

Japanese Pronunciation of English

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This paper examines four sources of descriptions of Japanese pronunciation of English (JPE): EFL textbooks, ESL teacher reference books, broad scholarly descriptions, and empirical studies. The paper (a) informs the pronunciation teacher and researcher of the types of descriptions of JPE that are available; (b) compares and contrasts assumptions, informal observations, and formal findings about JPE that have been made; (c) points out the need to establish a better consensus than exists at present about what characteristics define JPE; and (d) makes suggestions for future research on JPE that would be useful pedagogically.

日本人の英語の発音についての記述

本研究は、EFL用の教科書、ESL教師用参考書、一般的専門書、研究調査報告に於ける日本人の発音の特徴（JEP）の記述を検証する。現存するJEPの記述を紹介し、それらの唱える前提、観察結果、調査報告を比較検討することによって、より明示的な記述の必要性を指摘し、JEPの今後の研究に対して発音指導に役立つような提案をする。

1. Introduction

The teaching of second language (L2) pronunciation in Japan and elsewhere has traditionally focused on an articulatory phonetics approach (e.g., Fries, 1945) based on contrastive analysis of the native language and the target language. Although recent approaches have shifted the focus to a number of factors (e.g., see Morley, 1991), one similarity between the traditional approach and more recent approaches is that neither has placed emphasis on describing and understanding the *developing* language of the learner. While the teaching of pronunciation is probably undergoing more changes now than at any time in its history, little attention is being devoted to describing the pronunciation that is apparently in need of remediation.

The dearth of research in the area of L2 pronunciation is more understandable in ESL classroom settings in the USA or the UK than it is in EFL classroom settings such as those in Japan. In linguistically heterogeneous ESL pronunciation classes, it is unrealistic to expect teachers to have on hand and to use descriptions of the many and changing native language (L1) groups appearing from term to term. But in linguistically homogeneous EFL classes,

such as those in Japan, it is reasonable to expect that descriptions of learner language be available to provide a frame of reference for observing and understanding the acquisition of pronunciation and for planning and implementing the teaching of pronunciation.

This paper reviews the literature on Japanese pronunciation of English (JPE) in order to inform the L2 pronunciation teacher and researcher of the types of descriptions that have been published so far, to compare and contrast some of these different descriptions, to identify research and pedagogical problems and issues, and to suggest procedures for future research that may contribute to a more comprehensive and useful description of JPE in the future. It is only with such a description in hand that one may begin to identify some of the issues and priorities for the teaching of English pronunciation to native speakers of Japanese.

We begin by briefly reviewing the adult acquisition of L2 pronunciation from three different theoretical perspectives: contrastive analysis, error analysis, and interlanguage. Then we consider four genres of literature available in English that describe JPE: (a) EFL student textbooks in Japan, (b) ESL teacher reference books outside of Japan, (c) broad and impressionistic scholarly descriptions, and (d) empirical studies. We examine, compare and contrast selected assumptions, observations, and empirical findings of JPE from these descriptions under four headings: (a) suprasegmentals, (b) syllable structure and phonotactics, (c) segments and features, and (d) articulatory setting. We conclude by summarizing, with reference to descriptions of JPE, some of the current issues and priorities with regard to L2 pronunciation research and pedagogy, and by making recommendations for further research. (The system for phonetic transcription used in this paper is IPA, except where /I/ and /U/ represent, respectively, the English high-front and high-back lax vowels.)

2. Theoretical Perspectives on L2 Pronunciation

Contrastive analysis (CA) refers to an area of applied linguistics in which the comparison and contrast of the L1 and a target language (TL) is related to the acquisition of the L2. In what came to be known as the "strong version" of CA (Lado, 1957), the claim was that a CA of the L1 and TL phonologies would equip one to predict all errors in the learner phonology. Moulton (1962) refined CA by classifying segmental errors into four categories: phonemic, phonetic, allophonic, and distributional, and Stockwell and Bowen (1965) refined CA further by identifying degrees of difficulty which, they claimed, could be predicted by degrees of differences between the L1 and TL phonological systems. One problem with all of the versions of CA above is that

they were based entirely on descriptions of the L1 and the TL, and not at all on any description or “error analysis” of the language that the L2 learner actually produced.

Mounting evidence based on error analyses of learner language eventually undermined the strong version of CA, and Wardhaugh (1970) proposed an a posteriori “weak version of CA” that disclaimed any predictive value for CA but stressed the value of CA to explain *some* errors—*after* they occurred. The potential of the weak version of CA for explaining the structure of adult acquisition of TL phonology, however, was subsequently largely ignored due to a growing interest in linguistics in syntax in the late 1960s, and a growing interest in applied linguistics in grammatical errors in the 1970s (see Dulay, Burt, and Krashen, 1982).

Selinker (1972) introduced the concept of “interlanguage” (IL) shortly after the error analysis research had begun. In the phonological domain, IL describes the “L2 learner accent” as an intermediate and evolving but rule-governed system developing between the L1 and the TL. In contrast to “error” analysis, IL studies approach language learning from a constructive point of view, treating the learner language as an “approximative system” (Nemser, 1971) that systematically, subject to certain processes and constraints, approaches the TL. Tarone’s (1978) summary of IL variables includes negative transfer, L1 acquisition processes, overgeneralization, approximation, avoidance, inherent difficulty, tendency toward a CV pattern, tendency of articulators to come to a rest position, and various emotional and social constraints. In the past few years, James and Leather (1986) and Ioup and Weinberger (1987) have edited collections of studies that have identified additional IL variables. While the number of variables believed to be formative in adult IL phonology has continued to multiply, the status of L1 as a major variable has never been seriously questioned. The assumption that CA has strong explanatory power is central to all four genres of descriptions of JPE that we examine.

3. Four Genres of Descriptions of JPE

Based on a study of the English pronunciation of native speakers of Arabic, Persian, Thai and Japanese, Suter (1976) reported that, of 20 variables, “native language is an especially good predictor of pronunciation accuracy in English” (p. 246). In a subsequent paper, based on the same study, Purcell and Suter (1980) compiled a “profile of non-native speakers who are most likely to pronounce English poorly” (p. 285) and then determined that Japanese ESL learners fit the profile. Whether or not Japanese ESL speakers actually have

poorer pronunciation than other groups is debatable. Less debatable is the fact that many Japanese adults learning to speak English, like others who have attempted to learn to speak L2 as adults, have a distinct L2 accent that is related to their L1. But is there a consensus about what characterizes JPE, about which features are acceptable and which are unacceptable, and about what the priorities should be with regard to teaching English pronunciation to native speakers of Japanese?

In order to address this question, we have considered much of the related literature that is available in English, and that describes, or claims to describe, Japanese pronunciation in English. We have grouped examples of this literature into four categories below.

3.1 EFL pronunciation textbooks in Japan

Some EFL pronunciation textbooks are explicitly directed at the Japanese learner, and one might expect from them some descriptions of JPE. Grate's *English Pronunciation Exercises for Japanese Students* (1974), however, makes no reference, beyond page 1 and through the next 112 lessons, to Japan, the Japanese language, the Japanese learner, or JPE. Taylor's *Say It Right. Pronunciation Practice for Japanese Students* (1982) focuses on the *differences* between Japanese and English (rather than on JPE) and devotes approximately the same amount of space to *each* English segment regardless of the degree of difficulty it poses for the Japanese learner. Some other EFL textbooks in Japan provide more guidance. Brown (1970), now beyond its 20th printing, includes some observations of the Japanese context, the Japanese learner, and JPE. A text published by the Seido Language Institute (1974) also includes some observations of JPE. Furthermore, both Brown and Seido suggest a few pedagogical priorities (although their priorities differ more than one might expect, as will be pointed out below).

All four EFL textbooks above are similar and typical of pronunciation texts in Japan in that they are largely or entirely behaviorist in orientation and manifest a traditional articulatory and audiolingual approach to the teaching of pronunciation. Brown (1970), for example, wants his students to "mimic and memorize" (p. 5), because "learning a language is not learning a body of facts, it is learning a set of habits. The habits are first formed by imitation and then confirmed by practice." (pp. 22-23)

3.2 ESL teacher reference texts outside of Japan

The four EFL textbooks above were designed for the Japanese setting in which English is a *foreign* language, and all learners typically share the same

native language, Japanese. ESL teacher reference texts produced to assist in the teaching of English as a *second* language in North America and in the UK are different in that they are written to be used in classes in which the students come from linguistically heterogeneous backgrounds. If these ESL teacher reference texts describe JPE at all, then they do so alongside descriptions of the English of learners of other L1 groups (e.g., Spanish and Arabic) that are frequently present in ESL classrooms. Two examples of ESL teacher reference texts (both with a British “Received Pronunciation” target dialect) that have dealt with Japanese problems are those by Kenworthy (1987) and editors Swan & Smith (1987). Both appear to be relying on an a posteriori weak version of CA, that is, they explain observed errors, after they occur, on the basis of L1-TL contrasts.

These two teacher reference texts are useful in that they provide an overview of areas of possible pronunciation difficulty for the Japanese learner of English. Sometimes the descriptions in these texts, however, are highly impressionistic. Thompson, in Swan & Smith (1987), for example, tells us that the “Japanese have an amazing ability to hear the unspoken word” (p. 213). Both Kenworthy and Thompson describe JPE at the phonemic rather than the phonetic level, in terms of what JPE “sounds like” to native English listeners. Kenworthy (1987) tells us that “Japanese /b/ may sometimes be pronounced almost like a /v/” (p. 149); Thompson (1987) tells us that “/v/ may be pronounced as /b/” (p. 214).

3.3 Broad and impressionistic scholarly descriptions

Although it is somewhat dated and prescriptive in tone, one of the most comprehensive and informative contrastive analyses of Japanese and English that includes observations of JPE is that by Kohmoto (1969). Kohmoto addresses “degrees of difficulty” (p. 145) and bases some of his descriptions on actual tape recordings of JPE. Anyone desiring a more current and thorough understanding of the structure of Japanese, and the contrasts between Japanese and English, will want to refer to Vance (1987). Vance does not describe JPE directly, but his frequent descriptions of Japanese with reference to English offer insights into wide-ranging aspects of JPE.

Another general source of insight into the structure of JPE can be found in a series of descriptions produced by Pennington (e.g., 1987, 1988a, 1988b, 1990). A significant part of Pennington’s work is directed at using examples of JPE to explain IL phonology rather than to describe the JPE system per se. Another part of her work is pedagogically motivated to enlighten and improve the effectiveness of the teaching of pronunciation. While Pennington intro-

duces new IL variables (e.g., the effect of Japanese instructional and learning strategies), she maintains a central role for the influence of L1 structure on L2 structure (e.g., 1990, p. 553). Unfortunately, Pennington's various descriptions of JPE are scattered among conference proceedings and working papers that are not widely available. Pennington (1987), however, anticipates publishing a "discussion of the phonetic and distributional details of individual phonemes in future work" (p. 9), and from that one may expect to learn a great deal.

3.4 Empirical studies

One finds numerous empirical studies of JPE (and other L1-TL combinations) in second language, phonetics, and speech communication research journals, and in recent anthologies (e.g., Ioup & Weinberger, 1987; James & Leather, 1986). Many of these studies of JPE involve adult Japanese speakers learning English in either the USA or Japan, and focus on only one or a few selected features of the learner language. These studies reflect a variety of different theoretical perspectives, including L1-L2 transfer theory (Lado, 1957), variation theory (Dickerson, 1975), markedness theory (Eckman, 1977), and developmental theory (Major, 1987).

The empirical IL studies, often focused on a particular phonological structure or process and how it patterns across different L1-TL combinations, do not provide an overview of the IL phonology. These studies tend to depict ILs as they are theoretically described—as evolving, rule governed systems that gradually approximate the target language. While IL issues (e.g., the role of universals and markedness) are of interest on independent grounds, the concerns of IL theory per se are beyond the scope of this review of the JPE literature. We are interested, however, in what some of these IL studies have produced in the way of descriptions of JPE and we will return to these studies below.

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In this section, based on examples drawn from the four genres of texts above, we juxtapose and examine some of the descriptions of JPE that have been published thus far. A collection of such descriptions in a paper of this size is of course not meant to be exhaustive but instead representative of the types of descriptions and findings that are available, and to give examples of the types of problems and issues that compiling a broader more comprehensive description might involve. In light of the fact that all four genres of descriptions of JPE reviewed above rely heavily on CA, we begin each section below with a brief CA in order to shed light on the discussion of JPE that follows in that section.

4.1 *Suprasegmentals*

“Suprasegmentals,” sometimes called “prosodic forms,” include stress, pitch, rhythm, intonation, and juncture. English is often described as a “stress-timed language” in which the interval between stresses is approximately of equal duration. Japanese is often described as a “syllable- (or mora-) timed language” in which each syllable is approximately of equal duration. Although there is some disagreement about whether Japanese embodies syllable timing, and even about whether the syllable versus stress timing distinction is valid (for discussion, see Roach, 1982; Dauer, 1983), it nevertheless appears that basic differences between English and Japanese stress and accent patterns pose problems for the Japanese learner.

According to Pennington, who bases her description of English suprasegmentals on Brazil, Coulthard, & Johns (1980), pragmatics and semantics play less of a role in Japanese suprasegmentals than they do in English. In English, “sentence rhythm is determined to some extent by information structure” and “words which carry the greatest informational load—that is, words which are key to the message intended by the speaker—are also the words which are strongly stressed” (Pennington, 1987, pp. 9-10). Pennington states that in Japanese “context can affect the pitch of a syllable and can cause devoicing of a vowel, palatalization and other kinds of effects, some of which also occur in English.” She maintains, however, that the “phonological effects of context in English are apparently more extensive than in Japanese” (p. 10).

The EFL pronunciation textbooks that we examined provided little information about JPE suprasegmentals. One teacher reference text (Thompson, 1987, p. 215) stressed the importance of teaching suprasegmentals and contrasted the differences between Japanese and English, but did not describe JPE suprasegmentals or explain why they are problematic. The other text, Kenworthy (1987), attaches more importance to rhythm and stress than to intonation: “Intonation may well be less of a problem for learners than the features of rhythm and stress, and consonants and vowels. It has been observed that in Japanese the transitions between pitch levels seem to be more abrupt than in English, but if this feature is transferred to English this will not lead to unacceptable patterns.” (p. 151)

Empirical studies of JPE suprasegmentals usually point out the presence of an L1 influence. Watanabe (1988) investigated the perception of sentence stress by Japanese students and English native speakers, and discovered that when pitch was held constant across two syllables and stress was changed, the

Japanese had considerable difficulty identifying the stressed syllable, suggesting that the Japanese students used pitch as the cue for stress (rather than loudness or length). Bond and Fokes (1985) found that Japanese ESL learners tend to produce syllables of similar time length or duration, supporting the theory that JPE is characterized by a syllable-timed rhythm similar to that of Japanese.

4.2 Syllable structure and phonotactics

"Syllable structure" is often described, compared and contrasted in terms of consonant and vowel distribution. Accordingly, syllables are called "open" (i.e., ending in a vowel, the characteristic syllable in Japanese) or "closed" (ending in a consonant, the characteristic syllable in English). The contrasts between Japanese and English syllable structure are striking. Standard Tokyo Japanese is often described as having no consonant clusters (excluding glides), and no obstruents (stops and fricatives) in its syllable codas. English syllable structure presents a dramatic contrast: 47 consonant clusters in initial position and 169 consonant clusters in final position (Prator and Robinett, 1986, pp. 175-79). Related to syllable structure is "phonotactics," the system by which phonemes or classes of sounds may be ordered in a language, and Japanese and English present multiple contrasts in this area, too.

Both Japanese EFL pronunciation texts and ESL teacher reference texts favor a focus on segments in isolation over segments in clusters, perhaps because English clusters may appear to be too many and complex to deal with. Some texts deal with clusters by describing what usually happens to them in the learner language—generally, either a consonant is deleted or a vowel segment is inserted (called "vowel epenthesis"). Both Kenworthy (1987) and Thompson (1987) state that the normal process in JPE is vowel insertion. In one empirical study of Japanese, however, Saunders (1987) investigated word-final voiceless stop-sibilant clusters, and found that reduction, and not vowel insertion, was the favored syllable simplification strategy.

4.3 Segmentals and features

"Segmentals" are the vowel and consonant units (phonemes and allophones) of a language. "Features" are the phonetic characteristics such as voicing and aspiration that may characterize a segment and that may (in the case of voicing) or may not (in the case of aspiration) distinguish it from other segments. Both segmentals and features are subject to some variation related to dialect and register.

Consonants. Standard Tokyo Japanese includes the following consonants: /p, t, k, b, d, g, ts, s, z, m, n, r, h, y, w/. The Japanese "r" is often a flapped sound,

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/r/, similar to the “t” in American English “city.” The forms */p, t, k/* are usually, but not always, described as unaspirated. Certain consonants (e.g. */s/*) have allophones (e.g., [ʃ]) occurring before high vowels. A mora nasal conventionally represented as */N/* becomes */m/* before */p, b, m/*, */n/* before */t, d, n/*, and */ŋ/* before */k, g, ŋ/*. Japanese also has a mora obstruent represented as */θ/*, which is always realized as the same obstruent that follows it, creating a geminate (or “double”) consonant. Only */ŋ/* and */θ/* can close syllables. American English has the following 25 consonants: */p, b, t, d, k, g, f, v, θ, ð, s, z, ʃ, ʒ, tʃ, dʒ, m, n, ŋ, l, r, j, w, ɹ, h/*. The forms */p, t, k/* have aspirated allophones at the beginning of words and at the beginning of all stressed syllables. The */l/* has a velarized allophone occurring after vowels, and the liquids and glides have voiceless allophones after voiceless aspirated stops. Voiced obstruents are partially devoiced word-finally. (For a complete discussion of the consonant system of Japanese, see Vance, 1987; for the system of English, see Prator and Robinett, 1986.)

The JPE consonants that have received the most attention in the research literature reviewed involve the contrast in English between */r/* and */l/*. Basson (1986), who investigated Japanese speakers’ acquisition of English phonology, found that English */r/* was one of the more difficult English consonants for the Japanese. Zimmerman, Price & Ayusawa (1984), Cochrane (1980), and Sheldon & Strange (1982) have also investigated JPE */r/*. Sekiya (1992), in a study of the acquisition of English liquids by Japanese children, noted the following JPE variants of */r/* in initial and intervocalic positions: a voiced rhotic approximant ([ɹ]), a voiced alveolar flap ([r]), a voiced alveolar lateral ([l]), a voiced bilabial approximant ([w]), and two composites ([ɹl], [lr]) similar to those previously noted in JPE by Beebe (1984). In postvocalic positions, Sekiya noted a voiced rhotic approximant ([ɹ]) or a complete deletion.

Given the substantial research interest in JPE */r/*, it may be surprising that */r/* is not consistently prioritized in the four Japanese EFL pronunciation textbooks reviewed above. According to Seido (1974, p. 62), */z/* is one of the most important pronunciation problems in English and, for many Japanese, the most difficult. Brown (1970) states that */r/* is “perhaps the most difficult sound for Japanese students to master” (p. 109), after having described */i/* as “the English sound most frequently mispronounced by Japanese students” (p. 25). Researcher Cairns (1988) devotes his pedagogically motivated study only to */s/*, which he describes as one of the “well known problem sounds.”

Aspiration. According to Vance (1987, pp. 18-19), the status of aspiration in Japanese is unclear. We came across no empirical descriptions of JPE

aspiration, although aspiration was one of the most frequently discussed non-distinctive segmental features in the pedagogical texts. Seido (1974) depicts Japanese /t/ as *not* having aspiration, and addresses aspiration as the very first point in their teacher's handbook. Kenworthy (1987, p. 150) describes JPE aspiration as a problem that is medial and final, and gives, without explanation, the example of /t/ pronounced as /tʃ/ in "eating." It seems odd, however, for "final aspiration" to be a problem, because in English the final released stops (sometimes indistinguishable from final aspirated stops) are in free variation with the final unreleased stops, and final release is not known to be a phonemic distinction in any language. Kenworthy does not discuss the places where aspiration is obligatory in English, described above.

Vowels. Vance (1987) describes Japanese as having five vowels [a, i, u, e, o], all of which have long forms that function as separate phonemes. Short /i/ and /u/ are often devoiced (or deleted) between voiceless sounds. English vowels and diphthongs vary widely across dialects. Prator and Robinett (1986) list 14 for American English: /i, I, ei, ε, æ, ə, uw, U, ow, ɔ, a, aj, ɔj, aw/. English vowels have allophonic long forms before voiced consonants.

Japanese pronunciation of the two high front English vowels, tense /i/ and lax /I/, is one area that receives considerable attention in the ESL pronunciation literature on JPE. According to Brown (1970, p. 25), the "most frequent mispronunciation" in JPE involves /i/. The Seido Institute, however, which states that it sequences problems according to "importance" (p. vi), and which states that it describes American English, devotes no more attention to the /i/ and /I/ distinction than it does to /a/ and /ɔ/. The latter distinction, however, is one that, Swan & Smith (1987, p. xii) point out is frequently not made by American speakers of English!

What exactly is the problem, if any, involving /i/ and /I/? Kenworthy (1987, p. 150), who includes /i/ and /I/ in a list of seven JPE problems, explains that /I/ tends to go to /i/; Thompson (1987, p. 214), however, who includes this same contrast in a list of a similar size of "noticeable problems" states only that the /I/ gets devoiced. Researcher Takahashi (1987), focusing not on vowel quality but on vowel length, reports that Japanese learners do not acquire the English vowel duration contrast before voiced codas and voiceless codas. Vowel length, like consonant length, is phonemic in Japanese but not in English. Of the pedagogical texts that we examined, vowel length was generally not treated (although see Brown, 1970, pp. 29-31).

Schwa. Almost all pedagogical texts call attention to schwa (/ə/) and its occurrence in unstressed syllables. Kenworthy states that JPE may substitute

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for English schwa almost any other vowel. According to Thompson, JPE substitutions for English schwa often appear to be spelling pronunciations.

4.4 Articulatory setting and voice quality

According to Esling and Wong (1983), “voice quality setting” can be used to describe ESL student accents and to improve ESL pronunciation. They propose that the American English, setting includes spread lips, open jaw, palatalized tongue body position, retroflex articulation, nasal voice, lowered larynx and creaky voice (p. 91); and that the Japanese setting includes lowered larynx, “faucal” constriction (just above the pharynx), uvularization, and lip spreading (p. 90). Vance’s (1987) review of several descriptions of Japanese articulatory setting may be summarized as follows: (a) lip rounding, weaker in Japanese than in English; (b) jaw position, more open in Japanese than in English; and (c) a “tongue blade articulator” in Japanese versus a “tongue tip articulator” in English. Although both Pennington (1987), and Esling and Wong (1983) see a great deal of potential in articulatory setting for pronunciation pedagogy, we did not find articulatory setting seriously addressed in any pedagogical text. “Articulatory setting,” like “suprasegmentals,” may be a category that is too important to ignore but too multifaceted to discuss, investigate, and measure without first breaking it down into component parts such as those reviewed above. We found no empirical studies that attempted to measure JPE articulatory setting.

5. Conclusions and Recommendations

The four different genres of descriptions outlined above have arisen from different— motives and assumptions about language and language learning, and have naturally focused on different aspects of JPE. The EFL student textbooks produced for use in Japan continue to favor describing the articulatory production of isolated segmentals. The ESL teacher reference texts that are used outside of Japan tend to describe, in addition, some clusters and suprasegmentals. Meanwhile, recent broad scholarly descriptions, including pedagogically motivated ones, are approaching JPE in new ways (c.g., by “articulatory setting”) that have yet to be exploited by pedagogical texts. Empirical studies of JPE, usually conducted independently of pedagogical interests, have favored describing those items that have some potential to reveal underlying IL processes and that can be reliably observed and measured.

The most obvious consensus, manifest repeatedly across all four types of description, was that the L1 plays a vital role in the formation of the L2 pronunciation, and that a CA of the L1 and the TL is a valid means of describing areas of pronunciation difficulty. When closely examined, how-

ever, the consensus about JPE is more about the differences between the L1 and the TL than it is about the characteristics of JPE per se and about why some of these characteristics are pronunciation problems. When it comes to describing JPE problems in detail (and assuming that the descriptions are comparable), we found some lack of consensus within all four categories that we considered: suprasegmentals, syllable structure, segmentals, and articulatory setting. Of the four Japanese EFL pronunciation textbooks that we examined, two (Grate, 1974; Taylor, 1982) prioritized almost nothing, and two others (Brown, 1970; Seido, 1974) prioritized different items. Although two teacher reference texts (Kenworthy, 1987; Thompson, 1987) presented somewhat similar listings of JPE pronunciation difficulties and priorities, they also presented somewhat different explanations as to what characterizes the JPE pronunciations that are apparently in need of remediation. Scholarly descriptions and empirical studies of JPE generally did not address and could not resolve certain conflicting or ambiguous descriptions that appeared in the pedagogical texts.

One reason for different descriptions of JPE is no doubt due to the fact that L2 pronunciation (like L1 pronunciation) is inherently variable. We know, however, that this variation is systematically structured based on the fact that we can frequently identify a speaker's L1 underlying his or her L2 accent. It seems reasonable to assume, therefore, that a more complete description and a higher degree of consistency can be attained than exists at present.

We would like to encourage researchers and teachers to work toward compiling a comprehensive description of JPE that addresses all pedagogically important aspects of pronunciation: articulatory setting, suprasegmentals, syllable structure, and segmentals. Such a description should account for variation that is related to stages (e.g., beginning, intermediate, and advanced) that the Japanese learner of English goes through in acquiring English. It will also want to address fossilization, and factors such as age, personality, motivation, and the learning environment. Finally it will have to address issues such as nonnative speaker norms, intelligibility, and acceptability for the use of English in international contexts.

On the basis of such a description, a group of pronunciation priorities may be developed. Based on the literature that we have reviewed for this paper and our own ongoing research and observations of JPE in Japan and in the USA, we suggest the following as a tentative list for both teachers and researchers to explore: (a) suprasegmental problems such as word stress, sentence stress, syllable duration, rhythm, and intonation patterns; (b) problems related to

articulatory setting such as lip rounding, and tongue-blade versus tongue-tip as articulator; (c) Japanese phonological processes such as epenthesis and palatalization, which tend to be transferred into English in inappropriate phonetic contexts; (d) the most problematic segmentals and contrasts (e.g., /i, l; r, l; b, v; θ, ð; f, h; ʌ, a /; (e) the most problematic initial clusters (e.g., those which contain /s/ or /r/); (f) the tendency to delete consonants in final clusters; (g) the tendency to avoid strategies used by native speakers to facilitate fluent speech (e.g., linking and assimilation); and (h) pronunciation difficulties that are related to English or Japanese orthographies.

New pronunciation objectives based on the problems listed above would require new teaching materials and approaches. These objectives would mean a dramatic shift away from the type of pronunciation texts that currently dominate the Japanese ESL market and that are comprised of a long sequence of short units organized around segmental contrasts. The new texts would contain some units focused on segmentals but would also require new units organized around new topics that address particular JPE difficulties with intonation, stress and rhythm, articulatory setting, consonant clusters, connected speech phenomena, and sound-grapheme (written symbol) relationships.

New approaches and techniques for teaching pronunciation will also have to be introduced. Most Japanese pronunciation textbooks continue to advocate a methodology that was abandoned in the USA and the UK during the 1970s. Isolated and meaningless structure drill are not likely to be any more effective for the new objectives above than they were for the objectives based on segmental contrasts. The teaching of EFL pronunciation in Japan should now move to consider recent, broader views of what promotes the acquisition of pronunciation.

Anderson-Hsieh (1989) and Morley (1991) have summarized recent approaches to teaching pronunciation that have emphasized listening, communication activities, speaker awareness, peer and self monitoring, cooperative learning, and relaxation. Acton (1992) has recommended a broader “kineshetic approach” to the teaching of pronunciation that involves gestures, upper torso movement, modeling, music, and drama.

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