Language Teaching (2024), **57**, 562–574
doi:10.1017/S0261444822000441

CAMBRIDGE UNIVERSITY PRESS

FIRST PERSON SINGULAR

JD Brown's essential bookshelf: Connected speech

James Dean Brown

University of Hawai'i at Manoa, Honolulu, USA
Email: brownj@hawaii.edu

(Received 21 October 2022; accepted 24 October 2022)



James Dean Brown ("JD") is Professor Emeritus of Second Language Studies at the University of Hawai'i at Mānoa. He has spoken and taught in places ranging from Albuquerque to Zagreb and published hundreds of articles and 27 books on language testing, curriculum design, research methods, and connected speech. His books on reduced forms and connected speech are: *Perspectives on teaching connected speech to second language learners*, edited with K. Kondo-Brown (University of Hawai'i at Mānoa NFLRC, 2006); *New ways of teaching connected speech*, Editor (TESOL, 2012a); and *Shaping students' pronunciation: Teaching the connected speech of North American English*, co-authored with D. Crowther (Routledge, 2022).

While doing course work at UCLA, my mentor and M.A. thesis committee chair J. Donald Bowen sparked my academic interest in a problem I had noticed in the English as a Second Language (ESL) classes I was teaching. In his pronunciation book, Bowen (1975) had discussed the concept of "informal speech," pointing out that native English speakers' use of contractions was "virtually universal" (p. 165) and that what he called "reduction" was "ever-present" in oral English (p. 226). After finishing my Ph.D. course work in 1980, I became a Senior Scholar in the UCLA/China Exchange Program, where I taught English for science and technology in Guangzhou. One day one of the students in my speaking course asked, "Why is it I can understand you when you talk to the class, but not when you talk to the other American teachers?" I took this question to my colleagues, and we discussed various listening comprehension problems our students had with native-speaker English. I started to realize that the teacher talk I used in class was not necessarily slower than normal native-speaker English, but rather was more closely related to the written language they found in their textbooks, which they already understood well. In contrast, the spoken language that we native speakers used was what Bowen called "reduced speech." Ann Hilferty and I were especially interested in this topic, possibly because we had both studied French where issues of liaison, elision, and assimilation were taught from the very beginning unlike in English teaching. Over time, Ann and I collected ideas from our own observations and from colleagues and created a list of REDUCED FORMS (listed in Brown & Crowther, 2022, p. xiii) that we started to teach in our speaking course.

I should note, at this point, that we were thinking of REDUCED FORMS as lexical items or lexicalized phrases that could be memorized like vocabulary. Much later, I came to believe: (a) that there were rules (of word and sentence stress, juncture, epenthesis, elision, and assimilation) that underlay these phenomena in a system that collectively would more accurately be called CONNECTED SPEECH (CS) and (b) that it would be more efficient and comprehensive to teach the underlying rules of CS rather than to haphazardly teach the lexical-like results of those rules. Thus, I will refer to REDUCED FORMS when discussing the research that used that label but will refer to CS in moving forward from that research.

In addition, because so much of what has been published so far on CS is new and has just recently surfaces, I have decided to diverge somewhat from the format of the previous articles in this *Essential*

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Bookshelf series, by showing how each of my choices serves as a starting point for ever more research on this topic. As such, with the reader/researcher in mind, I will not only show how I was influenced in each section but also (in a "Take aways for other researchers" subsection), list potential research questions that I think might inspire others to continue the research going forward. In many cases, I have also shared unexpected (but none-the-less important) professional lessons that I learned along the way, though not directly related to CS, in a "Bonus take away" subsection. I expect that these will be most interesting to researchers just beginning to take an interest in CS. One final note: in some cases, I have known the author personally, and in which cases, I will therefore use their first names.

Early research

(1) Brown, J. D., & Hilferty, A. (1986a). The effectiveness of teaching reduced forms for listening comprehension. *RELC Journal*, *17*(2), 59–70.

In 1981–1982, Ann Hilferty and I continued teaching REDUCED FORMS in our speaking courses and set up an experiment to study how much our learners' listening comprehension improved when we included reduced forms in our teaching. Measured pre and post in a counterbalanced design, we found virtually no improvement in two forms each of the Michigan Listening Test and Bowen's *Integrative Grammar Test* (see discussion in section 8 below), but we did find an encouraging 35% gain in reduced forms dictation scores as reported in Brown and Hilferty (see 1986a or 1986b—reprinted in 2006).

Based on the peer reviews we had in hand, we revised considerably before publishing the full 1986b report—by explaining how we: (a) controlled for the teacher effect; (b) dealt with the sample size question; and (c) controlled for the testing effect. We also realized that our characterization of the phenomenon involved in REDUCED FORMS (a more-or-less lexical view) might not be adequate given what we had learned about liaison, elision, and assimilation in French. And so, we began to suggest a more rules-based approach as we mentioned in our suggestions for future research questions the following: "How can reduced forms be logically systematized and what rules govern their use?" (Brown & Hilferty, 1986b, p. 762). Ultimately, this led me to more appropriately call this set of phenomena CONNECTED SPEECH (CS).

Bonus take away: Ann Hilferty and I first submitted the full paper to the *TESOL Quarterly* in 1983, and it was rejected, but the journal editor liked it enough to suggest that we write up an eight-page summary and resubmit it to the *Brief Reports* section editor. We did so and the summary version was immediately accepted and published. We then revised the full paper (as mentioned above) to better address the reviewers' criticisms and submitted that full paper to *RELC Journal* where it was immediately accepted and published. Thus, I learned that, when reviewers reject a paper that you believe in, you should pay attention to their criticisms, then revise and resubmit to another journal. Never give up on a paper you believe in. In this case, a rejected paper became three publications (Brown & Hilferty, 1986a, 1986b, 2006).

Take aways for other researchers: Since we published Brown and Hilferty (1986a, 1986b), a number of other researchers have subsequently taken up similar related questions. For example, the following dealt with the effectiveness of teaching reduced forms for listening comprehension: Jia and Fu (2011), Khaghaninezhad and Jafarzadeh (2014), Matsuzawa (2006), and Underwood and Wallace (2012), albeit involving different settings and types of learners. Ito (2001, 2006) focused more narrowly on the differential effects of sentence complexity and two types of reduced forms (phonological and lexical) on listening input-intake processes. If you are intrigued by this line of research, the following research questions could serve as a useful starting point:

1. How effective is the teaching of CS and CS awareness for listening comprehension with other populations?

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2. What are the most effective ways to teach CS and CS awareness for improving listening comprehension?
3. How are 1 and 2 different for different types of students? With different levels of English proficiency?
4. What linguistic and affective factors influence success in teaching CS for listening?

(2) Weinstein, N. (1982). *Whaddaya say: Guided practice in relaxed spoken English*. Pearson.

Brown and Hilferty (1986a, 1986b) were both much revised versions of a paper that we had presented at the 1982 TESOL Convention in Honolulu, Hawai'i. Nina Weinstein attended our presentation and offered to send along her work on reduced forms. And thus, we discovered that we were not alone in our interest in this topic. She sent us a copy of her new book (Weinstein, 1982). The title *Whaddaya say: Guided practice in relaxed spoken English* explains the main purpose of the book. It contains 20 lessons on reduced forms including words (like ya = you, ta = to, 'er = her, etc.), some within certain contexts ('cha = /t/ + you, jer = /d/ + your, etc.), as well as phrases (like gonna, hafta, whaddaya, whacha, etc.). The focus of the exercises is primarily on listening and comprehension of reduced forms.

Meeting Nina and reading her book helped us to feel that our concerns with reduced forms made up of sets of words and phrases were legitimate. In addition, given that we had found so little published about reduced forms, Weinstein's work made us feel that our line of inquiry into reduced forms was justified and had important pedagogical implications. Thus, researchers interested in CS will benefit from having a look at her approach to teaching reduced forms, so they can see that, even then, lessons could indeed be developed to teach these forms.

Subsequently, Nina also did: (a) an M.A. thesis at UCLA (1984) on the effects of formality levels and tempo on reduced forms (which I remember reading, but have since been unable to track down); (b) a considerably expanded and better contextualized second edition of her book (2000), which also put greater emphasis on productive use of these forms; and (c) a short article in the TEXTESOL III Newsletter (2007), which offered some clever ideas for teaching reduced forms to improve listening. However, for me that first book was the most influential because it expanded the range of reduced forms I would consider and because it further enhanced my sense that teaching and studying this topic were legitimate, that is, that Ann and I were not simply howling into the wind.

Take aways for other researchers: Weinstein opened up a range of questions that you might find interesting to pursue:

1. What reduced forms overlap between those Brown and Hilferty used (listed in Brown & Crowther, 2022, p. xiii) and Weinstein's textbook?
2. Which reduced forms were missing from each that were included in the other?
3. What is a comprehensive list of all the reduced forms that both included?
4. What is missed in the overall picture of CS (e.g., see Brown & Crowther, 2022) by using a lexical reduced forms approach?
5. To what degree are there differences in effectiveness of teaching lexical reduced forms versus rules-based CS approaches?

(3) Henrichsen, L. E. (1984). Sandhi-variation: A filter of input for learners of ESL. *Language Learning*, *34*(3), 103–126.

Given the dearth of research articles on the topic in the early 1980s, I was delighted to find Henrichsen (1984) in the prestigious *Language Learning* journal. He studied Sandhi variation, which he described as follows: "Sandhi processes, which occur in many languages, include assimilation, mutation, contraction, liaison, and elision (Bloomfield, 1933, pp. 186–189 et passim)." Henrichsen was particularly interested in whether the presence or absence of Sandi-variation in spoken English would reduce

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perceptual saliency and thereby effect listening comprehension. The results showed that for ESL learners "sandhi-variation is an important input-intake filter" (p. 103).

From reading this article, I learned that: (a) reduced forms might have multiple names and subparts like assimilation, mutation, contraction, liaison, and elision; (b) these issues were legitimate areas of inquiry in formal applied linguistics; and (c) the terminology he used (citing Bloomfield) was legitimate in formal linguistic research as well.

Bonus take away: All of this was personally important because, while I wanted to be known for language testing and statistical researcher methods (I was working on a book on statistical research methods, which became Brown, 1988), I also consciously wanted to develop some aspect of my research that would emphasize the linguistic part of my applied linguistics training. Having multiple specializations has served me well in terms of keeping me motivated, opening up multiple publication opportunities), and providing a number of topics for conference presentations and courses I was qualified to teach. In addition, incidentally, having one's work cited often is considered increasingly important to establishing an academic career and nothing lays down a solid basis for being cited often like being one of the early academics to establish a topic of research like CS.

Take aways for other researchers: Whether you have a preference for theoretical issues or pedagogical ones, some possible research questions related to Henrichsen's article are:

A. Theoretically speaking, I hope that linguists will continue to expand the research into CS using their technical resources to advantage:
   1. What are the many names for reduced forms in addition to the multiple names Henrichsen provided: assimilation, mutation, contraction, liaison, and elision.
   2. In other words, what are the linguistic subparts of the system that has come to be called CS? And what are the rules that underlie each of those subparts?

B. From a pedagogical point of view:
   3. How can the subparts of CS best be described and presented to learners?
   4. Which of the subparts is most important, second most important, etc. to improving listening comprehensibility and spoken intelligibility?
   5. Which of the subparts is most difficult, second most difficult, etc. to learn in improving listening comprehensibility and spoken intelligibility?
   6. In other words, more practically speaking, how can we establish an effective hierarchical order for teaching the subparts of CS to help establish a syllabus for teaching CS?

(4) Rosa, M. (2002). Don'cha know? A survey of ESL teachers' perspectives on reduced forms instruction. *Second Language Studies*, *21*(1), 49–78.

Moana Rosa's (2002; reprinted as Rogerson, 2006) study distributed a questionnaire to ESL teachers across the island of O'ahu in Hawai'i and reported on the responses of 45 teachers. Moana was a student in my "Teaching listening/speaking" course, who became interested in studying the attitudes of such teachers about reduced forms instruction. Like most researchers, she called for additional research on roles of reduced forms in natural communication, but she also called for creation and use of more authentic ESL teaching materials that would more systematically and effectively support teaching of reduced forms. I found this research interesting because it opened up my thinking about the attitudes toward CS of stakeholder groups, the teachers in this case, who can have such an important impact on the success or failure of any CS teaching or curriculum.

Take aways for other researchers: If you are interested in this line of research, the survey she used is helpfully presented in the Appendix (Rosa, 2002, pp. 77–78; Rogerson, 2006, pp. 95–97). Additional research might be productive that addresses the following questions:

1. What do teachers in other settings think about the usefulness of teaching CS?

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2. What do teachers in different types of instruction (English as a Foreign Language (EFL)/ESL, primary level, secondary level, adult education, university levels) think about the usefulness of teaching CS?
3. What do students at various levels and types of instruction think about the usefulness of teaching CS?
4. What do other stakeholders (parents, content area teachers, administrators) think about the usefulness of teaching CS?
5. For 1–4 above, how do attitudes vary for CS in speaking intelligibility or listening comprehensibility, or both?

(5) Varden, J. K. (2006). Visualizing English speech reductions using the free phonetic software package WASP. In J. D. Brown & K. Kondo-Brown (Eds.), *Perspectives on teaching connected speech to second language speakers* (pp. 127–165). University of Hawai'i at Mānoa NFLRC.

A pervasive problem I have run into in explaining CS, even with trained teachers, is that their thinking is based so solidly in the written language that they actually cannot hear CS even when it is present. One way to convince such folks that CS exists at all levels of formality and across all dialects would be to show it to them visually. Varden (2006) provides the tools for doing just that by describing and demonstrating how to use and interpret a free phonetic software package called WASP. Especially useful, I find, is his focus on the following CS phenomena: reduction to schwa, flapping, elision, and assimilation. Seeing these phenomena visually (in spectrograms, waveform displays, and pitch trace graphs) and reading his explanations makes them demonstrable and undeniable for even the most skeptical teacher, administrator, reviewer, or publisher.

Take aways for other researchers: In thinking about Varden's article, you may have been intrigued by the possibility of using this or similar software packages. If so, a wide range of research questions urgently need to be investigated:

1. To what degree and how would CS be revealed through visualization in frozen English (e.g., sermons, formal political speeches, etc.), very formal English (e.g., say a recorded speech by the late Queen Elizabeth), colloquial English, and intimate English?
2. To what degree and how do these levels of formality compare in degrees and types of CS?
3. To what degree do the dialects within the UK differ in degrees and type of CS? Within North America? Within Australia? Etc.?
4. To what degree do UK and other inner-circle Englishes (i.e., UK, North America, Australia, etc.) compare with each other in degrees and types of CS?
5. To what degree does the CS in outer-circle Englishes (i.e., India, Nigeria, Singapore, etc.) compare with each other? To inner-circle Englishes?

Pedagogical applications

(6) Brown, J. D. (Ed.). (2012a). *New ways of teaching connected speech*. TESOL.

Brown (2012a) is an edited collection of 120 modules for teaching CS on a wide range of subtopics: written/oral differences, getting learners to accept CS, word stress, weak/strong forms and schwa, transitions, dropping sounds inserting sounds, changing sounds, contractions/blendings, and putting it all together in CS. This book was meant to serve as a resource for ideas to help those interested in teaching CS in ESL/EFL classrooms. Thus, I included in my original call for modules a mandatory organizational structure so that all of the modules would be comparable in organization, clear, and self-sufficient. This structure included brief descriptions of appropriate learner levels, the aim(s) of the module, class time involved, preparation time, a brief introduction, the procedures (step-by-step), caveats, and options that could be used to expand the module, and appendixes that basically contained any necessary materials.

Yes, Weinstein (1982), discussed in the previous section (as well as her 2000 2nd edition), provided examples of several exercise formats for teaching CS for listening organized around different reduced

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forms, and Brown and Crowther (2022) provides exercises near the end of each chapter that systematically teach receptive and productive CS organized around the various CS subcategories. However, Brown (2012a) was the first to provide 120 lesson modules with a wide variety of exercises for teaching CS for listening and speaking grouped into the CS subcategories into which the rules of CS fall. These many modules created by teachers all around the world also attest to wide-ranging teacher interest in teaching CS.

Bonus take away: In the 1990s, I submitted a proposal for this edited collection to the publication editor at TESOL, and the idea was rejected out of hand. Later, a new editor took over and asked me to revise Brown (1998) for a second edition, which I did in Brown (2013). At the same time, I brushed off the same proposal I had previously submitted to the same publisher, sent it in again, and found that it was quickly accepted (becoming Brown, 2012a). Clearly, you should never give up on a book proposal that you have faith in.

Take aways for other researchers: Brown (2012a) illustrates that practicing ESL and EFL teachers have many innovative ways to deal with teaching all aspects of CS, which raises interesting and researchable questions:

1. What materials are currently available for teaching CS (see Brown, 2006 for a starting point and suggested methodology).
2. What percent of teachers in fact do teach CS in given situations? And, what materials do they use?
3. How do EFL and ESL teachers differ and compare in methods of teaching CS?
4. How do teachers use authentic materials to teach CS?

(7) Cahill, R. (2006). Teaching reduced interrogative forms to low-level EFL students in Japan. In J. D. Brown & K. Kondo-Brown (Eds.), *Perspectives on teaching connected speech to second language speakers* (pp. 99–125). University of Hawai'i at Mānoa NFLRC.

Many who have attended my lectures and presentations on CS have commented that CS is probably important, but only for advanced level learners and shouldn't be taught until the later stages of learning English. Thinking back on when my Japanese nephew-in-law, Joji, stayed with us for a few weeks and learned some English by playing with the neighborhood children, I remembered that he came home with chunks like *gimme* for *give it to me*, *'smine* for *it is mine*, and *stobit* for *stop it*. His learning could not have been at any lower level, yet he came home with English that he could understand and use that was nothing if not chunks of CS. Nonetheless, I had to admit that much of the research that had been done from 1982 onward had focused on relatively high-level university learners (e.g., Brown & Hilferty, 1986a, 1986b; Henrichsen, 1984; Ito, 2001, 2006; Weinstein, 1984). Matsuzawa (2006) broke with this trend by providing a small-scale demonstration (pretest and posttest) that a group of relatively low-level Japanese college graduates initially lacked listening comprehension ability with regard to reduced forms, who in the end improved that ability.

More to the point, I learned from Cahill (2006) how a number of issues related to teaching reduced forms to low-level learners (i.e., the importance of reductions in spoken English, phonetic symbols vs. written language, comprehension vs. production of reduced forms, and potential problems in teaching reductions) can be dealt with, and more specifically how to successfully teach contractions and reduced forms in interrogatives (i.e., yes/no questions and wh-questions) to low-level EFL learners at a Japanese high school.

Take aways for other researchers: Later, Underwood and Wallace (2012) also studied successful teaching of reduced forms in terms of listening comprehension and speaking development with 52 low-proficiency Japanese EFL students. If you also find the ways these studies grappled with teaching CS to lower-level learners in EFL settings useful, you should also recognize that much more work needs to be done to understand the CS issues involved with beginning and intermediate ESL/EFL students in the following research questions:

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1. How do the needs for learning CS differ for ESL vs. EFL students, especially low-level ones?
2. What differences are there in the ability to learn CS for lower vs. higher level ESL or EFL learners.
3. What approaches are most effective for teaching CS to learners in high schools, junior high schools, and elementary schools in ESL vs. EFL settings?
4. To what degree is authentic English laced with CS motivating to low-level learners? Mid-level? High-level? And how does motivation vary across levels of proficiency?
5. How do children who are learning English "in the wild" deal with CS?

(8) Brown, J. D., & Trace, J. (2018). Connected-speech dictations for testing listening. In G. Ockey & E. Wagner (Eds.). *Assessing L2 listening: Moving towards authenticity* (pp. 45–63). Benjamins.

Research on testing CS can be traced back at least to Bowen's (1976) article, in which he described what he called an Integrative Grammar Test (IGT) that he had developed to assess the comprehension of reduction in ESL/EFL Listening. "The IGT uses as a means of reducing the clarity of the message the normal reductions, assimilations, and contractions of informal spoken English" (Bowen, 1976, p. 30). The IGT inspired me to take a personal interest in language testing and to enroll in other course on measurement and research design topics. After 42 years of working on CS, I am still fascinated by CS dictations (aka REDUCED FORMS DICTATIONS). For example, in Brown and Trace (2018), Jon and I included three different types of dictations: traditional academic, narrative, and CS dictations along with a number of different multiple-choice listening subtests. Using Rasch analysis and structural-equation modeling to understand the relationships between and among these different measures, we concluded (on p. 61) that: (a) substantial differences exist between traditional multiple-choice (MC) listening tests and dictations designed to measure CS, but they also overlap in certain respects; (b) what we call COLLOQUIAL listening and ACADEMIC listening seem to be distinct constructs; (c) the CS dictation seems to represent this colloquial construct, while the MC listening tests seem to focus mostly on academic English; (d) measures focused only on comprehension of meaning (like dictations) appear to tap into features of spoken English like CS; (e) CS is not solely limited to informal speech, but may also be found in academic contexts; (f) because students will probably need to communicate colloquially in informal academic settings as well as in the real world (to interact socially, shop, etc.) tests like the CS dictation could provide useful additional information about learners' ability to use English in multiple roles and contexts.

Take aways for other researchers: In terms of testing CS, one option is to use the Bowen IGT or reduced-forms dictations used in Brown and Hilferty (2006) (described above). Other ideas for measuring CS can be found in Brown and Kondo-Brown (2006a, including a description of the reduced forms dictation on p. 249), as well as adapted from the exercises described in Brown (2012a), Weinstein (1982, 2000), and Brown and Crowther (2022, near the ends of each chapter)—all of which provide numerous additional ideas for teaching and measuring specific aspects of CS for both listening and speaking. If you are interested in testing CS the following research questions could serve as a starting point:

1. How do different methods of measuring CS perform? In terms of reliability? Validity? And usability?
2. To what degree are measurements of CS for listening and speaking correlated?
3. To what degree are measurements of CS related to traditional measures of listening in settings other than the one used in Brown and Trace (2018)?

For those interested in the more general area of teaching CS, the following research questions might prove useful:

4. To what degree are the abilities to deal with CS for listening and speaking correlated?
5. To what degree are the abilities to deal with CS related to traditional measures of listening (as a starting point, see Brown & Trace, 2018)?

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6. To what degree are academic listening and speaking different from and related to other types of listening and speaking (e.g., conversational listening and speaking)?
7. To what degree is CS in academic listening and speaking different from and related to CS in other types of listening and speaking (e.g., conversational listening and speaking)?
8. To what degree are suprasegmentals (including CS) important in academic listening and speaking and other types of listening and speaking (e.g., conversational listening and speaking)?

Teacher training books that treat connected speech with respect

(9) Gimson, A. C. (revised by Cruttenden, A.) (2001). *Gimson's pronunciation of English* (6th ed.). Arnold. [or any later edition]

Peter Ladefoged, one of my phonology teachers at UCLA, served as a role model not only because he was often funny in class but also because he was a respected linguist who articulated the CS I was seeing and interested in. For example, he wrote:

> There is, of course, nothing slovenly or lazy about using weak forms and assimilations. Only people with artificial notions about what constitutes so-called good speech could use adjectives such as these to label the kind of speech I have been describing … Weak forms and assimilations are common in the speech of every sort of speaker of both Britain and America. Foreigners who make insufficient use of them sound stilted. (Ladefoged, 2015, p. 119)

Thus, he legitimized the ideas in what I am calling CS. However, he didn't do much more with it than what I quoted above and expand on the notions of weak and strong forms.

The well-respected British linguist A.C. Gimson first published his now classic book designed for linguistics students interested in pronunciation in 1962. When I first encountered the 6th edition, Gimson (2001), I suddenly knew that CS stood on very solid ground because this book devoted over 50 pages to CS. While the focus of this work was primarily on British English, I was immediately struck by how similar the rules he was laying down for CS in the UK were to those for my own North American dialect. However, working my way through Gimson's work, I began to see that in addition to the many similarities there were striking differences in the way CS functions in British and North American Englishes.

Take aways for other researchers: As a result, the following questions are not only imminently researchable but will also profitably advance both theoretical and applied linguistics:

1. What are the key features of CS in British English received pronunciation? How do they differ among major dialects in the UK?
2. How do the features of CS in British dialects differ from the key features of North American English (as well as Australian, NZ, South African, etc. Englishes)
3. How do the features of CS in outer circle Englishes (like English in India, Nigeria, etc.) differ from inner-circle Englishes?
4. What are the similarities in the features of CS between various pairs or among groups of the Englishes listed in 1–3 above?

(10) Celce-Murcia, M., Brinton, D. M., & Goodwin, J. M. (1996). *Teaching pronunciation: A reference for teachers of English to speakers of other languages*. Cambridge University Press.

Focused primarily on North American English (NAE), Celce-Murcia et al. (1996) is an excellent text for teacher training in pronunciation covering important topics like: (a) the basic sound system (consonants and vowels), (b) the sound system and orthography, grammar, listening, and (c) implementation issues (teaching, curriculum, & testing/evaluation). More relevant to this paper, Chapter 5 provides 45 full pages (pp. 131 to 175) on stress, rhythm, and what they call CS adjustments. The

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second edition (2010) basically covers the same topics with some expansion and updates. For example, the chapter on CS, stress, and rhythm is 58 pages long (pp. 163–220) and focuses more directly on CS.

Celce Murcia et al. showed how word and utterance stress and timing are important to and perhaps inseparable form CS. They also began the process of describing the CS of NAE systematically. Importantly from the teachers' perspectives, knowledge of International Phonetic Alphabet (IPA) transcription has important pedagogical value " … in helping learners of English approximate these sounds" (2010, p. 52 footnote 2, & p. 459). However, in addition to helping students understand consonant and vowel pronunciation, IPA is essential for helping teachers and learners perceive and understand the processes underlying CS. In addition to further legitimizing my rule-gathering efforts for NAE, this book clearly influenced our thinking in writing Brown and Crowther (2022).

Take aways for other researchers: Working my way through Celce-Murcia et al. (1996, 2010), I realized that by-and-large they were describing my California dialect. Naturally, there are numerous other dialects in North America that are similar to mine, which raises a number of imminently researchable questions that you might finding interesting:

1. What are the key features of CS in NAE pronunciation?
2. Are there features of CS in NAE that are not described in Celce-Murcia et al. (2010)?
3. How are the features of CS similar and different among and across the major dialects in North America?

(11) Brown, J. D. & Crowther, D. (2022). *Shaping students' pronunciation: Teaching the connected speech of North American English*. Routledge.

This book was meant as a teacher training book that explains CS phenomena without overusing jargon and arcane explanations. Dustin and I begin it by explaining the theoretical and practical justifications for teaching CS, then briefly describes the phonemes (i.e., consonants, vowels, and diphthongs) of spoken NAE, and explores how CS is related to word stress, utterance stress, and timing. We break down the discussion of CS proper into chapters on phoneme variations, simple transitions, dropping sounds, inserting sounds, changing sounds, and how these CS phenomena occur simultaneously and interact with each other. Each chapter includes: (a) clear descriptions of exercises that teachers can use with their ESL/EFL learners (including audio samples of CS production available online at Routledge); (b) suggested resources for more ideas; and (c) review questions to aid comprehension for teachers/trainees reading the book. In the many years it took to do this book, I/we discovered and compiled in one place an intricate system of rules (what we prefer to call DRUTHERS in the book) that govern the various aspects of CS with abundant examples of each.

Bonus take away: My interest in reduced forms and later CS dates back to 1981. Early on, I began looking for someone in applied linguistics to write a book on CS. Eventually, I got tired of waiting and produced the Brown and Kondo-Brown (2006b) collection of articles hoping that that book would stimulate someone to write a book dedicated to CS, but none appeared so I waited some more. Then, I edited the Brown (2012a) collection of modules for teaching CS hoping that it would stimulate someone to write a book dedicated to CS, but none appeared. Finally, tired of waiting and nearing the end of my career, I decided to write the book myself, which is now being published as Brown and Crowther (2022) with the very valuable contributions and perspectives of my colleague Dustin Crowther. Finally, a book dedicated to CS has appeared three years after my retirement from University of Hawai'i at Mānoa (UHM). Clearly, if you have a good idea for a book that someone should write, maybe that someone is you.

Take aways for other researchers: If you are interested in the rules-based approach taken by Brown and Crowther (2022), you might find that the following questions (taken directly from that book, p. 187) will serve as a useful starting point:

1. Which specific CS processes tend to be most active at the various levels of formality in NAE?

https://doi.org/10.1017/S0261444822000441 Published online by Cambridge University Press

2. Is there a hierarchy in which CS processes are applied first, second, third, etc. as the language becomes increasingly less formal? More simply, should teaching certain CS processes take priority over others?
3. In what ways might the CS processes described in this book, with an emphasis on NAE, differ for other varieties of English in the UK, Canada, Australia, etc.? How about for well-documented 18.3 above outer-circle Englishes, like those spoken in India, Singapore, and Nigeria? Or, even what we sometimes see as developing Englishes, like the variety spoken in China or the Netherlands?

Stepping back a bit

(12) Levis, J. M. (2005). Changing contexts and shifting paradigms in pronunciation teaching. *TESOL Quarterly*, *39*(3), 369–377.

After my reading took me back to Levis (2005), I knew I had to acknowledge that not everyone was as excited about CS as I was. His article provides an overview of the changes and shifts in the paradigms underlying the teaching of pronunciation as he saw them including his contention that pronunciation teachers promoting intelligibility have stressed suprasegmentals over teaching the segmentals (individual phonemes) during the past quarter century (p. 368). While that may be true at the theoretical level (i.e., among the teacher trainers interested in pronunciation), the hundreds of ESL/EFL teachers in the trenches that I had talked to and observed over that same period of time had most often admitted to teaching only the segmentals and getting poor results. Seldom have they claimed to spend much time at all tackling suprasegmentals, including CS (i.e., word or utterance stress and the CS rules for how those phonemes are connected), much less to having considered the idea of intelligibility.

In fairness, though, I also learned from Levis (p. 376) that (a) "… pronunciation theory, research, and practice are in transition. Widely accepted assumptions such as the primacy of suprasegmentals, the superiority of inner-circle models, and the need for native instructors have been rightly challenged." And (b) "Users of English who interact professionally in inner-circle contexts may need to adjust to an inner-circle model, but English users in the outer or expanding circle may find that inner-circle models are inappropriate or unnecessary (Jenkins, 2000)." Certainly, in order to serve the students' actual English learning needs, it is crucial to take into account the contexts where learners are likely to use English in the real world. And no doubt, once those contexts are accounted for, the teaching of the phonemes of whatever English is the target of instruction should serve as an important STARTING POINT. However, teaching the phonemes over and over again will never improve the pronunciation of the learners unless they are also taught the rules for how those phonemes vary and work together in different contexts because of word and utterance stress, transition, insertion, dropping, assimilation, and the interactions of all those phenomena (known collectively as CS). To focus only on the phonemes of the language without teaching the CS that connects them together is like presenting only the words of English without explaining how grammar connects them together. Nonetheless, Levis' article helped me to pull back a bit and see CS from a more realistic perspective.

Bonus take away: One day about a dozen years ago, I was talking with my colleague Sandy McKay in my office at UHM. She asked me what I was working on, and I mentioned that I had started my book on CS. Sandy then asked what I thought about the pronunciation work of Jenkins, Levis, and others, and I had to plead ignorance. Naturally, I could not let that state of affairs continue so I began reading articles in the areas of English as a lingua franca (ELF), English as an international language (EIL), and Global Englishes (including Levis, 2005). She surreptitiously coaxed me along by seeing to it that I was invited to write an article on EIL curriculum (Brown, 2012b) and work with her on a book entitled *Teaching and assessing EIL in local contexts around the World* (McKay & Brown, 2015).

My point is that major new theories and perspectives can arise within our field (like English as a Lingua Franca, EIL, and Global Englishes in this case) without you even being aware of them. Once that new

https://doi.org/10.1017/S0261444822000441 Published online by Cambridge University Press

world opened up, I found that such learning was one of the true joys of being a professor who is paid to do research because of the ways such learning expanded and greatly enriched my academic life.

Take aways for other researchers: Whether they should dominate or not in pronunciation teaching, suprasegmentals (and therefore CS) are still important topics. Some questions that you might find interesting to research in this respect are as follows:

1. To what degree are the grammar and pronunciation of SPOKEN English taught? In textbooks? In classrooms? In EFL settings vs. ESL settings?
2. How important is CS (and other suprasegmentals like intonation, pitch, loudness, length, etc.) to comprehensibility and intelligibility in learner/learner, learner/native speaker, and native speaker/learner interactions?
3. To what degree should issues of intelligibility in speaking be based on native speaker perceptions vs. learner perceptions? What are those learner perceptions?
4. To what degree are comprehensibility and intelligibility issues in listening, in speaking, or in both interactively?
5. To what degree do students need to first have a strong grounding in the pronunciation of the individual segmentals (i.e., the phonemes) of English before they can effectively be taught suprasegmentals, including CS?

Conclusion

Research on reduced forms and CS is still in the beginning stages. I am hoping that this discussion of the literature that has influenced/motivated me, along with some of my own work, will similarly influence/motive budding researchers in training around the world in search of a research topic for their thesis or dissertation and, perhaps, for their life's work. I purposely structured this paper to show a more or less historical progression: (a) from the early research that influenced me (numbers 1–5), (b) to the development of pedagogical applications (6–8), (c) to the establishment of teacher training textbooks that finally showed some respect for CS (9–11), and (d) to stepping back a bit for perspective on CS within the historical context of pronunciation issues more broadly (12). All the while, I showed how my view of what was going on shifted especially from a lexical view of REDUCED FORMS to a rules-based view of CS.

I also explained what I learned from each publication: (1) the results of Brown and Hilferty (1986a) indicted that REDUCED FORMS could be taught and learned, and were interesting enough for me to pursue a career-long interest in the topic, especially because they were not reflected in standardized listening comprehension tests, but working on this study also led me to thinking more about the rules-based approach suggested in the notion of CS; (2) the materials in Weinstein (1982) and her other work expanded the range of reduced forms that I would consider and further boosted my sense that teaching and researching this topic were legitimate; (3) Henrichsen (1984) helped me realize that reduced forms have many names and subparts (e.g., assimilation, mutation, contraction, liaison, and elision) that are not only legitimate areas of inquiry in applied linguistics but also in formal linguistic research; (4) Rosa (2002) helped me recognize that authentic materials might be important to teaching CS and that the attitudes toward CS of stakeholder groups (e.g., teachers, students, administrators) can vary and be crucial to success in CS teaching and CS curriculum design; (5) Varden (2006) revealed how CS phenomena can be demonstrated visually in spectrograms, waveform displays, and pitch trace graphs that make them undeniable to even the most skeptical teacher, administrator, reviewer, or publisher; (6) Brown (2012a) was the first to provide 120 teacher contributed modules with a wide variety of CS listening and speaking exercises grouped into the CS subcategories, which incidentally attested to wide-ranging teacher interest around the world in teaching CS; (7) Cahill (2006) was the first place I found ways to tackle the issues involved in teaching CS to EFL Japanese high school learners and more specifically, strategies for teaching contractions and interrogatives to such learners; (8) in terms of testing CS, Brown and Trace (2018) demonstrated that there

https://doi.org/10.1017/S0261444822000441 Published online by Cambridge University Press

are substantial differences between traditional multiple-choice (MC) listening tests and dictations designed to measure CS; that there may be a distinct construct called COLLOQUIAL LISTENING; that CS is not limited to informal speech; and that CS dictations might prove particularly useful because they appear to measure the abilities to comprehend English in multiple roles and contexts not tested by traditional MC listening tests; (9) Gimson (2001) taught me that CS stood on solid ground in British English and laid out fairly extensive rules for UK CS that very seemed similar to those I was discovering for my own North American dialect; (10) Celce-Murcia et al. (1996), in addition to further legitimizing my rule-gathering efforts for NAE, clearly influenced our thinking in writing Brown and Crowther (2022); (11) Brown and Crowther (2022) is devoted entirely to CS and provides alternative sets of rules for teaching various aspects of CS in NAE along with ample examples. And of course, this book along with (10) and (11) are the first textbooks I have found that treat CS with respect; and finally, when I recently discovered (12) Levis (2005), it provided me with a healthy perspective that would only somewhat temper my enthusiasm for CS by reminding me that all teaching and curriculum—of pronunciation or otherwise—must take into account the contexts in which they will be implemented as well as the needs of the students.

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Cite this article: Brown, J. D. (2024). JD Brown's essential bookshelf: Connected speech. *Language Teaching*, *57*(4), 562–574. https://doi.org/10.1017/S0261444822000441

https://doi.org/10.1017/S0261444822000441 Published online by Cambridge University Press