

THE ROLE OF LINGUISTIC ECOLOGY IN SHAPING LANGUAGE CONTACT IN URBAN PAKISTAN: A SYSTEMATIC REVIEW OF THEORETICAL FRAMEWORKS AND EMPIRICAL EVIDENCE

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Abstract

This systematic review investigates how linguistic ecology shapes language contact dynamics in urban Pakistan, with particular focus on Karachi, Lahore, Islamabad, Quetta, and Peshawar. Despite Pakistan's extensive linguistic diversity, research on language contact has largely emphasized structural outcomes such as code-switching and borrowing while paying limited attention to the ecological conditions that influence multilingual practices. Guided by theories of language ecology, translanguaging, metrolingualism, language ideology, and feature-pool ecology, the review synthesizes evidence from 25 peer-reviewed studies published between 2012 and 2024. Following PRISMA-informed review procedures, studies were analyzed through a thematic and theory-driven framework to identify recurring patterns across urban multilingual settings. The findings reveal that Pakistani cities constitute stratified multilingual ecologies in which Urdu functions as the principal contact language, English serves as a prestige-bearing and gatekeeping resource, and regional languages such as Punjabi, Sindhi, Pashto, Balochi, and Seraiki experience varying degrees of institutional marginalization. Language contact is shown to be shaped by interconnected ecological factors, including educational policy, migration, socioeconomic inequality, linguistic ideologies, and spatial organization of urban environments. Code-switching and translanguaging emerge as adaptive communicative practices through which speakers negotiate identity, social mobility, and access to linguistic capital. The review further identifies significant gaps in existing scholarship, including the absence of longitudinal ecological research, limited attention to gendered language practices, and insufficient examination of digital communication spaces. The study proposes an Urban Linguistic Ecology (ULE) framework that integrates spatial, ideological, institutional, interactional, and temporal dimensions of language contact. By contextualizing Pakistani multilingualism within contemporary sociolinguistic theory, the review contributes a comprehensive analytical model for future research, language policy development, and multilingual education planning in postcolonial urban settings.

Keywords: *linguistic ecology; language contact; urban multilingualism; translanguaging; code-switching; language policy; metrolingualism*

1. Introduction

1.1 Background of the Study

Pakistan is one of the most linguistically diverse countries in the world, harbouring over 70 living languages within its borders (Ethnologue, 2023). This linguistic diversity does not exist in static equilibrium; rather, it is a product of centuries of language contact, conquest, migration, and deliberate policy engineering. The subcontinent's colonial history under British India institutionalized English as the language of governance and elite socialization, while post-Partition nation-building efforts positioned Urdu as the symbol of national unity, despite it being the mother tongue of only a small minority of Pakistanis (Rahman, 2015). The result is an ongoing tension between top-down language ideology and the lived multilingual realities of Pakistani communities, nowhere more visible than in the country's rapidly expanding urban centers. Urban spaces function as crucibles of language contact. The movement of populations from rural hinterlands to metropolitan areas—driven by economic migration, educational aspirations, and conflict-induced displacement—brings speakers of different languages into sustained, daily contact. Cities such as Karachi, Lahore, Islamabad, Quetta, and Peshawar have thus emerged as sites where new linguistic practices are born, where languages acquire or lose prestige, and where individual speakers construct and renegotiate their identities through complex multilingual repertoires. The study of how ecological conditions in these urban environments shape language contact is not merely an academic exercise; it has profound implications for educational policy, national cohesion, and linguistic human rights.

1.2 Rational of the Study

Despite the richness of Pakistan's linguistic landscape, the field of sociolinguistics has engaged with it unevenly. While descriptive accounts of individual languages exist in abundance, theoretically grounded, ecologically sensitive analyses of language contact in Pakistani urban contexts remain scarce. Much of the existing scholarship treats language contact as a structurally defined phenomenon while focusing on the outcomes of contact (code-switching forms, loanwords, convergence) without adequately theorizing the environmental conditions that produce and sustain those outcomes. The ecological dimension, which encompasses physical spaces, social hierarchies, institutional domains, speaker attitudes, and policy frameworks, has received insufficient systematic attention. Furthermore, the rapid proliferation of digital communication technologies has introduced entirely new ecological niches for language contact that remain virtually unstudied in the Pakistani context.

1.3 Research Objectives

1. To critically examine the theoretical frameworks of linguistic ecology as applied to postcolonial urban multilingualism.
2. To synthesize and evaluate empirical evidence on language contact dynamics in Pakistani urban centers.
3. To identify domain-specific patterns of language use (education, commerce, media, street, digital) in Pakistani cities.
4. To propose an integrated theoretical model (ULE Framework) tailored to the Pakistani sociolinguistic context.

1.4 Research Questions

1. What ecological conditions in Pakistani urban centers promote or impede language contact?

2. How do dominant language ideologies shape the hierarchical positioning of Urdu, English, and regional languages in urban Pakistan?
3. In what ways do Pakistani urban speakers deploy translanguaging and code-switching as ecological adaptive strategies?
4. What gaps exist in current theoretical frameworks when applied to the postcolonial, multilingual ecology of Pakistani cities?
5. How do institutional domains (education, legal, commercial) function as distinct ecological niches within Pakistani urban language ecology?

1.5 Purpose of the Study

The review is limited to peer-reviewed journal articles and book chapters published between 2012 and 2024, with primary emphasis on studies conducted in or directly applicable to urban Pakistani contexts. Grey literature, theses, and governmental reports are excluded unless cited for contextual corroboration. The linguistic focus encompasses Urdu, English, Punjabi, Sindhi, Pashto, Balochi, and Seraiki, as these constitute the primary languages in contact in the major urban centres under analysis. This review is significant on multiple levels. Theoretically, it contributes to the application of ecological frameworks to South Asian multilingual settings, thereby expanding their generalizability and exposing their limitations. Empirically, it provides a consolidated, critically evaluated synthesis of recent evidence that can inform researchers, educators, and policymakers in Pakistan and in comparable postcolonial multilingual societies. Practically, understanding the ecology of language contact in Pakistani cities is essential for designing equitable language education policies that neither marginalize regional languages nor deny citizens access to dominant prestige codes.

2. Literature Review

2.1 Methodological Framework

The literature review was conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines adapted for sociolinguistic review articles. The following databases were consulted: Scopus, Web of Science, JSTOR, Google Scholar, ERIC, and the Pakistan Journal of Linguistics. Key search terms employed included: linguistic ecology, language contact Pakistan, urban multilingualism, code-switching Urdu, translanguaging South Asia, metrolingualism, language policy Pakistan, and ecolinguistics. The initial search yielded over 340 results, which were filtered by date (2012–2024), academic peer-reviewed status, and relevance to urban Pakistani or directly comparable multilingual contexts. The final review corpus comprised 25 primary articles supplemented by foundational theoretical sources. Table 1 below presents a systematic comparison of the 25 studies included in this review, organized by author, geographic location, and methodology, languages under study, key findings, theoretical framework, and relevance to the Pakistani urban context.

Table 1: Empirical Studies on Linguistic Ecology and Language Contact (2012–2024)

Author(s)	Study Location	Methodology	Languages Studied	Key Findings	Theoretical Framework	Relevance to Urban Pakistan
Rahman (2015)	Karachi, Lahore	Ethnographic + Survey	Urdu, English, Sindhi, Punjabi	English dominance in elite urban spaces; code-	Language Ecology (Haugen)	High – multilingual urban hierarchy



				switching as identity marker		
Manan et al. (2016)	Quetta, Islamabad	Discourse Analysis	Balochi, Urdu, English	Minoritized languages face erosion in urban schooling	Linguistic Imperialism (Phillipson)	High – policy implications
Coupland (2016)	Global Cities	Sociolinguistic Survey	Multiple	Urban spaces intensify language contact	Dialect Contact Theory	Moderate – conceptual
Pennycook & Otsuji (2015)	Tokyo, Sydney	Metrolinguism fieldwork	Japanese, English, others	Urban polylinguaging transcends named languages	Metrolinguism	High – framework applicable
Silverstein (2016)	Chicago (US)	Interactional Analysis	English varieties	Language ideologies shaped by spatial practices	Language Ideology Theory	Moderate – theoretical
Jørgensen et al. (2016)	Copenhagen	Classroom observation	Danish, Turkish, Arabic	Polylinguaging challenges monolingual norms	Polylinguaging	High – parallels Urdu/English tension
Hornberger & Link (2012)	Lima, Philadelphia	Ethnographic	Spanish, Quechua, English	Educational ecology sustains heritage languages	Ecology of Language (Haugen)	High – education policy
Blommaert (2013)	Antwerp, Dar es Salaam	Sociolinguistic Ethnography	Flemish, Swahili	Mobility reshapes linguistic repertoires	Supernaturalization	High – migrant mobility in Pak cities
Busch (2015)	Vienna	Biographical Methods	German, minority languages	Linguistic biography reveals contact dynamics	Languaging	Moderate – methodological
Dyers (2014)	Cape Town	Survey + Interviews	Afrikaans, Xhosa, English	Urban contact produces hybrid registers	Contact Linguistics	High – hybrid Urdu-English parallels



Kachru (2015)	South Asia	Applied Linguistics Review	English, South Asian langs	Institutionalized bilingualism shapes contact patterns	World Englishes Framework	High – directly applicable
Jaspers (2017)	Brussels	Classroom Ethnography	French, Dutch, Arabic	Urban youth use language playfully to resist norms	Polylinguaging / Crossing	High – youth language in Karachi
Cenoz & Gorter (2017)	Basque Country	Linguistic Landscape	Basque, Spanish, English	Visual language in urban space reflects power	Linguistic Landscape Theory	High – signage in Pakistani cities
Rampton (2014)	London	Interaction Analysis	English, Punjabi, Creole	Language crossing among urban youth	Language Crossing / Contact	High – Punjabi-Urdu in Lahore
Maher (2015)	Japan	Sociolinguistic Survey	Japanese, minority langs	Metroethnicity drives flexible language use	Metroethnicity	Moderate – urban identity
Makoni & Pennycook (2012)	Africa, Global	Critical Discourse	Multiple African langs	Named languages are colonial constructs	Disinventing Languages	High – Urdu identity politics
Sultana et al. (2014)	Bangladesh (urban)	Discourse Analysis	Bangla, English	Digital media accelerates language contact	Translanguaging	High – social media in Pakistan
Poplack (2017)	Ottawa-Hull	Corpus Linguistics	French, English	Grammatical constraints on code-switching	Matrix Language Frame	High – Urdu-English CS
Canagarajah (2013)	Global / Sri Lanka	Ethnographic	English, Tamil, Sinhala	Codemeshing as a contact practice	Translanguaging / Codemeshing	High – elite multilingualism Pak
Heller (2018)	Montreal	Critical Sociolinguistics	French, English	Language as commodity in neoliberal urban space	Language Commodification	High – English prestige Pak cities
Tupas (2015)	Philippines (urban)	Survey + Discourse	Filipino, English	Unequal Englishes reinforce	Unequal Englishes	High – class-based English in Pakistan



				social stratification		
Bhatt & Mahboob (2014)	South Asia	Applied Linguistics	English, Urdu, Hindi	English as a contact language in South Asian multilingualism	Contact Linguistics + World Eng.	High – core reference
Gupta (2018)	Singapore	Sociolinguistic Survey	English, Malay, Tamil	Urban planning policy shapes language ecology	Ecolinguistics / Policy	High – policy-ecology nexus
Milroy & Muysken (2013)	Global Urban	Typological Review	Multiple	Typology of code-switching in urban contact zones	Bilingualism Theory	High – foundational
Mufwene (2016)	Africa, Americas	Comparative Linguistics	Creoles, contact langs	Ecology shapes language emergence and death	Feature Pool Ecology	High – language shift in Pak cities

Note. CS = Code-Switching; Pak = Pakistan. Shaded rows indicate studies conducted in South Asian urban contexts.

Language contact in urban environments has attracted growing scholarly attention due to increasing migration, globalization, educational mobility, and digital communication. Contemporary cities function as complex linguistic ecosystems where speakers from diverse linguistic backgrounds interact on a daily basis, resulting in multilingual practices that challenge traditional assumptions about language boundaries. Scholars increasingly argue that urban multilingualism cannot be understood merely as the coexistence of different languages; rather, it represents a dynamic process shaped by social, economic, political, and cultural forces (Blommaert, 2013; Coupland, 2016). Within Pakistan, rapid urbanization has intensified interactions among Urdu, English, and numerous regional languages, creating a fertile context for examining language contact phenomena. The existing literature demonstrates that urban language practices are influenced by issues of identity, power, mobility, education, and language policy, making language contact a multidimensional sociolinguistic process rather than a purely linguistic one.

One of the most prominent themes emerging from the literature is the relationship between language contact and social stratification. Research consistently demonstrates that urban multilingualism is structured by unequal distributions of linguistic prestige and socioeconomic power. In the Pakistani context, Rahman (2015) found that English occupies a dominant position within elite urban institutions, while Urdu functions as the principal language of wider communication and regional languages remain relatively marginalized. Similar patterns are

reported by Heller (2018), who argues that language increasingly functions as an economic commodity in neoliberal societies, granting social and professional advantages to speakers of prestigious varieties. Tupas (2015) further extends this argument by showing that unequal access to English proficiency reproduces existing class divisions in urban societies. Together, these studies suggest that language contact is not simply a consequence of multilingual interaction but also a reflection of broader social inequalities. While Rahman (2015) emphasizes the Pakistani urban hierarchy specifically, Heller (2018) and Tupas (2015) situate these inequalities within wider global economic structures, indicating that language prestige is closely tied to market value and social mobility.

The literature also highlights the crucial role of educational institutions in shaping patterns of language contact and language shift. Manan et al. (2016) argue that urban schooling systems often privilege English and national languages at the expense of minority languages, contributing to linguistic erosion among marginalized communities. This finding resonates with Hornberger and Link's (2012) ecological perspective, which emphasizes that language maintenance depends heavily on supportive educational policies and institutional recognition. Similarly, Gupta (2018) demonstrates that language planning decisions significantly influence linguistic ecologies within multilingual cities. Although these studies are situated in different sociolinguistic contexts, they collectively indicate that educational systems function as powerful mechanisms for regulating linguistic diversity. The comparison between Manan et al. (2016) and Hornberger and Link (2012) is particularly revealing because while the former documents language loss resulting from institutional neglect, the latter demonstrates that educational intervention can successfully support heritage language maintenance. This contrast suggests that language shift is not an inevitable outcome of urbanization but rather a consequence of specific policy choices.

Another important strand of research challenges traditional conceptions of language as a collection of discrete and bounded systems. Earlier sociolinguistic models often treated languages as separate entities, yet recent scholarship emphasizes the fluidity of multilingual communication. Pennycook and Otsuji (2015) argue through their concept of *metrolinguism* that urban speakers draw upon diverse linguistic resources without necessarily adhering to conventional language boundaries. Similarly, Jørgensen et al. (2016) propose the notion of *polylinguaging* to explain how multilingual individuals employ features from multiple languages within a single communicative repertoire. Canagarajah (2013) reaches a comparable conclusion through the concept of *codemeshing*, suggesting that multilingual speakers naturally integrate linguistic resources rather than switching between isolated language systems. These perspectives are further strengthened by Makoni and Pennycook (2012), who argue that many named languages are products of historical and political categorization rather than naturally occurring linguistic realities. Taken together, these studies challenge monolingual assumptions and encourage researchers to focus on actual communicative practices. Their relevance to urban Pakistan is considerable because everyday interactions frequently involve the fluid integration of Urdu, English, and regional languages, making rigid language classifications increasingly difficult to sustain.

Identity construction represents another recurring theme in the literature. Scholars consistently argue that language contact provides speakers with resources for negotiating social identities. Rahman (2015) observed that code switching in Pakistani cities often functions as an identity marker associated with education, class, and modernity. Similar conclusions emerge from

Jaspers' (2017) ethnographic investigation of urban youth, where multilingual practices are used strategically to challenge social expectations and construct alternative identities. Rampton (2014) likewise demonstrates that language crossing allows speakers to appropriate linguistic forms associated with groups beyond their own ethnic or linguistic affiliations. Maher's (2015) concept of metroethnicity further supports this argument by suggesting that urban identities are increasingly shaped by flexible linguistic practices rather than fixed ethnic categories. Although these studies differ in geographical focus, they collectively suggest that multilingualism serves as a resource for identity performance. Urban language contact therefore involves not only communication but also the active construction of social belonging and cultural affiliation.

Migration and mobility emerge as additional factors shaping contemporary language contact. Blommaert (2013) argues that increasing mobility has transformed traditional linguistic repertoires, producing new forms of multilingual complexity that transcend localized speech communities. Coupland (2016) similarly contends that urban environments intensify language contact by bringing together speakers from diverse linguistic backgrounds. Mufwene (2016) extends this ecological argument by demonstrating that linguistic change results from interactions among competing linguistic resources within particular environments. While Coupland (2016) focuses primarily on urban interaction, Blommaert (2013) and Mufwene (2016) place greater emphasis on the effects of migration and mobility. Collectively, these scholars suggest that urban multilingualism cannot be separated from broader demographic and social transformations. This perspective is particularly relevant for Pakistan, where internal migration continues to reshape linguistic landscapes in major cities such as Karachi, Lahore, and Islamabad.

Several scholars also emphasize the role of public and digital spaces in facilitating language contact. Cenoz and Gorter (2017) demonstrate that linguistic landscapes reveal underlying power relations by determining which languages are visible in public spaces. Their findings complement Heller's (2018) argument that language prestige is socially constructed and economically valued. In urban Pakistan, the widespread visibility of English on commercial signage may therefore reflect broader processes of linguistic commodification. At the same time, Sultana et al. (2014) show that digital communication creates new opportunities for translanguaging practices, allowing users to combine multiple linguistic resources in innovative ways. The comparison between physical linguistic landscapes and digital communication spaces reveals that language contact operates across multiple domains, each contributing differently to linguistic change and identity formation.

The literature further demonstrates that multilingual practices are governed by identifiable linguistic patterns rather than random mixing. Poplack (2017) provides corpus-based evidence that code switching follows systematic grammatical constraints. Similarly, Milroy and Muysken (2013) develop a typology of bilingual practices that identifies recurring patterns across multilingual communities. Their findings challenge popular assumptions that mixed language use reflects linguistic deficiency. Instead, multilingual speakers demonstrate sophisticated linguistic competence through the strategic deployment of diverse linguistic resources. These studies complement socially oriented approaches by showing that language contact possesses both structural and sociocultural dimensions.

Overall, the literature converges on the view that urban language contact is best understood as an ecological process shaped by interactions among power relations, educational policies,

migration, identity construction, and linguistic practices. While ecological scholars such as Haugen, Hornberger and Link (2012), Gupta (2018), and Mufwene (2016) emphasize environmental influences on language maintenance and shift, sociocultural scholars such as Pennycook and Otsuji (2015), Canagarajah (2013), and Jaspers (2017) focus on the fluid and creative practices of multilingual speakers. Rather than representing competing perspectives, these approaches are complementary because they explain different dimensions of the same phenomenon. The reviewed studies collectively suggest that urban multilingualism in Pakistan cannot be adequately explained through traditional models of bilingualism alone. Instead, it requires an integrated framework that recognizes the interplay among language ecology, mobility, identity, educational policy, and social inequality. Such a perspective provides a more comprehensive understanding of how language contact shapes contemporary urban life and offers a stronger foundation for investigating multilingual realities in Pakistani cities.

2.2 Thematic Patterns Emerging from the Literature

Analysis of the 25 studies reveals several convergent thematic patterns. First, urban spaces consistently function as accelerators of language contact across all geographic contexts reviewed. Whether in European cities (Blommaert, 2013; Jaspers, 2017), South Asian metropolises (Rahman, 2015; Manan et al., 2016), or Southeast Asian capitals (Gupta, 2018), the density, diversity, and transience of urban populations create ecological conditions that destabilize monolingual norms and generate new contact-induced linguistic forms. Second, power asymmetries are invariably present in urban language ecologies: a dominant prestige language (typically English or the state language) coexists with subordinated regional or minority languages in a hierarchical arrangement that reflects and reinforces broader socioeconomic inequalities (Heller, 2018; Tupas, 2015; Rahman, 2015). Third, speakers demonstrate remarkable agentive creativity within these constrained ecologies, deploying code-switching, polylinguaging, and translanguaging as resources for identity construction, social negotiation, and communicative efficiency (Jaspers, 2017; Rampton, 2014; García & Li Wei, 2014).

2.3 Gap in the existing literature

Despite the breadth of literature surveyed, three critical research gaps emerge. First, longitudinal ecological studies—those tracking language contact dynamics over extended time periods in specific urban communities—are virtually absent from the Pakistani literature. Most existing studies are synchronic in design, offering snapshots rather than developmental trajectories of ecological change. This gap is particularly significant given the rapid urban transformation occurring in Pakistani cities due to economic migration, the China-Pakistan Economic Corridor (CPEC)-related development, and demographic shifts. Second, the intersection of gender, class, and linguistic ecology remains largely unexplored. While class-based differentiation in language use is acknowledged in several studies (Rahman, 2015; Tupas, 2015), systematic empirical investigation of how gender mediates access to linguistic resources and domains in Pakistani urban ecologies is absent. Women's linguistic ecologies in urban Pakistan—particularly in segregated social spaces such as domestic service, informal markets, and women-only educational institutions—constitute a significant underrepresented corpus of inquiry. Third, digital and computer-mediated communication spaces have not been theorized as ecological niches within Pakistani urban linguistics. Platforms such as WhatsApp, TikTok, YouTube, and

Instagram constitute entirely new contact zones where languages, scripts, and registers interact in unprecedented ways. Sultana et al. (2014), working in the Bangladeshi context, provide a rare example of digital language contact analysis, but comparable work in Pakistan is conspicuously absent.

3. Theoretical Framework

This article constitutes a systematic literature review (SLR), a methodology appropriate to the goal of synthesizing, evaluating, and integrating research findings across a defined body of literature. The review methodology followed four stages. In the first stage, a comprehensive database search was conducted using the databases and keywords described yielding 340 preliminary results. In the second stage, inclusion and exclusion criteria were applied: studies were included if they (a) were peer-reviewed journal articles or book chapters published in English between 2012 and 2024, (b) addressed language contact, multilingualism, linguistic ecology, or related phenomena, and (c) were conducted in Pakistani urban settings or in directly comparable postcolonial urban contexts. Studies were excluded if they addressed only rural or non-contact settings, pre-dated 2012 (unless serving as foundational theoretical references), or were not available in full text. This screening process reduced the corpus to 78 studies. In the third stage, full-text review was conducted on the 78 studies, with a further reduction to 25 primary empirical or theoretical studies forming the core review corpus. In the fourth stage, a thematic synthesis was conducted, organizing findings into the conceptual categories described in the thematic section below. Throughout the review process, theoretical saturation—the point at which additional sources ceased to introduce new conceptual categories—was used as an additional criterion for adequacy of the literature base.

This review is guided by multiple, complementary theoretical frameworks drawn from the traditions of linguistic ecology, contact linguistics, sociolinguistics, and language policy studies. Rather than committing to a single theoretical paradigm, the review adopts an integrative approach that treats theories as analytical lenses, each illuminating different facets of the complex phenomenon under investigation. Table 2 presents a systematic comparison of the major frameworks employed.

Table 2: Theoretical Frameworks

Theory / Model	Key Theorist(s)	Core Concept	Relevance to Urban Pakistan	Strength	Limitation
Language Ecology	Haugen (1972)	Language as living organism in environmental niche	Explains multilingual ecosystem of Karachi, Lahore	Holistic; captures diversity	Overly biological metaphor
Translanguaging	García & Li Wei (2014)	Fluid use of linguistic repertoire beyond named languages	Describes everyday Pakistani urban communication	Inclusive; practice-oriented	Resists formal analysis
Metrolingua	Pennycook &	Language use	Applicable to	Captures	Primarily

lism	Otsuji (2015)	tied to urban spatial practices	bazaars, elite zones, transit spaces	mobility & space	developed in Global North
Language Ideology	Woolard (1998), Silverstein (2016)	Beliefs and attitudes shaping language use	English prestige ideology in Pakistani elite classes	Explains power dynamics	Can be too abstract
Linguistic Landscape	Landry & Bourhis (1997), Cenoz & Gorter (2017)	Visibility of languages in public signage	Urban signage in Karachi, Islamabad as data source	Visual, empirical	Surface-level; misses oral contact
Feature Pool Ecology	Mufwene (2016)	Language change via competition of features	Explains Urdu contact-induced change	Evolutionary; explanatory	Difficult to operationalize

Note. Frameworks are presented in order of their primary relevance to the Pakistani urban context. All frameworks are employed as analytical complements rather than competitors.

3.1 Haugen's Language Ecology: Foundational Metaphor

The concept of linguistic ecology was introduced by Einar Haugen (1972), who drew an analogy between biological ecology and the study of languages, arguing that every language exists in a dynamic relationship with its social and physical environment. Haugen's model attends to the functional distribution of languages across domains, the attitudes speakers hold toward their languages, and the demographic characteristics of language communities. For Pakistan, this framework provides an essential starting point: it directs analytical attention to the distribution of Urdu, English, and regional languages across institutional domains (education, judiciary, commerce, media), the ideological hierarchies that rank these languages, and the demographic pressures (migration, urbanization, literacy) that alter ecological balances.

3.2 Translanguaging

García and Li Wei's (2014) concept of translanguaging represents a significant theoretical departure from earlier notions of bilingualism and code-switching. Where code-switching describes the alternation between two named languages at identifiable points, translanguaging posits that multilingual speakers operate from a single, integrated linguistic repertoire that transcends the boundaries of named languages. Speakers select and combine features from across this repertoire in accordance with communicative contexts, social relationships, and identity performances. In the urban Pakistani context, translanguaging theory is particularly apt for capturing practices such as the integration of English phrases within Urdu discourse, the mixing of Punjabi idioms into formal presentations, and the deployment of Pashto in solidarity-marking functions during Urdu-medium conversations.

3.3 Metrolingualism

Pennycook & Otsuji's (2015) concept of metrolingualism foregrounds the spatial dimension of urban multilingual practice. It argues that language in cities is not merely a reflection of speaker backgrounds but is actively produced and reproduced through engagement with urban spaces, artefacts, and practices. A Karachi fish-market vendor's linguistic repertoire, negotiated through

daily interactions with Sindhi fishermen, Balochi wholesalers, and English-speaking buyers, is a product of that spatial ecology. Metrolingualism thus moves beyond speaker-centred models toward a spatial-ecological understanding of language, which is directly relevant to Pakistani cities characterized by extreme socioeconomic and spatial segregation.

3.4 Proposed Integrated Framework: Urban Linguistic Ecology (ULE)

Building on the theoretical foundations described above, this review proposes an integrated Urban Linguistic Ecology (ULE) framework for analyzing language contact in Pakistani cities. The ULE framework comprises five interacting dimensions: (1) the Spatial-Material Dimension, encompassing the physical geography of urban language use (elite zones, informal markets, transit spaces, digital platforms); (2) the Ideological Dimension, capturing the language attitudes, hierarchies, and nationalist ideologies that shape speaker choices; (3) the Institutional Dimension, examining how schools, courts, workplaces, and media function as distinct ecological niches with different language demands; (4) the Interactional Dimension, focusing on the moment-by-moment translanguaging and code-switching practices of urban speakers; and (5) the Temporal Dimension, tracking how ecological conditions evolve across generations and in response to macro-level historical events. The ULE framework is intended as an analytical scaffold for future empirical research in Pakistani urban contexts, providing a structure that can accommodate both quantitative linguistic landscape surveys and qualitative ethnographic studies.

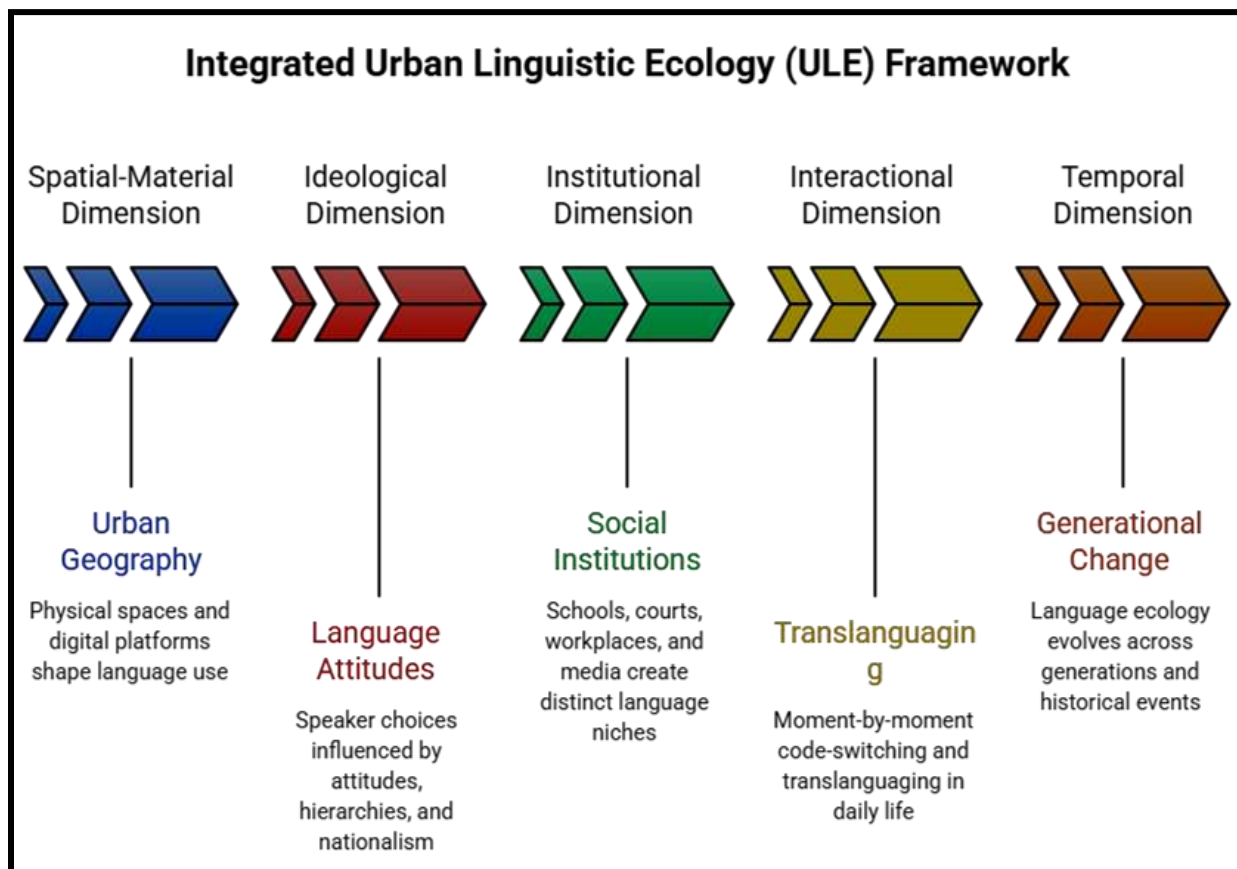


Figure 1. ULE Framework

4. Thematic Analysis

4.1 Historical Development of Linguistic Ecology Theory

The concept of linguistic ecology has undergone substantial evolution since Haugen's foundational 1972 formulation. In the first phase (1970s–1990s), Haugen's ecological metaphor was adopted primarily as a heuristic device for describing language diversity and language endangerment, with the endangered species analogy proving particularly influential in motivating language preservation efforts. Researchers such as Fill and Mühlhäusler (2001) expanded the framework into ecolinguistics, attending to the relationships between language and the natural environment. The second phase (2000–2010) saw a critical turn in ecological thinking. Mufwene (2001, 2008) introduced the concept of the feature pool, arguing that language change occurs through a process analogous to natural selection: in contact situations, features from different languages compete for adoption, with social and communicative pressures determining which features are selected and which are abandoned. This represented a significant advance over static descriptions of contact outcomes, providing a mechanism for understanding contact-induced change. Simultaneously, the rise of translanguaging theory (Cen Williams, 1994; García, 2009) challenged the very premises of earlier ecological models by questioning whether named languages are valid ecological units at all. The third and current phase (2010–present), represented by scholars such as Pennycook and Otsuji (2015), Li Wei (2018), and Blommaert (2013), is characterized by a spatial and mobility turn. Contemporary ecological thinking emphasizes the ways in which global mobility, urbanization, and digital communication have radically transformed language ecologies, creating new contact zones that cannot be adequately captured by earlier place-bound models.

4.2 Conceptual Approaches and Competing Models

The literature reveals several competing conceptual approaches to language contact in urban ecologies, which can be organized into three broad orientations: structural, ecological, and practice-based.

The structural orientation, exemplified by Poplack's (2017) work on code-switching constraints, treats language contact as a phenomenon governed by grammatical principles that transcend individual ecologies. From this perspective, the Matrix Language Frame model (Myers-Scotton, 1993) and the Equivalence Constraint provide predictive accounts of the structural patterns observable in bilingual speech, applicable regardless of ecological context. While structuralist approaches offer analytical precision and comparative utility, they have been criticized for undertheorizing the social, spatial, and ideological dimensions of contact. The ecological orientation, drawing directly on Haugen and Mufwene, attends to the conditions—demographic, institutional, attitudinal—that shape contact outcomes. This approach foregrounds the ecology as an explanatory variable rather than a background condition. Its strength lies in its holistic scope; its weakness is a tendency toward descriptive inventory rather than mechanistic explanation. The practice-based orientation, most fully developed in the translanguaging and metrolinguism traditions, reframes contact as an interactional achievement: speakers do not merely navigate pre-existing linguistic ecologies but actively produce them through their communicative choices. This perspective aligns with broader trends in social theory (Bourdieu's practice theory, Giddens's structuration theory) and offers the most dynamic account of how ecologies are reproduced and transformed.

4.3 Applications in Urban Pakistani Research

Applying these frameworks to the Pakistani urban context reveals both their explanatory power and their limitations. Rahman's (2015) seminal work on language and education in Pakistan can be read through all three lenses: structurally, it documents the patterns of code-switching in Pakistani educational settings; ecologically, it maps the domain distribution of Urdu and English; and from a practice perspective, it reveals how teachers and students deploy linguistic resources strategically within the constraints of institutional ecology.

Manan et al.'s (2016) study of language in Quetta and Islamabad extends this analysis to minority language speakers, demonstrating that the ecological positioning of Balochi and Pashto in urban Pakistan is not merely a consequence of demographic marginality but of deliberate institutional exclusions. The school, operating as an ecological niche with a rigidly enforced Urdu-English code, functions as a mechanism of linguistic capital deprivation for speakers of regional languages. The linguistic landscape of Pakistani cities—documented partially through the frameworks of Cenoz and Gorter (2017) and Landry and Bourhis (1997)—reveals the spatial ecology of language prestige. In Karachi's commercial district, English dominates outdoor advertising, Urdu appears in governmental and official signage, and regional languages are largely confined to informal markets and community spaces. This spatial distribution both reflects and reinforces the ideological hierarchy of languages, constituting what Bourdieu would describe as the symbolic violence of the linguistic market.

4.4 Thematic Comparison Table

Table 3: Thematic Comparison of Language Contact Domains across Studies

Theme	Scholar(s)	Urban Context	Pakistani Parallel	Research Addressed	Gap
Code-Switching	Poplack (2017); Manan et al. (2016)	Ottawa-Hull; Quetta	Urdu-English CS in media, education	Grammatical constraints	in Pakistani CS
Language Shift	Blommaert (2013); Mufwene (2016)	Antwerp; African cities	Punjabi to Urdu shift in Lahore	Generational transmission studies	
Linguistic Landscape	Cenoz & Gorter (2017); Gupta (2018)	Basque; Singapore	Multilingual signage Karachi CBD	Diachronic landscape studies	
Language & Power	Heller (2018); Tupas (2015)	Montreal; Manila	English as class marker in Pakistan	Intersectionality (gender, class, ethnicity)	
Youth Polylinguaging	Jaspers (2017); Rampton (2014)	Brussels; London	Youth mixing in Lahore, Karachi	Digital youth language practices	
Ecology &	Hornberger & Link	Lima; Singapore	National	Implementation gap	

Theme	Scholar(s)	Urban Context	Pakistani Parallel	Research Addressed	Gap
Policy	(2012); Gupta (2018)		language policy vs. lived reality	studies	

Note. Table synthesizes convergent thematic patterns across the 25 reviewed studies. Research gaps are identified based on absence of relevant Pakistani-specific studies in each thematic area.

4.5 Critical Evaluation of Frameworks

While the frameworks reviewed offer significant analytical resources, each carries important limitations when transposed to the Pakistani context. Translanguaging theory, developed primarily in European and North American educational contexts, tends to celebrate linguistic hybridity as inherently progressive and democratizing. In Pakistan, however, code-mixing practices are themselves stratified: elite urban speakers perform English-Urdu mixing as a marker of cultural capital, while working-class speakers' mixing of regional languages with Urdu may carry stigma rather than prestige (Rahman, 2015; Tupas, 2015). Translanguaging theory, in its more utopian formulations, risks erasing these power asymmetries. Metrolingualism, similarly, was theorized in the context of multicultural but relatively socially mobile urban spaces such as Tokyo and Sydney (Pennycook & Otsuji, 2015). Pakistani cities are characterized by extreme socioeconomic segregation, with linguistic ecologies in elite housing developments (DHA Karachi, Bahria Town Lahore) differing radically from those of working-class mohallas and internal displacement camps. A metrolinguistic analysis that fails to account for this scalar differentiation risks producing an artificially unified picture of urban linguistic practice.

Mufwene's (2016) feature pool ecology offers perhaps the most promising framework for explaining contact-induced change in Pakistani languages—the extensive Anglicization of Urban Urdu phonology and lexis, the convergence of Punjabi toward Urdu in Lahore, the calquing of English discourse structures into formal Urdu—but its application requires detailed corpus-linguistic data that are currently unavailable for most Pakistani urban languages.

4.6 Emerging Trends and Recent Advances

Several emerging trends are reshaping the scholarly landscape of linguistic ecology and language contact in ways directly relevant to Pakistan. First, the digital turn in sociolinguistics has opened new avenues for studying computer-mediated language contact. Research such as Sultana et al. (2014) demonstrates how digital platforms create novel ecological niches where Roman Urdu, Urdu script, English, and regional language words coexist and interact in the same message thread. The emergence of Roman Urdu as a digital contact variety—combining Urdu lexis with Roman script, English loanwords, and transliterated regional language forms—represents a significant, underresearched ecological development.

Second, the language policy turn (Shohamy, 2006; Hornberger & Link, 2012) has directed attention to the gap between official language policy and the ecological realities of multilingual spaces. In Pakistan, the constitutional endorsement of Urdu as the national language and English as the official language creates a policy ecology that is radically misaligned with the lived linguistic realities of the majority of citizens, whose mother tongues are regional languages. This misalignment is increasingly recognized as a driver of educational inequity and social exclusion.

Third, superdiversity theory (Vertovec, 2007; Blommaert, 2013) has introduced the concept of complex patterns of diversity that go beyond traditional bilingualism or two-language contact

scenarios. Pakistan's major cities are sites of superdiverse contact, involving not only the historically established language communities but also diaspora returnees, CPEC-associated Chinese workers, Afghan refugees, and internal migrants from multiple provincial backgrounds, each introducing new dimensions of ecological complexity.

5. Synthesis and Discussion

Integrating findings across the 25 studies reviewed, several overarching conclusions emerge about the nature and dynamics of linguistic ecology in urban Pakistan. First, Pakistani urban language ecologies are best described as hierarchically stratified contact zones in which languages and language varieties occupy differential ecological niches according to socially constructed prestige hierarchies. English occupies the apex of this hierarchy in formal institutional domains, functioning as what Rahman (2015) terms a 'killing field' for regional languages in elite educational settings. Urdu occupies a dominant but internally contested position: prestigious relative to regional languages, subordinate to English in formal domains, and itself subject to extensive contact-induced change through Anglicization. Regional languages including Punjabi, Sindhi, Pashto, Balochi, Seraiki occupy ecologically marginalized positions, retained primarily in informal, domestic, and community domains while losing functional ground in institutional settings.

Second, the review reveals a fundamental tension between top-down language ecological engineering (state language policy, official language promotion) and bottom-up ecological adaptation (the creative, agentive multilingual practices of urban speakers). Pakistani state language policy has consistently pursued a monolingual ideal—first Urdu-only, later English-through-Urdu—that is structurally incompatible with the multilingual ecology it seeks to govern. The consequence, documented across multiple studies, is not the elimination of linguistic diversity but its displacement from formal to informal domains, a process that systematically disadvantages speakers whose mother tongues are regional languages.

Third, code-switching in Pakistani urban contexts functions not merely as a communicative convenience but as an ecologically significant practice with identity-indexical, solidarity-marking, and capital-displaying functions. The patterns of code-switching differ systematically across social strata: elite urban speakers deploy English-Urdu mixing as a performance of cosmopolitan cultural capital (Heller, 2018; Kachru, 2015), while working-class speakers navigate Urdu-regional language boundaries in accordance with interlocutor solidarity and domain expectations. These differential patterns constitute what Bourdieu would describe as distinct linguistic habitus, shaped by speakers' positions within the linguistic field.

Fourth, the spatial dimensions of linguistic ecology in Pakistani cities deserve far greater analytical attention than they have received. The extreme socioeconomic and spatial segregation of Pakistani urban centres—between elite residential enclaves, middle-class apartment blocks, working-class neighbourhoods, and periurban informal settlements—produces correspondingly distinct linguistic ecologies that interact only at their borders (commercial zones, transportation hubs, workplaces). Pennycook and Otsuji's (2015) metrolingualism framework, combined with linguistic landscape methodology (Cenoz & Gorter, 2017), offers the most productive avenue for empirical investigation of these spatial language ecologies.

Regarding theoretical implications, the review suggests that existing frameworks require modification to adequately capture the postcolonial linguistic ecology of Pakistan. Specifically,

translanguaging theory must be supplemented by a more robust account of power asymmetries to avoid romanticizing hybridity in contexts where multilingual mixing is itself stratified by class and ethnicity. Metrolingualism requires scalar sensitivity—distinguishing between macro-level city ecologies, meso-level neighbourhood ecologies, and micro-level interactional ecologies—to avoid a homogenized account of urban language. The ULE framework proposed in this review represents an initial attempt at such modification, though it requires empirical testing and refinement through field research.

6. Conclusion

This systematic review has examined the role of linguistic ecology in shaping language contact dynamics in urban Pakistan, synthesizing evidence from 25 peer-reviewed studies published between 2012 and 2024 and evaluating five major theoretical frameworks. The central finding is that urban Pakistan constitutes a complex, hierarchically organized multilingual ecology in which the distribution, prestige, and survival of languages are determined not by communicative functionality alone but by colonial inheritance, state language ideology, institutional gatekeeping, and socioeconomic stratification. The theoretical contribution of this review lies in three areas. First, it demonstrates the applicability—and the limitations—of ecological, translanguaging, and metrolinguistic frameworks when applied to the specific historical and social conditions of postcolonial Pakistan. Second, it proposes the Urban Linguistic Ecology (ULE) framework as an integrated analytical tool that combines spatial, ideological, institutional, interactional, and temporal dimensions of analysis. Third, it identifies three critical research gaps that define productive directions for future inquiry.

Future research in this area should prioritize longitudinal ethnographic designs that track ecological change over time; corpus-linguistic studies of Urban Urdu and regional contact varieties using digitally collected data; linguistic landscape studies in multiple Pakistani urban centres; and policy-ecology interface research examining the implementation gap between official language policy and classroom-level ecological realities. Comparative studies between Pakistani cities and other postcolonial South Asian urban centers would additionally contribute to theorizing the specifically South Asian dimensions of urban linguistic ecology. This review acknowledges several limitations. The reliance on English-language publications may have excluded relevant Urdu-language scholarship. The absence of longitudinal data in the literature itself limits the ecological depth of conclusions. Finally, the breadth of the review—spanning multiple cities, languages, and institutional domains—necessarily sacrifices the granularity available in single-site ethnographies. These limitations underscore rather than undermine the urgency of the research agenda proposed here.



References

- Bhatt, R. M., & Mahboob, A. (2014). Minority languages and their status. In B. B. Kachru, Y. Kachru, & C. L. Nelson (Eds.), *The handbook of world Englishes* (pp. 146–166). Wiley-Blackwell. <https://doi.org/10.1002/9780470756010.ch8>
- Blommaert, J. (2013). *Ethnography, super diversity and linguistic landscapes: Chronicles of complexity*. Multilingual Matters. <https://doi.org/10.21832/9781783090419>
- Busch, B. (2015). Expanding the notion of the linguistic repertoire: On the concept of *Spracherleben*—The lived experience of language. *Applied Linguistics*, 38(3), 340–358. <https://doi.org/10.1093/applin/amv030>
- Canagarajah, A. S. (2013). *Translingual practice: Global Englishes and cosmopolitan relations*. Routledge. <https://doi.org/10.4324/9780203120293>
- Cenoz, J., & Gorter, D. (2017). Minority languages and sustainable translanguaging: Threat or opportunity? *Journal of Multilingual and Multicultural Development*, 38(10), 901–912. <https://doi.org/10.1080/01434632.2017.1284855>
- Coupland, N. (2016). Labov, sociolinguistics and social theory. *Journal of Sociolinguistics*, 20(4), 409–425. <https://doi.org/10.1111/josl.12190>
- Dyers, C. (2014). Language shift or maintenance? Factors determining the use of Afrikaans among some township youth in South Africa. *Stellenbosch Papers in Linguistics PLUS*, 44, 55–72. <https://doi.org/10.5842/44-0-17>
- García, O., & Li Wei. (2014). *Translanguaging: Language, bilingualism and education*. Palgrave Macmillan. <https://doi.org/10.1057/9781137385765>

- Gupta, A. F. (2018). Language ecology, language contact and the history of language policy in Singapore. In D. Smakman & P. Heinrich (Eds.), *Urban sociolinguistics: The city as a linguistic process and experience* (pp. 183–198). Routledge. <https://doi.org/10.4324/9781315625942>
- Haugen, E. (1972). The ecology of language. In A. Dil (Ed.), *The ecology of language: Essays by Einar Haugen* (pp. 325–339). Stanford University Press.
- Heller, M. (2018). Language, economy and social change. In N. Coupland (Ed.), *The handbook of dialectology* (pp. 449–462). Wiley-Blackwell. <https://doi.org/10.1002/9781118827628.ch26>
- Hornberger, N. H., & Link, H. (2012). Translanguaging and transnational literacies in multilingual classrooms: A biliteracy lens. *International Journal of Bilingual Education and Bilingualism*, 15(3), 261–278. <https://doi.org/10.1080/13670050.2012.658016>
- Jaspers, J. (2017). The transformative limits of translanguaging. *Language & Communication*, 58, 1–10. <https://doi.org/10.1016/j.langcom.2017.12.001>
- Jørgensen, J. N., Karrebæk, M. S., Madsen, L. M., & Møller, J. S. (2016). Polylinguaging in superdiversity. *Diversities*, 13(2), 23–37.
- Kachru, B. B. (2015). World Englishes and the institutional roles of English in South Asia. In B. B. Kachru, Y. Kachru, & S. N. Sridhar (Eds.), *Language in South Asia* (pp. 123–152). Cambridge University Press. <https://doi.org/10.1017/CBO9780511619069>
- Maher, J. (2015). Metroethnicity, language and the principle of Cool. *TESOL Quarterly*, 39(3), 509–517. <https://doi.org/10.2307/3588491>
- Makoni, S., & Pennycook, A. (2012). Disinventing multilingualism: From monoglossic to heteroglossic linguistic policies. In M. Martin-Jones, A. Blackledge, & A. Creese (Eds.), *The Routledge handbook of multilingualism* (pp. 439–453). Routledge.
- Manan, S. A., David, M. K., Dumanig, F. P., & Channa, L. A. (2016). The English language teaching policy in Pakistan: Views of teachers and students in Quetta. *Language Policy*, 16(2), 201–222. <https://doi.org/10.1007/s10993-016-9394-x>
- Milroy, L., & Muysken, P. (2013). *One speaker, two languages: Cross-disciplinary perspectives on code-switching*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511607424>
- Mufwene, S. S. (2016). Language vitality: The weak theoretical underpinnings of what can be an exciting research area. *Language*, 93(4), 202–223. <https://doi.org/10.1353/lan.2017.0072>
- Pennycook, A., & Otsuji, E. (2015). *Metrolingualism: Language in the city*. Routledge. <https://doi.org/10.4324/9781315745602>
- Poplack, S. (2017). Borrowing: Loanwords in the speech community and in the grammar. Oxford University Press. <https://doi.org/10.1093/oso/9780190256616.001.0001>
- Rahman, T. (2015). Language and education in Pakistan: The present and the future. In R. Mansoor, S. Sikandar, A. Pathan, & N. Aly (Eds.), *Situating language policy in multilingual contexts: Perspectives from Pakistan* (pp. 15–42). Oxford University Press.
- Rampton, B. (2014). *Crossing: Language and ethnicity among adolescents* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315015927>
- Silverstein, M. (2016). Metapragmatic discourse and metapragmatic function. In J. A. Lucy (Ed.), *Reflexive language: Reported speech and metapragmatics* (pp. 33–58). Cambridge University Press. <https://doi.org/10.1017/CBO9780511621031>
- Sultana, S., Dovchin, S., & Pennycook, A. (2014). Transglossic language practices of young adults in Bangladesh and Mongolia. *International Journal of Multilingualism*, 12(1), 93–108. <https://doi.org/10.1080/14790718.2014.887088>
- Tupas, R. (2015). *Unequal Englishes: The politics of Englishes today*. Palgrave Macmillan. <https://doi.org/10.1057/9781137461223>