Clinic, community, and in-between: the influence of space on real-time translation of medical expertise by frontline healthcare professionals in marginal tribal communities

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ABSTRACT

In this article, we explore real-time translation work undertaken by frontline healthcare professionals as they interact with marginal tribal communities in Western India. Our 1-year ethnographic study of a healthcare organization delivering obstetric and gynaecological care to tribal communities helps us understand how obstetric counsellors translate allopathic medical expertise across epistemological boundaries to the tribal community they serve, in localized comprehensible forms. We identify four distinct mechanisms of translation work—Interpreting, Annotating, Norming, and Justifying—which differentially deploy and integrate elements of tribal vocabulary, symbols, knowledge, and imaginations of health and body with specific aspects of clinical diagnosis and prescription, making the latter meaningful and actionable in the process. Furthermore, we use configurational approach—Qualitative Comparative Analysis—to investigate how the type of space where the interaction between the counsellors and tribal women patients happens influences the translation work undertaken. We find that counsellors engage in spatially differentiated translation work. They predominantly use justifying and norming in clinical space (hospital); interpreting and annotating in community space (village or school); and interpreting and norming in the overlapping in-between space (outdoor patient department). Our study contributes to translation literature by showing how real-time translation is undertaken in practice, especially in a setting representing high-stakes institutional translation, and how translation work is influenced by the type of space in which interactions happen.

KEYWORDS translation work; translation of expertise; place; social inclusion; frontline professionals

INTRODUCTION

How knowledge is translated by professional actors, for different purposes and in different contexts, has been the focus of substantial academic attention (see Czarniawska and Sevón 1996; Spyridonidis et al. 2016; Waeraas and Neilson 2016; Cassell and Lee 2017; Hultin, Introna and Mahring 2021; Van Grinsven, Sturdy and Heusinkveld 2020). Translation research has tended to focus on how new ideas, concepts, and practices are reshaped as they travel across social boundaries, especially through discursive practices of proponents and opponents, and how these translated forms are eventually legitimized (Czarniawska and Sevón 1996; Frenkel 2005; Boxenbaum 2006; Morris and Lancaster 2006; Mueller and Whittle 2011).

However, despite the burgeoning body of work, translation research has been criticized for its lack of reflection and reassessment of underlying assumptions, particularly for being overly actor-centric, too focused on management ideas and practices, and not fully considering how physical spaces may influence translation process (see Perkmann and Spicer 2008; Cassell and Lee 2017; Lawrence 2017; Hultin, Introna and Mahring 2021). First, the actor-centric view is considered problematic because it overemphasizes the presumed intentions of the focal actor and makes salient their framing of translation (Hultin, Introna and Mahring 2021). While relevant in itself, such actor centricity focuses on what focal actors *say they do*, while drawing attention away from *how* translation happens during mundane interactions and practices of everyday work (Feldman and Orlikowski 2011). This has led to a limited understanding of how translators of ideas undertake translation in practice, that is, the nuts and bolts of day to day translation or 'real-time translation work' (Waeraas and Sataoen 2014: 251; Cassell and Lee 2017). Secondly, organizational literature on translation has focused largely on specific management ideas and practices, leading to lack of studies on 'high-stakes institutional translation', that is, translation in contentious and societally relevant contexts, such as healthcare (Lawrence 2017). Thirdly, even though the notion of materiality and space is implicit in all translation, as practices move across organizations and fields, explicit inclusion of how space influences translation is comparatively rare. This is important as translation, unlike diffusion, emphasizes the reflexive nature of translation work by actors, as they shape ideas and practices in ways that achieve contextual legitimacy (Czarniawska and Sevón 1996). Related literature on institutionalization processes also suggests that the spaces where translation happens may act as 'interpretive filters' and mediate institutionalization of practices (Lawrence and Dover 2015: 387; Wright et al. 2021).

In this article, we address these issues in our current understanding of translation of knowledge—real-time translation, high-stakes institutional translation, and influence of space on translation—through a year-long ethnographic study of obstetrics and gynaecology counsellors serving marginal tribal communities in Western India. Through direct ethnographic observation, we show how these frontline healthcare professionals undertake day-to-day real-time translation of clinical diagnosis and prescriptions across epistemological boundaries, as they interact with tribal women patients and their families. How modern allopathic medical expertise is translated in marginal tribal communities provides an excellent context for exploring translation as these tribal communities represent distinct 'epistemological communities', that is, a group which shares a distinct body of knowledge and a set of standards and practices for developing and evaluating knowledge (Nelson 1993; Whelan 2007). The tribal communities in our context have traditionally shared epistemologies of health and body which differ substantially from the dominant conceptions of modern allopathic medicine. Hence, obstetric counsellors in our study have to undertake substantial translation work to make clinical diagnosis and prescriptions comprehensible to the community. During their interactions with tribal women and their families, the counsellors undertake various types of translation work in order to make complex clinical expertise culturally meaningful and accessible. They translate medical diagnosis and prescription based in the technical terminology of modern allopathic medicine or clinical jargon into locally understandable formats by variously incorporating tribal vocabulary, symbolism, and imaginations of health and body. Through ethnographic observations and qualitative analysis of our data, we identify four types of translation work undertaken by obstetric counsellors: *Interpreting,*

Annotating, *Norming*, and *Justifying*. Furthermore, we assess the influence of space on the type of translation work by using configurational approach, specifically Qualitative Comparative Analysis (QCA) (Ragin 2014), to identify dominant causal configurations of the four types of translation work in three distinct spaces in our context: clinic (hospital); community (healthcare camps or schools in remote villages); and in-between (outdoor patient department [OPD]).

Our study makes two contributions. First, we contribute to translation research by showing how frontline healthcare professionals undertake 'real-time' translation of expert knowledge across epistemological boundaries. In doing so, we respond to multiple calls for better understanding of nuts and bolts of *how* translation of knowledge happens (see Cassell and Lee 2017). Furthermore, our study also responds to calls for going beyond management ideas and practices, and exploring high-stakes institutional translations in societally relevant and contentious sectors (see Lawrence 2017). Our second contribution is to the body of research exploring the influence of space and materiality on discursive practices and cognition (see Lawrence and Dover 2015; Wright et al. 2021). Our findings show that obstetric counsellors use different combinations of translation work in different spaces—favouring interpreting and annotating in community space, and norming and justifying in clinical space.

THEORETICAL BACKGROUND

Translation research

There has been an enduring interest within organizational literature in exploration of how ideas, concepts, and practices change as they move across fields, sectors, organizations, and countries (see Carlile 2004; Boxenbaum 2006; Spyridonidis et al. 2016; Cassell and Lee 2017; Lawrence 2017; Hultin, Introna and Mahring 2021; Jha and Jacob 2020; Van Grinsven, Sturdy and Heusinkveld 2020). Translation research has shown that ideas and practices both change and retain their characteristics when translated. Even supposedly fixed forms of knowledge, such as religion or technical knowledge (e.g. medicine), change according to the context and over time (Cassell and Lee 2017). Czarniawska and

Sevon (1996) used the metaphor of translation to outline the 'travel of ideas' across time, space, and location. Their approach is located within the framework of Scandinavian institutionalism, which provides an alternative approach to diffusion of ideas, in contrast to the neo-institutional approaches, by focusing on the actual process of adoption of ideas and practices, and not just form diffusion. As Waeraas and Sataoen (2014: 243) suggest, 'management ideas are not "just" symbols as they are often portrayed in the neo-institutional literature—they turn into practice over time'. Overall, translation research, especially within Scandinavian institutionalism and similar studies on translation in wider institutional theory (e.g. Lawrence 2017), highlights two aspects of translation process. First, translation represents accounts and materializations of ideas and practices (Sahlin-Andersson 1996; Sahlin and Wedlin 2008), the meanings of which change as they travel across social contexts (Frenkel 2005). Secondly, as ideas move across social and spatial boundaries, they are transformed and localized to ground them into existing meanings and practices, to make them meaningful and legitimate to the receiver. In considering how knowledge is translated, translation research has typically focused on responses to new ideas from those at the receiving end, including resistance and welcoming of such ideas (Mueller and Carter 2005), the processes of translation of ideas to eventual practice adoption (e.g. Saka 2004; Frenkel 2005; Morris and Lancaster 2006), and the use of vocabulary through which ideas are translated (Boxenbaum 2006; Zilber 2006; Mueller and Whittle 2011).

However, despite the burgeoning body of research on how translation of ideas and practices is undertaken, there are still substantial gaps in our understanding of translation process. First, we know little about the intricacies of what Waeraas and Sataoen (2014: 251) describe as 'real-time translation work', that is, how translators of ideas undertake translation in day-to-day practice; how is the idea sold; and how the processes by which it is sold change over time? Specifically, these are the micro-processes through which actors translocate knowledge from their technical domain into workspace practices (Morris and Lancaster 2006). Waeraas and Sataoen's (2014) study of the translation of the concept of reputation management into Norwegian

hospitals concluded that on the basis of their results there is a need for further empirical studies that 'focus on the regularities of translations, the variation in rules, and how their outcomes are connected with "real-time" translation work' (251). There have been multiple calls for studies that focus on real-time translation of knowledge in practice (e.g. Zilber 2006; Waeraas and Sataoen 2014; Cassell and Lee 2017), especially how alternative translations are negotiated and contested, given that the translation of ideas is an inherently political process.

But, despite these calls, there has been little progress in exploring real-time translation. We propose that the reasons might be both theoretical and methodological. Theoretically, the actor-centric focus in most translation research is problematic as it puts too much premium on the intentions of the focal or dominant actors and makes salient their framing of translation (Hultin, Introna and Mahring 2021). Such actor centricity draws attention to *what the seemingly dominant actors say or do* and draws attention away from how translation happens during mundane practices of everyday work (Feldman and Orlikowski 2011) by not so powerful or dominant actors. This theoretical issue is further complicated by the methodological dominance of interview and archival data in translation research. Retrospective interviews and archival data tend to focus on actor's voice in examining translation over a period of time, making it difficult to observe regular real-time translation. This leads to a lack of understanding of how translators of ideas do translation in practice, that is, the nuts and bolts of day to day translation or 'real-time translation work'. The second issue with organizational literature on translation is its overwhelming focus on translation of management ideas, with little research on how translation occurs in other social contexts. Such translations, or 'high-stakes institutional translation' represent translation of practices which are highly consequential in terms of societal impact on health and well-being (Lawrence 2017). While we know a lot about how ideas and practices transform during travel, important gaps remain in our understanding of how translation is undertaken when translating expert knowledge across epistemological boundaries, which may have profound practical consequences for the communities in which they are translated.

Spatial dimension of translation

Research on space has shown how the combination of location, material form, and meaning can affect actions (Gieryn 2000), suggesting that symbolic and material properties of the space (or place) may shape an actor's cognition, sense-making, and actions (Whiteman and Cooper 2011; Lawrence and Dover 2015; Wright, Zammuto and Liesch 2017). Places, or sites, are defined by their geographical locations, the meanings and values that community members assign to them, and their materiality, including artefacts, architecture, and furnishings. The concept of space further emphasizes abstract, generalizable dimensions, such as the visual, acoustic, or aesthetic quality of a location (Lawrence and Dover 2015). Thus, place highlights the particular, concrete, and local, whereas space emphasizes the abstract and aesthetic. In this article, we use space as nomenclature for our spatial analysis of translation for simplicity and readability, even though we acknowledge that the locations considered in our analysis share features of both space and place. We consider our spaces as distinct locations which are also socially constructed, with people arriving at these spaces already loaded with material form and meaning.

Despite the fact that spatial dimension is intrinsic to the notion of travel inherent in translation, as travel of ideas and practices happens across organizational, geographical, and field boundaries, explicit inclusion of physical material space in translation research is mostly lacking. Recent research on various institutionalization processes has highlighted the importance of space in institutionalization and meaning construction. For instance, bringing attention to specific spaces in institutional work, Wright et al. (2021) explore the resources, interactional order, meaning, and values of spaces in maintaining social inclusion. Contextualized in an emergency department of a hospital, the study reveals the tension experienced by doctors and nurses that underlie the processes leading to the making of the spaces. The article argues that the doctors and nurses, who act as 'custodians' of the emergency department, are intrinsically bound to the values of the space and undertake substantial emotional work in actualizing the value of social inclusion. This study brings to the fore the relationship between emotions, space, and

institutional maintenance. Similarly, Wright, Zammuto and Liesch (2017) argued that in the process of institutional maintenance moral emotions enacted in a space, again emergency department of a hospital, enables professionals to maintain the values of profession. In the same vein, Lawrence and Dover's (2015) study on provisioning of housing for hard to house community shows the role space plays in institutional work. They argue that space may play a containing, mediating, and complicating role in institutional work. Such relevance of space for institutional processes is also echoed in Mol's (2002) classic work, the body multiple, which shows how spaces may govern translation of clinical possibilities. She argues that spaces provide forums to 'talk about social specificities of healthcare' (11), with or without including clinical technicalities of healing. Overall, these studies highlight how institutionalization and meaning construction processes are fundamentally rooted in the symbolic and material properties of the locations in which actors are operating.

METHODS

Research setting

In this article, we present how frontline healthcare professionals—obstetrics and gynaecological counsellors—working with marginal tribal communities in Western India translate clinical diagnosis and prescriptions. Such translation of modern allopathic medical knowledge across epistemological boundaries provides an excellent case of 'high-stakes institutional translation' (Lawrence 2017), due to its societal consequences in terms of 'concrete, material impacts on health and well-being' (2). The counsellors work for a community healthcare service provider—VSO (pseudonym)—which operates in marginal tribal districts in Western India. VSO organizes community outreach healthcare camps in village sites, such as, school, and temple premises, which serve as the point of initial contact. Further medical services, if needed, are provided at their hospital premises. In the VSO hospital premises, obstetric care happens at two spaces, that is, consulting, diagnosis, and counselling at the OPD, and indoor wards (hospital) for admitted patients.

The obstetric counsellors in our setting mostly belong to the local tribal communities, are native speakers of the tribal language and have some medical training, which allows them to understand various obstetric and gynaecological symptoms and interpret doctor's diagnosis and prescription. They interact with tribal women patients and their families both in clinical settings (hospital wards and OPD) and organize camps for community outreach programs. In the OPD, the patients interact with counsellors before and after consultation with the gynaecologist. Initial interaction with patients happens in the counsellor's cubicle and it is the most important deliberative space in VSO. Usually, women in small groups are invited together for taking initial pre-clinical recordings. Here, the counsellors ask them about their condition, felt experiences, difficulties of living, and register relevant biographical details. After the consultation with the gynaecologist, counsellors once again meet the women, typically with their families, and engage in elaborate explanations of the diagnosis and prescriptions written by the gynae cologist. Furthermore, admitted indoor patients are counselled every day, both before and after clinical procedures such as delivery, surgery, or transfusion. These interactions between counsellors and the tribal women and their families are extremely important as this is when the bulk of translation of doctor's diagnosis and prescription happens. This article observes and analyses such interactions between counsellors and women patients and their families in three distinct spaces: community camps, OPD, and the hospital ward.

Data collection

This study is part of an ongoing research project focusing on healthcare provision in marginal tribal districts in Western India. We collected observational, interview, and archival data. Our primary data source were observational field notes taken while conducting a year-long ethnographic study of VSO's obstetrics and gynaecological counsellors during the year 2016–7. Access for this study was facilitated by an institutional ethics committee. Senior members of the organization introduced the first author to all the counsellors, after which this author spent over a month seeking to understand the role of counsellors. The first author immersed themselves in the context

to capture the range of counsellors' work practices and interactions. They sat with them in their cubicles, observed their interaction sessions, at a 3- to 5-foot distance, between 10:30 am and 1:30 pm; shadowed them in their daily rounds from 8:30 to 10:30 a.m.; and accompanied them to weekly camps in community locations. These sites (OPD, indoor admitted patient wards, and community camps) are recognized as important by the organization. First author took detailed field notes, noting specifically the content of the interaction, clinical prescriptions, the reactions of the patients and their families, and any socio-personal concerns raised during the interaction. Immediately after the rounds and sessions, they elaborated on these initial notes, with the help from the counsellors, to ensure the accuracy of the added details. A detailed memo of each interaction observed was prepared daily and discussed with the counsellors, nurses, and gynaecologists at the hospital. Specific quotes were reconstructed as needed due to the linguistic challenge of literally translating the interactions from the vernacular tribal language to English, with the help of counsellors during informal sessions.

To make better sense of the field notes and observations, we used other complementary data sources. First, the first author had frequent informal meetings with counsellors in their cubicles and during lunch breaks in outdoor community camps, to clarify their observations. Secondly, they also discussed the notes made by counsellors in their case diary for every interaction observed. Thirdly, they conducted formal recorded interviews with five counsellors and four camp organizers, which were transcribed verbatim. The interviews were conducted to understand the contextual background, the rationale of practices, and triangulation of observations. Fourthly, we studied the counsellors' basic training material to enhance familiarity with their curriculum. Overall, we aimed to achieve deep immersion in the research setting to meaningfully capture various interactions (Nicolini 2007) and collective work practices of the counsellors (Schatzki 2002, 2006). In total, our data included more than 500 pages of handwritten field notes, memos, reports, and interview transcripts, reflecting the diversity of practices that characterize counselling in VSO. Please see Table 1 for a full description of our data sources.

Data analysis

We analysed our ethnographic data in three stages. In the first stage, we examined our field notes and memos to identify how counsellors engaged with tribal women before and after clinical consultation with the gynaecologist. We thoroughly read the field notes and identified different ways in which the clinical diagnosis and prescriptions were made comprehensible and meaningful to tribal women and their families. Consistent with translation literature (e.g. Mueller and Whittle 2011), we conceptualized such transformations, from medical diagnosis and prescription to localized comprehensible forms, as 'translations' of modern allopathic clinical knowledge. Such translation work requires distinct semiotic practices, for instance, using words from the local language, which represents conditions consistent with the tribal epistemology of health and body. We specifically attended to such localized descriptions and asked counsellors what they were representing and how does it convey the complex meaning. Such discussions revealed a rich variety of vernacular forms that exist for multiple clinical conditions. For instance, sickle cell disease[1] as a medical condition was often referred to as *datardano* (representing a sickle shaped agricultural instrument used by the tribal community) and haemoglobin level was often referred to as *lohi na kan* (Blood particles). We took note of such local forms in each of the episode and created a rich vocabulary of localized descriptions enacting clinical conditions. Please see Figure 1 for an illustration of how counsellors undertake translation work over a gynaecologist's medical prescription. Through this process, we developed detailed memos representing 52 interactions included in our data.

In the second stage, two authors independently read all 52 memos, identified different ways in which translation work was being undertaken by the counsellors in each memo, and then compared and contrasted their respective analysis. Through this collaborative iterative process, we identified four different types of translation work: *Interpreting, Norming, Annotating,* and *Justifying*. For instance, we found that in many interactions counsellors' mobilized embodied symbols and subjective experiences of the tribal women patients, such as, swelling, pain,

Table 1. Data structure

Method	Site/source	Focus of the site/source	Specification of data
Observation and shadowing	Community camps	Observation of counsellors' interactions witd women patients and tdeir families. The women were often engaged in a group to discuss community wide concerns	11 community camps, witd over 30 hof observation
	Outdoor patient ward	Observation of tde counsellor's interaction witd group of antenatal visitors before and after tde consulting witd tde gynaecologist and medical officer	Over 100 hours of observation in outdoor patient ward
	Indoor admitted patients	Shadowing tde counsellor during her morning rounds to record interactions witd tde families and admitted women patients	Shadowing indoor counsellor for over six montds during her morning rounds
Informal interactions	• Patients and family (20) • Counsellors (5)	Centred around the general meaning making processes and difficulties	Took notes of these informal interaction to gain deeper understanding of the counselling practices and rationale of underlying activities
Formal interviews	• Gynaecologist (5) • Medical officer (3) • Counsellors (5) • Camp organizers (4)	• Gynaecologist and medical officers were asked to elaborate the role of counselling in obstetric care in tribal community and their experience in managing the clinical difficulties, if the patient interaction is not clinically comprehensible to them • Counsellors were asked to elaborate on larger purpose, context specific features of counselling, difficulties in explaining the prescription, role of language in use, and common community practices • Camp organizers (often local socially inclined community members) were asked to elaborate on nature of camp, need to organize, the general understanding about status of women health in community among others	Interviews were scripted and excerpts with respect to counselling and interaction was specifically coded. Interview with camp organizers gave a social perspective about purposes of organizing and counselling

Table 1. (continued)

| Method	Site/source	Focus of the site/source	Specification of data
Archives	Published articles, artefacts, notes and case diaries	Understanding the general purpose and practices in the counselling. The notes and case diaries of the counsellors provided a rich narrative of community condition in obstetric care. All these sources help in triangulating the data collected from other sources	The case diaries and archival material was used to verify the notes and analysis
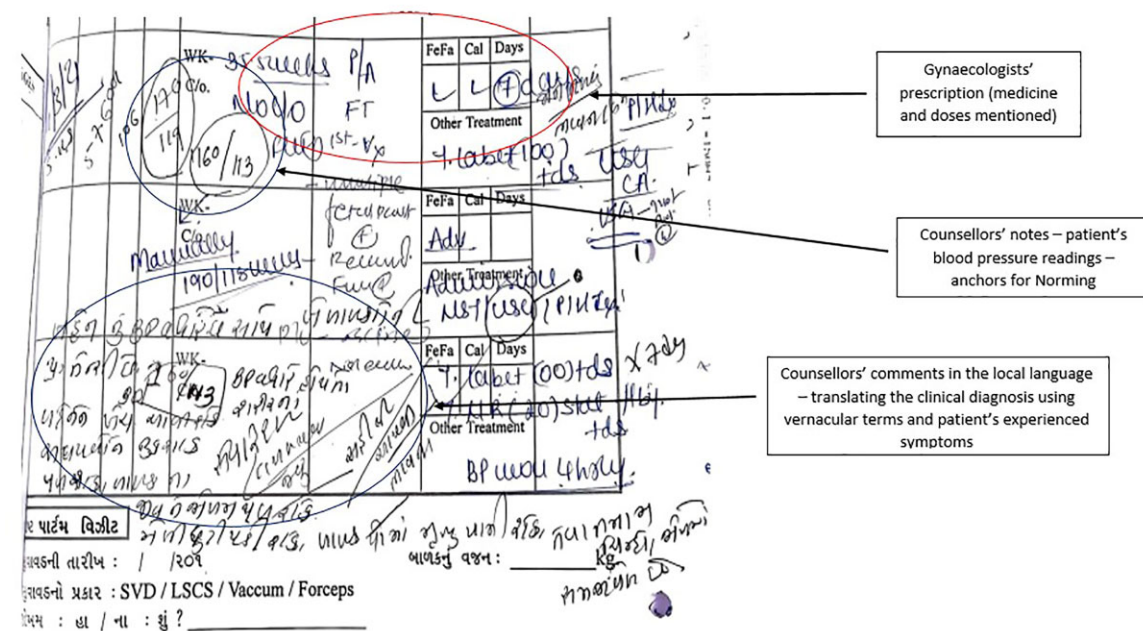
Figure 1. Translation work done by the counsellor on gynaecologist's clinical prescription—an artefact

discomfort, and weakness, and linked them with local linguistic forms, such as, *datardano* (sickle-shaped agricultural instrument) and *lohi na kan* (blood particles), to convey the clinical diagnosis of conditions such as pre-eclampsia[2] and sickle cell disease. We inferred that the combination of local linguistic forms and linking them with symptoms helps the patient interpret a specific clinical condition, which otherwise is not part of their imagination and vocabulary. Hence, we refer to this type of translation work as *Interpreting*. We followed a similar approach to identify three other types of translation work. *Norming* refers to the introduction of a particular frame of reference, highlight it in the medical prescription, and use it to represent a clinical condition. For example, counsellors focus on blood pressure in potential pre-eclampsia cases to convey the standards that needs to be maintained in care process. Similarly, we found that counsellors regularly used morphologic and anatomic sketches to refer to obstetric conditions in the body. For example, they drew sketches of internal body structure in files,

Table 2. Translation types and their features

Translation type	Interactional descriptors	Purpose and focus
Interpreting	• Explaining the meaning of underlying pathology/health condition in local language form • Linking the felt and observed symptoms with prescription content • Addressing cultural practices of community that needs to reimagined	Conveying the meaning in local forms which is comprehensible and has local correspondence with medical reason Focus: Meaning of Symptom and linkage with clinical prescription
Norming	• Conveying health in measurable parameters • Conveying standards of the parameters • Appealing to track health through these standards reminding for future action and the past health trajectory	Establishing various objective measures as basis of obstetric care processes Focus: Standards and actual measures in pathological observation, clinical prescription and various disease states
Annotating	• Marking physical sites in body in local language • Drawing the anatomy on paper to refer to body parts • Linking it with pathological anomalies • Fragmenting the composite physical details to sub-structures and components	Signifying reality of physical body as site of clinical attention and differentiating it with other sites Focus: Morphological and anatomical details as underlying physical reality of body
Justifying	• Justification of clinical action • Spelling out criteria of action • Elaborating alternative courses of action and their probable outcomes	To explain the logic of already performed clinical action Focus: Procedures of clinical action and felt experiences of women

showed leaflets describing particular pathological condition, and differentiated among body sites relevant for particular clinical conditions. We label such activities as *Annotating*, which foregrounds an embodied awareness under specific health states. Thus, *norming and annotating* are essential to translocate the medical meaning into local meaning structures. Finally, we identified the process of *Justifying*, through which counsellors elaborate on medical procedures undertaken and explain the logic of action. Justifying is particularly salient in moments of discontent, for example, when a family wanted to know why the hospital stay was prolonged after childbirth or why C-section was performed? Once identified, this classification of the four translation types was further discussed and specified through discussions with two most experienced counsellors in our research setting.

In stage three, we examined the relationship between the location of interaction and the type of translation work. During the initial data analysis process, stages one and two, we became progressively aware that the dominant translation work in three spaces of counselling activity—clinic, community centres, and the OPD—may vary substantially. For example, we noted that in community camps the interaction emphasized educating the community about women's health in general and by instantiating cases of specific clinical conditions. In comparison, indoor counselling within the hospital was more medicalized and technical. Accordingly, in stage three of our analysis, we decided to methodically explore how dominant translation work by counsellors varied across the three spaces—clinic, community, and in-between (OPD). To do so, we deployed configurational approach, specifically Qualitative

Comparative Analysis (QCA), which is particularly suitable for medium-sized samples. Samples from 30 to 100 observations are neither large enough for traditional regression analysis nor too small to yield representative conclusions (Ragin 2008, 1987) . Using QCA, researchers can explore complex causal patterns among different causal or independent variables in such samples. By considering causal configurations, QCA does not analyse how two or more independent variables affect an outcome, but rather explore all possible interactions among variables, providing different combinations of causal recipes or pathways, of causal factors that lead to the selected outcome. For a full review of QCA method, please see Ragin and Fiss (2008); Ragin (2014); Fiss (2007); Misangyi et al. (2017). For our analysis, QCA provides an excellent tool for identifying dominant combinations, or causal recipes, of our translation work typology for each of the three distinct spaces of counselling—clinic, community, and OPD. To run QCA, we fist prepared a data sheet, wherein all the 52 interaction episodes were coded for the space of interaction (our outcome variable) and two of the most dominant translation types, out of four (our causal variables). We ran crisp set QCA (csQCA) or conventional QCA as all our variables are dummy variables (coded as either 1 or 0, that is, present or absent). As suggested by prior literature, we assessed parsimonious solutions.

FINDINGS

We organize our findings in two sections. First, we present our translation work typology, that is, the four ways in which translation is undertaken by counsellors—*interpreting, annotating, norming,* and *justifying.* Secondly, we present our QCA analysis results, along with illustrative examples, which shows how counsellors use spatially differentiated combination of translation types, across clinical space, community space, in-between interstitial space (OPD). In Table 2, we present key features of our typology of translation work, especially focusing on how they differ from each other.

Typology of translation work

Interpreting

We define interpreting as the type of translation in which the counsellor elaborates the meaning of technical obstetric and gynaecological diagnosis and prescription in local tribal symbolic and linguistic forms. The counsellor mobilizes vernacular terminologies to explain the meaning of clinical prescription. Vernacular notations link the underlying experiences of women and a specific obstetric or gynaecologic condition with some elements of their medical prescription. Interpreting makes clinical technically embedded meaning to become accessible and meaningful to the tribal women patients and their families. Thus, interpreting establishes a connect with the tribal community across epistemological boundaries by localizing the clinical diagnosis in tribal linguistic and symbolic form.

Illustration:

A counsellor in an OPD carefully scans the prescription written by the gynaecologist for a woman suspected to have a clinical condition called pre-eclampsia. Pre-eclampsia is one of leading causes of maternal fatality in the tribal community. Counsellor elaborates on woman's experienced symptoms and high blood pressure measure, which signals potential pre-eclamptic condition:

It is important sister that you to attend to . . . the *sojo* (swelling in the hand) and feeling of *thaka* (fatigue) . . . swelling is not normal, you never had it. If this increases then it may be even cause unconsciousness. It is important for you and your baby. Your *lohi na daab* (vernacular expression for blood pressure) is different now from earlier visits . . . now this is 7th month running . . . be alert and observe that swelling or anything do not increase further . . . you must arrive a fortnight before (for delivery)

(Source: Field notes)

The counsellor scripts a new meaning of symptoms, such as, swelling and feeling of fatigue, and links it with blood pressure measure, which is not meaningful in tribal knowledge system. The

counsellor also reminds the patient about her past normal progression, so that swelling is not dismissed as something normal. Thus, high blood pressure is presented in analogies of swelling that causes discomfort. Moreover, swelling and fatigue are represented as unwarranted symbols that may have harmful consequences. To avert any future harm, the counsellor further elaborates that early arrival for delivery is required. The focus on the felt symptom of swelling, linkage with blood pressure, a possible symptom of underlying clinical pre-eclamptic conditions, and possible remedial act (early arrival) summarily interprets the medical prescription. Interpretation deconstructs the clinical meanings residing in the prescription and explains them in terms of physically felt subjective experiences and vernacular vocabulary.

We find that interpreting focusses on parts of medical prescription which have close descriptors in local language. Interpreting provides aetiologic reason to subjective experiences but does not import vastly different meaning structures of Western medical system. For instance, high blood pressure and fatigue is translated through corresponding local symbols (*soja* and *thaka*) which are sufficient to convey the anomaly, but are not provide a complete description of pre-eclampsia, which may be developing in the patient.

Annotating

Annotating draws attention to the body as the site of clinical manifestations. Annotating provides the patient and their families a cognitive correlate to different body sites, which are marked in manners distinct from tribal understanding of the body, while relating to the latter. Counsellors translate and specify sites such as 'lower limb' or a 'distal joint', referred to in prescriptions, to introduces sites which signify different obstetric realities. As Mol (2002) argued specifying sites may be an 'important topographical language for talking about body' (48). Body may be registering the subjective experiences of living, but annotating brings attention to specific particularities of sites to be known. We find number of ways in which counsellor engages with women and their families to understand their bodies. By annotating the counsellors extend the linguistic interpretation of

medical prescription beyond experts' domain and situate care in physical realities of women's body.

Illustration:

A woman in visible pain and having difficulty breathing is counselled for admission in the hospital. She has been advised to admit for blood transfusion, which she resists and insists that she is fine. The counsellor repeatedly reasons with her that 'low haemoglobin in third trimester (of pregnancy) is problematic' and she should 'attend it cautiously'. She further appeals to the woman to see her lower *lohi na matra* (low haemoglobin level) is causing *taqleef* in joints of hand and limbs (pain). She relates pain in joints as a critical symptom of sickle cell anaemia[3] by showing the patient a leaflet describing altered shape of *Datarda* (blood particle in local language) that does not move smoothly in veins and cause pain in joints. She then further brings attention to her other body sites, such as lower back, (on the leaflet) which may experience pain upon nearing the delivery date.

(Source: Field notes)

Annotating anchors experienced symptoms with different sites in the body. In this illustration, counsellor brings attention to the clinical manifestation of sickle cell disease through pain in joints. Annotating the joints as sites of felt obstetric difficulties is critical for counsellor to persuade the woman to undergo blood transfusion. Moreover, using material, such as leaflets to establish that altered shape of blood cells create such difficulties, and diagrams to show the vascular system and anatomy of joints, provides a new meaning to relate clinical causes with felt symptoms. We find that annotating conveys a clinical correlate to different body sites which otherwise may be understood only in generic experiential accounts.

Annotating the body in particular physical sites with respect to clinical manifestations serves another critical function. It provides a more granular morphological and anatomical meaning to the women patient, which is not available to them in the tribal community's knowledge system. As the community health programme director emphasized: 'traditional functionaries of community health, such as, birth

attendants understood and considered abdomen as a whole . . . not knowing the sub-organs inside it . . . it resulted into so many complications in past' (interview data). We find that annotating brings awareness to physical reality in new ways that mediates the care process. For example, annotating may function to remind the women patient about when to visit a doctor, depending on her experienced symptoms. We suggest that annotating the body to create new physical reality to explain experienced symptoms may reduce the 'contradiction between talking and hands-on investigation in clinic' (Mol 2002: 51).

Norming

Clinical prescriptions in allopathic medical system include a variety of scientific measurements and standards, which need to be deconstructed in counsellors' interaction with tribal women patients. We label translation of such diagnostic measures and other clinical standards as *norming*. Norming establishes these 'facts' as new 'benchmarks' and personalizes them to the patient. Thus, it ensures that the new 'standards and facts' become meaningful to the tribal women patients in tracking their obstetric health trajectories, though not necessarily making the measure itself understandable. As such measurements and benchmarks are not part of the traditional tribal knowledge system, norming initiates institutionalization of these measures.

For instance, in an interaction between a counsellor and a suspected pre-eclampsia patient, the observed anomaly of high blood pressure in pre-eclampsia required the counsellor to inform the patient about the 'measurement' that formed the basis of clinical diagnosis of her condition. It was necessary that the measurement of blood pressure is made both understandable and meaningful to the patient. The counsellor translated the clinical meaning of 'diastole and systole[4]' (120/80 mg Hg) in blood pressure through 'upper and lower' measured values. Furthermore, as shown in Fig. 1, the counsellor writes the blood pressure measures on the gynaecologist's prescription to make salient this new benchmark. Similarly, the range of haemoglobin measures, mentioned in numbers per g/dl, establish categories, such as, very severe anaemia to mild anaemia. Such classification corresponds to levels of haemoglobin concentration in blood and often counsellor writes

these measures repeatedly on prescriptions to convey these new norms.

Norming serves an important persuasive function as well. In some clinically complex conditions, the measures introduced may be even farther from the tribal community's imagination of body and health, than, for example, haemoglobin level. Following we reproduce an informal interaction excerpt of a counsellor persuading a patient having an anomalous obstetric condition, molar pregnancy, by defining a new norm around HCG hormone measure:

> I made her to understand everything about the molar thing . . . the anomalous *maili* (vernacular form for placenta), the position . . . and how it is without life (growing fetus). The most important thing was to <u>tell her about the HCG level</u> (human chorionic gonadotropin hormone). Currently her hormone <u>level was in millions</u>! I drew the image of *maili* . . . told her that <u>it is growing</u> and would continue growing . . . <u>HCG level was indicative</u> of that. Unless she gets to know what happens in normal pregnancy and how molar is different, it is impossible to care and treat! <u>After *safai*</u> (referring to removal of tissue as clinical process of Dilation and Curettage) was done . . . <u>HCG level reduce</u>s . . . say it should <u>come to thousands from millions</u>. It was difficult for me to persuade her to stay! I told her stubbornly (counsellor laughs), Sister we will not let you go unless this thing is (HCG) reduced . . . she understood and stayed back finally.
>
> (Source: Interview post interaction)

This illustration conveys how a new *norm* regarding a hormone level that symbolizes risk in a difficult obstetric condition is created. In this case, *norming* is used along with *annotating*, which is undertaken by sketching the *maili* (placenta) in molar pregnancy [5] [6] [7], to signify the anomalous placenta as a physical reality, while simultaneously making the HCG count as a meaningful indicator of her state of health.

Justifying

Justifying refers to the process through which counsellors provide rationale for clinical actions and procedures, either suggested or undertaken. Many

obstetric and gynaecological procedures have no counterparts in the tribal knowledge system. For instance, caesarean section for birthing is not considered as normal obstetric procedure in tribal community and, as a consequence, in our observation we found that it often produced a 'disturbance in the relationship between the women and her family with the medical staff' (Source: field notes). Following illustration from field notes shows how justifying is use:

> The family of woman who was operated a day ago is arguing with the counsellor, asking why they are not allowed to go home like others . . . The male members point to the occupant of another bed, who was getting discharged. Sensing this little contestation from family, the counsellor moved to right side of the bed (where clinical file was tagged). . . She opened a long sheet (clinical partograph) showing some dots and multiple lines. . . .The <u>counsellor explained to the family why surgery became an emergency necessity</u>.
> 'The nurse sister was observing birthing contraction for 6-8 hours . . . (but) child's heartbeat was receding . . . anything bad could have happened . . . USG[8] (referring to ultrasonography as diagnostic) was done by doctor immediately. Finally, they decide to operate the sister (referring to patient)'.
> The counsellor extended the talk and pleaded woman to take care of her stitches and addressed the male '<u>She need to stay here for 3-4 day as it will help healing better</u>'.
> <div align="right">(Source: Fieldnotes)</div>

> Later, the counsellor informed (the researcher) that the family did not have any private washroom available in their home and discharging the patient early would be even more problematic for her recovery.
> <div align="right">(Source: Post interaction interview)</div>

The counsellor *justified* the decision of caesarean surgery to the family members, who were puzzled by the post-partum pain of the patient and were contesting the reason for extended stay in the hospital. Partograph, which codes the temporal progression during labour pain, was deployed by the counsellor to reason with the family. Partograph graphically records the progress of labour and maternal and foetal condition. The mention of 'receding heartbeat of foetus' and corresponding 'lack of proper progression', technically referred to as limited cervical dilation required for normal birthing, provide the reasons for doctor's decision to go ahead with surgery. Counsellor's foregrounding of the state of health of foetus and mother, and the progression of birthing justified the trigger for surgery, that was not expected initially. As the counsellor recounted, 'unless we show what happened in the labour room the family may suspect something is wrong'. Such justificatory stance also helps in persuading the patient that the body will require a little more time to heal and recover.

Overall, analysis of our ethnographic data revealed four types of translation work, which constitute the counsellors' reconstruction of clinical diagnosis and prescription in comprehensible localized forms, which incorporate tribal vocabulary, symbols, and epistemologies of body and health. These localized translations were enacted and observed in real time. Each of these types has a distinct purpose and focus. Interpretation centres part of medical prescriptions in local vocabulary and symbols, and links it to the physical experiences of the women patients. Norming deconstructs complex measures and benchmarks and mobilizes symbols that enable women to track their own health condition. It foregrounds medical norms or standards that need correspondence with subjective accounts of women. Annotating focuses on comprehending the microstructures or physical sites in body which is not explicitly a part of doctor's medical prescription. But counsellors enact embodied attention by pointing out different morphologic and anatomic details. Finally, justification as practice deconstructs clinical or surgical action and defends its appropriateness by elaborating steps and decision points in action. It is often used to reason with community in case the clinical action is contested by the community. It is important to highlight that these translation mechanisms are not used in isolation, but rather they are deployed together, in different combinations, during interactions.

Table 3. Space type and translation work—Crisp Set QCA (csQCA) analysis result

Outcome	Causal variables				Causal configuration	Raw coverage	Consistency
Space/space	Interpreting	Annotating	Norming	Justifying			
Clinic			X	X	~Interpreting*~annotating* norming*Justifying	0.50	0.72
Community	X	X			Interpreting*annotating*~ norming*~Justifying	0.46	0.66
In-between (OPD)	X		X		Interpreting*~annotating* norming*~Justifying	0.34	0.42

Space and translation

In our research setting, we identified three distinct physical spaces in which translation work was undertaken by the counsellors: community space (e.g. health camps in temple grounds and local school), clinical space (hospital wards), and in-between space (the OPD located outside the hospital). The in-between space (OPD) represents the overlap of community and clinical spaces, and theoretically analogous to the notion of 'interstitial spaces' in the fields literature (see Furnari 2014). To assess the influence of space on the type of translation work undertaken by counsellors, we ran Crisp Set QCA (csQCA) analysis on our data set of 52 distinct interaction episodes, in which we coded for the two most dominant translation types (of interpreting, annotating, norming, and justifying) and the type of space (clinic, community, and in-between). Our analysis treated each space as a distinct outcome and types of translation as causal variables. The truth table analysis generated various causal configurations or recipes of translation types leading to the outcome. In Table 3, we present the results of csQCA truth table analysis, including causal configurations with consistency above 0.60 or the one with highest consistency for the solution. A csQCA solution or causal path is most informative when its consistency is above 0.75 and its coverage is between 0.25 and 0.65, although some variation is acceptable.

The results show that the dominant translation types vary substantially based on the physical location of interaction. We find that the combination of interpreting and annotating dominates translation work in community space, whereas justifying and norming form the most dominant causal configuration for clinical space. This shows that the combination of interpreting and annotating dominates 46% of interactions (raw coverage of 0.46) in the community space and 66% of all the interaction episodes dominated by the combination of interpreting and annotating occur in community space (consistency of 0.66). Similarly, the combination of norming and justifying dominates in 50% of interactions (raw coverage of 0.46) in the clinical space and 72% of all the interaction episodes dominated by the combination of norming and justifying occur in clinical space (consistency of 0.72). These results show a consistent pattern of association of interpreting and annotating with community space and norming and justifying with the clinical space. However, dominant causal configuration for our third category of space, in-between space (OPD), which represents an overlapping interstitial space, is interpreting and norming, showing mixing of dominant translation mechanisms from the other two spaces. However, the consistency of various solutions for in-between space is below our threshold of 0.60, suggesting that in this space no particular causal configuration dominates and counsellor's use various combinations available translation mechanisms. In Table 4, we present one representative illustrative evidence for each of the three locations.

CONTRIBUTIONS, IMPLICATIONS, AND FUTURE RESEARCH

Through this study, we propose to make two contributions to translation literature. First, we show how real-time translation of knowledge across epistemological boundaries happens in day-to-day regular

Table 4. Space type and translation work—Illustrative evidence

Space	Dominant translation work	Illustrative example (interaction episode)	Description
Community	Interpreting + annotating	• *Elaborating community wide women health issues (In Community camp)* • In the camp, many women who came are anaemic and we need to make them aware about the symptoms, causes and why it is important to understand that *feekas* (pale skin colour) is not fine[Counsellor Interview—linking clinical ways of understanding anaemia in local terms and symbols] • Sister. . . your *lohi na matra* (haemoglobin level) is extremely low, and look into your eyes they tell you to rest and eat well. The pain of joints is not there now (the women came for antenatal consulting in camp. She was in 2nd trimester of pregnancy) but if it remains like this we have to give bottle (referring to blood transfusion) at hospital . . . also the baby's health will not be good[Counsellor specifying the symptoms of sickle cell anaemia and elaborating the clinical need and risky outcomes in vernacular forms]	In camps, the counsellor's interpretation engages with community-wide salient woman health issues that complicate health specifically in obstetric conditions. Interpretation informs about the symptoms underlying these shared issues and deconstruct the meaning thereof. It also takes instantiation of one specific visitor of the day and the counsellor elaborates the symptoms, risk, and mitigation to inform others as well. Moreover, woman and families are informed about the physiologic sites (skin colour as symbol of anaemia, pain in joints as symbol of sickle cell) and its relation with embodied experiences. Annotating the body answers query that 'how come joints in pain is related to the pregnancy and how does it matter' or as one counsellor says 'we unambiguously specify that back pain in sickle cell is or would be different than labour pain'. Thus annotating the body becomes interpretive way to convey the meaning. It marks up the body and make meaning of experiences comprehensible to women
Clinic	Norming + justifying	• [The counsellor in her morning round stops at one particular bed where a woman was recovering after her C-section delivery. The family was agitated and demanding discharge from hospital] • Counsellor: condition of sister is good now . . . she can go home with the baby in a few days. Elderly woman: But she is in pain . . . why operation (referring to C-section delivery) was done?	The justification is an answer to the query that why something was done that lead to un-experienced difficulties/subjectivities in the clinic. In this episode, the counsellor discursively justifies the clinical action of C-section surgery and highlight the norms of clinical act. By bringing the intensity of difficulties during birthing progression in the woman and referring to the partograph recording, a graphical

(continued)

Table 4. (continued)

Space	Dominant transla-tion work	Illustrative example (interaction episode)	Description
		• Counsellor: The sister's (body) is different from others . . . like this sister (indicating to another woman on adjacent bed in the ward). The operation was required because she was in pain (labour pain) for long time and even after *dawai* (medicines for artificial pain induction for deliveries). Look at this (pointing towards a graph) . . . the delay would have endangered the baby and mother. After surgery, sister (referring to women on bed) needs time to recover . . . the stitches causes pain. • The counsellor informed authors that '. . . surgery is not viewed as a normal way of birthing in the community . . . so we respond without any irritation . . . telling them the reason for surgery, time to recovery, the progression during birthing (counsellor used technical word *intrapartum* period) everything is told unambiguously. We know that Massi must have had birthing assisted by *dais* (traditional birthing agents) at home . . . where no support in emergency was available. That is why hospital is required . . . to manage risk and complications.	recording of maternal and foetal data, the counsellor translates the meaning of clinical action. The C-section is seen norm to avert the deleterious effect to the mother and baby under the anomalous progression of birthing. Justification is often supported by standardized norms of professional practice
In-Between	Interpreting + norming	• *[An counselling interaction excerpt about pre-eclampsia with a woman in OPD with her mother-in-law]* • Counsellor: *Do you feel loss of conscious and pain sometimes?* (The counsellor uses closely associated vernacular *Khench* for a seizure-like health condition to check for the possibility of preeclampsia). *It is important for you to attend . . . the swelling in the hand* (and) . . .	In outdoor counselling, interpretation answer concerns that gets expressed as 'I do not know what is the meaning of my experiences presently and, therefore, I am not in a position to comprehend and act as per advise of the gynaecologist'. So counsellor interprets meaning of script by selecting a part of script and link it the embodied signals of woman. Also, the counsellor

(continued)

Table 4. (continued)

Space	Dominant translation work	Illustrative example (interaction episode)	Description
		(repeats several times), *if there are other concerns, as it is important . . . for you and your baby . . . swelling is not normal . . . see it can cause uneasiness and even unconsciousness* • Woman: (looks concerned at swelling and visibly in pain) . . .yes. • Counsellor: *Your blood pressure is different now from earlier visits . . . now this is 7th* (referring to last trimester of her pregnancy) *. . . be alert and observe that swelling or anything do not increase further . . .* • Mother-in-Law: *I do not know . . . (How) it is abnormal here . . . we all felt during our times* • Counsellor (smiles and engages both and by addressing to all other women in cubicle): *how come swelling is normal* (in pregnancy) *. . . Maasi* (A vernacular relational honorific for elderly)? *It can be dangerous also . . . it increases risk for the sister and child, both . . . the sister may become unconscious* (if it is not cared). • [*Counsellor mobilizes local identifier of embodied concern of high blood pressure in potentially threatening condition and links it to the norms recommended in expert's prescription*]	elaborates the objective norms of medical ration like high blood pressure in pre-eclamptic condition which corroborates with anomalous swelling. Without interpreting difficulties in local vernacular like *Khench* and living forms and linking to medial norms the script may remain inaccessible to community. Moreover, in the process, the counsellor recalibrates the perception of swelling being normal, as argued by elderly mother-in-law

interactions. Secondly, we show how the nature of space in which these interactions happen may influence the mechanisms of translation. Our findings have direct implications for research on how new knowledge is institutionalized in different epistemological communities, especially in situations where translation of knowledge is necessary for community buy-in, and how legitimacy of certain forms of expertize may be developed in in communities resisting such expertize.

First, we contribute to translation literature by showing how real-time translation work (Waeraas and Sataoen 2014; Cassell and Lee 2017) is undertaken. Our primary contribution lies in proposing a translation typology of four types of translation work—*interpreting, norming, annotating,* and *justifying.* This typology represents mechanisms through which obstetric counsellors translate clinical diagnosis and prescription based on modern allopathic medical system into locally meaningful and

comprehensible forms. Through these real-time translation mechanisms, they contextualize doctor's diagnosis and prescription in the vocabulary, symbols, idioms, and imaginations of health and body of the tribal community, localizing, and making them comprehensible in the process. For instance, *interpreting* provides a continuous explanation of felt experiences and subjective accounts in obstetric progression of tribal women; *norming and annotating* introduces the clinical reasons and metrics that not only link to patient's subjective accounts, but also specifies norms of clinical action; while *justifying* provides rationale for invasive or unexpected (to the tribal community) clinical procedures. Overall, through these translation mechanisms, obstetric counsellors package allopathic clinical prescriptions in comprehensible localized forms related to tribal community's ways of imagining health and body.

Our findings contribute to the literature on real-time translation (see Waeraas and Sataeon, 2014; Cassell and Lee 2017) by showing how translation of knowledge may follow identifiable patterns of translation. By focusing on what our focal actors say and do during regular day-to-day interaction, we induce *how* translation of expert knowledge follows consistent patterns. Our analysis suggests that actors may not necessarily translate expertise in random and unsystematic ways, which may lead to a diversity of multiple translated forms, but rather adhere to few basic patterns of translation, consistent with observations made by Waeraas and Sataeon (2014), Røvik (2007), cited in Waeraas and Sataeon 2014), and Sahlin-Andersson (1996). For instance, Waeraas and Sataeon (2014), building on Rovik (2007), found that in order to adapt reputation management to their context, hospitals in Norway applied three basic rules of translation—copying (literal transfer of a construct, as accurately as possible), omission (toning down or leaving some components out), and addition (making the idea explicit and concrete by adding information). In the same vein, the obstetric counsellors in our sample are skilful actors who localize non-native medical knowledge in tribal health epistemologies by integrating local vocabulary, symbols, and idioms—identifying what to include and what to leave out in the process—in systematic non-random patterns. For instance, while interpreting cases of pre-eclampsia, the counsellors were aware that elderly women in the community would normalize clinically anomalous symptoms like swelling, unease, and fainting, which they consider normal part of maternal and obstetric care. Hence, the translation process involves both de-contextualization and contextualization of knowledge. By drawing attention to particular aspects of a clinical prescription, obstetric counsellors de-contextualize those measures and symbols from the overall system of knowledge they belong to. Then, by embedding these measures and symbols in the subjective experiences of the patient, locating disease or experiences to physical sites in body, and using local vocabulary to communicate both the diagnosis and solution, these measures and symbols are contextualized in tribal imagination of body and health.

Further, our findings also contribute to the broader literature on translation research, which has tended to focus on translation of specific management practices and ideas, by exploring a case of 'high-stakes institutional translation' (Lawrence 2017). Our case of how modern allopathic medical expertise is translated and applied in an impoverished tribal community is 'highly consequential for the actors involved, in terms of concrete, material impacts on health and well-being, and in terms of profound moral and ethical challenges for the community' (2). Our case provides an interesting context for high-stakes institutional translation as it involves translation of expertise across epistemological boundaries. Tribal communities in Western India constitute a distinct epistemological community as they traditionally share 'a body of knowledge and a set of standards and practices for developing and evaluating knowledge' (Nelson 1993) about health and well-being, which is different from conceptions of modern allopathic medicine.

However, while our data allows us to capture how real-time translation of knowledge happens during regular interactions, it predominantly looks at only one of the actors involved—obstetric counsellor. We were not able to substantively capture how the tribal community members, the patients and their families, received or resisted the translation work undertaken by the obstetric counsellors. We did observe some anecdotal evidence wherein family members challenged the diagnosis (fainting)—'how is it abnormal . . . we all felt like that'; challenged the rationale for

carrying out an invasive procedure (C-section)—'why did you do that . . . she was still in pain'; or simply discharged the patient out of the hospital and took her back to their village. Our anecdotal evidence suggests that to fully account for how real-time translation happens, future research may need to take into account interactions in their entirety. Thus, future research may focus on the dynamic nature of real-time translations, that is, how, for example, professional actors translate knowledge, how receivers adapt, accept, and resist these translations, and how professional actors respond to receiver's actions. Exploring such spirals of translations may help us better understand the dynamic nature of real-time translation. This is an important issue as understanding how "interaction, negotiation and contestations' (Mueller and Whittle 2011: 204) happen during translation and 'how do the relationships between different stakeholder groups and translators influence how the idea is edited' (Cassell and Lee 2017: 3) can be considered central to achieving a fuller understanding of translation processes.

Our second contribution is to the literature on the relationship between space and various institutionalization processes, including translation (see Lawrence and Dover 2015; Lawrence 2017; Rodner et al. 2020; Wright et al. 2021). Our analysis shows that the type of space in which interaction happens influences the type of translation work undertaken by obstetric counsellors. We find that the combination of interpreting and annotating dominates translation work in community spaces (camps and meetings in villages), whereas justifying and norming dominate in clinical space (hospital). These results are interesting because translation mechanisms of interpreting and annotating are highly localized in terms of contextualization in tribal vocabulary and symbolism of body and health. In contrast, norming and justifying are lot more medicalized, as they are more reliant on metrics and technical vocabulary of the allopathic medical system. Our results are consistent with recent literature on socially inclusive spaces. As spaces form the interpretive filters (Lawrence and Dover 2015) for 'seeing, knowing and understanding the world' (Wright et al. 2021: 3), it is plausible that obstetric counsellors in our case are bound to values of community space as a space for social inclusion, leading to increase in

contextualization of technical medical knowledge in tribal vocabulary, symbolism, and imaginations. On the other hand, hospitals, as established clinical spaces, allow counsellors, who are bound to the values of this professional space (Wright et al. 2021), to use more medicalized translation mechanisms, norming and justifying, leading to discursive institutional maintenance of professional spaces. Thus, consistent with Lawrence and Dover (2015), our results suggest that nature of space both mediates and complicates usage of translation mechanisms.

However, our study also raises some important questions regarding issues of power, hegemony and inclusion during institutionalization processes. First, it seems to us that the usage of more localized translation mechanisms in community settings and more medicalized translation mechanisms in hospitals may have implication for community inclusion. Prior research in sociology of professions shows that professionals tend to rely on technical vocabulary of the profession to maintain status and jurisdictional boundaries (Abbott 2014, 1981). Our study suggests that such an approach may lead to tensions and complications when professional expertize is applied to a different epistemological community, which requires community buy-in. However, our data does not allow us to explore these tensions, between community inclusion and professional jurisdiction imperatives, in-depth. We suggest future research may further explore the tension between these two professional imperatives and explore how frontline professionals resolve, or fail to resolve, these tensions.

The second issue raised by our study is with respect to power and hegemony in institutionalization processes. Substantial literature in development studies and sociology, especially those drawing upon the postcolonial criticism of health interventions in tribal areas in India, has drawn attention to issues of power and hegemony in such contexts. These scholars argue that most health-related interventions are fraught with power differentials, tend to be top-down, treat tribal communities as passive recipients of knowledge, and focus on behaviour change activism, rather than structural issues (see Dutta and Basu 2007; Dutta 2008; Acharya and Dutta 2012). Though our data do not allow us to examine whether the translation work undertaken by counsellors actively de-

legitimized tribal epistemologies of health and well-being, some anecdotal evidence suggests that it may have, even if inadvertently. For instance, when a counsellor draws attention to the fact that fainting during pregnancy is not 'normal' and foetus stays in special sac separate from *pet* (local word for abdominal area), it is plausible that this directly challenges tribal understanding of health and body. A fact further exacerbated by the status differential between Non-Governmental Organisations and the local tribal communities. Future research may explicitly consider the issue of power and hegemony inherent in institutionalisation of new knowledge systems across epistemological boundaries, for example, how translation of new knowledge may delegitimize existing knowledge and how such processes support existing power structures.

CONCLUSION

In this article, we use multiple methods—ethnographic observations and QCA—to explore real time translation work undertaken by frontline healthcare professionals in marginal tribal communities. We identify four dominant types of translation work—Interpreting, Annotating, Norming, and Justifying—and find that counsellors engage in spatially differentiated translation work. They predominantly used the combination of justifying and norming in clinical space (hospital) and the combination of interpreting and annotating in community space (village or school). By showing how real time translation of expert knowledge happens across epistemological boundaries, we contribute to our understanding of *how* translation happens and how space influences translation process.

ENDNOTES

1. sickle cell disease—a rare genetic blood disorder, which may creates complications in obstetric conditions. Also referred to as datardano in local language. Caesarean section—also called C-section—is a surgical procedure for abdominal delivery of babies. It is often recommended in case of complications during childbirth.
2. Pre-eclampsia—is a complication in pregnancy which is symbolized by high blood pressure. It is recognized as one of the key reasons for maternal mortality in tribal communities.
3. Anaemia—Low level of Haemoglobin (Hb) in blood. A value lower than 11 is typically called as anaemic. Between 6-5-8 it is severe anaemic and below that it life threatening.
4. Diastole and systole—are two phases of the cardiac cycle. Diastole happens when heart relaxes and systole happens when heart contracts to pump blood. The top number in blood pressure is called systolic (120 mmHg) and lower number is called in diastolic (80 mmHg).
5. Dilation and Curettage (DnC)is used to diagnose and treat a uterine condition. It is a procedure to remove tissues from inside uterus by the doctors.
6. HCG—A hormone which increases to 1,00,000 mIU/ml in anomalous pregnancy.
7. Molar pregnancy—is an anomalous form of pregnancy. It does not have a live foetus and a procedure called DnC is performed to remove the anomaly. If untreated it, can become dangerous.
8. USG—acronym for ultrasonography. A diagnostic test where ultrasound waves are used to diagnose internal structure of tissues in body. Usually referred to as ultrasound. In pregnancy, it is used to visualize real-time images of developing embryo/foetus in womb.

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