand on.

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"Does it have to be in English?": Decolonizing TPC Pedagogies with Community-based Translation

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Abstract: To counter monolingual colonial English practices in technical and professional communication (TPC) scholars (Gonzales, 2016; Haas, 2012; Itchuaqiyaq & Matheson, 2021; Rivera, 2022) have proposed conceptualizing translation as a site of decolonial efforts. In this article, we extend those efforts by putting translation studies into conversation with community-engaged social justice work in TPC. We develop pedagogies that prioritize personal stories focused on translation work that students complete in relation to local and campus communities. Using an introductory TPC course as our case study, we recognize and outline the necessity for more community-based translation work in TPC conversations.

Keywords: Translation, Decolonial, Community, Pedagogy

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Introduction

The history of translation in the US has been traced back to encounters among indigenous people prior to colonialism, and with settler colonialists upon their arrival in the first century (Rivera, 2022). In those instances, translation was deemed necessary to mediate meaning, to negotiate treaties, and to facilitate communication. Despite this rich history, translation has been approached as a neutral practice and prized for its factual objectivity. This myth of neutrality has, however, been rightly questioned in the wake of centering humanistic concerns in TPC as well as in recognizing the complex role that language plays in shaping reality. And language, as we know, is at the heart of translation. This is how translation work in TPC *can* do the work of social justice. It is how translation has taken the social justice turn, not to upend the core work of transmitting technical communication, but rather to account for the values and knowledges of end users and various audiences. It is how translation can operate at the intersection of UX, access, and technology, often in the service of under-resourced users.

This shift in perspective has equipped translation as a social justice undertaking through which TPC can promote "active equality" (Colton and Holmes, 2016). By centering on difference as a strength and not a deficit, translation work in TPC can become especially justice oriented in its efforts to level the playing field (Agboka & Dorpenyo, 2022). This line of scholarship is consistent with more general approaches to composition pedagogies that speak about integrating translation initiatives as part of equity-oriented (Ayash, 2020) composition pedagogies in the US, where English monolingualism continues to be a base language ideology. Moreover, translation pedagogies enrich our understanding of the rhetorical labor and knowledge that goes into translating/interpreting in the professions and across technical genres (Gonzales & Bloom-Pojar, 2018).

As Harding & i Cortés (2018) explain, translation is "a site of creativity and subversion, or a tool for the powerful and the disempowered, the majority status quo and minority voices" (p.1). Therefore, in contexts of global structural inequities, translation can illuminate inequitable social dynamics and/or contribute to counter them. For example, Bandia speaks about translation as "reparation" in the context of Africa, where "the writer-as-translator works to redress linguistic and cultural power inequities that would maintain postcolonial African writers at the periphery of the metropole" (Bandia, 2008, as cited in Garane, 2014, p. 189).

We understand translation in line with decolonial theory, not as a binary between the "target" and the "source" cultures and/or languages, but as a hybrid "third" space (Bhabha, 1994) of meaning-making that is contextually situated. These processes are not neutral, and colonial discourses can use translation to control marginalized subjects (Niranjana, 1990) or spread neoliberal agendas (Sánchez-Martín, 2017). Translation has also been instrumental in activism. For example, Lising (2020) investigated how informative materials (such as infographics) were created and disseminated to prevent COVID-19 in The Philippines, demonstrating that grassroots-generated rather than state-initiated translation initiatives were vital in the production of public health information to counter the dominance of English and Tagalog (https://www.languageonthemove.com/covid-19-health-information-campaigns-in-the-philippines/). As we describe below, community-engaged translation initiatives contribute to linguistic justice (Cardinal et al. 2021).

This type of work does not necessarily remain within the logographic (textual) dimension of language, such as translating from one named-language to another named-language (English to Spanish, for instance) or translating from one register to another one (academic or specialized jargon into a more accessible one). In fact, translation (and by extension all communication) must be expanded into meaning-making created in one modality (visual, aural, gestural, spatial, linguistic) into a different one. This is particularly important in the context of US technical communication programs, where translation is one of the activities that are part of the larger enterprise of localization. Localization[1] is broadly defined as

the linguistic and cultural adaptation of digital content to the requirements and the locale of a foreign market; it includes the provision of services and technologies for the management of multilingualism across the digital global information flow. Thus, localization activities include translation (of digital material as diverse as user assistance, websites and videogames) and a wide range of additional activities (Schäler, 2017, p. 209).

What stems from this definition is the idealist nature of a neutral localization process, detached from power relations and complex social, and linguistic contexts. Some scholars note that the type of localization happening when the product is designed (developer localization) differs from the localization that users employ as they interact with it in more concrete cultural contexts (Sun, 2012). Therefore, we draw from scholars who also take a decolonial approach to localization (Sun, 2012; Agboka, 2014, Dorpenyo, 2019) and decolonial (Haas, 2012) or socially just pedagogies (Jones, 2016) of technical communication. More specifically, Dorpenyo identifies the following tenets of decolonial localization (and translation) work in TPC:

1. The ever-increasing commitment to the recognition and realization of social justice
2. Equity and equality for all peoples, underpinned by social models of difference
3. Enhanced sensitivity to the role of discourse in constructing and framing identities and relationships
4. Various consequences of globalization and improved communications and technologies which have had the effect of shrinking the world and bringing people from far-flung places into closer contact with each other (cited in Agboka, 2014, p. 303) (Dorpenyo, 2019, p. 58).

For Haas (2012), in technical communication, "decolonial methodologies and pedagogies serve to (a) redress colonial influences on perceptions of people, literacy, language, culture, and community and the relationships therein and (b) support the coexistence of cultures, languages, literacies, memories, histories, places, and spaces—and encourage respectful and reciprocal dialogue between and across them" (p. 297). Others define decolonial lenses to technical communication more strictly tied to concrete Indigenous peoples and communities and/or places (Itchuaqiyaq, & Matheson, 2021). Although this project has taken place in the lands of the Coast Salish peoples of the Pacific Northwest, we take a broader perspective (Dorpenyo, 2019; Haas, 2012; Jones, 2016;) that connects translation to social justice and decolonial efforts in technical communication, specifically one where "the human experience has been and should continue to

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[1] We distinguish between these two processes that are part of technical writing, although we followed a more general approach to translation in the teaching case described below.

be a core concern" (Jones, 2016, p. 345) in TPC scholarship and pedagogical design through community-engagement (more details below).

With these principles in mind, our article describes the integration of a community-based translation project in technical communication courses taught at a large public university in the Pacific Northwest, where the key values of the writing program include establishing, designing, teaching, and providing spaces for anti-racist curricula through equitable classroom and community practices while subverting oppressive, colonial norms of gender, race, sexuality, language, and other social and cultural identities. For us, decolonial scholarship and pedagogies are a necessary step in antiracist practice, since they allow us to unlearn and relearn some of the principles that have guided scholarly work and our own participation in systems of oppression. As many scholars have pointed out, the language policies, practices, pedagogies, and ideologies that we have inherited are shaped by colonialism and tied to racism. More specifically, monolingualism (thinking about language as separate discrete abstract systems detached from people's multilingual experiences) has been used to further nationalistic colonial agendas that present White Mainstream English (Baker-Bell, 2020) as the norm and multilinguals as deficient racialized individuals (Flores, 2019). In doing this work, we support antiracist practice in that we "actively identify and oppose" (Boston University Community Service https://www.bu.edu/csc/edref-2/antiracism/) systemic and epistemological racism emerging from monolingual language ideologies and pedagogies. As we will discuss below, this small step to learn about and seek language justice through community-engaged translation pedagogies is, we hope, part of larger and collective efforts to transform our institutions.

Our Positionalities in this Research Project

The combination of our positionalities speaks to the complexities of integrating translation as part of social and language justice pedagogies in TPC.

First, as the instructor of the course that we describe below, Francis joins this project as the sole white, male, monolingual scholar. Although he identifies as monolingual, his life and work are surrounded by multilingual speakers, spaces, places, and cultures and he engages in Spanish-based interactions frequently. As a monolingual speaker, Francis is in a unique position to not only understand the limitations of monolingualism, but to also recognize how translation and localization efforts are not solely tied to multilingualism - a common misconception that became evident through this project. As a composition scholar, he acknowledges the gap that exists in TPC scholarship concerning decolonial, community-based pedagogies and the impact that this project can have on the field as a whole. Finally, as a digital technofeminist, he brings his knowledge of digital communication tools and their affordances and limitations. His commitment to equitable and socially just work in technical and professional communication directly connects to the decolonial, community-based framework this project promotes, discusses, and analyzes.

Cristina comes to this project as a Spanish-speaking faculty member interested in scholarship and pedagogies around multilingualism and social justice in relation to colonial English. Being a non-US Spanish-speaking individual, she is often positioned as a racialized speaker of English, despite being a white person. She brings to this project her experiences studying translation as a

decolonial and mediational tool for language justice. As we will describe in the "teaching case" section below, she has also had some professional experiences related to translation and technical communication (besides translating on a daily basis in all kinds of situations). For example, she worked as a member of a localization team for an IBM affiliate company in Salamanca (Spain) where she participated in localizing information from English to Spanish for various global companies operating in Central and Latin America. The team she worked with included a project manager located in Belgium, a group of content generators in India, and the localization group in Spain. While doing this job, Cristina realized several issues regarding unequal power relations at the global level such as global multinational companies outsourcing operations. In terms of translation, she realized how the content was being translated without the input of Spanish-speaking communities from the Americas. What linguistic expressions were preferred for a more impactful and accurate translation? What was the need for the translation? Who benefited from it? What information could be lost or obscured in the translation and localization processes? How would target readers experience access to certain information? These questions reflect tensions between "colonial-capitalist" and the decolonial potential of cross-cultural and translation practices (Itchuaqiyaq & Matheson, 2021), which lingered in her mind as she participated in several localization projects without successfully resolving any of them.

Josephine's interest in this project stems from her status as a multilingual person. This status, while it is the norm for most of the world's societies, is rather unusual in the US context. From this position of multilingualism, Josephine has gained some insights into the nature of technical communication for non-native speakers of English and communities in the Global South. For one thing, increased mobility and migration around the world by necessity brings technical communication into communion with speakers of other languages. This fact alone compels us to ponder ways to equitably and ethically design TPC products for these users. For another, multilingual speakers bring with them a depth and richness of several languages that invariably make their way into the dominant English language. And finally, as dealing with the global pandemic has shown, language is the tool of first response in communicating crisis and risk information. Its role in translation is immeasurable.

The three of us joined efforts to initiate conversations around the role of translation in technical communication at our university, located in the lands of the Coast Salish peoples. While technical communication courses remain in the orbit of English monolingualism, both the stories of the lands where our university is located as well as the student and faculty demographics are multilingual. As Dorpenyo (2019) states, "users of technology have been marginalized in a lot of ways and we need to recover their voices" (p. 57). Therefore, our work aims to find and dedicate space in the classroom to the "alternative stories" (Dorpenyo, 2019, p. 57) within technical communication courses in an English department, especially those of our students and community members whose daily lived experiences speak to the power of English colonization.

In what follows, we dissect and expand on the interconnected nature of translation, localization, and language justice in technical communication.

Translation in Technical Communication

In TPC, translation is considered a mediating form of intervention that helps "facilitate understanding across global and local contexts" (Martín, Maylath, and Pacheco Pinto, 2015, p.3). For other scholars, "translation always implies that there is something to be articulated, a message to be communicated, and a context that facilitates communication" (Cronin, 2009, p. 61). Maylath et al (2009) decry limiting translation to functional and instrumental goals that focus on communicating a message. In its earliest conception, translation was understood as the literal replacing of words from one language to another (Cronin, 2009; Gnecci et al., 2011). Over time, the meaning of translation has broadened to account for linguistic and cultural adaptation as well as modes and mediums in which communication occurs. To that end, translation is invoked in the same context as localization and user-centeredness as well as ethics and multilingualism (Gonzales and Turner, 2017).

Given that technical and professional communication is a process that manages information so users can act on it (Johnson-Sheehan, 2015), translation serves to facilitate information exchange in, perhaps multiple locally attuned languages. The translator mediates or bridges the gap between the source text and the target language to ensure that meaning is accurately negotiated and communicated. Translation normally takes place in specific sites—be they physical as in community centers or virtual as in online spaces to enable users of those sites to access the kind of information that would enable them to complete tasks. And because such content is intended for particular audiences, translation done right is the ultimate exemplar in audience-centered communication (Bartova, 2014, p. 328).

Translation shifts away from the source text to focus on the culture at hand as well as the people and their needs in that moment. Regardless of its transactional nature, intended to transmit "concrete technical information" (Dombrowski 2000, p. 3), the rhetorical nature of technical communication renders it socially grounded and user centered. Thus, doing the work of translation necessitates accounting for the "values, ethics, and tacit assumptions" of intended audiences (Dombrowoski, 2000, p. 3). Another element of translation is that it mediates among languages and with it the issue of multilingualism. Multilingual speakers are viewed, in some scholarship, as technical communicators (see Gonzales & Turner, 2017; Gonzales, 2018) because language is considered a tool in the translation arsenal through which meaning can be negotiated across cultures to convey technical communication capaciously. Moreover, according to Maylath (2013), the process of translating is a collaborative endeavor that calls for multiple forms of competencies. It requires understanding the context of translation and with it drafting, revising, and? editing. Thus, translators must be creative. Some of the creative ways translators have used are storytelling or taken up creative acts involving gestures and other non-verbal forms of communication to translate words and phrases into units of meaning.

Needless to say, there is more to translation than replacing words or otherwise articulating those words in a different language. What is at stake is communicating expert, technical, and highly complex information to end-users, tasks that require a variety of rhetorical and analytical skills. Additionally, knowing the rhetorical purpose of the content encapsulates the goals of users and the social conditions surrounding the content. From UX to HCD and localization, technical communication has been about centering the human experience (Quesenbery & Szuc, 2012;

Redish, 2010; Schumacher, 2010; Sun, 2012). As TPC scholars have demonstrated, the role technical information plays in perpetuating injustices either through omission or commission as Agboka's study (2013) showed of Ghanaian users, translation must be attuned to these issues. Often, translators must contend with systems and institutions responsible for creating disenfranchised social classes. In such cases, ethical translation takes on advocacy work rather than simply transcribing texts.

In TPC, where translation operates at the intersection of UX, access, and technology, among other areas, it is often in the service of under-resourced users. And translation pedagogies enrich our understanding of the rhetorical labor and knowledge that goes into translating/ interpreting in the professions and across technical genres (Gonzales & Bloom-Pojar, 2018). As Martín, Maylath, and Pacheco Pinto (2015) observe, translating today often involves several agents with different roles" creatively working in "collaborative networks in highly technological, distributed environments" (p. 3). This shift in perspective has rendered translation a social justice endeavor through which TPC can promote "active equality" (Colton & Holmes, 2016), decolonize language, and de-center the dominant discourse.

Centering on difference as a strength and not a deficit is critical to some approaches of translation, which can also render it especially justice-oriented in its efforts to level the playing field (Agboka and Dorpenyo, 2022). Agboka (2014) argues that decolonial approaches to TPC are necessary to contextualize content and to take into account the linguistic factors pertaining to end users. Decolonial approaches call for reflection and designing the work of translation from the point of view of the end-users (See Agboka, 2013 p. 301). The approach requires that the translator be actively involved with end-users rather than be removed from them in ways that assume familiarity.

Given that individuals or communities that often require translation are unenfranchised / disenfranchised, decoloniality is critical in translation. A decolonial approach to translation allows the translator to move beyond word-for-word inscription and create new knowledge that discards the presumptions, interests, or motivations reflected in the source text. Translators can deconstruct the source text and render it not just accessible but responsive to, as Agboka (2014) offers, be especially sensitive to the "role of discourse in constructing and framing identities and relationships" (p. 303).

However, knowing how language works is necessary for translation. Consider how colonial language ideologies intersect with other oppressive conditions that multilingual speakers experience. Traditionally, colonial language practices in Spanish or French would require speakers to follow a binary gender construct. However, translator and community activists are increasingly pushing against these "normative" colonial practices by using rhetorical and linguistic expansive gender expressions outside of the binary construct (the use of "e" or "x" in Spanish instead of the traditional "a" or "o" to denote gender identifications). These examples showcase how through translation, we can make visible decolonial efforts to support language justice." In this sense, differences across communities offer opportunities for the translator to tap into language practices that support the expressions and identities of communities marginalized through decolonial practices. Guy Deutscher (2010) references another example: the differences among speakers of the Guugu Yimithirr Aboriginal language who rely on geographical

coordinates [as opposed to "egocentric coordinates"] to describe spatial relations. To them, things are "facing north," or you are asked to "move a bit to the east" (Deutscher, 2010, para. 15) where in the English language, egocentric coordinates use left or right directions. That means that among the Guugu Yimithirr, awareness of the geographic orientation is central to their spatial orientation and that, perhaps, human beings have an innate ability to orient themselves geographically. By identifying these possibilities, translators can support expansive rather than reductionist constructions of the world that are consistent with the values of the communities they work with.

Community-based Translation and User Localization

Framing translation as only one piece of the puzzle of "language justice" in mainstream white-dominated and monolingual US technical communication, Cardinal et al. state that "(a) translation does not guarantee that the document is usable or helpful for the targeted community. "Access" focuses only on languages, not on building trust and relationships with communities. Access also often lacks a commitment to communities' overall success and vitality. To be inclusive, language work needs to broadly reorient itself towards justice for marginalized communities" (2021, p. 39).

To illustrate this idea, we use the following anecdote. In June 2022, Cristina attended the Latin American Philosophy of Education Society (LAPES) symposium, multilingually entitled "Pedagogías Feministas Movements, Solidarity, and Disobedience for New Worlds" (https://www.lapes.org/symposium).The event provided Spanish-English onsite interpretation and ongoing multilingual exchanges between organizers, participants, and attendees. Two interpreters worked back-to-back with each presenter and participants, to provide language access to the audience on the spot. One of the sessions was led by Sylvia Gonzales from the non-profit organization *Casa Latina* in Seattle who is part of the group "Mujeres sin fronteras" in the organization (https://casa-latina.org/work/mujeres-sin-fronteras/).

> At the beginning of her session, Sylvia made the following remark: "no somos trabajadoras domésticas—somos trabajadoras del hogar. La palabra doméstica conlleva una historia de la dominación, del control" (we are not "female domestic" workers, we are "workers of the home". The word domestic implies a history of domination, of control). Pausing her presentation, she continued saying

> en español, la palabra doméstica tiene un fondo muy duro, viene de domesticar, de dominar. Hay un esfuerzo, un movimiento que quiere educar para cambiar este concepto, en un mundo moderno de esclavitud cambiar la forma en la que usamos las palabras." (In Spanish, the feminine gendered word "domestic"has a really harsh back-meaning, it comes from "to domesticate" to "dominate". There is an effort, a movement that aims to educate in order to change this concept in a modern world of slavery where we need to change the ways in whihc we use words) (https://padlet.com/ssabati/dsyn2392rrkf4onp).

Sylvia's insider's multilingual knowledge illustrates that translation must be highly situated in the communities and based on "practitioner expertise" (Cardinal et al, 2022). It also reflects

Jones' claim about the importance of community-based research to "collaboratively to address or solve a problem that directly impacts the community" (2016, p. 354).

Zooming into the role of language in TPC, recent work about language difference outside of US monolingual whiteness and technical communication conceptualizes multilingualism as "technology" (Gonzales, 2018), especially in the context of community-engaged communication. For example, in their study about the user localization experiences of multilinguals, Gonzales and Zantjer (2015) identify a wide range of activities, including acting, comparing/contrasting, deconstructing, gesturing, intonation, negotiating, sketching, and storytelling. These findings speak about the types of "undertheorized" intellectual work that multilingual individuals and communities draw from in their user localized translation practices. Therefore, we call for technical communication teacher-scholars to frame "translation as an experience-centric event" that is "iterative and responsive" (2015, p. 281) rather than detached processes of meaning-making. This type of approach would serve to validate multilinguals' translation experiences as rich rhetorical practices from which teacher-scholars and professionals in the industry could learn more about translation and localization processes.

Involving multilingual communities and individuals whose experiences have not been part of mainstream technical communication scholarship is thus part of decolonizing efforts. As Cardinal et al. (2021) remind us, "(w)hen thinking about how practitioners and scholars design communication for linguistically and culturally diverse audiences, we must ask these specific questions: Whose communication practices, cultures, and languages are at the center of an organization?" (p. 39).

Working with translators in a non-profit organization with a mission of community-engagement through language access, and professional development of multilingual Latinx communities, Gonzales and Turner's 2017 study described how "translators engaged in multiple, overlapping activities normally undertaken by specialized project managers, translators, user experience designers and Web developers" (p. 134). This laborious work took up to 100 hours and was completed in a collective of people taking on different tasks. Moreover, the organization also invited Spanish classes where translators, teachers, and students "worked together to determine how information could be best presented to Spanish-speaking users in the community" (2017, p. 137).

Building on this line of work, our project aims to introduce technical communication students to current practices of translation and/or user localization, specifically those that engage linguistically underserved communities in the Seattle area in order to promote linguistic justice. As mentioned in the introduction, we approach linguistic justice as an outcome of decolonial work, that in turn, allows us to be "antiracist" in persistently and actively seeking to undo the systemic and epistemological racism inherent in monolingualism. In what follows, we describe the methodological approach for this study.

Methodology: Reflexive Teaching Case

Our methodological approach is grounded in a teaching case, which aims to provide opportunities for technical communication teachers to reflect on their pedagogical practices

according to students' learning experiences. A teaching case approach suggests including a detailed description of pedagogical context and background information around the teacher's course design.

The goals of our project involved:

1. Understanding how to intentionally create opportunities to investigate and participate in initiatives related to language justice in different communities and contexts related to students' lives;
2. Intentionally acknowledge multilingualism already present in technical communication classroom spaces that rarely gets to be acknowledged in predominantly white institutions, like ours; and
3. Considering ways forward in the implementation of a decolonial and community-based translation approach to technical communication pedagogies.

The gist of this project is on the teacher's reflexivity (Francis) as he was doing the "work toward listening to theory, building a course, and selecting the right tools for the job" of a decolonial and social justice technical communication pedagogy (Haas, 2012, p. 278).

First, we describe the teaching case in detail, including the context of the program, student demographics, the approach to the entire course, and how the three of us developed the project around decolonial community-engaged translation collaboratively.

Next, we focus on the specificity of the translation project and provide some general information about the teacher's (Francis) overall interpretation of students' work before our discussion on key pedagogical aspects for future implementations of community-based translation projects in TPC courses. In other words, we conceptualize this reflexive teaching case as "a starting point" (Jones, 2016, p. 356) to collaboratively develop pedagogies of language justice in TPC programs.

The Teaching Case: Institutional And Demographic Context

This teaching case was situated in the context of a technical communication program. More specifically, it describes a translation-based project taught in two sections of the course ENGL 288 – Introduction to Technical and Professional Communication run by the Program in Writing Across Campus.

One section had 22 students and the other one had 23 students. The university lists the following demographics: 39.7% white, 22.1%, Asian, 8.4% Hispanic or Latino, 6.6% two or more races, 3.15% Black or African American, .444% American Indian or Alaskan Native, and .339% Native Hawaiian or Other Pacific Islanders. The full-time undergraduate programs are most commonly White female (19.4%) followed by white male (16.1%) and Asian female (14.9%). The students typically come from a more middle to upper-middle class.

Although there are no concrete demographics for the two courses, they were both representative of the overall university.

Overall Description Of The Course[2]

Over the course of a 10-week quarter, the class covers a wide variety of practical and theoretical topics directly connected to the students' interests, majors, minors, job aspirations, etc. In line with Huatong Sun's (2012) framework, the course is built around a genre studies model that sees composition (including technical communication) as activity systems of conventions, expectations, audiences, purposes, and contexts of genres. Using this approach allows students to take the projects in the direction that is most useful for them. The course instructor began with a more traditionally genre studies/research approach to TPC and then pivoted into more specific TPC topics (document design/testing, accessibility, usability, multimodal communication, collaborative composition, etc.). All these topics are underpinned by equitable theories of positionality, privilege, and power, which form the core of discussions that connect the course content throughout the quarter.

Making Pedagogical Decisions Collaboratively

Before we began this work, we discussed how we wanted to present community-based translation to an introductory technical and professional composition course, since we believe in the impact of collaborative efforts, especially when it comes to bringing our different positionalities to this project. In doing this, we echo Jones' (2016) claim about the importance to "open and encourage dialogue among various groups and stakeholders, priming a rhetorical space for critical reflection and action (praxis) that supports advocacy goals and creates alliances with populations that have been traditionally marginalized and othered" (p. 356).

With only ten weeks in a quarter and a lot to cover in an introductory course, we had to be strategic with how we handled the readings, discussions, assignments, and project. We started by choosing our readings carefully. Since this is an undergrad class, Francis (as the course instructor) didn't want to overwhelm the students with anything too dense or theory heavy. We ultimately decided on three articles: "The Difference is in the Design: How Untranslatable Words Challenge Technology and Pedagogy" by Rebecca Zantjer; "The Importance of Translation: An Interview with Dr. Laura Gonzales" by Miriam F. Williams; and "Anthropology Association Apologizes to Native Americans for the Field's Legacy of Harm" by Rachel Parsons. We chose these articles based on their accessibility, but also on their topics - we wanted to frame this case study as a decolonial approach that aims to decenter English and showcase the language labor of multilingual communities. One of our goals was to ensure that the students understood the relationship between language, community, translation, and composing in technical and professional settings. Thus, we tried to find articles that would exemplify this relationship from different perspectives. In order to spur conversations, each day in class started with a "Free Write" about the readings that would lead to some very thoughtful discussions. The readings, free writes, and daily dialogues helped introduce the larger, more practical assignments that gave the students a better opportunity to personally research the communities.

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[2] ENGL 288 engages in professional genres and communication practices in light of emerging technologies. Students produce texts that prepare them to enter professional spaces (University description of course in course catalog).

The Community-Engaged Translation Project

Creating a space in which students feel comfortable to participate in a variety of ways is integral to successful classroom discussions. By starting off with a "Free Write," the students get a chance to think through the readings a bit more before we start our conversation. By simply asking, "What does translation mean to you?" it becomes apparent that many of the students felt "translation" was only language-to-language – the substitute model used by Google Translate. Zantjer challenges this notion using a very practical and fun topic: untranslatable words. These are words that have no one-to-one direct translation, and every language has their own versions. This spurred one of the liveliest discussions we had all quarter. Although we are face-to-face, many students still wear masks, which is not always conducive to thorough discussions. Everyone was chiming in with their favorite untranslatable words and trying to explain them to the class. In doing this, they began to recognize the limitations of the substitution language-to-language model of translation. Non-verbal cues, gestures, and facial expressions, all are required to help reveal the culture behind the languages (and the languages behind the culture). This then moved us to our next topic: language myths and stereotypes. Again, this led to another riveting conversation. The students were excited to share the myths and stereotypes that they have encountered in their lives. These stereotype narratives we (safely) revealed to each other (either as the stereotyper or the one being stereotyped), mirror Rivera's (2022) pain point testimonios.

Although her work is primarily focused on Indigenous testimonios and none of Francis's students identify as Indigenous, her testimonio methodology is useful in unpacking the emotional, economical, and physical weight of language and translation work. To continue these fruitful discussions, and to further examine some of the more practical sides of community-based translation work, we invited Cristina as a guest speaker. While we had discussed inviting a guest speaker from a community organization where translation and/or language justice is part of their mission, time constraints exacerbated due to the pandemic prevented us from securing this opportunity. However, Cristina was able to share her years of practical translation experience and was able to talk with students more about some of the intricacies and differentiations of literary translation, localization, daily translation practices, and non-profit activist work with communities. These were topics that Francis was not familiar with, so it was useful to have Cristina be able to expand on these topics much more. After all of the assignments, readings, free writes, and discussions, the next piece was the final project.

There are three main projects that all build off each other ultimately culminating in the genre production project, in which students are tasked with creating the genre they have been researching for the first eight weeks of the quarter. During this most recent quarter, the instructor added a translation option to the final project that coincided with the weeks spent discussing translation and how it connects to professional and technical communication. To best integrate our discussions about translation and community-based work, we assigned a collection of different readings, two homework assignments, several in-class assignments, and the aforementioned translation option for the final project. Unfortunately, only two students took the translation option, and neither of their projects were language-to-language translation. All of the other students chose to stick with the original, genre-based project option. One translated a scholarly article into a wiki that was more accessible to the general public, and the other student translated a YouTube video into a text document. The homework and in-class assignments

proved to be much better tools to better understand how students approach translation and what they do with it. As mentioned earlier in the article, translation and user localization practices do not only involve named languages, but modes of communication and different registers of language (such as specialized disciplinary-based or more widely accessible language). Moreover, these processes include multiple overlapping activities across languages and/or modalities (Gonzales and Zantjer, 2015; Turner & Gonzales, 2017).

Having said that, the most successful assignment was the "Analyzing a Community's Digital Presence" homework assignment because it opened up a conversation about how to better serve and interact with communities, and also the ethical issues emerging from this work as it pertains to translation and the dominance of English. Since only a few of the students had participated in community-based work prior to this course, we decided to choose three different communities that match our values of decolonial, multilingual, and community-engaged approaches that the students could choose from. The organizations are: Casa Latina, Native Life and Tribal Relations, and International Student Services. Before choosing the community, the students read the short article "Anthropology Association Apologizes to Native Americans for the Field's Legacy of Harm" by Rachel Parsons to not only introduce them to what community-based work could look like, but also the ethical, cultural, and social issues that plague some community work. Since most of the students in the two classes were unfamiliar with this kind of work, we wanted to emphasized the importance of understanding that they were working *with* the communities and that their presence and positionalities in the communities could have a reciprocal impact that they needed to prepare for by learning about the community and what it takes to become a *participant* in it. After identifying the community they'd work with and on, students were asked to analyze the digital presence of each community based on their websites and social media accounts. Once they had spent some time understanding the communities in terms of what they do, how they function, who they service, and what their online presence looks like, they are tasked with translating something (a webpage, a social media post, a flier, a poster, a video, etc.) *for* that community. Once again, this was one of the pitfalls of our approach, since due to time constraints, we were not able to provide more space for more direct interactions between the students and these communities, especially *Casa Latina* (and off-campus organization). Moreover, the students initially seemed hesitant, especially the monolingual students, but their work did not reflect this hesitancy. As a monolingual speaker himself, Francis shares some of the same hesitations concerning translation (How can I contribute or support the community's efforts as a monolingual person? What translation efforts can *I* do that will be beneficial for these communities?) As our discussions progressed and the idea of what "translation" means broadened, those hesitancies were quickly squashed. Below is a chart that outlines the various kinds of translations the students attempted for this assignment. The following table illustrates the variety of translations that took place.

Language-to-Language Translations	Mode-to-Mode Translations	Register-to-Register within English translations
Webpage from English to Norwegian	YouTube video to PowerPoint slides	Scholarly article to wiki
Instructions from English to Chinese x8	Blog post to audio recording	Scholarly article to PowerPoint
Social media post from English to Chinese x2	Website information to audio recording	Simplify visa information from website to chart
Social media from English to Spanish x2	Online event invitation to flier invitation	Simplify "pre-arrival" checklist for freshman x3
Social media from Spanish to English x2	Online form to printable paper form	Website information to Tweet x3
Email from English to Japanese	Video to text description	Flier to Instagram post

Table 1

Types of translations from the assignment "Translating a Community's Digital Presence"

This chart reveals that language-to-language translations were the preferred choice for this smaller assignment; despite the initial hesitancy, the majority of students in the courses put their multilingual skills and knowledge to practice. This demonstrates that, when given the option to directly engage languages other than English, students' multilingual experiences can become a central and enriching aspect of technical communication. Moreover, together with the many genres and modalities involved across all these translations, students' work reflects the complex yet ordinary nature of translating activities in any composing or communicative situation.

Discussion

Throughout this introductory research and pedagogical project, it has become clear to us that TPC still has some work to do to catch up to the social justice turn embraced by the field. While the field is on the verge of "…reciprocating by contributing to the interdisciplinary work transpiring at the intersections of race, rhetoric, and technology" (Haas, 2012, 282) and multilingualism, we are not there just yet. Still, as Jones (2016) recognizes "[t]here is much work to be done and technical communicators are ideally positioned to impact positive change" (357). Based on our goals to approach a community-based translation project in a technical communication course through a decolonial lens, we have identified three major points of discussion and further learning that were relevant to our pedagogies. As "technical communicators [we] must be aware of the ways that the texts and technologies that they create and critique reinforce certain ideologies and question how communication shaped by certain ideologies affect individuals" (Jones, 2016, 345). Francis's connection to digital communication technologies has led to the first discussion point: how to decolonize digital translation technologies. The second point of discussion revolves around the students' understanding of the complexities of language and cultural positionalities. This was evident through their free writing and homework assignments. Finally, the students surprised us with their unsolicited advocacy for each other and the communities they were working with for the translation assignments. The surprises are usually more fruitful than the expectations, and this was no exception. What follows is a more thorough analysis of some of these examples and what they taught us.

The first point of discussion comes from the readings and free writes (which are designed to allow the students expand upon what they learned from the readings and any questions they might have) and reveal the ways in which our decolonial approach connects with the technologies utilized throughout many one-to-one translation situations. One of the first questions discussed through the free writes in Francis's class was "what does 'translation' mean to you?" The initial responses reflected the stereotypical expectation that translation is about substitution; the replacement model of word-for-word/language-to-language. After discussing some of the readings, the students, especially the monolingual students, were open to the idea of translation as a larger concept that embodies more than just language-to-language translation. This shift has an impact on social justice and decolonial pedagogies, since it allows for a more direct recognition of the work that multilingual students and writers already put forth and does not mark them as different and/or deficient.

When asked about the tools they use for translation, one stood out more than any other: Google Translate. The tool itself has become a bastion of language-to-language translation and is often seen as the epitome of digital translation tools. The issue is that "[m]ost current digital translation tools have no mechanisms to account for the richness of language. They do not consider the gestures, motions, sounds, and other strategies multilingual speakers employ when trying to explain untranslatable words" (Zantjer, 2014). These tools "also present complex ethical and theoretical issues that may also undermine decolonial efforts by imposing a colonial ethos onto the user" (Itchuaqiyaq & Matheson, 2012, 304). Considering tools such as Google Translate, users do not have an option to challenge the translation that it spits out. The tool itself imposes a one-to-one, colonized translation that strips the language of any nuance, subtlety, or culture. To rectify this, Francis requested that students only undertake the translations that their literacies, histories, and languages would allow for and cautioned them not to overreach or overextend their abilities or access to tools for translation. This would avoid any usage of colonial translation tools that strip the language of culture and nuance. Although it was clear that some students did a little plug-and-play with Google translate, the overwhelming avoidance of such tools was unexpected. Ultimately, the students took it upon themselves to translate a variety of compositions without the use of one-to-one, substitutive translation tools. Instead, they relied on their own literacies and knowledges to translate the documents they chose for the "Community Translation Practice" assignment.

This metaphorical removal of some colonial tools of translation had several positive impacts on students and their perceptions of translation—how it functions, who it is for/who it benefits, and how they can best utilize their own literacies in translations. By avoiding the substitutive model of translation, the word-for-word style of translation, the students were not only able to recognize translation as more than language-to-language but were also able to investigate how language-to-language translation is more than mere word-for-word substitution. Stereotypes such as, "[m]ultilingual speakers just need to know more vocabulary words," "[w]hen it comes to translation, all you need are words," and "[m]ultilingual speakers need extra guidance in thinking about audience" were all hot topics of discussion (Zantjer, 2014). Through the sharing of personal experiences with these stereotypes, the students concluded that these stereotypes are based on the opposite of language realities. As Zantjer (2014) concludes, "…multilingual speakers are typically more sensitive to rhetorical considerations— precisely because of the

complex navigations they make on a daily basis" (para. 15), which represents the antithesis of these stereotypes, and the realization that many of the students recognized through their free writes and homework. The students remained resistant to typical understandings of translation and language, recognizing multilingualism as cognitive and embodied assets, not deficits.

Student free writes and homework were also indicators of the second discussion point that arose throughout the quarter. There were many instances of students recognizing the complexity of language alongside their positionalities, but one in particular, from the "Community Translation Practice" homework assignment (discussed above), stood out. The main translation that the student completed was of a webpage for *Casa Latina* (a non-profit organization that advocates for Latinx workers and women) from English to Spanish. Before she began the translation, she outlined a few warnings she had. First, she wanted to let us know that she speaks European Spanish and, second, that she would use Google Translate for a few individual words. Although the use of Google Translate was not recommended for the assignments, her transparency reveals the ways in which translators can mitigate certain issues concerning translation – especially technical communicators who do not disclose the translations they conducted during their research (Williams, 2022). The recognition of her language positionality alongside the dialect of Spanish she was utilizing is a type of acknowledgement that was unprecedented and unexpected. From the other side of the desk, "…we should make our curricular and pedagogical goals as well as the theories and methodologies underpinning those goals, transparent to our students from the start of the semester" (Haas, 2012, p. 303). This kind of transparency can lead to unexpected results.

The final point of discussion exposed how multilingual students can act as advocates of their own and other communities for linguistic justice without being asked. This was something we were unprepared for. Five students translated a document, .PDF, webpage, or video to another language, media, mode, or register for their "Translating a Community's Digital Presence" assignment. Each translation was focused on a specific aspect related to international student relations. Three for "Pre-Arrival Checklists" for multilingual students from different countries, one for expired visas, and one for visa requirements. As burgeoning technical communicators, the students recognized that they "must be aware of the ways that the texts and technologies that they create and critique reinforce certain ideologies and question how communication shaped by certain ideologies affect individuals. The translation itself was not as important as their analysis in which they described the purposes of their translations. As international students themselves, they recognized the lack of information in either multiple languages, modes, or media and acted upon it. Similar to Haas (2012), "[we] posit that decolonial, critical race theories, methodologies, and pedagogies have the potential to help us imagine that we are capable and that doing so will generate responsible and productive ways of imagining a diversity of users of and participants in our discipline and other technical communication workplaces" (Haas, 2012, p. 304). The students' responses to an open-ended option of translation for homework were honest and more productive for the communities than we imagined. It is clear that "scholars must now encourage a reconceptualization of the field to incorporate contexts of social justice and human rights. Acknowledging the social impacts of communication legitimizes TPC as a field that fully understands, appreciates, and addresses the social contexts in which it operates" (Jones, 2016, p. 344). Decolonial, community-based translation projects are at home in TPC, even with many of the issues.

We also recognized some (expected and) unexpected dangers of a decolonial, community-based translation TPC pedagogies. Many of the issues we ran into concerned the typical problems that plague decolonial classrooms, but some we could not prepare for. Although primarily centered on critical race theory, Haas (2012) presents a succinct explanation of the issues that surround pedagogical practices that investigate more open-minded and narrative-based perspectives:

> …making critical race theory central to our inquiry can be uncomfortable for professors and students, depending on their socioeconomical, geographical, racial, gendered, political—and otherwise embodied—location. Regardless of their ethnic backgrounds, professors are always already held up for scrutiny as to their motivations for teaching ethnic texts, whether it be white liberal guilt, the anger of a professor of color, or some other rhetorical trope used to justify resistance to radical pedagogies, social justice pedagogies, or pedagogies of the oppressed. We should expect at least some resistance, even if minimal, and prepare for these moments, if possible (p. 303).

As a white, middle-class, cis-gendered, heterosexual, monolingual male, Francis does not identify as a marginalized scholar. This led to some uncertainties and fears while preparing the materials for the weeks' lessons, which ultimately propagated into the classroom. In a classroom with nearly as many (if not more) multilingual speakers and (multi)marginalized students, Francis worried that his legitimacy in discussing these topics would be questioned. Although this never happened, it was a perpetuating fear that influenced the prep, readings, assignments, and discussions that occurred. After all was said and done, Francis recognized that while his insecurities would not interfere with any topic brought forth in the classroom, this type of non-marginalized, monolingual guilt can stifle productive, equitable, and social-justice forward conversations. Unfortunately, these are questions and concerns that many of us are familiar with. Beyond this, many of us who value "decolonial methodologies but are not in the position to offer an entire course on race, rhetoric, and technology may wonder about the value and sustainability of this framework in other technical communication courses" (Haas, 2012, p. 302). These are questions we were not able to answer completely; however, based on the free writes, responses, discussions, assignments, and projects, students have proven the impact of this sort of pedagogy. It might not land with every student, and we shouldn't expect it to. The goal is to use "decolonial strategies because it aims to build restorative justice for racially marginalized individuals" (Itchuaqiyaq & Matheson, 2021, p. 302). Decolonial efforts, like all pedagogical efforts, are dynamic. The implications that follow represent our future perceptions of the fields, their relationships, advantages, and limitations.

Implications

Our work in this project reminds us that we need to further recognize translation and multilingualism as technologies in the TPC classroom in all its complexities. Although many students do the work of translation regularly to complete assignments and in their daily lives in and outside of school, only a few chose to focus on it for the final project. We can't be sure about the reason behind these choices, but we are certain that translation is part of communities and students' work, yet this work remains invisible in many classrooms. The fact that students' homework and smaller activities were more enabling of conversations about translation points in

that direction. We recognize that translation is an "undertheorized" intellectual work that multilingual individuals and communities draw from in their user localized translation practices (Cardinal et al. 2021), especially in the classroom.

Along with this insight, we need to recognize that the activity of translating is not invisible, only the products are. To make the practice visible, we need to consider how we can shift our attention to the more daily and routinized practices of multilingual speakers. This might entail more sustained community-involvement and attention to the many overlapping processes involved in the translation itself (interviews, usability testing, iterative processes to continue considering the communities preferred technologies, language, and modality choices).

Moreover, the nuanced stories around translation that students shared in these smaller classroom activities tell us that we must continue to draw from multilingual students' own knowledge and that of their communities in the US and beyond. Incorporating transnational perspectives into our understanding of unequal social and language dynamics can be indicative of conversations that we have yet to hold. For example, how can dominant speakers of a language become advocates of others who are positioned as less privileged speakers in that same language?

Finally, our work supports the idea that a decolonial methodology of translation and user localization is a "recovery process" (Dorpenyo, 2019). In other words, these pedagogies can function as a tool for linguistic justice as it critically centers the experiences of multilingual users and writers (Gonzales & Zantjer, 2015), especially those individuals at different points in colonial axes of power. We call for additional materials and scholarship related to experiences of translation and technical communication. One way to continue supporting this work could be integrating (counter)storytelling to focus on "the human experience" (Jones, 2016) across the many facets of technical communication. Another possibility involves implementing a version of Cardinal et al.'s (2021) participatory values statement in our pedagogies. This project could help students' to collectively construct and share their ongoing experiences with translation and those of the communities.

Final Thoughts

To end, we would like to share an anecdote experienced by Francis and the reflective component that followed such a pedagogical moment.

During the Fall quarter of 2021, Francis assigned an interview assignment in his Technical and Professional Writing course. The project asked students to interview a credible source associated with their field of study, career aspirations, major, minor, or just plain interest. Although he had assigned this project before, he was caught off guard by the first question asked after introducing the project: "does it [the interview] have to be in English?". He had never thought about this before. Does it have to be in English? If so, why? If not, how will he (as a monolingual speaker) be able to understand the questions and responses to accurately assess the interview? Unbeknownst to him at the time, these questions directly influenced this pedagogical case study and caused him to reflect on how language functions in the classroom and how we can make space for conversations about multilingualism in TPC courses. This moment opened up possibilities for questioning the types of language ideologies inherent in other aspects and

processes of TPC. We would like to encourage other TPC instructors and scholars to consider integrating more decolonial, multilingual-forward, community-based projects, assignments, and readings in their classrooms and scholarship. Language is already a prodigious topic of discussion in technical and professional communication, so why are languages outside of English often ignored in these conversations? It is time we embrace multilingualism that is critical of power relations in TPC and acknowledge that monolingualism is not a barrier to entry.

So, the question remains: does it have to be in English? No, it absolutely does not.

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