Stockholm University

The vowels of Delhi English

Three studies in sociophonetics

Raphaël Domange

Doctoral Thesis in English at Stockholm University, Sweden 2023

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Abstract

Addressing the dearth of sociolinguistic variation research in the "new" varieties of English (D. Sharma, 2017b), this dissertation consists of a set of three sociophonetic studies on an urban dialect of Indian English. Relying upon community-based methods of data collection, this dissertation examines the vowels of an intergenerational sample of speakers from the upper-middle class neighbourhoods of Delhi. Each study of this compilation is guided by two principal goals. The first one is descriptive, that is to provide a detailed instrumental phonetic characterisation of the phonological vowels that compose the inventory of the variety. The second aim, which is historical, is to shed light of how Indian English carves its own diachronic trajectory, addressing issues relating to, for instance, diachronic stability and the transmission of language change across generations of speakers. Study I thus examines variation in the mid and low back rounded area of the vowel space, and seeks to draw relevant implications from the presence of lexical distributional "archaisms" (Wells, 1982, p. 626) in those vowels. Study II, on the other hand, is concerned with describing a chain-shift-like change in the short front vowels, and discusses the conditions of possibility for such change to occur in a mixed L1-L2 context. Lastly, Study III builds upon a complex allophonic "split" found and summarily described in Study II, and identifies this phenomenon as an element of historical convergence with geographically distant, unrelated, post-colonial varieties of English. Overall, several previously unreported features were found and described in detail in this dissertation, while important clarifications were also brought to areas that have been considered problematic in former descriptive works. Importantly, the studies also demonstrate that the variety under study and its patterns of variation seem to be, in general, amenable to the same kind of empirical analysis as other, so-called "native," varieties of English, and call into question a number of ordinary assumptions on Indian English.

Keywords: *Indian English, phonology, sociophonetics, language variation and change, language contact, world Englishes.*

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Pour Marcello et Dante.

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Addressing the dearth of sociolinguistic variation research in the "new" varieties of English (D. Sharma, 2017b), this dissertation consists of a set of three sociophonetic studies on an urban dialect of Indian English. Relying upon community-based methods of data collection, this dissertation examines the vowels of an intergenerational sample of speakers from the upper-middle class neighbourhoods of Delhi. Each study of this compilation is guided by two principal goals. The first one is descriptive, that is to provide a detailed instrumental phonetic characterisation of the phonological vowels that compose the inventory of the variety. The second aim, which is historical, is to shed light of how Indian English carves its own diachronic trajectory, addressing issues relating to, for instance, diachronic stability and the transmission of language change across generations of speakers. Study I thus examines variation in the mid and low back rounded area of the vowel space, and seeks to draw relevant implications from the presence of lexical distributional "archaisms" (Wells, 1982, p. 626) in those vowels. Study II, on the other hand, is concerned with describing a chain-shift-like change in the short front vowels, and discusses the conditions of possibility for such change to occur in a mixed L1-L2 context. Lastly, Study III builds upon a complex allophonic "split" found and summarily described in Study II, and identifies this phenomenon as an element of historical convergence with geographically distant, unrelated, post-colonial varieties of English. Overall, several previously unreported features were found and described in detail in this dissertation, while important clarifications were also brought to areas that have been considered problematic in former descriptive works. Importantly, the studies also demonstrate that the variety under study and its patterns of variation seem to be, in general, amenable to the same kind of empirical analysis as other, so-called "native," varieties of English, and call into question a number of ordinary assumptions on Indian English.

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Contents

List of Papers

The following papers, referred to in the text by their Roman numerals, are included in this thesis.

I. Domange, Raphaël. 2015. A language contact perspective on Indian English phonology. *World Englishes* 34(4). 533–556.

II. Domange, Raphaël. 2020. Variation and change in the short vowels of Delhi English. *Language Variation and Change* 32(1). 49–76.

III. Domange, Raphaël. Under review. Duration and spectral variation in language change: On the allophonisation of KIT in Delhi English. Revised manuscript resubmitted, *Journal of English Linguistics*.

List of Figures

List of Tables

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1. Introduction

Indian English has long defied linguistic and sociolinguistic definition (Schneider, 2007, p. 172). Spoken alongside several hundred languages with which it interacts, primarily learnt in school as a second language to fulfil utilitarian needs, it is also a major tool of creative expression, and a carrier of personal and collective identities supported by rich sub-communities of habitual – "native" – users. Reflecting this rather puzzling picture, accounts of the variety have largely wavered back and forth between characterisations suggesting "fossilized" interlanguage competence, and attempts at legitimising it as a systematic, rule-governed dialect in its own right. Principal stumbling-block in prior discussions over the linguistic status of the variety, the nature of the variability that characterises Indian English has been, and remains, a poorly understood and disputed issue.

In recent years, this research problem has been approached from a increasingly wide array of methods of inquiry, including semi-experimental approaches to language contact, and large corpus-based comparative investigations. Important programmes within those approaches have been, for instance, to chart homogeneities and heterogeneities based on the many substrates the English language comes in contact with in India, to disentangle systematic, conventionalised, "innovations", from forms denoting language acquisitional errors, or to explore the relationship between linguistic phenomena and changing (macro-)sociolinguistic circumstances. Surprisingly, however, engagement with speech community-based sociolinguistic frameworks has remained marginal at best. This notably includes language variation and change; a discipline, which, as noted in various places in the literature (Kandiah, 1991; Noël et al., 2014; Satyanath & Sharma, 2016; Schneider, 2003; D. Sharma, 2017b; Sridhar, 1985; Starr, 2021), should now occupy a much more central place in descriptions of the variety than has been the case hitherto.

This thesis responds to the dearth of quantitative, variationist research on the variety via three sociophonetic studies on the vowels of a sample of English-speaking Delhi residents, stratified by age and gender. Tapping into the general theoretical principles governing the relationship observed between social structure and linguistic variation in the sociolinguistic literature, this work embraces a resolutely historical perspective on the phenomena under study, and aims to break with a number of ordinary assumptions on Indian English.

Besides the important question of the variability which occupies a central place in the concerns addressed in this thesis, the studies also engage with the closely related issues of linguistic transmission and influence of standard norms. Focussing on variation in the low-back quadrant of the vowel space, Study I thus reflects upon the presence of notable archaic features and their possible origin as historically inherited features from non-standard dialectal input. Study II, on the other hand, focusses on describing the short front vowels of the variety and brings to light a phenomenon which appears to have a number of important attributes that usually pertain to regular language change. Finally, Study III combines insights from both Study I and Study II, and investigates the interaction between phonetic and systemic constraints in the development of an allophonic split of the KIT vowel. It argues that, while the "split" appears to be largely endogenous to the variety under study, the structural conditions leading to its development also seem to parallel structures attested in earlier forms of Southeast British English.

After having situated the present work with a brief summary of previous research on the phonology of Indian English in Chapter 2, Chapter 3 focusses on detailing a number of methodological points that had remained under-developed in each of the papers of this compilation. More specifically, this chapter brings additional information about the speech community under study by characterising it from a sociological and historical perspective, as well as by sketching a *sociolinguistic profile* (Torres Cacoullos & Travis, 2018) of the participants. It also presents some of the important guiding principles governing the sampling procedure adopted, as well as a review of the protocol used for material collection. Chapter 4 then provides a detailed summary of the studies. In order to offer some context to this summary, the chapter begins with a short description of the overall system of the monophthongs of the dialect under examination, based on the data collected. Each study is then presented in turn, and when possible/necessary, discussed critically or in relation to additional data. Finally, Chapter 5 brings together some of the important insights that can be derived from each of the studies into a discussion of the principal research problems identified above (i.e. language transmission, relation to standard norms, variability).

2. Language variation and change in Indian English

As noted above, the distinct lack of commitment to addressing description issues from a language variation and change perspective has become increasingly emphasised by prominent scholars of world Englishes in recent years. Varying explanations have been proposed for this state of affairs, including: 1) the way in which research on post-colonial varieties of English developed (D. Sharma, 2017b; Starr, 2021), 2) the general accessibility of the techniques of analysis and their labour-intensive nature (D. Sharma, 2017b), and 3) the perceived non-nativeness of the objects of investigation favouring the adoption of SLA-inspired lines of inquiry (Noël et al., 2014; Satyanath & Sharma, 2016). Overall, all three reasons advanced seem valid and mesh together to some extent.

In this brief literature review, I will attempt to retrace some of the important trends in the development of the main paradigm informing empirical research *on the pronunciation* of Indian English. This account notably includes a discussion of some of the early models of linguistic variation adopted within this field of research, and their significance for present-day accounts of the phonology of the variety, as well as some of the important critiques that were addressed to them. We will then see, in a second part, how variationist research can, and, to some extent, already has, responded to some of the important problems raised by those critiques. Against this background, this chapter ends with a summary of the main research questions addressed in each study of this compilation and the thesis in general.

2.1 A contact approach to Indian English phonology: the paradigm and its limitations

2.1.1 From Contrastive Analysis to modern descriptive frameworks

The Indian English "accent" has long occupied a singular position in scholarly work on the variety. While there seems to be a reasonable degree of consensus around the fact that pronunciation is what most unmistakably defines the vari-

ety as a whole (e.g. Bansal, 1969; Kashyap, 2014; Sahgal & Agnihotri, 1988), the enormous amount of variation, assumed or real, which has been considered to characterise this particular linguistic domain has also cast serious doubts on the validity of the term "Indian English" as a construct denoting a unitary linguistic entity. Adopting a rather instrumentalist stance with respect to their object of study, many present-day scholars define Indian English as a "cover" or "umbrella" term' (Chand, 2009a; Maxwell et al., 2021; D. Sharma, 2017a) for a collection of distinct accents lacking sufficient stability and structure to be considered a single variety. Others, however, maintain that those dialects are in reality united by a general accent "devoid of regional markers but [...] still identifiable as Indian by virtue of some pan-Indian features" (Sailaja, 2009, p. 17) and spoken by an educated, norm-providing, minority of speakers. Although still very much debated to this day (Lange, 2012; Wiltshire, 2020), those questions around the representation of Indian English have been structuring research since early descriptive works on the variety.

While we find discussions of Indian English "grammatical features" as early as 1907 (Whitworth, 2002), modern research on the variety only really began in the second half of the 20th century, during the heyday of Contrastive Analysis (Lado, 1957). Emerging from concerns of an applied nature and reflecting the conventional wisdom of the time, early writings on Indian English would then predominantly project a foreign accent characterised by learners' errors, themselves largely caused by interlingual interference (or transfers). This early period, which roughly spanned the 1960s through the 1980s, was, as a result, marked by studies aiming at cataloguing those "errors", notably in view of preparing pedagogical models for English teaching in India. Such works included, alongside standard descriptions of the variety (Bansal, 1969; CIEFL, 1972; Nihalani et al., 2004[1979]), a large number of investigations of the so-called "regional" dialects of Indian English.

Regional variation, especially at the phonological level, remained for a long while the only parameter of variation to be empirically studied at any length in the literature on Indian English (Kashyap, 2014). Contrary to what the name suggests, however, regional dialects are neither "regional" nor, strictly speaking, "dialects", but objects derived contrastively by comparing the sound systems of the first languages (L1s) of Indian speakers with RP – or whatever norms were assumed to constitute the (scholastic) target in acquisition at the time. Those pseudo-dialects – or "similects" in the sense of Mauranen (2012, p. 29) – were usually named after specific contact situations (e.g. Hindi English, Bengali English, Malayali English, etc.), and their construction justified by the assumption of similar features emerging from similar L1 transfers in individual idiolects. Descriptive components within those studies would typically consist of impressionistic inventories of decontextualised features, usu-

ally derived from small samples assembled from university students at hand. Although a large number of contact claims concerning the phonology of Indian English were made on this basis (e.g. Balasubramanian, 1972; Kelkar, 1957; Prabhakar Babu, 1976; Sethi, 1980), the limitations of this model of investigation also quickly appeared. Bansal (1970), who described the phonological system of a "variety" of English spoken by Hindustani (Hindi-Urdu) speakers from Uttar Pradesh, noted, for instance, that "it is possible that since these speakers combined the phonological patterns of English with Hindi or Urdu, the resulting system was not sufficiently well organised or stable to be analysed in precise phonemic terms", thereby hinting at the difficulty to extract interpretable results from the aggregate of individuals composing his sample – and this despite the relative degree of uniformity the common L1 should ensure in principle. Problems of description aside, early contrastive accounts of Indian English have been also notably criticised for their reliance on poor data, as well as for including important participant-selection biases (Agnihotri, 1999; Sahgal & Agnihotri, 1988).

In the wake of the world Englishes studies, which formally emerged as a framework in the 1980s (Kachru, 1985),[1] much of the literature steered away from applied concerns, to discuss the distinctive *social conditions* under which post-colonial varieties of English indigenised. This is not to say, however, that earlier views and concepts underlying contrastive studies completely disappeared. To name of few examples, "geographical" variation (i.e. regional dialects) featured prominently in Kachru's (1983) sociolinguistic profile of the variety, as one of the three main parameters explaining variation in Indian English; the other two being proficiency (i.e. the cline of bilingualism, Kachru, 1965, 1976a) and ethnicity. Sridhar and Sridhar (1986), who rejected the application of the term *interlanguage* (and other concepts denoting failed or incomplete acquisition) to the context of post-colonial varieties of English, also claimed, almost paradoxically, that "there seems to be little motivation for being apologetic about claiming IVEs [indigenised varieties of English] to be, in good part, products of transfer" (pp. 9–10). Even Agnihotri

[1] Models of world Englishes like the three circles model, or more recently, Schneider's dynamic model (Schneider, 2003, 2007) will not be discussed further in this literature review. The fact that those models occupy an important place in the literature is not in question here. However, situating Indian English with respect to those models has been adequately done is previous studies (e.g. Lange, 2012) and remains largely tangential with the research questions addressed in the studies of this compilation (c.f. section 2.3). With this being said, I do not exclude that people concerned with the relationship between the structural forms of post-colonial Englishes and the broad sociolinguistic circumstances of those varieties may find some interest in the results presented here.

and Sahgal, whose dissatisfaction with earlier accounts motivated the very first speech community-based quantitative investigation of an Indian English dialect in Delhi (Agnihotri & Sahgal, 1985, discussed below), still maintained that "the different linguistic and cultural backgrounds of different groups in Delhi favour diversity, with Bengalis speaking a 'Bengali English' and Tamils speaking a 'Tamil English"' (Sahgal & Agnihotri, 1988, p. 54). Further afield, other authoritative accounts like Sailaja's (2012, p. 360) state that an Indian English "accent is normally derived from the L1 speech patterns of the speakers", and that "thus there are I[ndian]E[nglishe]s of the Indo-Aryan language background and Dravidian language background"; a view largely represented in Kashyap (2014) or Gargesh (2008) for instance.

Since the 2000s, the greater availability of computer-based instrumental techniques of analysis generated a new wave of interest for the empirical investigation of phonetic and phonological variation of Indian English, and more particularly, its regional dialects. Reconnecting with empirical contrastive methods, this new wave has shaken off the earlier prescriptive aims and allegiance to RP as the frame of reference, while adopting near experimental protocols of investigation. Although the data involved in this recent body of work still largely consists of elicited materials culled from assorted university students (Wiltshire, 2020, p. 12), those studies also tend to concentrate on more than one L1 background at a time in order to examine contact effects more closely. In the past fifteen years or so, a substantial number of studies of the segmental and supra-segmental features of Indian English sub-varieties has been produced in this fashion, including descriptions of the vowels of Punjabi- and Hindi-English (Maxwell & Fletcher, 2009, 2010), the monophthongs and some consonantal features of Tamil-, Gujarati- (Wiltshire & Harnsberger, 2006), Ao-, Angami- and Mizo-English (Wiltshire, 2005), intonation in Bengali- and Kannada-English (Maxwell, 2014; Maxwell & Fletcher, 2014), stress placement in Malayalam and Hindi-English (Fuchs & Maxwell, 2015), or speech rhythm in Telugu-, Tamil-, Bengali- and Hindi-English (Maxwell & Payne, forthcoming) for example. While those studies inevitably found significant effects of L1 influence on the phonology of Indian English, they also brought to light some important areas of convergence between the various regional dialects described, suggesting emerging pan-Indian norms. Recently, the work produced by Wiltshire (2020) synthesising this research (and beyond) constitutes the most comprehensive and balanced account of Indian English phonology to date.

As demonstrated above, the issue of variation has been a central concern since the outset of modern research on Indian English phonology. Yet, for reasons relating to how this variation was initially perceived – its contact nature, as well as the social problems that were commonly considered to be associ-

ated with it (e.g. "falling standards", issues of intelligibility, etc.) – empirical studies of the variety largely "took over the discourse strategies of Second Language Acquisition (SLA)" and eventually "got trapped" in it (D'Souza, 1997, p. 93). As the variety progressively gained recognition as a dialect in its own right, and despite increasingly elaborate sociolinguistic models accounting for the relationship between the formal features of the variety and features of the particular cultural setting in which they developed (e.g. Kachru, 1965, 1966, 1976a,b, 1983, 1986, 2005), the linguistic *individual* remained, nonetheless, the principal object of description, thereby causing, as Satyanath and Sharma (2016, p. 193) put it, "prejudice against the use of speech community based sociolinguistic models". In the next section, I intend to show how this carries over to problems relating to descriptive accuracy.

2.1.2 The community basis of language variation and change

For the purpose of the present thesis, an in-depth description of the important epistemological concerns that could be raised with respect to the approaches described in the previous section does not seem imperative – some of them having been heavily hinted at already. A brief discussion of some of those issues, however, should be useful in order to understand the point of view adopted in the present work with regards to the linguistic phenomena investigated.

One main objection that can be raised against contact approaches to Indian English as they have been conducted so far is – as repeatedly emphasised by Kandiah (1987; 1990; 1991; 1998a; 1998b, Begum & Kandiah, 1997) – the near ahistorical nature of their perspective. While, following Kachru (1983), recent contrastive studies acknowledge the "stable and self-replicating" character of Indian English (Wiltshire & Harnsberger, 2006, p. 91), most explanations proposed for the linguistic forms of the variety (L1 transfers, markedness, etc.) tend to remain largely grounded in principles governing the development of the speakers' individual competence (ontogeny). Issues of phylogeny – whether and how some of those forms enter the set of shared norms of the variety – on the other hand, have largely remained under-examined. The practical disregard for these questions, Kandiah (1991, 1998b) insists, ultimately proceeds from a misunderstanding of how post-colonial varieties of English are actually acquired by their users. While it is true that formal instruction and second language learning have, and continue to play a massive role in the development of English in India, Indian English is also supported by actual communities of speakers interacting with each other. For many of those "habitual" users of the variety, (spoken) English is, therefore, *also* largely acquired in a variety of informal situations, including sometimes even at home "starting the process before entering any classroom" (Begum & Kandiah, 1997, p. 190, see

also Kandiah, 1998c). The main implication here is that, in contrast to the picture commonly projected in the literature, a significant portion of the elements constitutive of those speakers' competence should, in principle, be acquired "in what might be considered its 'arrived' and already societally-established form" (ibid).

So far, very little work has directly tackled this question empirically. One notable exception is Sirsa's (2014, also Sirsa & Redford, 2013) study of the sound patterns of English-Telugu and English-Hindi speakers. While in essence contrastive, this study was overtly aimed at teasing apart actual L1 effects from sociolinguistic/historical effects of the substrates. Its particularity resides in the fact that it relied on comparisons between equivalent data for each language spoken by the same speakers, while also controlling for place of residence (Delhi vs. Hyderabad). The study not only demonstrates that "the sound patterns of I[ndian]E[nglish] show minimal variation with native language even while the sound patterns of the native languages are substantially different from one another" (Sirsa, 2014, p. 65), but also, and perhaps more importantly, that community norms seem to significantly impinge upon contact-induced variation. It was thus found that, in Delhi as in Hyderabad, both groups of bilinguals would tend to produce forms consistent with the *dominant local substrate* (i.e. Hindi in Delhi and Telugu in Hyderabad) regardless of the speakers' native language, while actual persistent L1 effects were significantly constrained by the place of residence. Specifically, speakers from Delhi were found to be more readily identifiable as such, possibly as a result, Sirsa (2014) suggests, of more stringent informal community sanctions placed on the rate of use of (non-Hindi) L1 structures.

Overall, those results tell us a number of important things. First, as claimed by Kandiah, forms with evident substrate origins do not necessarily denote contact and can be, as it were, "divorced" from the actual bilingual competence of the speakers who use them – i.e. they have historically become part of the target and are acquired as such. Second, it is shown that in a bilingual speech community, as determined importantly by Poplack et al. (1988, p. 98), "the norms of the community override individual abilities": speakers with the same language pairs in their repertoires, but from different (sub-)communities (as in e.g. Hyderabad and Delhi above), use, all other things being equal, different rates of L1 structures in English depending on what the norms of their communities allow. All this goes to make first language alone a rather poor sampling criterion when investigating Indian English, especially if speakers come from various locations, as this is usually the case when they are selected on university campuses.[2] Finally, there exists (incipient?) geographical varia-

[2]Those sampling issues are discussed at length, albeit in a different context, in

tion in Indian English, and unlike the L1-based "regional" lects that have been usurping this label, this geographical variation is applicable in actual spacial terms.

What this point highlights is that our capacity to appropriately gauge the variability that characterises the variety – whether it is related to the speakers' personal linguistic competence or not – largely depends on the groundwork of description of the community norms that should serve as a yardstick. In a stable bilingual speech community perhaps even more than anywhere else, "the behavior of an individual can be understood only through the study of the social groups of which he or she is a member" (Labov, 2012, p. 266). For the description of Indian English, the adoption of SLA-inspired methods of investigation, together with L1-based divisions, have long been considered the principal means to bring order and clarity where chaos seems to reign. The fact that the variety has not been considered to be amenable – or only marginally so – to such perspectives as language variation and change testifies, on the other hand, to epistemological barriers erected in the process. In the next section, I will describe how a number of, mostly recent, studies have started to overcome these obstacles.

2.2 Variationist studies of Indian English

Variationist sociolinguistics, as pioneered by Labov's seminal work on Martha's Vineyard and New York City (1963; 1966), has been primarily concerned with the empirical, chiefly quantitative, investigation of language use in natural social contexts, and has strived to establish general theoretical principles based on the relationships observed between social structures and linguistic variation. This centrality of the social context for the linguistic analysis, as well as the discipline's strong commitment to explaining language change, firmly establishes variationist sociolinguistics as a historical scientific endeavour. Despite several important studies on language contact in stable bilingual contexts (e.g. Poplack, 1989; Poplack et al., 1988; Sankoff, 1997; Sankoff et al., 1997; Torres Cacoullos & Travis, 2018), however, much of the focus within this framework has remained on western, monolingual, especially English-speaking, communities (Milroy, 2001).

The first, or if not, among the earliest studies adopting a language variation and change perspective on an Indian English speech community were conducted by Sahgal and Agnihotri in Delhi in the 1980s (Agnihotri & Sahgal, 1985; Sahgal, 1983, 1991; Sahgal & Agnihotri, 1985, 1988). Those studies rely on a sample of 45 speakers selected at random in the "the relatively afflu-

Torres Cacoullos and Travis (2018).

ent and smart area of South Delhi, where, in addition to their native languages, residents use English in a variety of situations" (Sahgal & Agnihotri, 1988, p. 53). This sample is stratified for age (two generations), gender, social class (i.e. type of school attended) and ethnolinguistic background (Hindi, Bengali, Tamil). The sociophonetic leg of this body of research focussed on four variables considered highly salient in the Indian English context: the infamous [ʊ] realisation of /w/ and the retroflex articulation of /t/ – which stand amongst some of the most stereotypical features of an Indian English accent in popular representations of the variety – the realisation of non-prevocalic /r/, and the presence of an /ɔ/ sound for the words of the THOUGHT (e.g. *saw*, *caught*, *fall*) lexical set (a feature which was apparently subject to overt corrective pressures in the Indian context). Apart from (r), whose apparent-time patterns suggest a change in progress towards r-lessness propelled by younger upper-middle class females, all other variables seem to be in stable variation, sometimes showing significant style, gender and class differentiation. Concerning the two "contact" variables specifically, (t) and (w), the study found widely diverging patterns. While speakers maintained a high level of [ʊ] realisation across the board, retroflex /t/ was found much more rarely, and was even nearly absent especially in young females towards the higher end of the socio economic bracket. Despite ethnolinguistic background being a sampling criterion, none of the variables were tested in relation to it.

A restudy of rhoticity and the /v-w/ distinction in South Delhi was conducted by Chand in the late 2000s. This work was part of the second major sociolinguistic investigation ever carried out on an Indian English speech community (Chand, 2009a,b, 2010, 2011). Those studies rely on a sample of 29 early Hindi-English bilinguals balanced for gender, and distributed across three generations. Conversely to Sahgal and Agnihotri's studies, the sample was derived using the "friend of friend" methods and ended up being rather homogeneous in terms of socioeconomic backgrounds, with most speakers coming from the *dominant middle class* (defined in 3.1.1 below). The studies focus on examining apparent-time variation within the sample, while incorporating real-time insights from the comparison with earlier investigations of the variables under study. Overall, the patterns highlighted by Chand's examination of rhotic behaviours map closely Agnihotri and Sahgal's results, showing a decrease in r-fullness between the first and second generation of her sample, and a clear gender differentiation with respect to this feature. She also shows, however, that a reversal of this pattern seems to be going on in the youngest cohort of speakers. In light of these results, Chand hypothesises that while the older generation, which was educated in the pre-independence era, was exposed to "native" (read here "British") inputs displaying a range of rhotic and non-rhotic accents, this diversity was sharply reduced at independence with the

abrupt departure of the coloniser, and local teaching norms remaining narrowly focussed on RP. By contrast, the younger speakers, who grew up around the time of India's opening of economic borders, have been increasingly exposed to varied outside norms, especially "through TV, movies, radio, and the internet" (Chand, 2010, p. 31). Regarding the /v/ vs. /w/ contrast, on the other hand, Chand (2009b) found that the phonological distinction was largely unambiguously maintained by the speakers and was realised as [v] and [w]. This is a striking result considering the fact that her sample is representative of more or less the same population as Sahgal and Agnihotri's. She notes, however, some apparent time increase of the [w] realisation of /w/, even though the rate of this variant in the older cohort is already quite high. Overall, non-[w] and [v] realisations were found to be largely constrained by linguistic factors including, primarily, preceding and following environments. Although Chand does not exclude that there may have been what constituted a near-merger of those categories in Indian English, this now seems to be on its way out in the social group under examination. Along this line, she argues that while [ʊ] may well have been influenced by contact, this influence must be historical in nature; this feature having evidently acquired a "life" of its own.

The latest significant speech community-based investigation was conducted in a middle class neighbourhood of central Delhi by R. Sharma and Satyanath (primarily R. Sharma, 2010, 2017, also partly reported in Satyanath, 2015; Satyanath & Sharma, 2016). While, as shown above, earlier studies had primarily concentrated on a few salient consonant features, Sharma and Satyanath focussed on vowels instead. R. Sharma (2010) thus concentrated on the weak vowels of the variety, while R. Sharma (2017) studied three stressed vowel classes, namely KIT, GOAT and NORTH. Her sample relied on 30 male and female Hindi and Punjabi English bilinguals aged between 15 and 38. As in Sahgal and Agnohotri's investigation, the type of school attended was used as a proxy for social stratification "to address the issue of inequality of access to English both in terms of quality and quantity" (R. Sharma, 2017, p. 58). The analysis, which relies essentially on wordlist data, is carried out primarily impressionistically (some acoustic analysis of the data is presented nonetheless), and concentrates on classifying individual tokens across broad variants: e.g. alternance between /ɛ/ and /ɪ/ in words of KIT such as *legit* /ˈlɪʤɪt ~ ˈlɛʤɪt/, *empirical* /ɪmˈpɪrɪkəl ~ ɪmˈpɛrɪkəl ~ ɛmˈpɪrɪkəl ~ ɛmˈpɛrɪkəl/ etc. The results show that variation "is not optional, nor is it the result of imperfect learning" (R. Sharma, 2017, p. 206) and seems to be largely constrained by a variety of internal factors including, prominently, syllable structure and syllable weight. In terms of social factors, innovative behaviours were found to be promoted by speakers who sit in the mid-range of the middle class socioeconomic continuum investigated. This finding is coherent with Sharma's claim that the pat-

terns observed in her study participate in a change from below.

A few additional empirical sociolinguistic studies of Indian English have been conducted besides the neighbourhood investigations of Delhi listed above. Khan, 1991 focussed on final consonant cluster simplification in a sample of 40 male and female speakers in Aligarh (Uttar Pradesh), and showed that in this community, men were using the "prestige variants more frequently than women" (p. 293). Cowie conducted a series of sociophonetic investigations on the TRAP-BATH lexical distributional contrast in Indian students at the University of Edinburgh (Cowie & Elliott Slosarova, 2018, discussed below), and rhoticity patterns in Dehradun (Uttarakhand) (Cowie, 2016). Coelho, 1997 describes a number of phonological and syntactic features in 15 native English speaking females from an Anglo-Indian community in Madras (Tamil Nadu), with a quantitative focus on h-dropping.

Though sparse, speech community based investigations of Indian English provide a somewhat radical counterpoint to the picture projected by studies conducted within the contrastive frameworks, and the disproportionate role granted to L1 transfers in structuring variation. While duly acknowledged in those studies, contact has been considered alongside other important parameters of variation, allowing to shape a more parsimonious representation of the evolutionary trajectory of the variety. Nonetheless, much work remains to be done. While sociolinguistic variation studies have focussed on perceptually and socially salient consonantal features, research on vowels, on the other hand, has largely remained restricted to lexical distributional issues (i.e. distribution of the phonemes across the lexicon) investigated impressionistically and based on formal elicitations (e.g. wordlists). In the next section, I present my aims and research question in relation to this gap.

2.3 Aims and research questions

In light of the research background outlined above, a detailed instrumental investigation of the vowels of an Indian English bilingual speech community seems timely and pertinent. For the purpose of the present dissertation – whose primary aim is, therefore, descriptive – it was decided to build upon previous sociophonetic works on the upper middle class neighbourhoods of the capital. The overarching research question guiding the various studies collected in this work can thus be stated as follows: *What are some of the phonological and phonetic characteristics of the vowel system of South Delhi English upper-middle class speakers?*

Although a complete overview of the South Delhi monophthong system will be provided at a later point in this thesis (i.e. in 4.1), the present work does not aim at being a descriptively exhaustive account. The studies which,

Study	Focus	Research questions
I	The mid and low back rounded vowels GOAT, THOUGHT and LOT, including the rhotic classes NORTH and FORCE.	• What are the relevant phonological oppositions in the mid and low back rounded vowels inventory of the speakers of South Delhi English? • Is the distinction between the rhotic classes NORTH and FORCE consistently maintained by the speakers? • Do extrinsic factors such as spelling, phonetic context and the relative frequency of the lexical items have relevance for the maintenance of this distinction?
II	The short front vowels TRAP, DRESS KIT, and the short central vowel STRUT.	• Is the TRAP vowel involved in a change in progress in South-Delhi English? • Admitting that there is an ongoing change in the TRAP vowel, are there any indications that the change is also affecting DRESS and KIT?
III	The short front vowels KIT and DRESS.	• What are the phonetic characteristics of KIT and its allophones in South Delhi English? • Is the phonetic spread of KIT correlated with vowel duration? • Is there a durational differences between the vowels of DRESS and KIT and does it contribute to the acoustic separation between the two vowels?

Table 2.1: Summary list of the foci and research questions addressed in the studies.

for the most part, rely on quantitative variationist sociolinguistic methods and analysis techniques, are each focussed on a restricted set of variables whose selection was motivated by specific gaps in the literature. Regarding the research questions addressed in each study (summarised in Table 2.1), on the

other hand, those were devised with a more general focus in mind, which is *to forward our understanding of Indian English as a product of its own history*. Thus, although Study I aims at correcting common misrepresentations of the phonological forms of the mid and low back rounded area, it is also guided through and through by the possibility to derive relevant implications from the presence of lexical distributional "archaisms" (Wells, 1982, p. 626) in those vowels. Study II, on the other hand, is concerned with describing a chain-shift-like change in the short front vowels, and discusses the conditions of possibility for such change to occur (i.e. transmission) in a mixed L1-L2 context. Lastly, Study III builds upon a complex allophonic "split" uncovered in Study II, and identifies this phenomenon as an element of historical convergence with geographically distant, unrelated, post-colonial varieties of English.

3. The corpus: population, sample and materials

The specifics of the methodological approaches adopted in each study are presented in the respective articles. Due to space limitations, however, some methodology-related questions have remained under-addressed, in particular as regards how the data were obtained and from whom. As a consequence, the present chapter will be primarily interested in the constitution of the corpus. I begin with identifying the community under study and describe it from a broad socio-historical and linguistic perspective. I then move on to present the sample(s) as well as the main criteria used to obtain it(them), before providing a detailed sociolinguistic profile of the participants with respect to language use and bilingualism. In the final section of this chapter, I will describe in greater detail the protocol used for data collection, together with a brief overview of the broader research programme for which it was devised.

3.1 The speech community

Since Sahgal and Agnihotri's (1985) seminal study, most sociophonetic investigations of Delhi have, with the exception of R. Sharma (2017), concentrated on the middle and upper middle class neighbourhoods of the southern parts of the capital. Those works have notably allowed for establishing the existence of sociolinguistic patterns of variation (Chand, 2009b, 2010; Sahgal & Agnihotri, 1988), while circumscribing the speech community that supports them, including from an extra-linguistic perspective (Chand, 2009a, 2011). From the point of view of the present dissertation, this important groundwork of characterisation has notably cleared the field with respect to a number of conceptual and practical issues, including for the identification of the social group which, within the Indian middle class, constitutes the target population of my investigation. Several important aspects of these questions have been taken up in each article of this compilation, but they remain piecemeal and fragmented. The aim of this section is, therefore, to offer a more cohesive account of the broad sociolinguistic situation.

3.1.1 Defining the middle class

The middle class has been a category which has always posed the greatest difficulties to sociological description in general. In the Indian context, where this term not only denotes an elite minority, but also covers "a staggering diversity of socioeconomic and cultural situations, further separated by language, religion, and social position" (Mazzarella, 2015, p. 172), the middle class constitutes and even more puzzling object of analysis. Nonetheless, getting even a slight grasp of what this social category actually entails in present-day India, and where it comes from historically, is capital for the present purpose. This is because, among various important reasons, it offers some keys for understanding the various relationships that tie its members to the English language.

When it comes to its characterisation, authors have customarily identified two or three strata within the Indian Middle class. First, there is what has been referred to as the "old" , or "original" (Proctor, 2010, p. 108), middle class. It is a historically dominant social group which derives from the post-independence nehruvian middle class, but whose historical roots lie, ultimately, in the indigenous (often upper-caste), colonial-educated, anglicised elite of professionals and bureaucrats which developed under the Raj from the end of the 19th century onwards. Although originally composed of primarily salaried civil servants and professionals, this group also largely benefited from the reforms of the 1980s, collectively known as the liberalisation of the economy, and many of its members have now also turned to entrepreneurial activities. Although people belonging in the old middle are generally affluent, this social category, Chand (2011) notes, is more reliably defined by large amounts of educational and cultural capital than by sheer economic capital. Proctor (2010, p. 106) also adds that its members tend to be "English-dominant (Dwyer, 2000; Sheth, 1999), control India's cultural values, and legitimize this control through control of social institutions (Dwyer, 2000), including schools". The second group is what is sometimes (although not unambiguously) referred to as the "new" middle class (Proctor, 2010, p. 108),[3] and which corresponds, by and large, to the petty bourgeoisie (Fernandes & Heller, 2006). This is a group which, as noted by Proctor (2010), largely emerged from the lower middle class in the past recent years. Its members tend to have high-consumption patterns, sometimes considerable amount of economic capital, but also much less cultural capital than the old middle class who generally shun them as "nouveaux riches". In terms of linguistic practices, Proctor (2010, p. 108, based on Dwyer, 2000) determines that "[t]hey know English, but speak other languages

[3]The term "new middle class" is in fact more often used to refer to the general reorganisation of the overall middle class after the liberalisation of the economy, rather than to designate one specific fractions as Proctor (2010) does.

such as Hindi, or they use 'Hinglish' and code-switch frequently." The last, and most numerous segment corresponds to the "subordinate" (Fernandes & Heller, 2006) or "lower" (Proctor, 2010) middle class. This is largely an aspiring group that "includes middle and lower-level employees that include public and private sector clerical staff and office workers, and various low-authority professions such as teachers and nurses" (Fernandes & Heller, 2006). Although this fraction of the middle class has usually been associated with vernacular (or bilingual) education, one can also note a rapid shift since the 1970s, which has been reflected by a stark increase in the supply of English medium education in places like Delhi for instance (Satyanath & Sharma, 2016; R. Sharma, 2017).

3.1.2 Circumscribing the community

Following a common practice of sociophonetic investigations of English in Delhi, the target population of the present dissertation is the dominant, or old, middle class discussed above. Although the practice of selecting participants among the members of this sole social group is criticisable, notably for its ethnographic selectiveness (e.g. "projecting only the English of the rich and the upper strata for the sake of imagined uniformity", Satyanath & Sharma, 2016, p. 193) there are also important reasons why describing the norms of this dominant group has received so much focus. One of them concerns the fact that this specific group, although a minority, has been for a long time defining the set of symbolic practices that shaped middle class identity, including from a linguistic point of view (Fernandes, 2006, p. 34). Their norms constitute both a social barrier that is "aggressively enforced" (Fernandes & Heller, 2006, p. 501) against more subordinate groups, as well as the "standard against which the aspirations of other fractions of the middle classes are measured" (ibid). As concerns linguistic norms specifically, Chand (2011, p. 16) thus rightly emphasises that:

> "their English competence, based in part on their access to English-medium education, constitutes a language 'border' which further separates elites from subaltern communities and also distances them from other elites who attended less prestigious English-medium schools or Hindi-medium schools (LaDousa 2002, Urciuoli 1995, p. 539)."

Another important aspect to consider, especially for anyone concerned with variation and change, is the historical depth provided by this social group. While the recent (and still ongoing) penetration of various social domains by English is a phenomenon which can be observed across the board in the new (urban) middle class (Satyanath & Sharma, 2016), the "original" middle class,

whose emergence is inextricably linked with the advent of English education in India, also has a considerably longer historical trajectory. This means that although, as noted above, prestigious English medium schools have been instrumental in the distinction and reproduction of this group, these elites also partly owe their linguistic competence to the fact that English has long entered their most intimate social relations, including their homes. They thus constitute a long term, stable English speaking social group that provides an apposite starting point for looking at phenomena relating to language transmission, including "normal" language change (in the sense of Labov, 2010, p. 307).

Regarding their presence in Delhi, those elites have resided for, at most, three or four generations, primarily in the southern neighbourhoods of the capital where they settled at independence. English is thus a relatively young entrant in the Delhi speech community, since, prior to the first half of the 20th century, the city offered only limited avenues for the colonial middle class, who concentrated essentially in the presidency[4] towns such as Bombay and Calcutta (Chand, 2009b; Fernandes & Heller, 2006). Although the capital was moved from Calcutta to Delhi in 1911, much of the infrastructure had to be built to welcome it. The construction of New Delhi – i.e. the bureaucratic complex conceived by Lutyens and Baker to accommodate the imperial administration – only really began after WWI, and it was inaugurated in 1931. The city's development continued into the 1940s, and Lodi colony, which would remain the last addition made by the British, was the "southern boundary of the imperial suburb and open fields and scrub lay beyond, where jackals howled and black bucks roamed" (Sengupta, 2001, p. 199).

When the country gained independence, Delhi officially became the capital of the Union of India, and the first post-independence addition to the city was then the diplomatic enclave of Chanakyapuri. Around the same time, the development of the area popularly known as South Delhi,[5] would also begin, notably to face the urgent housing needs of displaced populations from Punjab, Bengal and Assam, who arrived consecutively to the partition of India. Some of these areas included, notably, housing plots given out by the government

[4]The administrative division of India under the British East India Company revolved around presidencies, that is, areas over which the company had acquired sovereignty. Those presidencies were transferred to the Crown in 1857 in the aftermath of the Indian rebellion (also known as the Sepoy mutiny) that sealed the fate of the company. For the major part of the company rule, there were three presidencies towns: Bombay, Calcutta (Bengal presidency) and Madras.

[5]This designation does not strictly correspond to the administrative division of the city, since it encompasses neighbourhoods (e.g. Defence Colony, New Friends colony, Vasant Vihar) which formally belong in the South East and South West administrative districts.

to military officers (Defence colony) and government employees (e.g. Shanti Niketan, Vasant Vihar). In the first decade after independence, vast amounts of farmland were also acquired by the real estate developer DLF (Delhi Land & Finance ltd.) and developed into residential and commercial districts, including highly-prized colonies such as South extension, Hauz Khas or Greater Kailash. From the 1960s onwards, the expansion of the area continued beyond the present-day outer ring road with the establishment of prestigious university campuses such as the IIT (Indian Institute of Technology Delhi) and Jawaharlal Nehru University. Further south, areas like Vasant Kunj, for instance, were built in the 1980s. All those neighbourhoods, which are now considered among the most affluent ones of the city (besides the residential areas of Lutyens' Delhi), are distributed over an expansive area or urban landscape (several hundreds of square kilometres), including significant portions of green spaces.

Despite their distinctive social and spacial position in Delhi, these middle class neighbourhoods do not constitute an independent, cohesive speech community, separate from the rest of the city. From the point of view of the urban geography of the city first of all, it is important to note that, although South Delhi forms a distinct area "loaded with sociological significance" (Chand, 2011, pp. 15–16), the spacial distinctions between wealthier and poorer areas in Indian metropolises have, as Fernandes and Heller (2006, p. 145) point out, never been as marked as in advanced industrialised countries, since they have "always been disrupted by the presence of squatters, pavement dwellers, and street entrepreneurs such as tailors, shoe repairmen, and hawkers [...] who perform services for the middle class neighborhood where they reside". The middle class residents that populate those neighbourhoods, on the other hand, can cover great distances daily to go to work or to school. They also tend to have loose-knit networks of relations,[6] characterised by weak and uniplex ties connecting individuals across relatively distant locations within the South Delhi area and beyond.

From a linguistic point of view, on the other hand, there is a clear lack of consensus as regards where the authors of previous studies have decided to place the boundaries of the speech community. For Chand (2009b, p. 312), for instance, who also worked on a sample derived from the upper middle class neighbourhoods of the capital, the linguistic behaviour of the elites with respect to specific variables definitely "excludes continued contact with non-native English speakers within this Indian community – who may be more influenced by their native language phonologies". This view is, to some extent, borne out in the results of earlier sociophonetic studies of South Delhi (i.e.

[6]We can also note, considering the recent history of massive immigration in Delhi, that this is also a trend observed in the neighbourhoods of new urban settlements in general (Kerswill & Williams, 2000).

Agnihotri & Sahgal, 1985 and Sahgal & Agnihotri, 1988), where sharp differences were also observed between speakers, depending on whether they had attended English medium education or not. However, and perhaps more importantly, the same authors also found that core sociolinguistic patterns relating to age, gender or style seemed to be shared across the social boundaries defined by the type of schooling attended, thereby suggesting the existence of unified community norms. Finally, R. Sharma (2017) and Satyanath and Sharma (2016), who worked on a much more socially diverse sample from a neighbourhood of Central Delhi (Daryaganj), found structured "variability [that was] almost uniformly attested across schools, age groups, language background and regardless of education mediums" (Satyanath & Sharma, 2016, p. 217), from which they derived the important conclusion that English in Delhi cannot, and should not be reduced to a language of the elite (p. 216).

All in all, the social group chosen for the present study should only be regarded as representing one section of the English knowing/using population within the Delhi speech community. There are, however, considerable social and linguistic asymmetries within this community one cannot choose to ignore. This is notably reflected by the central and structuring place of the older, English-dominant, middle class, and the fact that its members provide the bulk of what may be considered closest to native speakers – although this notion must be complexified in the context of a bilingual speech community (see 3.3 below) – of the sociolinguistic variety of English I presently seek to describe.

3.2 Fieldwork and participant selection

The studies of this dissertation targeted a sample of individuals within this population, covering the second half of the 20th century. As discussed in Study II, the choice of this period was dictated by Delhi's recent history, and the massive movements of population which, ensuing upon the partition of India in 1947, radically shaped the present-day socio-demographic make-up of the city. The data were thus derived from 48 male and female South Delhi residents born between 1948 and 1992, and were collected within three field trips that took place between late 2008 and early 2014.

Participants for the studies were recruited using the snowball, also called "friend of a friend" (Milroy, 1980), sampling technique. This was a matter of convenience as well as necessity. As noted in various places in the literature, network approaches to data collection in combination with participant observation have proven to be very useful for entering communities and gaining access to speakers. One decisive reason for choosing this method, however, was to avoid what I would call the problem of trying to obtain "impossible data". In Delhi, just as in presumably many bilingual locations where English is mas-

sively taught as a second language, the difficult task is not to find proficient speakers of English, but to ascertain that they are actual *regular users* of the language. This latter criterion is critical in order to avoid certain pitfalls such as trying to set up and record conversations between individuals who would otherwise never use English to communicate with each other,[7] or trying to obtain casual/spontaneous speech (see below in 3.4) from speakers who only use English in highly formal contexts. One way to circumvent this problem was then to impose a *usage requirement* (as defined by Poplack, 1993, p. 254) and to ask each participant to recommend someone with whom they would normally communicate in English. The investigation was thus quickly directed towards and through already existing social networks where "natural"[8] interactions in English could be observed, and where the membership of the individuals selected in the community under study could be ascertained through participant observation.

The major sampling criteria for the studies of this compilation were place and length of residence, while no a priori requirements were placed on individual linguistic characteristics, such as proficiency, nativeness or the presence of a specific language combination in the repertoire of the participants. This was primarily taken care of by ensuring that the individuals selected would be core members of the community under study. In fact, the sample turned out to be very homogeneous in terms of age of onset of English acquisition, education medium and, ultimately, linguistic abilities. Another important consequence of the regular use criterion is that, despite the wide range of ethno-linguistic backgrounds represented in the sample, the speakers also seemed to share similar bilingual practices. This point will be developed at length in the next section.

The sample breakdown for the various studies is summarised in Table 3.1. The first thing that may be noted is that different sub-selections of speakers were used during the course of this investigation. This is due primarily to data availability at each given point in time rather than a deliberate methodological choice. As briefly mentioned earlier, data collection took place over the course of five and a half years and three field trips (in 2008, 2011 and 2014), each of which were also guided by short terms objectives. Study I thus relied exclusively on data that had been collected between January and March 2011 in view of my Masters project (Domange, 2011), while the 2014 fieldwork was

[7]For instance, during one of the very first interviews in 2008 conducted on the Jawaharlal Nehru University Campus in Delhi, a group of informants found it fair to tell me that they would most probably shift back to Hindi as soon as I left the room.

[8]For lack of a better term. In the present context of investigation, as noted above, the "choice" of English as the language of interaction between individuals can be strictly determined by the situation of observation – i.e. an extreme case of Labov's (1972) observer's paradox.

specifically conducted as an attempt at balancing the corpus for age and gender. Although a non-negligible number of recordings were made back in 2008, only a few of them were retained in the final corpus: most of the recordings took place within the Jawaharlal Nehru University campus in South Delhi with students from a variety of locations in India who, therefore, did not meet my sampling criteria. It was through them, however, that I managed to enter the community by getting access to the first members of my target population.

	Study I		Study II & III	
	Group	*N*	Group	*N*
Age:				
	Generation II (1979-1992)	10	Generation I (1948-1969)	9
			Generation II (1975-1992)	13
Gender:				
	Male	10	Female	11
			Male	11
Occupation:[9]				
	Artists	4	Artists	4
	Corporate Managers	1	Corporate managers	4
	Professionals	2	Professionals	9
	Students	3	Students	2
			Other	3
Ethno-linguistic Background:				
	Bengali	1	Bengali	3
	English[10]	2	English	1
	North Indian (Hindi)	4	North Indian (Hindi)	7
	Punjabi	3	Punjabi	5
			South Indian	3
			Mixed	3

Table 3.1: Demographic composition of the samples.

[9]The categories are freely adapted from the International Standard Classification of Occupations (International Labour Organization, 2004). Although, within this classification, *Artists* form a sub-group of the *Professionals*, this profession is highly represented in my sample and I wanted to make this appear clearly. The *Other* category comprises individuals whose activity is usually not recognised as a profession (retired, homemaker, etc.)

[10]This category was devised to accommodate Anglo-Indians and assimilated English speaking, Roman Catholic communities, who have massively adopted English

As mentioned above, the absence of speakers born before 1947 in the corpus was primarily guided by the socio-demographic changes initiated with the partition of India and which, over the course of a few decades, turned "a provincial, Hindi speaking town" (Chand, 2009b, p. 66) of nearly 1 million inhabitants into the present-day megalopolis[11] that we know. The significance of those post-independence changes in Delhi is reflected, for instance, in previous sociolinguistic studies (Chand, 2009b; R. Sharma, 2017) and their reported difficulty to find Delhi born and bred English speaking bilingual residents, born before the 1940s for their sample:

> "Many participants found it humorous that I was looking for upper-middle class Hindi-English bilinguals with no other language background in the 70+ year old age group who had lived continuously in Delhi, claiming that such a population doesn't exist." (Chand, 2009b, p. 68)

What is more, as noted above, the neighbourhoods visited during fieldwork, which are populated by my target population, *all* sprung from the need to accommodate the large post-independence population movements. The appropriateness of this methodological choice is debatable since, as will be shown for instance in 5.2, having had data from first generation post-partition immigrants could have helped answer a number of unresolved issues in this dissertation. Nonetheless, the decision not to bend overly my sampling requirements in order to include those speakers in my corpus felt like the right one at the time of data collection.

Regarding the periodisation of the corpus, my first aim was to obtain a continuous age range for the period investigated with no pre-established age groups. However, because of the "friend of a friend" technique and the need to preserve the network ties within the sample, the speakers selected naturally distributed across two broad generations: i.e. parents (speakers born up to ca. 1970) and their children. Those two generations were also found to align with a major historical moment of change in the political economy of the country with the progressive "departure from the centrally planned, closed-economy orthodoxy that had prevailed since Independence" (Dasgupta, 2014, p. 63). This movement towards India's loosening of its economic borders was initiated in the 1980s, and has been considered pivotal in previous works, in particular

as their community language (often from the Konkan area, e.g. Bombay East Indians, as well as many Goans and Magaloreans).

[11] According to the 2011 census (Government of India, 2011), the population of Delhi was close to 17 Million, while the National Capital Region comprised 46 Million inhabitants concentrated within 55000 sq.km.

as regards the speakers' exposure to foreign influences, including linguistic ones (Chand, 2009b, p. 234).

3.3 Characterising bilingual speakers

One major characteristic of the community under study which has not been properly addressed so far in this dissertation is the bi-/multi-lingualism of its speakers. This is, nonetheless, a crucial point, notably in regard of the fact that, as discussed in previous sections (i.e. 2.1 and 2.2), contact perspectives with a focus on gauging L1 effects on Indian English linguistic forms (i.e. transfers) have tended to be the mainframe of a large amount of the work on the variety. While it is true that all the members of the speech community under study command at least two languages (Hindi and English specifically), the data collected for this dissertation, however, do not straightforwardly lend themselves to an analysis in such terms. One important (but not exclusive) reason for this is that, within the context of stable bilingual community, a speaker's L1 is not always readily identifiable (Mesthrie et al., 2015; Torres Cacoullos & Travis, 2018), nor is this factor always directly relevant to the language contact situation.

In this section, I will therefore sketch a sociolinguistic profile of the bilingual participants to this study, as an attempt to represent both the community patterns of language use, as well as speakers' prevailing attitudes towards their own bilingual experiences. The methods for producing this account are largely inspired by Torres Cacoullos and Travis' 2018, p. 57 *composite sociolinguistic profile*, and will rely on: (1) a quantitative analysis of the self-reports elicited via the sociolinguistic questionnaire as regards issues of language use and language acquisition; and (2), a content analysis of the interviews illustrating the above-mentioned difficulty to operate with some of the constructs commonly used within research on bilingualism, including the distinction between L1 and L2.

3.3.1 Self reports

The self-reports scores discussed in this section were derived from the responses to items a) through l) of the language use section of the sociolinguistic questionnaire (Appendix D, p.1) administered to the participants before the interviews. These items were taken from Sahgal (1991, p. 307) and were included to replace the original section on language use of the questionnaire provided with the protocol of the PAC programme (see below), which was found to be insufficiently detailed considering the highly bilingual practices of the community under study. Each item in the questionnaire represents

an interlocutor within one of three domains which are the family, friendship and institutional domains (at work, school, etc.), and were assumed to cover a large chunk of the speakers' ordinary interactions. For each interlocutor, the respondents were asked to rate their volume of language use for each relevant language on a scale from 0 to 10, then the scores were averaged for each of the languages reported by the speaker in each of the domains.[12] Linear mixed effect models were fitted for each language using language use scores as the outcome variable (continuous), and generation (older vs. younger speakers), gender (female vs. male speakers) and domain (family, friendship, institutional) as fixed effects. Individual speakers were also included as random intercepts in each model. Figure 3.1 summarises the results.

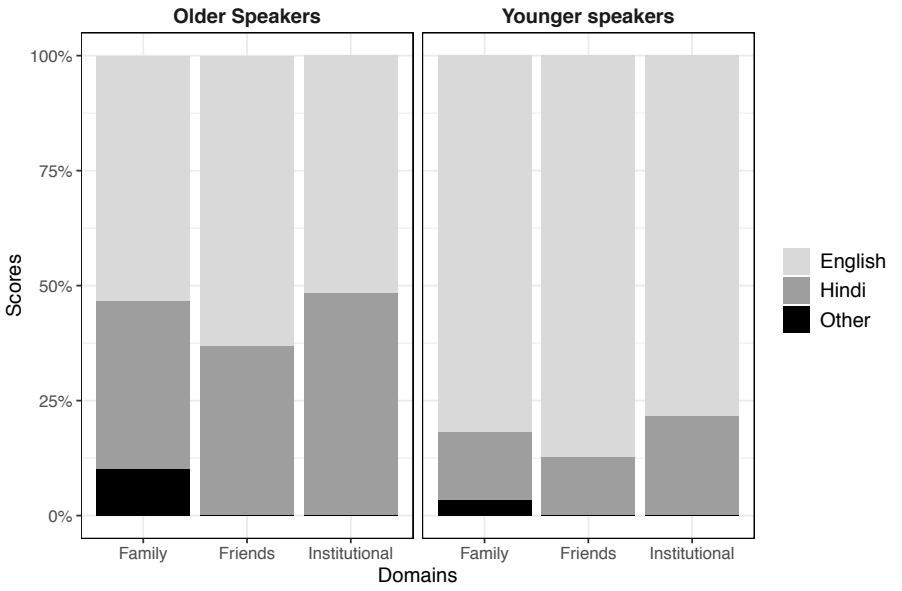

Figure 3.1: Language use scores in percent (y-axis) by domains (x-axis) and age groups (horizontally).

The first notable result is that although speakers report a wide variety of language backgrounds and heritage languages (see Table 3.1), the volume of language use reported by the speakers for languages other than English and Hindi only amounts to a very small portion of the total, and seems to be squarely restricted to the family domain. One important observation to be made

[12] In this section I report results for speakers in the "balanced" sample used in Study II and III. Similar measures were presented for the young male speakers sample in Study I (p. 538).

in this light is that, by and large, the use of term "Hindi-English bilingual community" to characterise the group of speakers under study appears largely warranted.

Overall, for both Hindi and English scores, only generation emerged as a significant main effect of self-reported language use. We thus find that older speakers tend to report significantly less English (β = –13.1815, SE = 3.4643, $p < 0.001$) and more Hindi use (β = 11.4038, SE = 3.5643, $p < 0.01$) in all domains than the younger ones. English use also appears to be reported slightly more by all speakers in the friendship domain as compared to the family and institutional domains, but this effect only borders with significance (β = 5.75, SE = 3.3255, $p = 0.0927$). What is perhaps the most surprising result of all, here, is the absence of significant interaction between generation and domains of use ($p > 0.1$), in particular provided the significant differences between younger and older speakers' reported use scores for English and Hindi. Specifically, given two groups of speakers who report using their languages to different extents, one is also entitled to expect those speakers to also use their languages in somewhat different ways. Instead, as shown in Figure 3.1, the relative volume of use of each language does sizably differ between groups, but the general patterns of reported use (i.e. the relative distribution across domains) are strikingly similar. In both groups, friendship is the domain where English is reported to be used more, followed by family and the institutional domain. As a result, whether and to what extent those data do reflect generational differences in terms of actual language use is quite unclear. Younger speakers do tend to project more English-dominant identities than the older generation, however the division of labour between languages reported by all the speakers in the sample seems to form a pretty unified pattern.

Regarding language acquisition, the participants were also asked to mention "People who played an important role during the informant's acquisition of the English language" (Appendix D, p. 2). Although this is an open question and that no constrains were imposed on the number of answers respondents could offer, the responses provided largely fell within the domains individuated by the language use section of the questionnaire. Thus, nearly all respondents (94%) named at least a family member, and nearly 56% did so in combination with school (including all older speakers besides svdm54, who only mentioned school as playing an important role for his acquisition of English). Surprisingly enough considering the prominent position of the friendship domain in the reported language use, friends were mentioned by only 17% respondents. Thus, in general, home (i.e. the family environment) is portrayed as the primary locus where English acquisition takes place, and school only comes second in order of precedence. This representation, however, conceals certain complexities, including as regards how the different vectors of language transmission

may also interact. One younger male speaker (pm0m39, born 1975) explained, for instance, that although English was spoken at home, this was primarily the case because his school teachers had promoted this practice to his mother. Similarly, vs0f58, a female speaker born in 1956, recalled during the interviews having made "a conscious effort" to speak Hindi at home to her children so that they would learn the language, and being met with similar demands from the school environment (1).[13]

(1) vs0f58: As a matter of fact, (1.8) it– my children, we have two boys, and one's working in New York and one's working in Mumbai, and er erm:, when they were in school, I s- When they started off, I was very conscious of the fact that (.) I would like them to speak Hindi. So I used to try, and make sure that in the house we spoke in Hindi. And then their teachers called me and they said that, you know, <Quoted speech> {Your children, erm you should speak to them in English. Because English is the language of the future.} So I told them <Quoted speech> {You're crazy. I don't want them– I– English everybody picks up. It's Hindi that I don't want them to lose (.) touch with.} So it was working in reverse. So, I used to make a conscious effort to speak with them in Hindi, but it didn't work. Of course they speak some Hindi, but it's like (0.6) er not the kind of Hindi that– I mean their first language is English. Because they think in English. They don't think in Hindi at all. So if they have to speak in Hindi, they have to think. So they think in English, they speak in English. So there I think I failed in being able to: er: do what I wanted, but that's the way the world was changing at that time you know, so: (0.5) can't really blame them. At home, my husband and me we speak in English er as our sort of first instinct so, it was inevitable that they would grow up (.) thinking and speaking and English became the primary language.

Although important insights can be derived from a quantitative examination of self reports on language use, in particular as regards broad community patterns of bilingualism, aggregate data can also conceal a fairly heterogeneous set of actual individual experiences. More generally, analyses of self-reports are well-known for being complicated by various issues, including the fact that questionnaire responses tend to project what the respondents perceive as socially desirable, or by the fact that the questions, even those one may con-

[13]The transcription conventions adopted within this thesis are summarised in Appendix F. They are adapted from Bucholtz (2007), although, since the excerpts are rather long, I chose not to represent each intonation unit with a separate line. I also chose to include X for each syllable of unintelligible speech.

sider as the most "self-evident" ones, impose on the respondents categories which are not necessarily meaningful to them (Bourdieu et al., 1991). This will be abundantly illustrated in the next section, where I closely examine the content of my interviews in relation to, for instance, the notion of first language vs. second language.

3.3.2 Linguistic attitudes: English dominance and the L1 vs. L2 dichotomy

As noted by Torres Cacoullos and Travis (2018, p. 63), many of the popular concepts that have been operationalised for "typical" SLA contexts of investigation (i.e. classroom settings) are difficult to transpose into the bilingual community. This is both a matter of tools and methods available for obtaining reliable data (i.e. outside of the controlled laboratory setting), and, more generally, of the applicability of those concepts in a context where using two (or more) languages is a fact of daily life. Importantly, it was found as in Torres Cacoullos and Travis (2018) that apparently trivial questions such as "What is your first language?" would sometimes pose greater difficulties to the respondents than would be expected initially, or that some elements cropping up in the sociolinguistic interview would contradict the self reports elicited with the questionnaire. Example (2) illustrates quite well, for instance, the difficulty of singling out an L1 and, more generally, of using this element as an organising criterion in the analysis. Bp0f55 was born in 1959 in Delhi and is the daughter of Punjabi refugees who settled in the southern neighbourhoods of the city at independence. Her story is fairly emblematic of all the second generation speakers from immigrant Punjabi families in the sample who usually did not maintain a link with the heritage language, and portray themselves as balanced Hindi-English bilinguals instead. There are also clear indications in their narratives and self reports that, although school played an important role in their acquisition of English, the language was also spoken at home with siblings and parents, and in the community. In (3), for example, bp0f55 clearly alludes to the fact that she turned her attention away from her parents' speech patterns which she considered "British" and "too proper" and favoured instead the norms of peers in the neighbourhood – a well-described phenomenon in the sociolinguistic literature (see e.g. Kerswill & Williams, 2000; Labov, 2012; Stanford, 2008).

(2) bp0f55: For me, Hindi English probably is (.) you know the same. But er, people who've studied in (0.8) Hindi medium schools, have started speaking more English once they're out of school. Then they're learning, they're listening to us, they're watching, = then there are these English speaking courses nowadays, so this is how they learn, so for

them it's not their first language. = For me, in a way, maybe it's the first language. And if I did not have an XXX who spoke only Hindi, maybe I would have spoken English at home also. But we spoke amongst ourselves, our parents, (0.7) brother sisters, (0.5) but grandmother did not know English, so we would speak to her in Hindi. Punjabi just went somewhere. You know we would never– we were brought up like Delhiites, and (0.5) we spoke this because er, (.) er, everybody, even if there was a (.) person who's like she's a cleaning lady, = cleaning lady comes home and all, they all spoke Hindi. So if we had to communicate with them we spoke Hindi. But English was something we spoke amongst ourselves, (0.5) a:nd e:r, we studied it.

(3) bp0f55: In fact, my mother, (0.5) is from Lahore. She's also studied in English medium there. She's– They also had a lot of British influence, because (0.7) you know, I'm talking about (.) s:even- eighty years, seventy eighty years back. My pare- My father's what, = ninety two, ninety three, my mother's eighty seven, eighty eight. So they were brought up– So, she used to teach me also when I was small, (.) and I was speaking English, (0.6) <Quoted speech> {Talk as if you have lemon drops in your mouth. <Low voice> {Puh puh puh puh}}." <Smiling voice quality> {So we did that a little bit, but we thought mom was a bit too proper for us}. <3.4> And there were other children around the house, which were not– Their parents were not that proper. (.) So with mum one had to be, and otherwise, you know we would get away with speaking the way I <u>am</u> speaking.

Younger speakers also seem to grapple with the same conundrum of the first language, although they definitely tend to project more English-dominant identities. This problem appeared, for instance, in a conversation with gv0f26 and ts0m27, two friends born in 1988 and 1987 respectively (4). They both come from families with military backgrounds, grew up in the same neighbourhood in Delhi, and maintained a close relationship into adulthood. In the self-reports of language use, both speakers assessed their English use with each of their close relatives (i.e. parents and siblings) with scores comprised between 9 and 10 out of 10. The first thing to note here is that, despite the 30 years age difference, the story related by gv0f26 resonates quite a lot with that of bp0f55 in (2): the domestic staff is regarded as an important vector of transmission for Hindi, and Punjabi – the heritage language apparently spoken by previous generations – is not passed down to the speaker by her parents or grandparents. For ts0m27, the situation is even more difficult to piece together since there clearly was an attempt at transmitting Tamil on the part of the speaker's parents. On the other hand, ts0m27 also claims that he "caught on Tamil much

later compared to my sisters" although he still calls it his "mother tongue" and English his "first language" (i.e. "the language you dream in, or you think in").

A similar negotiation of the meaning of institutional terms such as "mother tongue" and "native language" as in (4) is illustrated in example (5), where the two speakers dp0f27 (bp0f55's daughter, born 1987) and vv0f28 (dp0f27's best friend, born 1986) discuss which language they report in official forms.

(4) RD: You grew up speaking English?
gv0f26: Yeah.
RD: That was the first language or the second language? Did you learn it in school?
ts0m27: Erm, ac- actually what happened with us, because we're actually from er South India so, (0.8) at home, our parents used to try and make us speak in Tamil, (1.5) but er, (0.9) I think I– I think I caught on (.) Tamil much later compared to my sisters. So for me it was much easier speaking (.) in English, <23.7> But it was– I mean I think– And hence it was my first language. And I think somebody once asked us when we were much younger you know, like, <Quoted speech> {What's your first language?} And we did not know whether it was: (.) English or Hindi what we study in school, or actually Tamil, because that's er our mother tongue. [Yeah. (0.5) So somebody actually–]
gv0f26: [For example when– (.) When forms] say things like native tongue, you always write down English as your native tongue. You never consider it (.) [not native.]
ts0m27: [Yeah so so–] So this– This uncle basically asked us and we– And we did not really know. So he said, you know, <Quoted speech> {What is the language that you dream in? (0.5) Or you think in?} You know, and that's usually your first language, and that's English.
gv0f26: Yeah f- I think, (1.4) I'm– (.) I'm not entirely sure actually. I'd have to ask my mother. (0.7) Because, I always spoke English with my parents, but the staff always spoke Hindi. So it was almost a simultaneous– You were (0.6) pretty much bilingual from the moment that you began to speak. Or trilingual in maybe their case. (0.4) My (1.0) parents both speak Punjabi as well, because both my grandmoms speak Punjabi, but nobody ever made an effort to try and teach how to speak in Punjabi, even my grandmothers always spoke to me in English or Hindi.

(5) vs0f28: Yeah, the native language is probably– I mea- To me, (.) it's the language that you're community or whatever (.) speaks in, but (.) your

mother tongue is how you mother sp@ke to you. As your, you know, your family language. [And your family language is–]
dp0f27: [But native language] is definitely the language that you've (1.2) e:r that you've grown up speaking. (0.7) I mean, that's what native language is. [Is that what people usually refer to?]
vv0f28: [But but we– We are all bilingual] (.) people. And we all–
dp0f27: But I would write English for both.
vv0f28: I would, yeah.

Another important point to consider as regards the L1-L2 dichotomy, and which pervades the examples discussed thus far, is the powerful effect of the norms of practice of the community. This effect is evinced, as we saw earlier, by the significant degree of language shift among the families of Punjabi refugees represented in the sample. This is not simply a matter of speakers availability, since Punjabi is widely spoken in Delhi, and is second to Hindi in number of native speakers. Besides, it also seems that many migrant families somehow retained parts of their previous social networks, since, as Dasgupta (2014) argued "the new housing extensions to Delhi were conceived, in fact, to preserve previous distinctions of rank, caste, ethnicity and profession, and networks could be recultivated with ease." For bp0f55 in (2), this loss of Punjabi and shift to a Hindi-English bilingual repertoire is discursively represented as the consequence of being "brought up like Delhiites".

Ultimately, sharing a "mother tongue" with someone does not guarantee that interactions with this person will take place in that language, which complicates even further the possibility to make contact claims based on what speakers report as their L1s. This is shown in (6), for instance. The speaker, ab0m28 (born 1983), speaks Bengali (self reports 3.5/10) and English (6.5/10) with both parents and resides in Chittaranjan Park, an upmarket neighbourhood developed in the 1960s to accommodate refugees from East Pakistan (present-day Bangladesh), which still houses a large Bengali community. Ab0m28 still reports using mostly English with all his friends (8/10) – including friends in the neighbourhood – and Hindi the rest of the time (2/10).

(6) ab0m28: Yeah I mean, when I was back in Delhi it was primarily English. (0.6) And er– (0.6) And Hindi of course.
RD: And– And w- When– When you meet Bengali friends. You– Do you speak Bengali with them? Do you try– Do you favour this language?
ab0m28: Er (0.6) I don't know. I guess (.) because I speak (0.8) English most of the time er, e- even wi- with Bong friends, I try and speak more in English. But occasionally, you know you'll have joke that could only

be understand in Bengali. Yeah, or at least certain things about the language (.) that (.) you know, so that you feel like at home. And er (0.8) whenever I've been to Calcutta for a– for a show or a holiday (0.6) I mean it- it's nice, it feels good (.) in a way that, you know, your local vegetable vendor (0.6) or the guy next to you XX all speaking the language that, (.) you know, (1.0) your mother tongue is. But erm (0.6) yeah I still somehow prefer English. (0.9) 'Cause I think in English.

In the previous section, the overview of the distribution of language uses across domains suggested that the younger speakers were more English dominant than their elders. Although, as discussed by Treffers-Daller (2019), indirect measurements of language dominance with language-use based questionnaires (as opposed to direct, i.e. proficiency based, measurements) seem to be very much possible, it is also important to note that separating language use in domains such as family, friends and institutional domains (as in the questionnaire used in the present-dissertation) is probably not sufficiently fine-grained to capture the complexities of "the distributed characteristic of language knowledge" (p 388). This is because language use in bilinguals has been found to vary, for instance, by topics and activities (ibid.). The sociolinguistic interviews reveal those complexities. In (7), for instance, na0m27 (born 1987) shows that although he reports using English and Hindi equally in family, his language use is not "balanced" between Hindi and English since it seems to be, at least for parts, topic specific. It also comes out that for anything else than "serious discussions" – which are reported to take place exclusively in English – this family uses a "mix of Hindi and English", which presumably means that some significant amount of code-switching occurs there. Finally, although na0m27 reports using English (9/10) much more than Hindi (1/10) with his close friendship circle, he also acknowledges that language use is largely dependent on individual social interactions.

Another important determinant in the distributed characteristic of language use is evidently caused by the (English) medium of instruction, and it bears consequences for the daily life of the speakers. Thus, as shown in (8), speakers also report difficulties or insecurities when using Hindi with topics typically associated with scholastic instruction (e.g. "like science or history or geography").

(7) na0m27: So yeah that's– So humour– Humour, I mean, (0.9) in general it's in English, (.) but er: yeah we do use Hindi (0.7) for (0.6) amusement.
RD: Yeah?
nc0m27: At times. Yeah.
RD: In er, it's in a non-mocking way or–

na0m27: Mocking way.
RD: Mocking way?
na0m27: Yes,
RD: [Really?]
na0m27: [yes,] yeah, th- We should die @@ ye@h.
RD: So you told me you use Hindi a lot in family. Right?
na0m27: No no no. No not, not so much in family, er serious discussions are all in English. So I would say, er: I would use Hindi fifty percent of the time. (0.9) Kind of. (.) Not even fifty actually. (.) Yeah I guess.
RD: So for the rest, Hindi is used for mechanical, everyday–
na0m27: N- Yeah (0.5) yeah (.) I would say so. I mean any serious discussion is always in English, erm (1.2) you know, just <Quoted speech> {How was your day.} and you know, just the regular (.) things would probably be in a mix of Hindi and English. So yeah, <Mumbling> {(that's how)XX}
RD: So with your parents it's 50/50. Right?
na0m27: M- you could say so. Yeah more of English than Hindi (.) But (.) yeah.
RD: Yeah, and it changes completely with your circle of friends.
na0m27: Erm, (2.3) it changes a lot with the kind of people, but er, the friends that I have, (0.8) erm everyone use English as pretty much their first language. So (.) yeah if I'm hanging out with someone who is more comfortable in Hindi, then yeah it would change.

(8) gv0f26: But that's also because we went to English medium schools. Where the medium of instruction was English. So, the only time you were ever (.) asked to speak in Hindi, was during your Hindi class. = Or if you studied Sanskrit, then, obviously, they weren't speaking to you in Sanskrit. So those were the only– Or when you spoke to like the guard at the gate or something. Otherwise all your interactions, and everything that you learnt in– (0.6) You actually learn how to understand things in English. So even today, when somebody I mean at work, (0.6) Because I work with: a number of politicians, and you're asked to explain things in languages which are not English, it doesn't come to me that naturally. = Because I've never thought about things like science, or history, or geography, in any language other than English. So it's– I– I– Google translate saves my life a lot of the time. = Because, you sort of think about something in English, and you construct an argument in English, and then you try and see how that argument will sound in Hindi. So it's actually, three times the work. Because first you think about it in English, then you do a rough translation in Hindi, and then you try and,

you know, make sure you haven't transliterated into Hindi. Which is yeah, which you find that you've done most of the time. Because when you just flip around the sentences– (0.7) You know, you can't use the same idioms or f:- Or the same phrases, or the same metaphors, you have to think of– you have to think of the Hindi equivalents of them. And then that changes the game again.

Finally, as importantly noted by Treffers-Daller (2019, p. 385), "dominance patterns may vary as the social circumstances in which bilinguals live change." This situation is exemplified in (9) by bp0f55, who started painting in her late forties, developed a new social network around this activity, and along with that also declares having developed new linguistic habits. Example (9) is also interesting for how bilingual individuals are "coerced" into sociolinguistic identities by the social environment: on the one hand, bp0f55 reports having received disparaging comments from her daughter (dp0f27) as regards her renewed interest for Hindi, while claiming, on the other hand, that Hindi is also her daughter's mother tongue – i.e. a claim which dp0f27 does not seem to endorse as we saw in (5).

(9) bp0f55 I used to probably speak more English (.) earlier, I speak little more Hindi now.
RD: Yeah.
bp0f55: I'm more comfortable with it. (0.9) I've learnt some maybe new words. And then it just flows. It just comes.
RD: Alright.
bp0f55: You know? (.) If I have to express myself, and write something, (0.7) it happily comes in: Hindi for me.
RD: Right. So you feel more spontaneous when writing in Hindi than in English?
bp0f55: N:owadays yes. I use a lot of Hindi for writing.
RD: So wh- what motivated the choice of the language actually, 'cause being a bilingual–
bp0f55: Yeah that's what I'm saying, that er: (1.8) when I started painting:, (3.0) I was that person who was more towards English. (0.9) But after a couple of years, I met <Name>, I met (.) <Name>, I met <Name>, these are all (0.6) artists from (0.9) Madhya Pradesh. And when I started speaking to them, (0.9) I (.) found (.) that they speak that Hindi. (1.0) And I was very comfortable. And I could (0.8) you know, communicate with them very well in that language. And probably that's– You know my (0.7) er sort of thought (0.9) turned more towards (1.0) that, and er (0.7) it was a different Hindi. Not the Hindi I speak with the servants. You see, it was nice. And you could express

– and then, there were so many words, that they just started coming in. = When I paint also erm, (0.8) a lot of times erm, (0.8) after I finish my work, (0.5) I want to name it sometimes spontaneously, (0.8) something in Hindi comes out for it. And er maybe sometimes not. Like just a painting I made a month back. Er, it's called <Title in English>. (0.6) It's simple. I don't want to call it dawn, I don't want to give it any fancy name. (1.3) But er, it's not in Hindi. Like that (.) painting (.) inspired this line. (1.0) So it's called that. Sometimes there are Hindi words to my paintings, (0.7) and my daughter keeps saying <Quoted speech> {Yuck. Yuck.} I said <Quoted speech> {It's alright! It's what! (0.8) It's your mother tongue! Or whatever.}

As we saw in this section, the concepts of dominance, first language (vs. second language), or even nativeness are near impossible to operationalise within the context of a sociophonetic study. This is not to say that they do not have a socio-psycholinguistic reality for the individuals in a bilingual community, nor that those factors do not bear consequences for contact-induced variation, but to show that, under the present circumstances, basing one's linguistic analysis on self-reports of e.g. speakers' L1 is anything but straightforward. Nonetheless, despite the layered complexities of the speakers' individual experiences, the sociolinguistic profile sketched in this section also gives us a glimpse of a well-defined, stable Hindi-English bilingual community, whose norms regiment speakers linguistic behaviours, including as regards the choice of the language in any specific interaction. A critical part of assembling the corpus is, therefore, to ascertain that the speakers selected are actually core members of this community. As explained above (section 3.2), this was carried out by making sure that the participants meet the *use* criterion as defined by Poplack (1993).

3.4 The PAC programme

In 3.2, the fieldwork sessions, the participant selection procedure, as well as the structure of the sample were discussed. In this section, I now turn to the constitution of the sociolinguistic corpus, and more specifically, to the presentation of the materials collected via the PAC protocol, since little more than a few lines are devoted to these issues in each of the articles. I also take advantage of this section to briefly introduce the PAC programme, the genesis of the project, its scope and aims.

The PAC (Phonologie de l'Anglais Contemporain: usages, variétés et structure - The Phonology of Contemporary English: usage, varieties and structure) project, or PAC programme, is a research programme founded and launched

in 2000 by Philip Carr and Jacques Durand, and is presently coordinated by Sophie Herment (Aix-Marseille Université), Sylvain Navarro (Université de Paris), Anne Przewozny-Desriaux (Université Toulouse Jean Jaurès) and Cécile Viollain (Université Paris Nanterre). The project aims at establishing a database of phonological corpora from a variety of locations in the English speaking world, and based upon a single protocol. From the outset, the project's main objectives have been:

- "to give a better picture of spoken English in its unity and diversity (geographical, social and stylistic) on the basis of native and learner corpora;
- to test existing theoretical models in phonology, phonetics and sociolinguistics from a synchronic and diachronic point of view, making room for the systematic study of variation;
- to favour communication between specialists in speech, phonological and sociolinguistic theory;
- and to provide corpus-based data and analyses which will help improve the teaching of English as a foreign language." (PAC Programme, 2021)

The PAC approach is based on methodological principles that have been tried and tested within "La phonologie du Francais contemporain" – a research programme also founded by Jacques Durand together with Bernard Laks and Chantal Lyche – and were directly "inspired by the classical work of Labov (e.g. 1966; 1972; 1994; 2001) in that, for each selection of speakers, it involves the reading aloud of a wordlist and a passage as well as formal and informal conversation" (Carr et al., 2004, p. 24). In the next sections, the various component parts of the PAC protocol are described in light of the present research and specific methodological issues related to it.

3.4.1 The wordlists

The reading of words in isolation is the first and most "formal" (in the sense of Labov, 1972) contextual style elicited via the the PAC protocol. This is done via two wordlists focussing on a variety vocalic and consonantic oppositions and including 192 items in total (see Appendix A and B). The stated primary aims of those wordlists are to:

> "(i) establish the phonological inventory of the speaker(s) under study (phonemic oppositions), as well as the main allophonic variants and phonotactic constraints; (ii) investigate rhoticity in detail;

(iii) examine T/D realisations as a way of understanding the complex behaviour of coronal plosives in all varieties of English (aspiration, tapping, glottalisation, etc.)." (Carr et al., 2004, p. 25)

The items chosen to test for the phonemic contrasts of interest are placed both unobtrusively and/or in minimal pair/set condition depending of the phenomenon under consideration. For instance, items 1 through 6 of the first wordlist constitute a minimal set in the /p_t/ context designed to obtain the speakers' inventory of short vowels, while items 20 through 31 test for the long vowels and contrasts with some of the short vowels in the /f_l/ context. Numbers 11 to 19 and 90 to 100, on the other hand, have a more hybrid configuration alternating some (near) minimal pairs/sets (e.g. *stir*, *steer*, *stairs*) with other words including vowel sounds before /r/, and the aim of these series is to assess the speaker's distribution of vowels in the rhotic classes. It may also be noted that several items are found multiple times through those lists. This is the case of *pat* (wl1, 3; wl2, 1), *bard* (wl1, 33 and 45) and *singer* (wl2, 33 and 48), for instance. The purpose of this is to obtain repetitions of the same words while focussing the speakers' attention on different features. *Bard* (wl1, 33), for example, is included in one of the series about the vowels in the rhotic classes, while *bard* (wl1, 45) belongs in a set devised to test possible oppositions between the vowels of the TRAP, PALM, BATH and START words. *Singer* (wl2, 33), on the other hand, is part of a minimal set on the nasal series (vs. *simmer* and *sinner*), while *singer* (wl2, 45) tests for the presence of a /g/ sound after /ŋ/ in word-medial position, and eventual morpho-phonological constraints. Since the overarching aim of those lists is to give a full account of the phonological inventory including main allophonic variants, it is properly impossible for me to detail here the entirety of the phenomena targeted by this part of the protocol. Several publications, however, cover this question more extensively such as Carr et al. (2004) and Durand and Przewozny (2015).

One considerable advantage of using the PAC wordlists for studying the vowel systems of underdescribed varieties is its relative "neutrality" as regards standard varieties, with the inclusion of items from all of Wells's (1982) lexical sets. This is particularly important since, as discussed in Study I (and in 4.2 below), significant descriptive issues have emerged in the previous literature on Indian English from using protocols tailored for eliciting phonemic oppositions in typologically Southern British English varieties. A cost of this exhaustiveness, however, is, as shown in Table 3.2, the very unbalanced distribution of items across the sets which is primarily due to length considerations. As can be seen, the protocol still clearly prioritises the more common word classes such as those of the short front vowels KIT, DRESS, and TRAP, for instance, but would possibly require the addition of supplementary elicitation

KIT	20	NURSE	15	CHOICE	1
DRESS	25	FLEECE	11	MOUTH	2
TRAP	19	FACE	8	NEAR	5
LOT	6	PALM	1	SQUARE	6
STRUT	10	THOUGHT	6	START	9
FOOT	5	GOAT	9	NORTH	4
BATH	5	GOOSE	5	FORCE	10
CLOTH	2	PRICE	4	CURE	4
Total:	*192*				

Table 3.2: Number of items per Wells's (1982) lexical set in the PAC wordlists.

materials (e.g. a third wordlist) should one be interested in the other and, in particular, rarer sets, such as CLOTH and PALM (i.e. "foreign (a)").

Although it is strongly recommended not to modify the default worldlists from the protocol, it was found necessary to do it due to the distracting effect caused by one specific item, *loch* (wl2, 28). This word appeared not to be known by several participants (e.g. it was sometimes pronounced [lɒʧ]) and caused much hesitation, repetitions and requests of feedback/help from the participants to the interviewer. Its presence in the wordlist was thus found detrimental for the overall task. Since this item tests for the presence of the voiceless velar fricative /x/ – vs. /k/ in *lock* (wl2, 27) – and that this opposition is irrelevant for the community under study, this item was replaced early on by "*vet*". This word was included in order to test for the opposition with *wet* (wl2, 23) and elicit information about the /v/-/w/ opposition in Indian English.

Of course, if the data elicited via those lists offer valuable insights into the phonological system of the speakers interviewed, they provide first and foremost a window on what speakers speakers overtly consider to be the "correct" pronunciation of the words listed. One of the devices intended as a means to offset the effects of social correction was to ask the participants to read aloud the numbers before each item. This is because those numerals tend to focus the reader's attention much less than the words they precede, and it is thus possible to cross-check a number of phenomena through them. Even if this allows to bring to light some revealing inconsistencies in the speech production of individuals, it is, overall, very hard to make sense of any wordlist data without a close examination of the other contextual styles collected via the protocol. Those are described in the following sections.

3.4.2 The text

The next contextual style in order of degree of formality is the text reading task (cf. Appendix C). This reading passage is a two-page long (630 words) newspaper article that was heavily modified by the authors of the protocol "to hide its source and include a number of phonological phenomena worth investigating" (Carr et al., 2004). The text is presented as an interview report of a television evangelist. The tone is generally humorous and includes large portions of direct and reported speech written in a colloquial style. This choice of text was presumably intended as a means to increase the involvement of the reader in the reading task. As formerly observed by Labov (1972, p. 80), the speakers' involvement has the effect of maximising the stylistic spread with the more formal tasks (i.e. the wordlists), while ensuring a relatively fast-paced, continuous flow of speech that enables us to study Sandhi phenomena, such as those targeted by the protocol (i.e. rhoticity, linking-R and intrusive-R more specifically).

An important function of the text is to offer the possibility to cross-check the presence/absence of the phonemic oppositions observed in the wordlists. As in the wordlists, the text includes mono or disyllabic lexical words for all of Wells's lexical sets (except PALM), as well as several words already featured in the lists (about 20), including minimal pairs such as *knows-nose*, *sighed-side*, *bored-board*.[14] The reading passage is also the site where phonemic contrasts based on duration can be more adequately studied. As discussed in Study III, wordlist data can be useful in order to determine whether speakers intend to produce a duration-based contrast between pairs of words, however, because the stressed vowels in words read in isolation tend to be so much lengthened, it is usually difficult to see whether, or to what extent, contrasts are actually maintained between members of different word classes in everyday connected speech. Spontaneous speech, on the other hand, is marked by extensive amounts of within- and between-speaker variability – primarily related to speech rhythm – which are difficult to account and control for in a systematic way (Di Paolo et al., 2011, p. 98). The reading passage thus offers an interesting compromise since the same words in the same environments are spoken in the same general social context of elicitation by the different speakers.

Finally, another aspect which is particularly relevant to the phonology of Indian English, and for which the PAC reading passage is well adapted, concerns phenomena of vowel reduction. This is because Indian English varieties have long been claimed to lean more towards syllable timing than many other varieties of English (although this is debated in e.g. Fuchs, 2016; Sailaja, 2009,

[14] For some of the "rarer" oppositions found in e.g. Yorkshire English, Scottish English and Cockney respectively.

2010, 2012; Wiltshire & Moon, 2003), and, therefore, many impressionistic accounts have suggested the presence of full vowels in weak positions (e.g. CIEFL, 1972; Hickey, 2004; Trudgill & Hannah, 2002). The text of the PAC protocol comprises dozens of disyllabic lexical words, with vowels in weak position occurring in a wide variety of environments, including all three of Wells's (1982) ad hoc categories – *happ*Y, *lett*ER and *com*A – for word-final unstressable vowels.

3.4.3 Careful and spontaneous speech

Within the PAC programme, fieldworkers are requested to set the stage for two types of interviews. The first one is called "formal interview", and it involves face to face conversations with the participants where the aim is to obtain another contextual style for linguistic analysis that may be called "careful speech" (following Labov, 1972). As shown above in 3.3.2, this step not only provides important additional linguistic data, but it is also an opportunity for collecting crucial personal information and linguistic attitudes allowing for contextualising and interpreting the questionnaire responses. Less tangible but equally important, those interviews also help develop the investigator's familiarity with the community by supplementing the day to day observations made in the community context.

The informal conversation in the PAC protocol, on the other hand, is conceived as a separate activity from the formal interview, and involves up to three participants interacting with each other without the investigator being present. The aim of this activity is to obtain data in the last contextual style in order of formality: casual style. In the context of the Delhi interviews, speakers were then usually met in pairs or, sometimes, individually, but while making sure that someone from their immediate environment would be present and available for participating in this activity. Obtaining casual speech in a systematic way via this method, however, proved rather difficult for a variety of reasons relating mostly to personal availability (e.g. time, cancellation from one of the two participants, etc). Also, while the informal conversation often yielded usable data, it was also found, usually after the fact, that some participants seemed to have difficulties relaxing in this context, while making overt comments on the artificiality of the situation. Others purely and simply refused to engage in a conversation with each other for this reason, as shown in (10) where a married couple from the older generation (rg0f55 and rg0m62) humorously turn my request down.

(10) rg0f55: Whoever you're– Whoever you're giving this for your dissertation, you please tell him, husbands and wife, after thirty-two years do not– don't– cannot speak for fifteen minutes. Unless they are fight-

ing.
rg0m62: Yes. @@@ [That's it. @@@]
rg0f55: [Haan. Then we can go for one] hour.
rg0m62: Haan. Then we can go the whole day. [(Full day.)]
rg0f55: [@@]@@@ That's the difference.

What (10) also shows, however, is that it was possible to obtain what Labov (1972, p. 86) refers to as "spontaneous speech", and defines as the "counterpart of casual speech which does occurs in formal contexts, not in response to the formal situation, but in spite of it". In (10), the context is still that of the formal conversation but the speakers mark a definite shift in the direction of casual speech. This is evidenced here by both speakers' use of the Hindi word *haan* ('yes'/'yeah'), for instance, while this kind of borrowings are totally absent from the more formal parts of the interview. During the formal interviews, much effort was thus put into obtaining this kind of spontaneous speech data. Spontaneous/casual speech does not merely provide an additional contextual style to the corpus; it is also a window on the speakers' vernacular which, it is generally agreed, tends to offer "the most systematic kind of data for linguistic analysis" (Labov, 1984, p. 29). The collection of these materials relied essentially on some of the well-rehearsed techniques laid out by Labov (ibid).

One such technique involves eliciting the occurrence of long stretches of discourse, in particular personal narratives, in which speakers are more emotionally involved. This was typically achieved by a series of questions about the speaker's neighbourhood leading progressively into a discussion on one's childhood. Besides, any topic for which a speaker showed a marked interest, any digression or tangential shifts from the course of the formal interview were also encouraged. Certain topical issues directly relevant to the community were also used during the interviews. In 2014, for instance, the fieldwork took place during the Lok Sabha elections campaign which provided a steady source of hot topics that speakers were eager to comment and explain to me. In 2011, on the other hand, the interviews took place during most of the duration of the cricket world cup (that was organised and, eventually, won by India), and while clearly not every speaker declared being interested in this event (or this sport in general), this topic was found to resonate with the childhood of many of the participants and to provoke emotional reactions, as shown in (11).

(11) RD: Do you follow cricket?
Sa: I used to follow cricket 'till I was 12. Then I realised that it's a shit game, and I hate it @. And then I started watching football.
RD: Why everybody's telling me that it's shit? I even bought a cricket bat yesterday [@@@].

Sa: [@@@@@]
RD: And a leather ball. Now I'm stuck with it.
Sa: Oh, I used to play. I use- I was a good baller. (.) A very good baller. But today, meh. Football is still my X. <19.3> Don't even– don't waste your time with cricket. It's a boring game. There're eleven people out of–
RD: I don't think [it's boring]
Sa: [Let me tell you]. There're ele- twenty-two people, there're (.) what, (.) fourteen people on the field. (0.6) Including the– (1.0) er no. (.) Thirteen people. Including the two batsmen. (0.8) Yeah. Thirteen people on the field, out of which, (2.1) three people are– (0.6) At one time, only three people can be actively involved. And then there'll be people that stand in the field, = just waiting, = getting bored, = they'll go drink water, = they sign autographs! What kind of a sport is this!

None of the studies of this dissertation involved a fine-grained modelling of stylistic variation. For the most part, those studies relied instead on the polar ends of the stylistic range recorded. The contextual styles that are most commonly used are thus referred to as *wordlist* and *interview* (or *conversation*) style, where *interview/conversation* style stands for interview data from which the most formal passages have been removed.

4. The studies

This chapter provides a detailed summary of the motivations, important points of methods and key findings for each article in this compilation. I also take this opportunity to add some critical reflections on the work conducted and discuss additional points when necessary. In order to offer some context to the studies presented below, and since each of them is concerned with a specific corner of the vowel system, I begin this chapter with a short overview of the overall vowel space of South Delhi English.

4.1 The South Delhi English vowel space: an overview

The vowel plots in Figure 4.1 illustrate the distribution of all the vowels in the system, by gender and style. It is based on F1 and F2 measures of 15,358 vowel tokens from mono and di-syllabic words in each of the non-rhotic (except NURSE) monophthong classes of the variety.[15] The data were normalised using the modified S-procedure (Fabricius et al., 2009) while mean raw hertz values are summarised in Table E.1 in Appendix E. The first noticeable thing here is the shapes and sizes of the vowel spaces which are near identical between males and females, save for one striking exception in the mid-back area (discussed in detail below). We can also observe a slight compression of both genders' vowel spaces in conversation style. These centralising movements are in a large part expected and seem to correspond to reduction patterns associated with vowel duration decreases in connected speech (Lindblom, 1983). Below, each element of the vowel system presented will be discussed in light of the standard descriptions of the variety as well as the results of previous instrumental studies.

[15] The data is coded for historic classes, so [i, e, ɪ, ɛ, a, ʌ, ɑ, ɒ, ɔ, ɜ, ʊ, o and u] correspond to Wells's (1982) lexical sets FLEECE, FACE, KIT, DRESS, TRAP, STRUT, PALM/BATH, LOT, THOUGHT, NURSE, FOOT, GOAT and GOOSE respectively. The vowels are not marked for length, nor are "merged" classes lumped together.

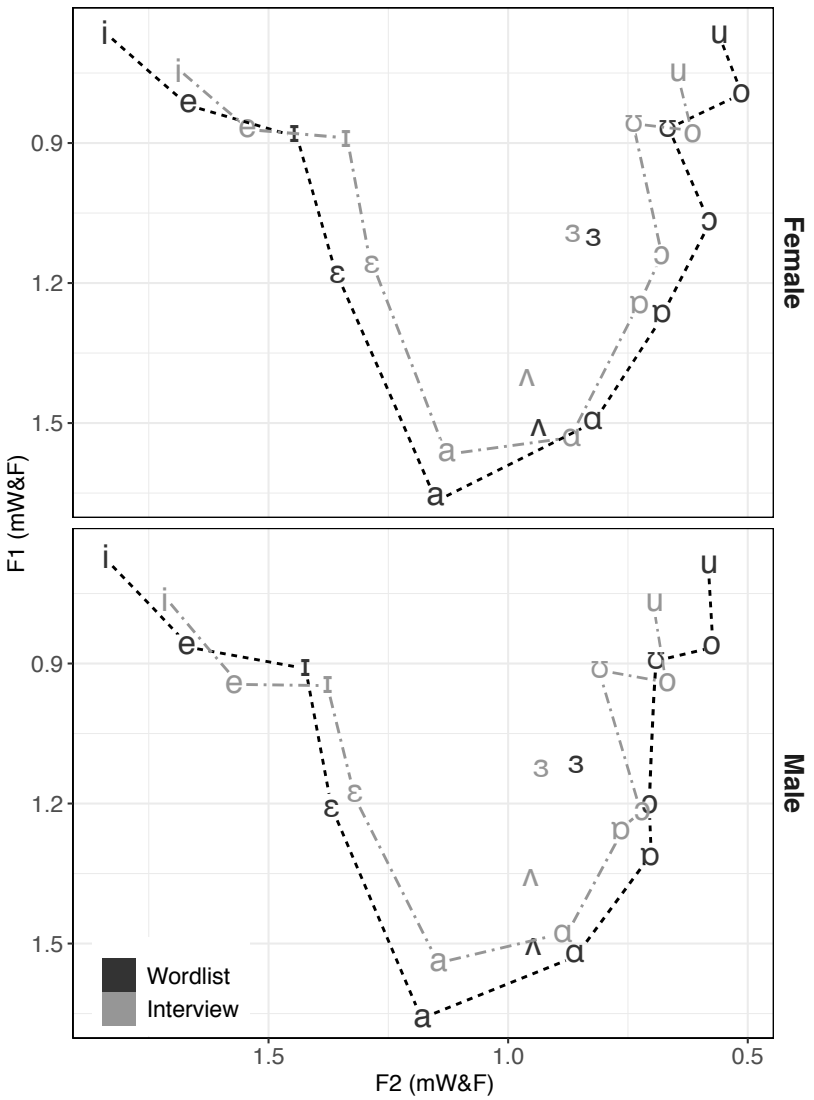

Figure 4.1: South Delhi English monophthongs by style (wordlist and interview) and gender (female and male).

High and high-mid long vowels

The most salient characteristic of the high and high-mid long vowels FLEECE, FACE, GOOSE and GOAT is their very monophthongal quality; that is, they are

typically realised with no degree of gliding whatsoever. This feature, in particular for FACE and GOAT, is regularly attributed to contact and the "substitution of the diphthongs (sic) /eɪ/, as in FACE, and the diphthong /oʊ/, as in GOAT" (Maxwell & Fletcher, 2009, p. 54). While this is clearly a possible *historical* explanation (but definitely not the only factor to be considered; see e.g. Coelho (1997, p. 585) and Wiltshire (2020, p. 40) about the possible influence of standard and non-standard inputs), this feature appears to be also very stable, as virtually no [eɪ], [oʊ~əʊ] realisations were found in the corpus. This suggests to me that [e] and [o] are the target qualities, and that there is no "substitution" of /eɪ/ and /oʊ/ involved from a synchronic point of view.

The back pair /u/ and /o/ seems to be stable all across and does not show any degree of fronting, except, obviously, /u/ in post /j/ position. It can be also noted that yod-dropping is frequent in Delhi English – e.g. *stupid* [ˈstuːpɪd], *knew* [nuː], *due* [duː] but *use* [jʉːz], *few* [fjʉː] – which explains why the grand mean for this vowel is so back. As shown in Figure 4.1, all four high and high-mid long vowels show sizeable raising and peripheralisation in citation-form, which is quite surprising for long vowels. It is unclear at this stage whether this variation is sociolinguistic or if it is simply due to regular vowel shortening/reduction in connected speech. We can note, however, that women seem to have more raised /e/ and /o/ than men and this would probably deserve to be looked into more carefully in future work.

The short front vowels

The short front vowels comprise the KIT, DRESS and TRAP classes. The standard descriptions of the variety mostly concur about the maintenance of a three way distinction in the area, but also note that the distinction between TRAP and DRESS can be unclear in certain speakers whose first language does not have the distinction (Bansal, 1990; Gargesh, 2008; Hickey, 2004; Wells, 1982). Although Punjabi substrate is often cited in example, it may be useful to note that /æ/ is a xenophone in many Indian languages including Hindi,[16] in the sense that it usually crops up only in English borrowings. The instrumental studies available have usually confirmed the presence of all three vowels (Wiltshire & Harnsberger, 2006) in the inventory, although some also showed that DRESS and TRAP could be located very close to each other and even sometimes overlap to a great extent (Maxwell & Fletcher, 2009; Wiltshire, 2005).

[16] Y. Kachru (2006, p. 16) notes for instance that "[t]wo more vowels have been added to the inventory [of Hindi] by English-educated Hindi speakers. These are *æ* (as in [*bæŋk*] 'bank–the financial institution') and the open rounded back vowel *ɒ* (as in [*kɒlij*] 'college') They are not distinctive for all speakers of Hindi, many of whom pronounce the cited examples as [*bɛŋk*] and [*kalij*], respectively".

The acoustic plot and mean values for the short front vowels in Delhi English are, in many respects, not too dissimilar from the measures reported by Deterding (1997) for "Standard Southern British English". However these figures conceal considerable sociolinguistic variation within the sample, and this is the object of Study II and III's attention (whose content is detailed below). For now, it is perhaps sufficient to mention that the Delhiite participants systematically maintain an acoustic separation between DRESS and TRAP, and, as shown in Figure 4.1, that the distance between these two vowels is usually greater than the one between DRESS and KIT (whose distributions sometimes overlap; cf. Study III).

The FOOT *vowel*

The FOOT vowel is, in many speakers, the only short back vowel in the inventory (cf. Study I). This vowel, whose phonetic quality [ʊ] is rather unsurprising, lies very closely to GOOSE and, especially, GOAT in the acoustic space, thereby creating sometimes considerable overlaps. Some speakers, however, also seem to have a slightly centralised vowel, but because FOOT is a rather "rare" vowel and very few tokens were available for analysis in the dataset (i.e. FOOT only represents 2% of all tokens in the dataset), it is difficult to discern a clear picture. The vowel was found to be consistently short in the wordlist; compare i.e. *full* 98 ms on average vs. *foal* 220 ms and *fool* 208 ms.

The central vowels, NURSE *and* STRUT

The phonemic status of the central vowels of Indian English is quite unclear in the literature, and most standard descriptions report a single vowel /ə/ or /ʌ/ in the area (Bansal, 1990; CIEFL, 1972; Hickey, 2004; Nihalani et al., 2004; Wells, 1982), or more rarely /ɜ/ for NURSE (Sailaja, 2009). This ambiguous status is reflected in the findings of Maxwell and Fletcher's (2009) instrumental study, which reported considerable inter-individual variation in the realisation of NURSE, and, in certain speakers, complete overlaps with the vowel of STRUT. On the other hand, Wiltshire and Harnsberger (2006) and Maxwell and Fletcher (2009) both also showed that speakers systematically maintained a duration distinction between the two classes, with NURSE aligning with the long vowels of the system and STRUT with the short vowels. By contrast, the present findings indicate that the location of the vowel of NURSE is clearly defined both within and across speakers, and its distribution usually shows no spectral overlap with the other vowels of the system or, at most, a marginal one with LOT(-THOUGHT). As a matter of fact, the vowel of NURSE is considerably retracted as compared to many dialects world-wide (see e.g. Ferragne & Pellegrino, 2010) and this is perhaps the only notable feature of this vowel.

As reported in the previous literature, the NURSE vowel is long: i.e. 200 ms on average in the /p_t/ context in wordlist style vs. 99 ms for STRUT and 119 ms for DRESS. STRUT, on the other hand, is rather unremarkable with a typically low and slightly back position, and a sparse few tokens occasionally found in the [ə] area in relaxed connected speech.

The BATH *vowel*

Indian English uses the vowel of START and PALM in BATH words. The discussion in this section, although it relies on BATH data exclusively, can therefore be extrapolated to all three sets. Standard descriptions massively suggest a [a] quality for the Indian English BATH vowel (Bansal, 1990; CIEFL, 1972; Nihalani et al., 2004; Sailaja, 2009; Wells, 1982), and Hickey (2004) submits that this central quality explicitly denotes first language transfer as opposed to the more retracted variant [ɑ] of Received Pronunciation. Acoustic investigations, however, have tended to show a distinct open back vowel with little to no L1-related variation attached to it (Maxwell & Fletcher, 2009; Wiltshire & Harnsberger, 2006). In the past recent years, BATH is the vowel class that possibly received the most sociophonetic attention in the literature on Indian English varieties, in particular as regards the maintenance of a contrast with TRAP (Cowie & Elliott Slosarova, 2018; Cowie & Pande, 2017). Accordingly, a great amount of systematic variation in the lexical distribution of historical BATH words across the two phonological vowels /ɑ/ and /æ/ (noted /a/ in Figure 4.1) has been observed. It has been found for instance that the variable assignment of BATH words with TRAP primarily affects low-frequency words, occurs in partially controlled phonetic contexts, and is less frequent in female speakers.

As shown in the acoustic plot in Figure 4.1, the BATH vowel is typically realised as a low back vowel. Some changes of lexical classes were observed as well but this variability seems to be largely restricted to pre-nasal contexts (e.g. *dance*, *Francis*, *answer*). While this concurs with Cowie and Elliott Slosarova's (2018) findings, it is also worth noting that similar patterns have been reported in Australian English (Wells, 1982) and New Zealand English where this phenomenon is usually attributed to "colonial lag" (Trudgill, 2010). The vowel of BATH also seems to undergo some actual fronting (and lowering) as illustrated in Figure 4.2 with reference to 2 female speakers ac0f59 (born 1949) and th0f24 (born 1990). The distribution of th0f24's BATH vowel seems to mirror the lowering and retraction of TRAP, as evidenced here by BATH's relative position with respect to adjacent vowels and, most notably, the increased separation with the tokens of LOT. This phenomenon is found only in younger (both male and female) speakers in the sample, but it also appears

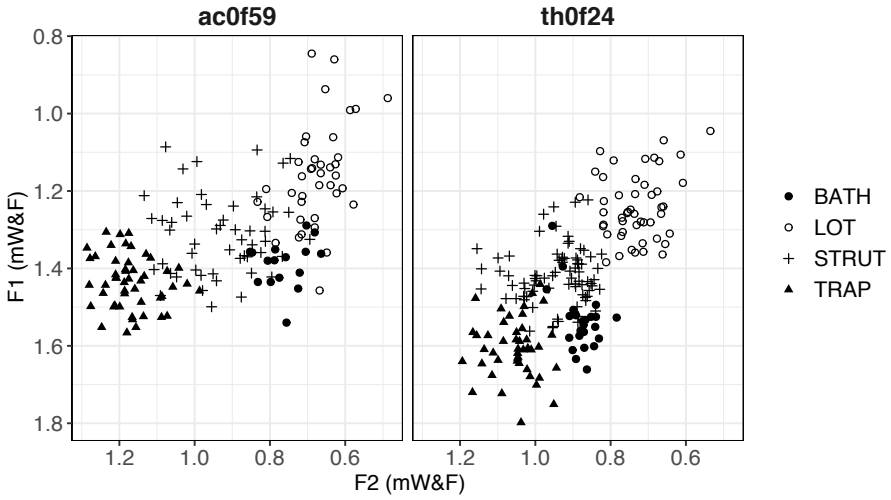

Figure 4.2: Conversation style tokens of BATH, LOT, STRUT and TRAP vowels of two female speakers: ac0f59 (born 1949) and th0f24 (born 1990).

less systematic than TRAP's lowering which, on the other hand, provides solid apparent-time evidence of regular language change (cf. Study II).

The LOT *and* THOUGHT *distinction*

As justly noted by Wiltshire (2020, p. 41), "descriptions of LOT, THOUGHT, and CLOTH vowels are widely conflicting and variable" in the literature. It was unfortunately not possible to test systematically for CLOTH, so this word class will not be treated here but it would probably deserve to be investigated more closely in future work. The mid back area, and, specifically, the distinction between LOT and THOUGHT (ɒ and ɔ respectively in Figure 4.1), is where the most salient differences between males and females emerge. The male speakers' inventory – and distribution of rhotic classes NORTH and FORCE – is the main object of Study I and the point of departure of this investigation. It is usefully complemented by female data presented at the end of the summary in the next section.

4.2 Study I: "A language contact perspective on Indian English phonology"

Background

Most standard descriptions as well as instrumental studies on Indian English reported difficulties in characterising the mid-back vowels LOT and THOUGHT with respect to the number of phonological oppositions and phonetic quality of the vowels. While there is no universal agreement, the general tendency has been to conflate LOT and THOUGHT under /ɒ/ or /ɔ/, while suggesting a variable distinction between categories either marked by length, quality or both (Bansal, 1990; Gargesh, 2008; Hickey, 2004; Nihalani et al., 2004; Sailaja, 2009; Wells, 1982). The presence/absence of a separate THOUGHT vowel was also one of the variables investigated in Sahgal and Agnihotri (1988) – i.e. one of the rare, early variationist studies on Delhi English (and Indian English in general). This study was based on impressionistic categorisations and showed (as suggested in Figure 4.1) systematic variation significantly determined by style and gender: the presence of a distinct THOUGHT vowel /ɔː/ was maximally found in reading style speech by female speakers, and minimally in male conversation speech.

Problems in characterising the mid back vowels are also compounded by the distribution of the phonemes in the area across the rhotic classes NORTH and FORCE. Although, the existence of this distinction in Indian English has been known for a long while – Wells (1982, p. 626) called it a "striking archaism" from an RP point of view since Standard Southern British English completed the merging of those classed under THOUGHT in the first half of the 20th century at the latest – the implications for Indian English have been generally overlooked. Worse, ignoring this feature has caused noticeable mistakes in the acoustic phonetic analysis of the variety's vowel system. This is the case of Maxwell and Fletcher's (2009) study which, by misanalysing their FORCE experimental token as a NORTH element and extending those results to THOUGHT (as would be possible in RP and, in general, most other typologically Southern British English varieties) come to assume a /oː/ vowel spanning the whole mid back area. In the dialects that have maintained the historical NORTH-FORCE distinction, however, it is usually the vowel of GOAT which is found in FORCE (Wells, 1982, p. 161).

The aim of this study is, therefore, twofold. The primary focus is to provide an adequate representation of the mid back area in terms of phonemic oppositions, lexical distribution and phonetic quality of the vowels. The second focus is theoretical and methodological, in that it is intended to find the best explanation possible for the organisation of the vowel system in this area, and to

derive relevant insights for our understanding and analysis of Indian English as a product of language contact.

Methods

This study concentrates on the materials collected during the second fieldwork, which took place between January and March 2011. All the speakers discussed in this study are young males (age 19-31), and the reason for this is that it was not possible to properly balance the sample for gender (or age) at this stage of data collection. There were 10 speakers selected for this study.

The analysis relies on the wordlist and conversation style data of the corpus. Each recording was first transcribed orthographically, then all tokens of LOT, THOUGHT, GOAT, NORTH and FORCE were hand-picked, coded for lexical sets, and the stressed vowels were segmented in PRAAT (Boersma & Weenink, 2016). The exaction of F1, F2 and F3 vowel formants was then performed at temporal midpoint. No normalisation procedure was applied to the extracted formant values. This is primarily because all the speakers were of the same sex and roughly the same age and, therefore, that variations due to physiological differences could be considered to be minimal. Secondly, no normalisation was applied in Maxwell and Fletcher's (2009) study, and since my intent was to directly compare my result to theirs (addressing potential issues in their analysis along the way), it was found beneficial to preserve the same scale. Finally, another important motivation was that the aim of this study was not to track a phenomenon of variation or language change that would require direct, quantitative between-speakers comparison (Watt et al., 2011, p. 111). Instead, the main goal was to characterise the phonological vowels in the mid and low-back rounded area of the system of each individual speaker, and to examine the distribution of the tokens of the relevant lexical sets within this frame of reference.

The analysis was carried out in two steps. First, the acoustic properties of LOT, THOUGHT and GOAT were investigated. For each individual participant, the three classes were tested for statistically significant differences in F1 and F2 in order to draw a map of the distribution of the vowels crowding the area. Then, a cursory investigation of duration in several relevant minimal pairs was performed in order to test for potential vowel length distinctions in the overlapping classes. In a second step, the individual tokens in each of the NORTH and FORCE classes were examined against the pre-established map of vowel distributions. This approach to the NORTH and FORCE data was chosen because it could not be assumed that those categories would be homogeneous – i.e. FORCE tokens would be found with NORTH ones and vice versa.

Results

Regarding acoustic properties of the vowels under study, all speakers showed significant differences at least in F1 between LOT and GOAT on the one hand, and THOUGHT and GOAT on the other hand. No significant difference was found for any of the speakers between THOUGHT and LOT. In terms of duration differences between vowel categories, the ratio of the *caught* (THOUGHT)-*cot* (LOT) pair ranged between 1:1 and 1.2:1, and between 0.9:1 and 1.1 for *dole* (GOAT) and *doll* (LOT). By contrast the long over short vowel duration ratio between *feel* (FLEECE) and *fill* (KIT) ranged between 1.5:1 and 2.2:1. In sum, no significant difference was found acoustically or durationally between LOT and THOUGHT. Also, having determined that the long vs. short vowel distinction has a phonetic reality in the variety, it was noted that the LOT-THOUGHT vowel seems to have similar durational properties as the long vowels of the inventory. Two vowel categories – a LOT-THOUGHT phonological unit in the low back area of the vocalic space symbolised by /ɒː/, and a close mid-back rounded vowel /oː/ for the lexical set of GOAT – were postulated.

The second part of the study looks at the distribution of the tokens of NORTH and FORCE against the distributions of /ɒː/ and /oː/. Results from visual inspection indicate overall a remarkable maintenance of the distinction between NORTH and FORCE with little to no stylistic variation (wordlist style vs. conversation style) to be noted. Looking at each class individually, the NORTH tokens were almost systematically found in the /ɒː/ area defined earlier. The only exception concerned the word *war* which was frequently raised but never 'reached' the area of GOAT.[17] The FORCE tokens, on the other hand, were usually found in /oː/ but this class also showed more inter-individual variation than NORTH – i.e. /ɒː/ was found several times in the stressed vowels of e.g. *of course*, *before* and *more*.

Discussion

The results of this study point towards the existence of what may be called (from a synchronic perspective) a bundle of Scottish features, forming a historical systemic coherent building block of the phonological system of the variety.[18] As discussed in Wells (1982), several of those features which are found

[17] Interestingly, similar findings, both in terms of the maintenance of the two classes and the variability of individual tokens, were reported in a re-study of the NORTH and FORCE vowels of 40 speakers interviewed by Wiltshire (2020, p. 44).

[18] To be clear, my aim here is not to make a point about a possible Scottish English influence on Indian English specifically – although this is a hypothesis I develop in the article – but to demonstrate the *inherited* nature of certain forms. Here, I refer to Scottish English as a type (i.e. in a typological sense), and do not imply that this

in present-day Scottish and Irish English for instance can be traced back to the early Modern English period and, therefore, denote a conservative type of accent. We can thus note: a long monophthong /oː/ for GOAT – as well as long monophthongs in the vowels of the FACE, GOOSE and FLEECE sets; the maintenance of the lexical distributional distinction between FORCE and NORTH, with the vowel of GOAT in the set of FORCE and the vowel of THOUGHT in the set of NORTH; the (variable) rhoticity which is a corollary to the maintenance of the rhotic classes NORTH and FORCE; and the absence of distinction between LOT and THOUGHT, which is a more recent innovation of the accents in which this occurs – in Indian English where the maintenance of the distinction between long vs. short vowels is justified, this vowel can be considered as part of the long vowels subsystem since it appears both in open and checked syllables (/ɒː/).

The NORTH-FORCE distinction has a critical theoretical importance in this study. This is because its presence in the Indian English inventory does not seem to accept any other explanation than one based on retention from the historical input. This is not the case, for instance, of the absence of distinction between LOT and THOUGHT which could, in principle, be explained by L1 transfers (Wiltshire & Harnsberger, 2006, p. 99). However, the way those features mesh with the back vowel inventory casts serious doubts about the contrastive explanation as a whole. In substance, the LOT, THOUGHT and NORTH sets are in the same vowel /ɒː/: admitting that the presence of NORTH (but not FORCE) in this vowel is a relic of the input, why would it be justified to assume that this is not the case for LOT and THOUGHT? As a result, the study advocates epistemological vigilance, in particular as regards L1 transfer claims based on observed similarities with structures from the substrate. Along with Sirsa and Redford (2013), it also proposes to systematically consider alternative hypotheses to L1 transfers, and in particular, the possibility that forms which clearly denote a substrate origin may be diachronically separated from speakers' active L1 use, and faithfully transmitted across generations (i.e. contact-induced community changes).

One important limitation of this study concerns the structure of the sample, which only includes younger male speakers and, therefore, does not allow for investigating social patterns of variation besides style shifting. Concerning stylistic patterns, as noted above, the binary division between LOT-THOUGHT (and NORTH) as /ɒː/ and GOAT (and FORCE) as /oː/ seems remarkably stable. There are, nevertheless, reasons to believe that the situation of the mid and low back rounded vowels of Delhi English is much less monolithic than projected in this study – especially with regards to the possibility of a third phonolog-

"variety" necessarily has to be the source of the features observed in Indian English.

ical element /ɔː/ for THOUGHT and the rhotic classes. Specifically, a cursory reanalysis of the data with a sample balanced for age and gender (i.e. the same as in Study II and III) seems to indicate a sharp gender divide. Figure 4.3 illustrates this. For each speaker, Pillai scores for LOT and THOUGHT, and FORCE and THOUGHT were calculated and plotted on a graph. The Pillai statistics is used as a quantification of the distance between two vowels, with 0 indicating a high degree of overlap between the distributions of those vowels, and 1 the absence of overlap (Hay et al., 2006). In figure 4.3, an increase on the x-axis indicates a lower overlap between the distributions of FORCE and THOUGHT, and an increase on the y-axis indicates lower overlap between the distributions of LOT and THOUGHT. Male speakers are represented by empty circles and female speakers by solid circles.

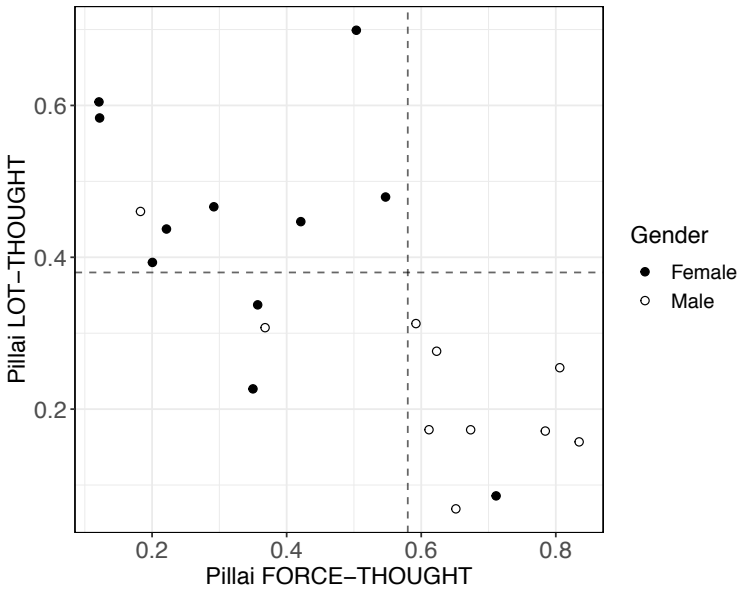

Figure 4.3: Pillai scores for FORCE∼THOUGHT (x-axis) and LOT∼THOUGHT (y-axis) for all speakers in text reading style. Solid circles represent female speakers, empty circles represent male speakers.

What these preliminary results show is that male speakers are usually consistent with the description made in Study I with little to no separation between LOT and THOUGHT, and a clear distinction between THOUGHT and FORCE (presumably associated with the vowel of GOAT). The second trend shows, by contrast, a merged THOUGHT-FORCE category distinguished from LOT[19] (in

[19]Note, however, that females' Pillai scores on the y-axis are usually comprised

the upper left quadrant). It is female dominated, and suggests the presence of a third phonological unit /ɔː/ with a lexical distribution of word classes closer to RP. Another interesting finding regarding female speakers, although perhaps more anecdotal, is that several of them still attempt to produce a distinction between FORCE and the other rhotic class, NORTH, sometimes resorting to quite surprising strategies as illustrated in figures 4.4 and 4.5. Those figures represent spectrograms for the words *four*, *fore* and *for* on the one hand, and *horse* and *hoarse* on the other hand, for two younger female speakers in wordlist style. As can be seen, although the vowels illustrated seem to be the same in F1, F2 and duration, only FORCE words are marked with a realisation of non-prevocalic /r/ – evidenced in the spectrogram by concurrent raising of F2 and lowering of F3 (Knight et al., 2007) – thus creating a distinction with non-rhotic NORTH.[20]

To summarise, the results here suggest a clearly defined gendered trend in the configuration of the low and mid-back rounded vowel space, with two competing phonological systems: one agreeing with the Scottish type and a hybrid one closer to RP. It is unclear at this stage whether and to what extent the "female system" holds in more casual speech styles (see e.g. Figure 4.1), and more work will be needed to confirm this. It is to be noted, however, that the distinction between the rhotic classes NORTH and FORCE seems to be well-entrenched in the community, even among speakers who do not mark it by assigning those classes to different phonological vowels.

4.3 Study II: "Variation and change in the short vowels of Delhi English"

Background

While Study I was concerned with the permanence of historical forms in Indian English and language transmission from a broad perspective, Study II, on the other hand, deals with regular language change – i.e. a phenomenon which also strongly presupposes faithful language transmission across generations within

between 0.4 and 0.6, which suggests either some overlap between the vowels of THOUGHT and LOT or some variation in their lexical distribution (i.e. some words of THOUGHT are pronounced with LOT and vice versa).

[20] Although this is not, strictly speaking, the same thing, it is interesting to note that Wells (1982, p. 162) found a similar actualisation of non-prevocalic /r/ in otherwise non-rhotic dialects of Wales, the American south or the West Indies in order to preserve the distinction between FORCE and GOAT. Indian English, on the other hand, has been described as variably non-rhotic. It is thus quite surprising to find that those speakers use rhoticity in order to mark a distinction between two rhotic classes.

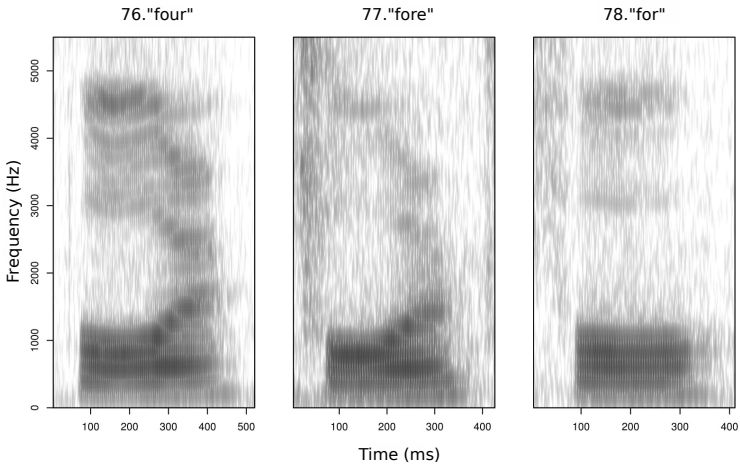

Figure 4.4: Spectograms of four (FORCE), fore (FORCE) and for (NORTH) produced in wordlist style by dp0f27, female born in 1987.

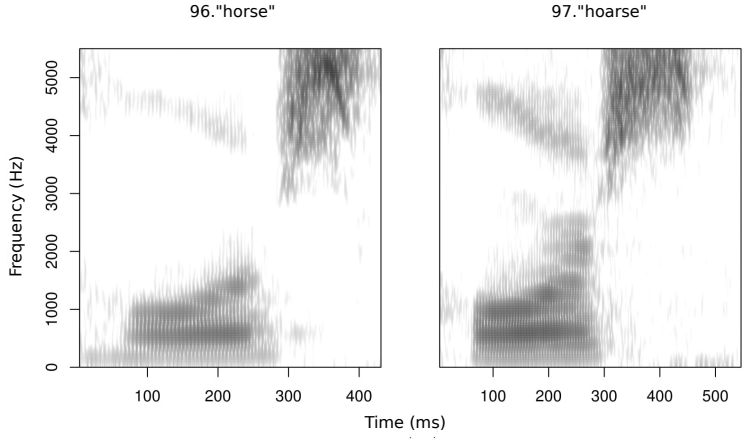

Figure 4.5: Spectograms of horse (NORTH) and hoarse (FORCE) produced in wordlist style by ms0f26, female born in 1988.

variationist models (Labov, 2010). It concentrates on the short front vowels TRAP, DRESS and KIT.

If speech community based, sociophonetic studies on Indian English are

in general quite rare, sociophonetic studies on the vowels of the variety are even rarer. Thus, besides Cowie's extensive work on BATH (see above), there has been, to the best of my knowledge, only one study in the past recent years including this focus. It was conducted by R. Sharma (2017) in a middle-class neighbourhood of Old Delhi, and it found stable variation in the alternation of high and low variants in the vowels of NORTH, GOAT and KIT (and GOOSE, Satyanath & Sharma, 2016). Given the dearth of previous work on the topic, the decision to focus on the short front vowels was then taken based on casual observations made during fieldwork. Specifically, I had noted the presence of low tokens of TRAP – sometimes even perceptually close to BATH – in several younger speakers during the interviews. The suggestion that this vowel may be undergoing change came later from the visual inspection of differences in the shape of the vowel spaces of older and younger speakers.

Accordingly, the primary aim of this study is to determine whether TRAP is involved in a change in progress in South Delhi English. Besides, and considering that the lowering of TRAP has been observed to be at the departure of so many short front vowel lowerings globally (e.g. Chevalier, 2016, 2020; Clarke et al., 1995; Cox & Palethorpe, 2008; Eckert, 2012; Fabricius, 2007; Hickey, 2016; Jacewicz et al., 2011; Torgersen & Kerswill, 2004) the investigation also seeks to determine whether DRESS and KIT follow TRAP's downward movement. Note at this juncture that the absence of a low/mid back short vowel in the system – as observed in Study I – has been identified as a favouring factor for such changes to occur (Clarke et al., 1995; Labov, 2010), though it constitutes by no means a necessary condition (Boberg, 2005; Jacewicz et al., 2011). A secondary aim of this work is to demonstrate that Indian English can lend itself to the same kind of empirical analysis as the so-called "native" varieties of English.

Methods

After the 2014 fieldwork trip, there was a total of forty-eight interviews allowing for selecting a sub-sample covering several generations and well-balanced in terms of gender, while controlling for length and place of residence. Accordingly this study relies on a sub-selection of 22 speakers including 11 males and 11 females born between 1948-1992. Four of the ten "younger males" appearing in Study I were included in this selection.

Once again, only wordlist and interview data were retained for this study. The audio recordings were first orthographically transcribed and then segmented using the FAVE forced-aligner. In a second step, F1 and F2 vowel formant values were extracted at temporal midpoint in Praat via the FAVE-extract toolkit. The data were recoded according to Wells's (1982) lexical sets and

normalised using the vowel extrinsic modified S-procedure (Fabricius et al., 2009). For the analysis, the position of each token of TRAP, DRESS and KIT relative to individual speakers' means for STRUT was calculated via two types of measures. First normalised F1 and F2 distances (i.e. difference) between each token of the vowels under study and STRUT were calculated. Second, following Fabricius (2007), angle values (θ) were also calculated as the ratio of those distances, where for each token *j*:

$$\theta_j = \frac{F1_j - MeanF1_{STRUT}}{F2_j - MeanF2_{STRUT}}$$

The inclusion of angles was motivated by the expectation that, considering the shape of the front vowel space, vowel lowering would be accompanied with some degree of retraction and, therefore, that some of these movements in the 2D space would not be captured statistically by measures of F1 or F2 individually. Regarding the choice of the anchor, there probably would have been better options than STRUT, since, although it appeared to be quite stable in apparent-time, it is also subjected to significant style-related variation due to its phonetic shortness (i.e. peripheralisation in more formal styles) and this proved to be a complicating factor for the interpretation of the stylistic dynamics of the vowels under examination. However, it was decided to keep in line with previous studies investigating short front vowel shifts using this metrics (Fabricius, 2007; Kamata, 2008) in order to preserve the comparability of my results. For each vowel, both F1 and F2 distances as well as angle values were incorporated as outcome variables in separate linear mixed-effect models. In each model, fixed-effects of year of birth, gender, style, preceding and following environments were included.

Results

Starting with TRAP, the results indicate a sizeable lowering of the vowel over apparent time. This movement is primarily captured by increases in TRAP to STRUT angles as well as normalised F1 distances. The statistical models also seem to suggest some degree of retraction of the vowel, although the effect of year of birth over normalised F2 distances does not reach statistical significance. It must be noted, however, that the effect of some of the major phonetic controls favouring increased TRAP to STRUT angles, such as labial environments in general, seem to lie primarily (although not entirely) in reduced F2 distances to STRUT. A similar observation could be made with change-inhibiting factors such as following nasals /n/ and /ŋ/. In general, the results indicate fine-grained phonetic detail in TRAP's variation, in particular in younger speakers whose elliptical distributions of tokens seem to correspond

to Labov's (1994, p. 457) characterisation of "new and vigorous changes". Regarding stylistic variation, only younger speakers seem to shift significantly in the direction of the change in more 'formal' speech. No significant effect of gender was found.

The results for DRESS indicate that the vowel follows in the direction of TRAP. Once again, there is a significant effect of year of birth on DRESS to STRUT angles and normalised F1 distances, but this time, gender also emerges as a significant main effect indicating that male speakers are more advanced in the lowering of DRESS than females. In terms of stylistic pattern, the vowel seems to be fronter in wordlist style, which suggests regular lax vowel peripheralisation in citation form. Regarding internal factors, the effects of the phonetic environment are coherent with expected findings based on previous phonetic research. Overall, voiceless fricatives were usually found to promote lower DRESS token, while voiced stops were found to inhibit the change. On the other hand, the liquid /l/ and clusters including an obstruent + /l/ or /r/ in the environment preceding the vowel promoted more retracted variants.

No discernible lowering over apparent time was observed for KIT. However, interesting patterns of variation, possibly related to the relative configuration of the short front vowels and the ongoing shift described in this study, emerged. The results for KIT evidence, first and foremost, the existence of a clear allophonic split along the F2 dimension for this vowel. The front contextual variant of KIT is found in the environment of a velar, word-initially and post-/h/. The centralised variant is found around the [ɘ] quality and includes all other environments, although it appears that the context of a liquid or a fricative has a clear retracting effect. There is little evidence of sociolinguistic variation attached to this vowel, except for some statistically significant fronting of KIT's central variant by younger speakers in wordlist style. The hypothesis proposed for explaining this phenomenon takes as its point of departure the fact that most older speakers in the sample show at least some overlap between their distributions of KIT and DRESS. If the split of KIT is a reactionary movement caused by this overlap – as had already been proposed for similar phenomena in South African English and "intermediate" New Zealand English (Langstrof, 2006) – then it seems possible that the recession of this overlap under the lowering of DRESS could cause a "reduction" of the split. This hypothesis is further developed and explored in Study III.

Discussion

The results, I argue in this study, primarily suggest a series of interrelated, regular changes in the short front vowels of the community under study, which is amenable to an analysis in terms of chain shift. Evidence for this is derived

from a number phenomena in the sociolinguistic patterns of variation that allow for establishing a causal relationship between the movements of TRAP, DRESS and KIT: the lowering of TRAP, which is at the departure of this chain of events, amplifies the margin of security with DRESS which then follows suit. As DRESS lowers, the overlap with KIT recedes causing a reduction of the stretch of KIT's allophonic distribution. The sequential nature of this phenomenon is primarily supported by stylistic patterns. While KIT and DRESS tend to peripheralise in all speakers in more 'formal' styles, TRAP, on the other hand, seems to be the only vowel that style-shifts in the direction of the change in speakers whose TRAP lowering is most advanced. This can be explained in two ways. Either (1) the TRAP lowering is a 'change from above' and speakers have been consciously aware of the change from the outset, or (2) this lowering started as 'change from below' and speakers developed awareness of the phenomenon as the change matured (Labov, 2002). In both cases, however, this suggests that TRAP's lowering has chronological precedence over the rest of the movements observed in the short front vowels.

In recent years, similar phenomena to the one described in this study have been observed in a vast number of varieties world-wide including, not least importantly considering their position within "global standard language ideologies" (Chand, 2009a, p. 415), California English (Eckert, 2012), RP (Fabricius, 2007) and South East of England English (Torgersen & Kerswill, 2004). A first-guess explanation would then be that, as those varieties provide pools of dialectal material likely to acquire overt prestige and to be involved in processes of change from above elsewhere, the global spreading of the short front vowel lowering currently observed is a *diffusion* (in the sense of Labov, 2010) process. This hypothesis is currently gaining traction (Hickey, 2017b) and has started being tested empirically (e.g. on the Canadian shift by Boberg, 2019). While the works just cited identified, for understandable reasons, the California shift as the probable source of diffusion, this study focusses on Southern British English instead. This is because there is, to date, no compelling evidence of the diffusion of an American variant in Indian English, while all attitude studies conducted so far in India (Bernaisch & Koch, 2016; Kachru, 1976b; Maxwell et al., 2021) and in South Delhi specifically (Chand, 2009a,b; Sahgal, 1991) have repeatedly emphasised the hegemonic position of the British standard forms despite the emergence of local norms. A cursory comparison between Delhi's short front vowel lowering, and similar shifts in London (Kamata, 2008) and RP (Fabricius, 2007) seem to indicate, however, similar rates of change in all three dialects over concurrent time periods.

This study being one of the first to report such a kind of intricate series of gradual changes in the vowels of a variety of Indian English, more work will be needed if only to confirm the patterns observed. For instance, the absence or

quasi-absence of observed gender (in particular, female) lead in those patterns runs counter the overwhelming general tendency under similar circumstances (Labov, 1990). In fact, the study started out from the general impression that younger females were more advanced in the lowering and retraction of TRAP, although it later turned out that no statistically significant gender difference could be found for this vowel. It is therefore possible that normalisation and/or the way the outcome variables were computed may have levelled out relevant sociolinguistic differences, or simply that the sample was too small to allow for detecting them. More intriguing, perhaps, is, as one of the reviewers brought to my attention, the leading role of younger males in the lowering of DRESS. Again, this remains to be confirmed. However, it should also be noted that similar patterns have been observed for DRESS in the ongoing South African short front vowel lowering, and Chevalier (2020, p. 166) suggests that this could be attributed to either of two explanations: "(1) it is an attempt by women to maintain the raised variant perceived as prestigious, and (2) both men and women lower DRESS, but women start from a higher vowel and so have comparatively raised DRESS." A third possible explanation is suggested in Study III and is discussed below.

4.4 Study III: "Duration and spectral variation in language change: On the allophonisation of KIT in Delhi English"

Background

This study builds upon some of the findings of Study II and is primarily concerned with the variation of KIT (and DRESS to some extent). As detailed above, the KIT vowel seems to undergo an intriguing allophonisation process which responds to similar constraints as the South African KIT-split. Although there seemed to be little sociolinguistic variation associated with KIT in Study II, some apparent time fronting of the retracted variant could still be observed suggesting that this vowel was responding, somehow, to the ongoing short front vowel lowering.

Although the study is, as a whole, situated within the changes in the short vowel system of Delhi English described in Study II, phenomena of centralisation of KIT similar to the one investigated presently had never been noted in the context of a short front vowel lowering. Extreme allophonisation of KIT, on the other hand, has been abundantly described in Southern Hemisphere varieties such as South African and New Zealand English, where this phenomenon is usually understood as proceeding from internal, systemic pressures, harness-

ing well-rehearsed coarticulatory effects. In substance, a well accepted explanation for the KIT-split in those varieties is that this phenomenon is at the conclusion of a push-chain raising of the short front vowels, whereby the KIT vowel undertook a centralisation movement under the pressure of DRESS encroaching its space (Lass & Wright, 1985, 1986). Although the split eventually resolved in New Zealand English (Langstrof, 2006), in the South African scenario, however, the centralisation process was never completed and some phonologisation of the split occurred instead (Bekker, 2014; Taylor, 1991). The hypothesis of independent endogenous changes in those varieties is seconded by historical data showing areas of phonetic convergence between DRESS and KIT in the speech of 19th c. southern British English settlers (Lass & Wright, 1985; Trudgill et al., 2003) – whose influence may have steered both varieties' diachronic trajectories towards apparently similar directions.

Turning to the articulatory mechanisms underlying allophonisation proper, several elements point towards the central role played by vowel duration in the process. Taylor (1991), for instance, notes that the split observed in South African English shares similar phonetic constraints with the variation of KIT in RP, and, on this basis, argues that the genesis of the phenomenon was ultimately explainable in terms of vowel reduction and undershoots. The exacerbation of this natural allophonic tendency into a split, on the other hand, may be the result of KIT being caught into a vowel change that never got completed. Regarding New Zealand English, Langstrof (2009) found that concurrently with the overlap between DRESS and KIT precipitating the centralisation of the latter, a sub-phonemic duration distinction between KIT (shorter) and DRESS (longer) seems to have developed in order to maintain the acoustic separation between the two classes.

The main research problem addressed is this study is, therefore: *how does Indian English, a variety that largely emerged from adult second language learning (i.e. no settler population) and with no reported history of short front vowel raising, fit within this picture?* In order to tackle this problem, the study first offers a detailed acoustic phonetic description of KIT's variation, and then, bringing together the various insights discussed above, turns to the short front vowel lowering process and investigates its deeper phonological connection to vowel duration. Specifically, the main hypothesis to be tested is that variation in KIT's duration – itself determined by structural constraints – may be directly responsible for the allophonisation of the vowel. The study then proposes to discuss possible origins for those structural constraints, if present, in an Indian English dialect.

Methods

The study relies on the same sample and methodological procedure as Study II. However, it is not just a restudy of previously analysed materials, as the dataset includes additional style and contexts and the token duration limit (set at 50 ms minimum in previous studies) is relaxed. There is thus, in total, 53% more tokens of KIT analysed with respect to Study II, and their inclusion is primarily justified by the duration analysis.

For each speaker, the analysis includes data from the reading passage in addition to the interview and worldlist data investigated previously. As noted in Di Paolo et al. (2011, p. 98), the measurement of duration from conversation is usually complicated with issues of speech rhythm. Since the wordlists offer only a limited number of tokens of KIT and DRESS per speaker, the inclusion of an additional reading style was necessary. Besides, the inclusion of data from the reading passage has an additional advantage in that vowel length does not tend to be as exaggerated as in citation form. As in Study II, the recordings were annotated, and the vowel formants and durations measured, using the FAVE suite. Because duration is included as a variable, and that the study is interested in its effect on the spectral location of the stressed vowels, no minimum duration cut-off was established. Tokens were then included provided that they had measurable F1 and F2 steady states.

Results

The results are organised in two principal axes: 1) a detailed sociophonetic description of KIT's spectral distribution, and 2) an investigation of vowel duration and its participation in the variation.

The results of the spectral sociophonetic analysis are, despite the use of additional material, largely similar to those reported in Study II. The investigation found little socially conditioned variation except for some fronting of the centralised variants in wordlist style, by younger speakers. Concerning internal factors, however, the binary distribution of variants postulated in Study II was found to fall short of the complexity of phenomenon. Within the remarkable stretch of the distribution of KIT tokens over the F2 dimension, a fine gradation of effects with at least five (overlapping) allophonic subgroupings, themselves comprising eight classes based on conditioning phonological environments, was found. The frontmost variant – i.e. in the environment of a velar and/or word-initially – was clearly the most stable grouping, while the remaining four showed significant retraction under vowel reduction-triggering conditions, such as in disyllables (vs. monosyllables) and connected speech (vs. citation form). It was therefore determined that the front allophone, despite its narrow conditioning, would in fact be the least prone to coarticulation-induced

variation, and that it could be a good representation of the vowel's target. This decision was supported by the first duration analysis which found both some correlation between the degree of fronting/retraction of the vowel tokens and their duration, and significant style shifting (i.e. independently of vowel duration) in the direction of the hypothesised target in more formal styles.

Having found solid elements suggesting that the distribution of KIT over F2 was significantly (though not exclusively) determined by vowel duration, the study moved on to investigate the role of duration in the short front vowel lowering. As determined in preamble of the study, older speakers of the sample show, in general, significant overlaps between KIT and DRESS, while, in later generations, this overlap is resolved under the lowering of DRESS. Following insights from Langstrof's (2009) study, the investigation now tries to determine whether the short duration of KIT is motivated by its close acoustic proximity with DRESS. Starting with minimal pairs analysis, the study primarily finds a significant decrease in the duration difference between DRESS and KIT over apparent time, and larger duration difference between those vowels for women than for men. Looking at raw durations in the same context, it is found that this decrease is primarily carried by a lengthening of KIT, while DRESS appears to be more stable. Female speakers were also found to have longer tokens overall. Those results offer a first series of important indications, namely that older speakers, in particular female ones, seem to attempt at producing a length distinction when explicitly presented with the DRESS-KIT contrast, and that KIT is the short element of the pair. On the other hand, the reduction of the duration difference between the two vowels with age seems coherent with the hypothesis that the duration constraint placed on KIT in older speakers is relaxed as DRESS is moving down (and away from KIT) in the vowel space.

Having established that older speakers seem to produce a duration difference between DRESS and KIT, the study then looks at *whether* this putative difference effectively contributes to the separation between those vowels across the sample. The results overall indicate that within the speakers whose distributions of DRESS and KIT overlap, duration appears to contribute importantly to the acoustic separation of the vowels, thereby enabling a striking generational pattern to emerge.

Discussion

The picture projected by the findings of the acoustic investigation seems, overall, not too distant from the analysis pushed by Bekker's (2014) study of the General South African English KIT-split. In substance, the allophonisation of the Delhi English KIT vowel corresponds to a fairly common process which is, for a large part, determined by well-rehearsed vowel reduction and coar-

ticulation effects. Taking the analysis one step further, it was found that the magnitude of the phenomenon may be underpinned by additional structural reasons. Having first established that the distributions of KIT and DRESS overlapped acoustically to a significant extent in most older speakers, it was found that those speakers, and in particular female ones, would tend to maintain the distinction between the two vowels by keeping KIT phonetically shorter than DRESS. Supporting evidence for this explanation is of two kinds: first, it could be shown that in speakers with overlapping KIT and DRESS vowels, the duration difference between those vowels appreciably contributes to maintenance of the acoustic separation between them. Second, younger speakers, who have significantly lower DRESS realisations (due to the short front vowel lowering, Study II), also tend to have longer KIT tokens and smaller duration differences with DRESS, suggesting that the maintenance of a length distinction between the two vowels tends to be relaxed as the overlap recedes. Overall, the results seem to confirm the primary hypothesis of this study. The characteristic shape of KIT's distribution is a second-order phenomenon which arises from KIT's phonetic shortness and, ultimately, from the duration distinction between KIT and DRESS which developed as a mechanism reinforcing the acoustic distinction between those phonological classes. Ultimately, this study contributes to showing the importance of "build[ing] in an assessment of the full range of contextual factors that could be influential in relation to [...] vowel distributions" "when testing for the impact of social factors on the realisation of vowels in connected speech materials" (Docherty et al., 2019, p. 1762), especially in language change. Extrapolating from this, I submit that a similar type of phenomenon may have also contributed to, or at least facilitated, the phonological changes observed in the South African and New Zealand English KIT vowels.

Regarding the possible origins of the specific (and marked) structural constraints underlying the phenomenon under study, the study picks up the thread where it was left off in Study II. Previously, the presence of similar rates of change in Southern British English and Delhi English over concurrent time periods was interpreted and an element suggesting that the short front vowel lowering was taking place independently in both locations. One possibility that was not considered, however, was that Delhi English inherited, at some point in times, features enabling the endogenous change we currently observe. Comparing the Delhi data from the older generation with that of RP speakers born between 1928 and 1951 (from Hawkins & Midgley, 2005), we find that the respective configurations of the short front vowels in both dialects are not only very similar, but also show striking structural imbalances that could, in principle, motivate by themselves a short front vowel lowering. Specifically, both dialects display some amount of "compression of DRESS and KIT towards

FLEECE" (Wood, 2020) while TRAP is significantly lowered, thereby forming a sizable margin security with DRESS. After having considered the sociolinguistic circumstances of post-independence Delhi, it is proposed that the influence of British standard norms over the organisation of the short front vowels of the variety could have taken place during that period.

Further research

A point which has been only very lightly touched upon in both Study II and III, and would probably deserve more attention in future work is how the mechanisms described mesh with principles of chain shifting enunciated by Labov (1994). As pointed out to me (Fabricius p.c.), the data presented are very suggestive of larger mechanisms which would probably warrant an investigation in terms of the unifying concepts of peripherality, tenseness and laxness. In Langstrof (2009), which provided some of the working hypotheses for Study III, the durational contrasts between short front vowels were not so much examined in terms of the their consequences for the spectral variation of the vowels involved, as to determine that DRESS and TRAP had acquired phonetic characteristics of tense vowels allowing them to rise along the peripheral track. The phenomenon under study in this dissertation is, despite some marginal shared outcomes, obviously very different from the scenario hypothesised by Langstrof and deserves its own analysis. Although some efforts were made to situate the duration patterns investigated in Study III within the vowel changes described in Study II, examining those phenomena within this larger framework would, notably, allow for tying together phonetic variation and phonological changes. Those remain large and complicated issues which do not need to be tackled at this point; the primary aim of the present dissertation being the empirical description of the vowels of the variety under examination.

5. Discussion and general conclusion

In the preceding chapter, a summary of the motivations, specific methodological choices, as well as the relevant findings and of some of the limitations of each individual study was presented. Because of the inherent limitations imposed by the research article format (self contained and focussed, with stringent space constraints), however, each paper only offer limited avenues for discussing issues that lie beyond what is strictly supported by the data. As a consequence, the aim of this final chapter is to bring together some of the important insights that can be derived *collectively* from all three studies. This discussion is organised in three parts. I first discuss issues relating to language transmission (in its broadest acceptation). Then, I will be interested in what the studies suggest about what could be the role played by exonormative standards on the forms that the speakers of the variety use. And lastly, in a sub-section called "Variability and the status of Indian English", I will concentrate on the remarkable uniformities that emerged from the data and discuss the importance of constructing one's object of analysis on a community basis, *in particular*, in sites where contact is bound to be such an important player.

5.1 Language transmission

Several proposals to substantially reassess the relative contribution of the (varied) historical inputs to the formation of the New Englishes have been made over the years, notably by Mesthrie (2003, 2006), Mesthrie and Bhatt (2008) or Masica (2012). Besides a few casual observations about the possible inheritance of features from the superstrates (e.g. Chand, 2009b, 2010; Maxwell & Fletcher, 2009), however, this issue has remained largely overlooked in studies of Indian English. Lange (2012, p. 47) even dismissed the whole research avenue as irrelevant for the study of Indian English, since, she claims,

> "English in India has never been a vernacular comparable to English in the US, and it has mostly been acquired in schools and universities rather than being transmitted from one generation to the next. [Footnote: The community of Anglo-Indians probably

forms the only exception of any significance (cf. Coelho, 1997).]"

Nonetheless, all studies in this compilation are concerned with issues of historical transmission at some fundamental level. Study I posits the permanence (or preservation) of forms from the historical (read British) input in order to explain present-day features of the vowel system of Delhi English. The presence of these "transmitted" elements presupposes, at the very least, the existence of local stabilised norms, but does not say much about their acquisition by speakers of the variety. Study II, on the other hand, argues for regular language change, and is therefore concerned with *transmission* in a stricter sense; that is "the unbroken sequence of native-language acquisition by children" as summarily defined by Labov (2010, p. 307). Study III brings together those two phenomena and speculates that the relative arrangement of the vowels described in Study II could have been inherited from the historical input, and has in turn determined the direction of the language change we currently observe (cf. Trudgill, 2004).

While one may have legitimate doubts about facts of (socio)linguistic transmission – as expressed in Lange's (2012) quote above – it remains difficult to see how such an arbitrary feature as the lexical-distributional NORTH-FORCE distinction discussed in Study I could re-emerge spontaneously from e.g. contact (or otherwise). The only natural conclusion here is, therefore, that it has to be an inherited feature. However, as suggested earlier, its maintenance in the variety does not presuppose *native language acquisition*, but only testifies to the existence of established local norms which could, in principle, be acquired/transmitted via the school medium. This is precisely how D. Sharma (2017a) hypothesises the presence of separate NORTH and FORCE classes in Indian English. Although she identifies it as a, so to speak, "native" feature primarily defining Anglo-Indian speech, she also acknowledges its existence in "some general Indian English speakers as well, possibly transmitted through convent education" (D. Sharma, 2017a, p. 316). This explanation, while plausible, remains somewhat at odds with the data in the present study, however. Specifically, it is primarily female speakers who attended convent school education in the Delhi sample (6 out of 11 vs. 1 out of 11 males), and we saw earlier that the overt sociolinguistic norms projected by females' more careful speech styles suggested a more more RP-like type of configuration for the mid back vowel classes, including sizeable overlaps between NORTH and FORCE (see Figure 4.3). There seems to be, overall, considerable gender-related stylistic variation in this area, and the present dissertation only scratches the surface of it. Interestingly, as shown in Figure 4.1, the female system in conversation style looks, superficially at least, closer to the male system. As a consequence, the possibility that the NORTH vs. FORCE distinction also emerges more neatly (i.e. as in the males' system) in more relaxed speech should not be excluded.

If so, it could be said that the NORTH-FORCE distinction is part of the Delhi English "vernacular" (in its original definition by Labov, 1972), for lack of a better term.

The elements of proof for regular language change are, on the other hand, much more difficult to establish, and although the phenomenon uncovered in Study II seems to formally tick all the boxes of a "change from within the system" (Labov, 2010, p. 307), one also needs to tread with caution and should refrain from jumping to conclusions. By and large, Lange's objection above echoes an important principle in variationist sociolinguistics laid out by (Labov, 2010, p. 308), and according to which regular language change (i.e. change from below) "begins with the faithful transmission of the adult system [to young children], including variable elements with their linguistic and social constraints." Then, at some stage in their socialisation, young language learners turn away their attention from the linguistic models of their primary caregivers towards the speech patterns of their peer group in particular, and the broader community in general (Labov, 2012). The acquisitional situation for the community under study, on the other hand, is never so clear and could perhaps be better described as a mixed L1/L2 setting. Despite the fact that all speakers in the sample would rank English as their primary, or dominant, language, and that all of them had started acquiring it by pre-primary education (age 2 or 3) at the latest, the Delhi participants also reported a great variety of experiences as regards their personal acquisition history of English. Another important element to consider is that, even for those native or near-native acquirers, a significant portion of the input in the language transmission taking place within-community (and maybe even at school) is, presumably, contributed by the more prototypically L2 usages that usually define Indian English. As a result, it was found preferable in the present dissertation to remain cautious as regards claims about natural language change, and to try to explore possible alternative avenues for explaining the patterns observed (see next section).

These precautionary considerations, however, should not conceal the remarkable *uniformity* (in the sense of Guy, 1980) which emerged from the investigation of the various phenomena discussed in the studies. From a broad structural point of view, there is a level of structural homogeneity in the sample which is quite unlike anything observed in most previous acoustic studies of the vowels of Indian English (this point will be developed further in 5.3). This concerns, of course, the stable aspects of the phonological system, but also the variable ones which decidedly show a common structural base, such as in the short front vowel lowering described in Study II and III. Regarding sociolinguistic patterns of variation, on the other hand, the studies also testify to the existence of "internal community coherence" (Sankoff, 2015, p. 32) with,

for instance, style and gender patterns of variation cutting across the entire age spectrum represented in the sample. Thus, although the native[21] transmission/acquisition of English remains, as a general rule, difficult to ascertain for individual speakers in a multilingual context like Delhi, the fact that they do seem to, at the very least, form a *unified speech community* (as defined by Labov, 1989) is also eminently clear.

Many writers have emphasised that for a large number, even a majority, of Indians, English is learnt essentially via the educational system and is used as a second or foreign language (e.g. as a *lingua franca*). While this assessment is, I believe, generally correct, this generalisation also seems to have considerably constrained the sphere of possibilities in terms of the research avenues one could feel entitled to explore. What the results of this study suggest primarily is that, in Delhi, just as in presumably most other large metropolitan areas where a substantial number of speakers know and routinely use English, language transmission takes place for a very important part outside the classroom. This is true, of course, for the speakers represented in the studies of this dissertation who have learnt English in a variety of informal situations, including at home, but also for the vast number of Delhiites who learnt English after early childhood, but still routinely engage in communicative activities in the language and may, therefore, adopt "features [...] specific to the ambient vernacular they hear around them, features that are not taught in school." (Sankoff, 2015, p. 45). As stated above, this does not mean that the sociolinguistic context provides adequate conditions for regular language change to occur, and I am very much aware that the analysis pushed in Study II and III may not resist further scrutiny. It nevertheless remains that the transmission issue in Indian English is a matter of legitimate scholarly enquiry, and one which should definitely occupy a more central space than has been the case hitherto.

[21] The concepts of nativeness, native speaker and (non)native variety have been the object of important, and sometimes, heated, debates in the context of Indian English. These debates took place mostly under the impulsion of Rajendra Singh (Agnihotri & Singh, 2012; Singh, 1995, 1998, 2007; Singh et al., 1995) who called for a revision of the notion of native-speaker that would be squarely grounded "in the reality and psycholinguistics of multilingualism". He thus proposed the notion of "*native speaker/user* [who] is, in other words, a speaker/user whose well-formedness judgements on utterances said to be from her language are shared by the community she can be said to be a member of." (Singh, 2007, p. 38, my emphasis). While I do endorse the gist of Singh's argument, and in particular his approach to characterising usages on the basis of the speakers' membership in a given speech community, this definition, as Mufwene (1998) points out, is largely tantamount to that of a *proficient* speaker. Although Singh's definition is very useful in order to characterise core members of stable bilingual communities, it does not offer any significant practical advantage as regards transmission as defined by Labov.

5.2 Indian English and international standards

A question which has long been associated with the issue of language transmission is that of the relationship between Indian English and international standards, in particular since scholastic transmission has been considered to be such an important player in the development of English in India. Thus, for decades and until relatively recent times, many writers have more or less openly assumed some form of British English standard – RP, as regards pronunciation specifically – as the target in acquisition for Indian learners. As discussed in Study I, such a view has been borne out in the literature by contrastive studies in particular, which have primarily worked under the assumption that most features that characterise present-day Indian English could be *directly* explainable in language acquisitional terms, and in terms of the configuration of individual linguistic repertoires – RP, here, serving as a convenient linguistic frame of reference against which structures in the first language are contrasted in order to explain the "deviations" (usually in terms of transfers) from the teaching model. For the more sociolinguistically-minded writers, however, such practices have clearly become an irritant, as evidenced by Agnihotri's (1999, p. 189) terse comment on the question:

> "In India, there is no pressure on the learners of English to speak RP; nor do they have any access to RP speakers; nor is their motivation strong enough to impel them to change their behavior in the direction of RP. One wonders why most of the studies have evaluated their behavior in terms of RP."

Starting out from a similar premise as Agnihotri, Mohanan (1992, p. 111) calls this resorting to RP as a frame of reference a "parasitic approach", and views it as a token of "colonialism in phonological descriptions".

It seems pretty clear to everyone now that Indian English speakers do not try to emulate RP, and the approach described above has largely fizzled out in recent empirical studies. Contrastive works, for one thing, seem to have mostly acknowledged the increasingly endonormative context of acquisition of English in India (Wiltshire, 2020; Wiltshire & Harnsberger, 2006), while sociophonetic research on the variety has usually strived to demonstrate that Indian English is "not an imperfect replica of some British English, but a new variety developing and changing in ways divergent from the external norms" (Satyanath & Sharma, 2016, p. 218). Attitude surveys, on the other hand, have confirmed by and large the increasingly endonormative attitudes embraced by Indian English speakers (Bernaisch & Koch, 2016; Chand, 2009b; Maxwell et al., 2021; Sahgal, 1991). This body of work is usefully complemented by Chand's (2009a; 2009b) detailed account on a variety of informal sanctions

(mockery, irritation, condescension, etc.) directed against the rapid adoption of "globally prestigious accents for localized discourse" (Chand, 2009b, p. 142) – and in particular the adoption of an American accent – within what she calls the "fake accents" discourse.[22]

Concerning the issue of the possible influence of British on Indian English, the present dissertation explores, broadly speaking, two research avenues which are consistent with its declared historical approach. As discussed in the previous section, the natural language change hypothesis for the short front vowel lowering described in Study II is constrained by stringent sociolinguistic conditions which may, or may not, be available to the community under study. So the first option considered as an alternative explanation is the *diffusion* hypothesis. According to Labov (2010), *diffusion* (i.e. change from above) is a phenomenon opposed to *transmission*, and which usually involves high-prestige feature being imported from norms external to the community, and language transmission taking place among adults (i.e. individuals who grew out of the *critical period*; Lenneberg, 1967; Scovel, 1988). The motivation for exploring this avenue for Delhi's short front vowel lowering is (1) that a similar[23] phenomenon has been known to be taking place in Southeastern British English and RP for several decades now (e.g. Fabricius, 2007; Hickey, 2017a; Upton, 2008), and (2) that, although the target for most Indian English speakers remains the forms that the community uses, British norms do retain significant prestige in India (Bernaisch & Koch, 2016; Chand, 2009b; Maxwell et al., 2021) and are still likely to provide material liable to be involved in processes of change from above.

Along with Boberg (2019) with the Canadian shift, Study II is, to the best of my knowledge, one of the few existing attempts at addressing empirically the diffusion hypothesis on the short front vowel lowering. Although Boberg (2019) investigates the potential influence of the California shift, and Study II looks at Southern British English as a possible origin, both studies reach very

[22] Chand (2009b) compares this discourse to the 'cultural cringe' described in Meyerhoff and Niedzielski (2003). A similar type of normative discourse which has also been found to circulate in Ghana – 'Locally Acquired Foreign Accents', or 'LAFA' for short – has been described by Shoba et al. (2013).

[23] The reason why the Delhi shift is compared to Southern British English and not to the California shift despite the global hegemony of American English is motivated in several places in this dissertation. One point which has not been raised, however, concerns formal similarities with the putative origin dialect. Thus, while the California shift is marked by a sizeable retraction of TRAP to [ɐ] and by DRESS moving down to [æ], the Delhi English dialect under investigation usually has a low but fronter [a] in TRAP as in Southern British English. Another important similarity with the British dialect is that KIT does not seem to follow the general downward movement of the short front vowels as in the California shift.

similar conclusions – or, I should say, are equally inconclusive. Boberg (2019) established shift indexes for the vowels of university students in Canada and the US, including KIT, DRESS and TRAP since all vowels seem to lower in parallel in the shift described. The results of the comparison between the two dialects were either non-significant, or marginally significant (US students being more shifted than their Canadian counterpart) when the sample was controlled for the presence of structural factors favouring the shift (i.e. low back merger). The study also found a clear female lead in the shift which suggests to Boberg that the ongoing change is driven by social symbolism, and could ultimately be associated with the stereotypical representation of young Californian women speech patterns. However, Boberg also notes that lowered short front vowels and centralised TRAP pre-dating the California shift could also be found in Canadian English. Study II, on the other hand, focusses exclusively on the TRAP vowel, since it is the only variable in the Delhi short front vowel lowering that displays style shifting in the direction of the change. As in Boberg, this element was thought to suggest awareness of (or social symbolism attached to) the variation, which in turn *may* indicate a change from above, although no gender lead was found for this variable. The study's apparent-time results for TRAP are compared to apparent-time results in previous studies on RP (Fabricius, 2007) and London (Kamata, 2008), but no significant differences between the dialects could be found, indicating that the short front vowel shifts in Delhi and London may have happened concurrently. So, as in Boberg (2019), it was not possible to establish a clear precedence of the posited source variety.

Another possible explanation for the parallel lowering of TRAP and DRESS in Southern British English and Delhi English could be that similar (complex) structural conditions determined the diachronic trajectories of those vowels in similar ways, and have been available in both dialects since some earlier point in time. In this case, the language change could be considered endogenous to Delhi English, although the development of the structural conditions in this dialect may be the result of the direct influence of British norms in the past. This hypothesis is briefly discussed in Study III, and the main observations which seem to support it are the following: (1) the structural configuration of the short front vowels of the older speakers in the Delhi sample is already marked by striking imbalances, which could, in principle, motivate by themselves the linguistic changes observed in later generations, and (2) these imbalances more or less reflect the configuration of the RP vowels at the time. Figure 5.1 illustrates this with reference to the vowels STRUT, TRAP, DRESS and KIT[24] of the two oldest male speakers in the sample (born in 1948 and 1952), and the mean

[24]For the Delhi speakers, the two major allophonic groupings of KIT found in Study II are represented as KIT1 (in the environment of a velar) – i.e. presumably, the *target* for this vowel as discussed in Study III – and KIT2 (all other environments).

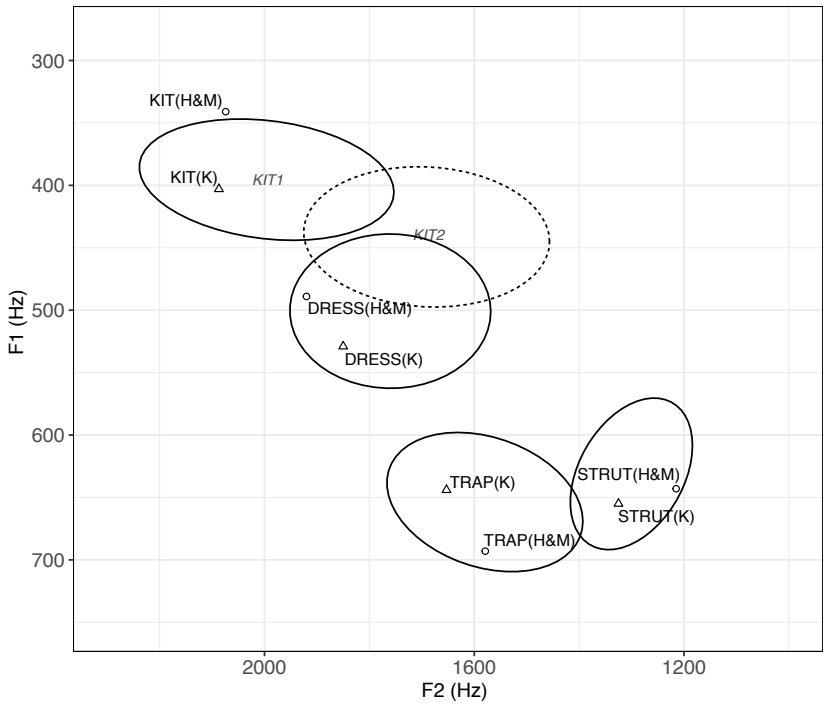

Figure 5.1: Short vowels KIT, DRESS, TRAP and STRUT: comparison between two Delhi older male speakers born in 1948 and 1952 (2 SD ellipses, wordlist style data), the mean values for male RP speakers born between 1946 and 1951 (empty circles) from Hawkins and Midgley (2005), and the mean values for London male speakers born between 1938 and 1951 (empty triangles, wordlist style data) from Kamata (2008).

values for the same vowels in RP for male speakers born between 1946 and 1951 (from Hawkins & Midgley, 2005) and London male speakers born between 1938 and 1951 (from Kamata, 2008). Although the configuration of the Delhi vowels is not exactly isomorphic with the British dialects under comparison, some important similarities can still be noted, in particular with RP. In substance, what we can see is a DRESS vowel which is remarkably close to KIT, and a TRAP vowel which is at about the same level as STRUT, thereby leaving a large empty margin with DRESS. In RP, this configuration is due to TRAP having lowered from its earlier raised position, starting from the beginning of the 20th century.

It seems, then, that the premises of the change currently observed were

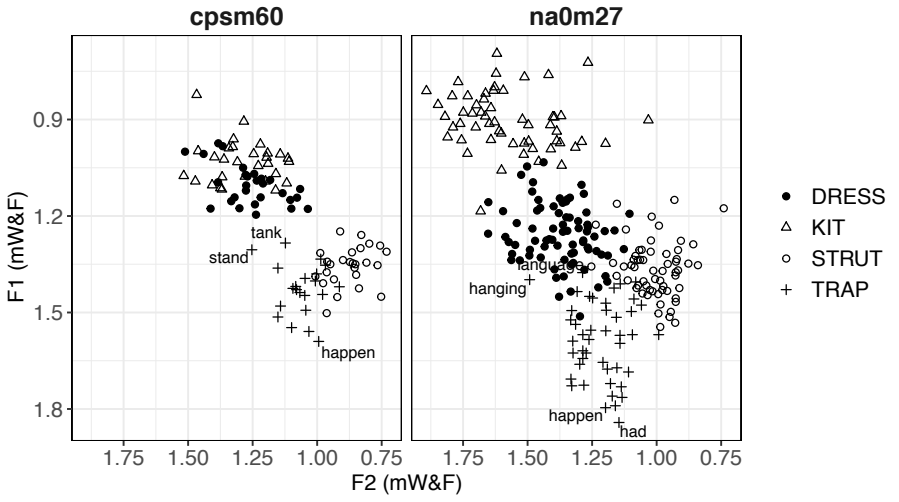

Figure 5.2: Conversation style TRAP, DRESS, KIT and STRUT vowels of two male speakers: cpsm60 (born 1948) and na0m27 (born 1987).

established well before the recent period, thus defying somewhat the expectations of a change from above. But where do these imbalances come from to begin with? One possibility is, of course, that the short front vowel lowering started in the generations preceding the older speakers represented in this study, with a TRAP vowel further raised towards DRESS and KIT. This solution would be coherent with Study II's results for the internal factors, since the same phonetic controls conditioning the lowering or TRAP – as exemplified in Figure 5.2, with following alveolar and velar nasals inhibiting the lowering, and bilabials and post-initial /h/ contexts promoting lower variants – were found to operate in both generations covered by the sample. Although this hypothesis would deserve to be further investigated, however, assuming continuity with the earlier period is, to say the least, problematic, notably due to the staggering social and population changes which transformed the city after independence. Another solution, which is not entirely satisfactory either but is nevertheless tentatively proposed in Study III, would then be that the *focussing* (Le Page & Tabouret-Keller, 1985) of Delhi English occurred within the older generation represented in the sample. If this were the case, whether and how the relatively complex shape of the short front vowel inventory could be linked to an external normative source remains to be determined.

While, as noted in preamble of this section, the comparison between the sound patterns and RP and Indian English has usually been guided by questionable assumptions, I argue in this dissertation that this kind of practice can still be conducted in an informed and reasoned way, and provide sociolinguistically valid insights into the variety. Standardised British English is an hegemonic variety which – although it has been losing ground to American English – has deep historical ties in India, and has retained overall considerable prestige in its former colonial space. Acknowledging this does not mean that we need to accept that Indian English is "a semi-autonomous variety" (Mukherjee & Bernaisch, 2021, p. 173) or some other sweeping characterisation of this sort. Quite the contrary in fact, since it allows for taping into theoretically robust concepts of variationist sociolinguistics (change from above, broadening of the vernacular base, koenisation, etc.) while demonstrating that Indian English *speech communities* – provided that we carefully identify them in the first place – are also amenable to this kind of analysis.

5.3 Linguistic variability and the status of Indian English

As noted by Sankoff (2013, p. 502),

> "The variability found in bi- and multilingual speech communities is multidimensional, more extensive than that found in monolingual and majority-language communities (Meyerhoff & Nagy, 2008), and characterized by speaker variation across continua of proficiency (Mougeon & Nadasdi, 1998). Thus the description of a bilingual community involves more social parameters, more daunting inter-individual variation, and major sampling and other methodological problems."

Starting out from the fact that India is the home of hundreds of languages and that virtually all Indian English speakers are (at least) bilingual, the most common response to these challenges, and in particular that of the variability, has thus been to look to the speakers' L1, with the expectation to find there the principal source of both structural heterogeneities and uniformities of the variety. Research within this focus has been primarily conducted by "pooling assorted participants of unknown extralinguistic characteristics, including heterogeneous groups of university students" (Torres Cacoullos & Travis, 2015, p. 367) resulting in the proliferation of L1-based variety-like objects (i.e. Hindi-English, Tamil-English, etc.) with little to no community footing. The epistemological critique of this approach developed in Study I constituted, in a certain sense, the point of departure of this dissertation.

To be clear, my aim in this dissertation is not to try to diminish the importance of language contact and its linguistic outcomes in Indian English, nor do I seek to disavow the important insights contributed by previous L1-based studies. However, I do consider, as already discussed in 2.1.2, that in order to gauge contact effects convincingly, "the ultimate yardstick must be the sociolinguistically constructed corpus: spontaneous speech from a principled sample of members of a well-defined bilingual speech community (Poplack, 1989, 1993)." (Torres Cacoullos & Travis, 2018, p. 13). Although this position is hardly controversial and should not need further justification, two reasons come to mind more specifically, considering the data discussed in the present work. First, making a contact claim is not only a matter of being able to correctly identify the contact source of a given linguistic feature. It is also vital to be able to tease apart whether this feature is, for instance, community-wide (language change), in stable variation, or proficiency related (transfers). Second, contact has undeniably shaped the development of Indian English in the past, and remains a major factor in linguistic variability and change in the present day. However, as shown throughout this dissertation, not all language change is necessarily contact-induced, nor is all the variation contact-laden in Indian English, and, therefore, any contact hypothesis must be also evaluated against other potential sources of convergence with the putative substratum (Lass & Wright, 1985, p. 140). Illustrating this point, it not only emerged that Indian English probably owed the structure of its mid and low back vowel inventory to an external source – conversely to what has been widely assumed in the literature, although contact possibly contributed historically to the *selection* of variants in the input – but also that, in Delhi, this feature appeared to be characterised by stable, structured variability, with gender cropping up as the primary independent variable.

Although important contact-related factors of variability such as proficiency, first vs. second language or language background were duly documented for each participant (see Appendix D), no screening for nativeness (as in Chand, 2009b, 2010) or proficiency, nor any balancing of the sample for language background was attempted in the studies of this dissertation. One chief reason for this is that, having resorted to speech community-based methods of data collection, it was expected that the individual bilingual behaviours in the sample would be also largely determined by the bilingual practices of the social group under study. In fact, although the participants reported a wide variety of personal language backgrounds, the vast majority of their *actual* bilingual encounters – i.e. the locus where "language contact is actuated" (Lange, 2012, p. 243) – turned out be negotiated in English and Hindi. By the same token, a high degree of homogeneity in terms of English proficiency was achieved in the sample by ascertaining the membership of the participants selected to

the speech community identified and, more specifically, by ensuring that their English language *use* could be observed in a wide range of daily, informal situations. Despite these rather "loose" controls, one notable finding of the studies in this dissertation is the remarkable degree of uniformity of the speakers' behaviours for each of the variables considered. Surely, not all individuals would always homogeneously behave as their age or gender would predict, however, no unexpected coalescence of phonemic oppositions, nor any other of the raw idiosyncrasies that usually manifest in contrastive studies and are attributed by default to L1 transfers could be observed here.

Speaker	Word-initial; after /h/; around velars /k, ɡ, ŋ/	Residual environments	Around fricatives /s, f, z, v/; around liquids /l, r/; before bilabials /p, b, m/
ab0m28	1.513	1.318	1.273
ac0f59	1.5	1.299	1.239
bp0f55	1.514	1.338	1.252
cpsm60	1.394	1.132	1.127
dp0f26	1.525	1.325	1.249
gp0m31	1.473	1.326	1.254
gv0f26	1.487	1.348	1.258
ks0f50	1.470	1.295	1.204
ms0f26	1.476	1.351	1.251
na0m27	1.677	1.497	1.378
nc0m26	1.5	1.301	1.238
nm0m19	1.437	1.28	1.254
pm0f29	1.46	1.324	1.259
pm0m39	1.536	1.333	1.255
rg0f55	1.48	1.341	1.217
rg0m62	1.531	1.335	1.307
sdbm45	1.552	1.317	1.274
svdm54	1.574	1.307	1.326
th0f24	1.44	1.264	1.213
ts0m27	1.442	1.332	1.197
vs0f58	1.539	1.366	1.286
vv0f28	1.56	1.451	1.318

Table 5.1: Mean KIT normalised F2 frequencies (Modified Watt and Fabricius) by conditioning environment for 22 Delhi speakers in all three styles (conversation, text reading and wordlist).

This level of inter-speaker uniformity becomes especially striking when we look closely at the linguistic constrains on variation. Among all the phenomena discussed in the studies of this dissertation, most appear to be tightly conditioned by highly regular and well-described coarticulation parameters. In particular, it is the phonetic controls governing the so-called KIT-split (Study III) which offer what is perhaps the most impressive example of the uniformity just discussed. Table 5.1 summarises the mean KIT normalised F2 frequencies for 22 speakers, for the three most frequent conditioning environments that are: word-initial, after /h/ and around velars; around fricatives and/or liquids or before bilabials; and the "unconstrained" or "residual" group (labelled respectively KITa, KITd-e-f and KITc in Study III).[25] It can thus be seen that, for every speaker, KITa is fronter than both KITc and KITd-e-f, and that KITc is fronter than KITd-e-f, the only exception being svdm54, who seems to have KITd-e-f fronter than KITc. The speakers also display very similar acoustic values for the allophones, in particular for the polar environments KITa and KITd-e-f as evidenced by the surprisingly homogeneous distances between them (M = 0.248, 95% CI [0.235, 0.26]).

Overall, what those results seem to suggest is that dealing with variability in a bilingual speech community is not simply a matter of controlling for individual SLA parameters (e.g. proficiency, language backgrounds, etc.) Surely, as discussed above, much reflection went into data collection so as to obtain a sample that would be reasonably homogeneous in terms of those factors. However, the sampling process was first and foremost geared towards assembling a corpus that would be representative of the community under study, and guided by the expectation that individual linguistic behaviours would be uniformly affected by community norms, including as regards the use of contact features (as established, importantly, by Poplack et al., 1988). The uniformity which derived from the linguistic analysis is, therefore, most likely a reflection of this fact. Specifically, one possibility is that, in the social group under consideration (more or less homogeneously upper middle-class), the forms which are *perceived* as acquisitional traits are stigmatised and consistently avoided by the speakers (cf. D. Sharma, 2005). In the corpus, several of the speakers' own metalinguistic comments (see (12) and (13)) seem to support the existence of such peer pressure to "speak well". Another (related) possibility is that some of the phenomena investigated do reflect contact, but the present sample is insufficiently differentiated in terms of the social factors which, in the previous literature, have been found to interact significantly with contact-induced variability (in particular, social class and neighbourhoods, see e.g. Poplack et al., 1988) for those effect to emerge above the level of linguistic significance. For

[25] The environments KITb and KITf were not included because of the low token count per speaker.

instance, in a similar context, Agnihotri and Sahgal (1985) and Sahgal and Agnihotri (1988) found that while the various groups of speaker in their socially stratified South Delhi sample showed very similar patterns of variation (in terms of age, gender and style) for the variables under study, they still differed significantly in the rate of use of the "prestige variants".

(12) dp0f27: And some– Some pronunciations as well. Right? I mean, very typical Indian pronunciations which (.) we wouldn't necessarily have. (0.6) Like <[ætˈmɒsfɪə]>. The word atmosphere.
vv0f28: <[dɛvˈlɒpmnt]>.
dp0f27: <[dɛvˈlɒpmnt]>. Like those kind of things. <14.5> Like I think– and– and– some of our fr@nds also say those words. XXX 99 percent (0.7) of er, the population who speaks English, I think says <[ætˈmɒsfɪə]> and <[dɪvˈlɒpmnt]>. (1.4) But yeah, those kind of things also you won't find in our (.) speech. Mostly. (0.8) Unless it's some strange word that we haven't really used much and we mispronounce it but figure out (0.7) soon enough that we're mispronouncing it.

(13) na0m27: Our relationship is based on pulling each other's legs. (1.0) Yeah all the time.
RD: On language also?
na0m27: Yes! Oh my god, yeah! Especially language, and you know stuff like the Vs and Ws? (0.6) Erm (0.7) Yeah. We really (.) n:- take each other's case. For, you know, th- even– even the smallest of errors. That would probably (.) be er:, you know, pardonable.

To conclude, one important point that could be made in light of the results presented in this dissertation concerns the possible overestimation of the variability that has been assumed to characterise Indian English in the literature. To repeat, I do not contend that English variability in India is on a par with that found in monolingual contexts, nor do I claim that the Delhi community under study is representative of the whole of English in India, since it is clear that there are bound to be substantive differences between large urban centres such as Delhi or Bombay and the rest of India as regards practices of English use (Agnihotri & Khanna, 1997).[26] However, what also seems abundantly clear

[26]Nonetheless, there is no reason to treat those contexts as exceptional or marginal instantiations of Indian English. Surely, their speakers do not constitute a majority if we consider English users in India at large, however, they *do* constitute a substantial number in absolute terms. What is more, it must also be noted that those urban dialects seem to occupy an increasingly important space in the Indian English sociolinguistic landscape, as they start being recognised as prestige targets by speakers across the

is that the amount of inter-individual differences and L1 effects one is bound to find while investigating Indian English is highly dependent on the point of view adopted, and the way one chooses to construct her object of study. Overall, the systematic quantitative analysis of the data presented in this dissertation demonstrates that, despite sometimes significant personal, language acquisitional differences, Delhi English speakers' behaviour largely responds to patterns experienced in community. Such patterns cannot be grasped from elicited speech of speakers selected on the basis of factors such as L1 and proficiency level which, although they make sense from an SLA perspective, tend also to be overridden by the norms of the (bilingual) community. There follows from this a second important point: characterisations of Indian English such as "L2", "non-native" or "interference variety" which *fundamentally* rely on the notion that "many linguistic peculiarities that are characteristic of Indian English are based on interferences from Indian speakers' first languages" (Mukherjee & Bernaisch, 2021, p. 174) project a picture of the variety and its variation which is, at best, partial. One modest, yet important contribution of the present dissertation, is, therefore, its participation in correcting this imbalance.

country (Maxwell et al., 2021; Regnoli, 2023).

6. Sammanfattning

Introduktion

Empiriska analyser av indisk engelska har länge varit inriktade på att förklara språkligavarieteters formella drag i förhållande till talarnas förstaspråk. Denna trend, som i hög grad påverkats av tidiga studier inom området för kontrastiv språkanalys, har i stort bidragit till att projicera en bild av indiska engelska som en svårförståelig främmande accent utan systematik och struktur. Alltefter-som indisk engelska över åren gradvis vann erkännande som en egen dialekt, har ökad uppmärksamhet riktats mot den särskilda sociolingvistiska kontexten i vilken de dialektala dragen hos varieteten utvecklats. Trots detta är forskningsintresset för språkgemenskapsbaserade lingvistiska varieteter fortfarande i huvudsak marginellt. Syftet med denna avhandling är att bidra till att avhjälpa denna forskningsbrist genom tre sociofonetiska studier av en urban dialekt av indisk engelska.

Med fokus på vokalljud bland överklassfödda talare i Delhi är huvudsyftet med de studier som ingår i denna sammanläggningsavhandling deskriptivt – dvs att identifiera relevanta fonetiska drag hos varieteten och presentera en detaljerad instrumentell undersökning av deras fonetiska form, inklusive övergripande variationsmönster och deras begränsningar. Ett sekundärt mål är att belysa hur indisk engelska snitslar sin egen diakroniska bana och bryter mot tidigare förklaringssätt baserade på individuell språkinlärning.

Efter att ha positionerat denna avhandling i relation till tidigare forskning om indisk engelsk fonologi i Kapitel 2, ägnas Kapitel 3 åt att beskriva ett antal metodologiska detaljer som inte redovisats till fullo i avhandlingens enskilda artiklar. Framför allt ger detta kapitel ytterligare information om den språkgemenskap som studeras genom att karaktärisera den från sociologiska och historiska perspektiv, och också ge en bild av deltagarnas sociolingvistiska profil. Dessutom redovisas några av de principerna bakom urvalsprocessen, liksom en genomgång av de protokoll som använts i materialinsamlingen. I Kapitel 4 ges detaljerade sammanfattningar av avhandlingens artiklar och varje studie presenteras för sig och diskuteras med ett kritiskt förhållningssätt. Denna sektion inleds med en kort beskrivning av den studerade dialektens övergripande system av monoftonger. I Kapitel 5 sammanförs slutligen några av de vikti-

ga insikter som erhållits från varje studie i en diskussion om avhandlingens primära forskningsproblem.

Metoder

Studierna baseras på inspelat material, som insamlades mellan 2008 och 2014 i Delhi, från ett snöbollsurval av 48 kvinnor och män, som var mellan 19 och 62 år vid inspelningstidpunkten. Alla personer i urvalet identifierade sig som medelklass eller övre medelklass och bodde i de mer välbeställda delarna av huvudstadens södra del. I fråga om lingvistiska praktiker var deltagarna vad man skulle kunna kalla "vanliga användare" av indisk engelska: alla hade tillägnat sig engelska i tidig ålder (vanligtvis i eller innan förskolan), alla hade gått i engelskspråkig skola under hela skolgången, och alla sade sig använda engelska (parallellt med Hindi) dagligen och i en stor bredd av informella situationer, inklusive i hemmet och med vänner. Materialinsamlingen skedde enligt anvisningar i Phonology of Contemporary English programme (Carr et al., 2004), vilken inkluderar ordlistor, ett lässtycke, och riktlinjer för att elicitera formella och informella konversationsstilar.

Analysmetoderna i avhandlingen var primärt variationssociolingvistiska, dvs språkstudier i naturliga sociala kontexter genom systematiska, främst kvantitativa, undersökningar av språklig variation och dess relation till sociala strukturer. Följaktligen koncentrerades varje studie på en begränsad uppsättning av fonologiska variabler, i syfte att fastställa hur dessa varianter distribueras över ett antal tvärgående faktorer, såsom sociala (t.ex. kön, ålder, klass) eller inomspråkliga (t. ex. fonetisk omgivning, ordfrekvens).

Resultat och diskussion

Studie I undersöker variationer i den centrala och nedersta bakre delen av vokalfyrsidingen; ett område som, enligt litteraturen, har orsakat stora svårigheter när det gäller den språkliga beskrivningen av indisk-engelska dialekter i empiriska studier. Denna del av vokalsystemet i indisk engelska är i synnerhet präglad av det variabla upprätthållande av den fonologiska distinktionen mellan vokalerna i LOT (*dog*, *cot*, *knot*) och THOUGHT (*draw*, *caught*, *naught*) – som allmänt antas utgå från närhet – liksom närvaron av lexikal distributionell arkaism (Wells, 1982, sid. 626), såsom upprätthållandet av distinktionen mellan NORTH (*morning*, *horse*) and FORCE (*mourning*, *hoarse*). Analysen som bygger på 10 yngre manliga talare från det större urvalet slår fast att medan ingen av talarna upprätthöll en klar distinktion mellan LOT, THOUGHT and NORTH så hade alla ett akustiskt avskilt FORCE-ljud. Detta resultat leder till

några viktiga konsekvenser för vår förståelse av variation. För det första hävdas det att även om distinktionen mellan LOT och THOUGHT har raserats på grund av substrat-påverkan, så undermineras den hypotesen ändå av den höga grad till vilken distinktionen mellan FORCE och NORTH upprätthålls. För det andra, har det påvisats att denna speciella organisation av vokalsystemet inte är unikt för indisk engelska, utan delas av många så kallade ”konservativa accenter,” såsom skotsk engelska. Ett alternativ som förslås är därför att i stället för en partiell förklaring som inbegriper närhet kan ett mer sparsamt och kanske ett säkrare angreppssätt vara att anta att dessa egenskaper hos vokalsystemet anammades under de formativa stadierna av variationen. Om vi godtar att det förhåller sig så, betyder detta att kännetecknen för indisk engelska är stabila och effektivt har överförts över generationer.

Studie II, å andra sidan, är baserad på ett urval av 22 talare, med jämn fördelning i kön och ålder, och fokuserar på de korta främre vokalerna i TRAP (*pat*, *sat*), DRESS (*pet*, *set*) och KIT (*pit*, *sit*). Med anledning av observationer av förekomsten av låga och tillbakadragna TRAP-vokaler i yngre kvinnors tal, undersöktes möjligheten att en pågående förändring påverkar denna vokal med eventuell konsekvens för variation hos alla korta främre vokaler. Resultatet uppvisade generellt sett signifikanta korrelationer mellan ålder och grad av sänkning av vokalerna i TRAP och DRESS, vilket pekar mot en pågående kedjeförskjutningsliknande typ av förändring hos de studerade vokalerna. Denna hypotes stärks särskilt av bevis för snäva lokala och systemiska begränsningar, som betingar det studerade fenomenet. även om KIT inte tycks vara del av den generella nedåtgående rörelsen som beskrivits för DRESS och TRAP, belyser studien en allofonisk klyvning hos denna vokal med en mycket centraliserad variant i ett antal väldefinierade fonetiska miljöer. Viss korrelation fanns dessutom mellan ålder och grad av åtskillnad mellan de två allofoniska varianterna. Diskussionen fokuserar på sänkningen av TRAP, som identifierats som den utlösande faktorn i den förändring som beskrivs i denna studie. För att förklara denna rörelse diskuteras de relativa fördelarna med två konkurrerande hypoteser, nämligen naturlig förändring (underifrån), och import av externa normer (ovanifrån), dock utan att någon av dem kan anses helt tillfredsställande.

Studie III bygger vidare på resultaten från Studie II, och undersöker den tidigare beskrivningen av den komplexa allofonklyvningen av KIT mer noggrant. Den baseras på samma urval av talare som i Studie II, men använder ett större datamaterial, som omfattar ytterligare språkliga stilar och fonetiska miljöer. I stället för att uteslutande fokusera på den spektrala vokalvariationen behandlas också duration som en möjlig faktor för vokalcentralisering. Studien har två delar. I den första delen analyseras variationen av KIT längs F2 dimensionen och de faktorer (fonetisk miljö, duration) som påverkar den, medan den andra delen ägnas åt de strukturella begränsningar som skulle kunna förklara

fenomenet med de korta främre vokalernas förändrade position som beskrivs i Studie II. Allmänt sett visade det sig att det studerade fenomenet utgår från internt systemiskt tryck som drar nytta av välinövade samartikulerade effekter. Men medan fördelningen av KIT längs F2 dimensionen först och främst tycks gå att förklara i termer av vokalreduktion och samartikulation, tycks variation i vokalduration, å andra sidan, ha djupare fonologiska grunder. Det kunde specifikt konstateras att en kortare KIT-vokal faktiskt kan vara del i det akustiska åtskiljandet mellan DRESS och KIT, särskilt bland talare vars DRESS-vokal ännu inte sjunkit (dvs talare i den äldre generationen). Diskussionen i Studie III plockar upp tråden från Studie II och hävdar att medan KIT-klyvningen och den korta främre vokalsänkningen tycks vara ett dialektendogent fenomen kan det specifika strukturella tillståndet som leder till sådana förändringar ha ett externt ursprung, exempelvis i brittiskt standardspråk från den tidiga eran efter Indien vunnit självständighet.

Slutsats

Allmänt sett har flera tidigare icke-rapporterade drag upptäckts och beskrivits i detalj i denna avhandling, och viktiga klargöranden har också gjorts när det gäller områden som ansetts problematiska i tidigare deskriptiva arbeten. Framför allt visar studierna att varieteten som studerats och dess mönster eller variation generellt tycks vara öppen för samma typ av empirisk analys som andra så kallade "infödda" varieteter av engelska, och ifrågasätter därmed ett antal tidigare antaganden om indisk engelska.

Sammantaget för resultaten i denna sammanläggningsavhandling vår förståelse av indisk engelska framåt vad gäller tre viktiga frågor: (1) språköverföringens roll, (2) externa standardnormers roll och effekt på varietetens evolution, och (3) art och omfattning av den föränderlighet som karaktäriserar indisk engelska. Det är särskilt fastställt att även om formell språkundervisning och individuella faktorer i andraspråksinlärning spelar en viktig roll i spridningen och utvecklingen av indisk engelska, så är varieteten också beroende av stabila gemenskapsnormer som talare tillägnar sig effektivt och som är benägna att genomgå förändringar över tid.

A. PAC wordlist 1

1.	pit	33.	bard	65.	wait	97.	word
2.	pet	34.	beard	66.	weight	98.	gourd
3.	pat	35.	bared	67.	side	99.	short
4.	pot	36.	board	68.	sighed	100.	sport
5.	put	37.	barred	69.	agreed	101.	next
6.	putt	38.	bored	70.	greed	102.	vexed
7.	sea	39.	bode	71.	brood	103.	leopard
8.	say	40.	bowed	72.	brewed	104.	shepherd
9.	sigh	41.	bead	73.	fir	105.	here
10.	sue	42.	bid	74.	fair	106.	there
11.	stir	43.	bed	75.	fur	107.	weary
12.	steer	44.	bad	76.	four	108.	spirit
13.	stairs	45.	bard	77.	fore	109.	marry
14.	err	46.	pant	78.	for	110.	Mary
15.	far	47.	plant	79.	nose	111.	merry
16.	war	48.	master	80.	knows	112.	sorry
17.	more	49.	afterwards	81.	cot	113.	story
18.	purr	50.	ants	82.	caught	114.	hurry
19.	moor	51.	aunts	83.	meat	115.	jury
20.	feel	52.	dance	84.	meet	116.	bury
21.	fill	53.	farther	85.	mate	117.	berry
22.	fell	54.	father	86.	naught	118.	heaven
23.	fall	55.	row	87.	knot	119.	leaven
24.	full	56.	rose	88.	doll	120.	earth
25.	fool	57.	rows	89.	dole	121.	berth
26.	fail	58.	pore	90.	fierce	122.	cook
27.	foal	59.	poor	91.	bird	123.	soot
28.	file	60.	pour	92.	scarce	124.	look
29.	foul	61.	paw	93.	pert	125.	room
30.	foil	62.	paws	94.	start	126.	pearl
31.	furl	63.	pause	95.	horse	127.	peril
32.	bird	64.	pose	96.	hoarse		

B. PAC wordlist 2

1. pat
2. bat
3. tuck
4. duck
5. carter
6. garter
7. fan
8. van
9. this
10. thick
11. seal
12. zeal
13. bishop
14. leisure
15. heart
16. batch
17. badge
18. rum
19. run
20. rung
21. lack
22. rack
23. wet
24. yet
25. witch
26. which
27. lock
28. loch
29. earthy
30. worthy
31. sinner
32. simmer
33. singer
34. supper
35. rubber
36. little
37. middle
38. metal
39. meddle
40. bicker
41. bigger
42. degree
43. decree
44. betting
45. bedding
46. written
47. ridden
48. singer
49. stronger
50. fat
51. fad
52. lap
53. lab
54. sack
55. sag
56. belly
57. berry
58. bell
59. bet
60. chutney
61. kidney
62. grace
63. graze
64. behave
65. anyhow

C. PAC reading passage

Christmas interview of a television evangelist

If television evangelists are anything like the rest of us, all they really want to do in Christmas week is snap at their families, criticize their friends and make their neighbours' children cry by glaring at them over the garden fence. Yet society expects them to be as jovial and beaming as they are for the other fifty-one weeks of the year. If anything, more so.

Take the Reverend Peter 'Pete' Smith, the 'TV vicar' who sends out press releases in which he describes himself as 'the man who has captured the spirit of the age'. Before our 9 a.m. meeting at his 'media office' on Crawshaw Avenue, South London, he faced, he says, a real dilemma. Should he make an effort 'to behave like a Christian' – throw his door open, offer me a cup of tea – or should he just play it cool, study his fingernails in a manner that showed bored indifference and get rid of me as quickly as possible? In the end, he did neither.

'As a matter of fact, John,' he says in a loud Estuary English twang, 'St Francis said,"At all times preach the gospel and speak whenever you have to." But hey, he didn't mean "Be on your best behaviour and be happy all the time." I could have been extra-polite to you, but the real me would have come out as I was talking. You cannot disguise what you are.' 'And what are you then, Pete?'

'Well, I'm a Christian, John. I've been one since I was 14. And I know for sure that Christianity will be judged more on who you are rather than what you have to say about it. Many church leaders don't appear to understand this. They think we can only be really Christian when we are ramming the doctrine of the Creation down people's throats. But if you try to force-feed people they get sick of it and think you're a pain. It's seen as the job of a Christian leader to wear a dog-collar and dress in purple and always be talking about the real meaning of the New Testament. In reality, that turns people right off!'

In many ways, 'Pete' Smith looks exactly how you'd expect a high-profile, born-again Christian to look: tall, handsome, clean-cut and evenly sun-tanned. He has those scarily white teeth that TV evangelists tend to have, and he doesn't wear a dog-collar. In fact, when doing his various religious pro-

grammes on Sunday mornings, he has been known to wear a black leather jacket instead, in casual mode. Today, the look is more business-like: metal-rimmed glasses, a grey suit, a blue open-neck shirt, and fashionable black shoes with large buckles. Smith is 44 but he looks a mere 24.

During the whole interview, there wasn't any talk of the poor or the needy but only of his forthcoming trip to China in February and the masses waiting for his message there. I ventured a few questions relating to the charity trust he founded some ten years ago and which, it is generally agreed, employs eight hundred staff and runs schools, hospitals and hostels around the world. And what about the gambling organization he has been willing to advise? Is that a temporary activity or might it be true that he has accepted to be paid to sit on its Board of Directors? Which side is religion on these days? Does money matter? It was as if I had launched a few missiles in his direction. He just sighed in answer: 'I'm only human, John. God knows I do my best and often fail, But it's no skin off my nose if our enemies sneer at some of the good work we do. Truth will out.'

D. Information sheet

Information sheet

Date of recording: .....
First name: .....
Surname: .....
PAC identifier: .....
Age at date of recording: .....
Place of birth: .....
Current place of residence: .....
.....
Previous places of residence: Number of years: At the age of:
.....
.....
.....
.....
.....
Occupation: .....
Previous occupations: .....
.....
.....
Education (until what age, what type of education): .....
.....
.....
.....
Medium of education: .....
Languages spoken: .....
.....

	Never 0	Rarely 2	Occasionally 6	Most of the time 10
a) Father:				
b) Mother:				
c) Wife/ Husband:				
d) Children:				
e) Siblings:				
f) Best friends:				
g) Friends in the neighbourhood:				
h) Friends of the opposite sex:				
i) Colleagues at work/ Friends at school:				
j) Juniors/Subordinates:				
k) Boss or teacher:				
l) Administration:				

Informant's father:

Year and place of birth: .....
Occupation: .....
Education: .....
Languages/Dialects spoken: .....

Informant's mother:

Year and place of birth: .....
Occupation: .....
Education: .....
Language/ Dialects spoken: .....

Informant's wife/husband:

Year and place of birth: .....
Occupation: .....
Education: .....
Language/ Dialects spoken: .....

Number of children, age and education:.....
.....
.....
.....

People who played an important role during the informant's acquisition of the English language: .....
.....
.....

Type of accommodation of the informant (house, flat, residential area etc...):.....
.....

Integration into the area, relationships within the neighbourhood: .....
.....

Ethnic group: .....

Cultural and leisure activities, travels: .....
.....

Additional information: .....
.....
.....

E. Formant means

	Wordlist				Interview			
	Female		Male		Female		Male	
Vowel	F1	F2	F1	F2	F1	F2	F1	F2
FLEECE (i)	365	2831	307	2476	409	2577	351	2299
FACE (e)	443	2564	389	2245	471	2356	428	2108
KIT (ɪ)	484	2242	411	1926	491	2075	429	1859
DRESS (ɛ)	649	2104	546	1844	630	1953	535	1752
TRAP (a)	907	1768	752	1580	854	1720	701	1529
BATH (ɑ)	816	1264	691	1155	833	1318	675	1182
LOT (ɒ)	690	1044	596	949	677	1111	575	1024
THOUGHT (ɔ)	584	890	545	863	617	1033	547	960
FOOT (ʊ)	472	1026	407	928	463	1131	416	1077
GOAT (o)	433	789	390	773	479	942	428	892
GOOSE (u)	362	860	311	781	408	990	350	925
STRUT (ʌ)	825	1440	680	1270	766	1476	616	1273
NURSE (ɜ)	601	1265	507	1155	594	1325	511	1233

Table E.1: Female and male mean raw F1 and F2 frequencies (in Hertz) for wordlist and interview style. See Figure 4.1.

F. Transcription conventions

The following conventions are a slightly modified version of the transcription conventions used in Bucholtz (2007, 804).

.	end of intonation unit; falling intonation
,	end of intonation unit; fall–rise intonation
?	end of intonation unit; rising intonation
!	raised pitch throughout the intonation unit
↑	pitch accent
underline	emphatic stress; increased amplitude; careful articulation of a segment
:	length
=	latching; no pause between intonation units
–	self-interruption; break in the intonation unit
-	self-interruption; break in the word, sound abruptly cut off
(.)	pause of 0.5 seconds or less
(1.1)	measured pause of greater than 0.5 seconds
@	laughter; each token marks one pulse
n@	nasal laughter
X	unintelligible; each token marks a syllable
[ ]	overlapping speech
[[ ]]	overlapping speech in proximity to a previous overlap
( )	uncertain transcription
< >	transcriber comment; non-vocal noise
{ }	stretch of talk to which transcriber comment applies
<[ ]>	phonetic transcription

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