Benjamin Smith Lyman as a Phonetician

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1. Introduction
Benjamin Smith Lyman (1835–1920) was a geologist hired by the Meiji government as a foreign expert. He arrived in Japan in 1873 and stayed eight years. He is famous among linguists for his later article on rendaku (Lyman 1894), but in 1878 he published “Notes on Japanese Grammar” in the Japan Daily Mail, an English-language newspaper. Despite the title, this article deals with pronunciation, and in some respects it is quite sophisticated for the time. Lyman reportedly became very proficient in Japanese, and he said he wanted to help other learners:

. . . the present papers are made public in the firm belief that some of their leading principles have been generally far too much neglected (to say the least), but have in one case been a great aid in learning the language, and may perhaps become so to other beginners . . .

This presentation will examine Lyman’s description from the point of view of a present-day linguist and language teacher, focusing on his treatment of Japanese vowels.

2. Phonetic Transcription
Lyman’s extensive prior experience with languages was a great help in his effort to provide an accurate description of late 19th-century Tokyo pronunciation. He knew French and German well, and he had exposure to several other languages, including Mandarin and Hindi. We can see in hindsight, however, that he was hampered by the lack of a universal phonetic transcription system. The International Phonetic Association was not founded until 1888, and the need for IPA-like transcriptions is especially acute in Lyman’s treatment of vowels. All he could do was compare vowel qualities in other languages, and he did not seem to appreciate how variable vowels can be across space and time. Consequently, it is not easy to interpret what he wrote.

Lyman said that he was following a classification scheme proposed by Porter (1866) for describing vowels in articulatory terms, although he did not provide any information about how this system worked. Porter’s proposal was an admirable effort for the time, but the descriptions do not always translate easily into a modern framework. To make matters worse, it is hard to be sure about some of the relevant aspects of Lyman’s native western Massachusetts dialect. This is a serious problem, because he said in a much later article that the norm for English should be “the usage of speakers of some region, or of some degree of cultivation” (Lyman 1915:369), and there is little doubt that he considered himself a model speaker. For example, it is not at all obvious what IPA symbol corresponds to the vowel that Lyman described as “the a in ask.”

3. Phonemic Analysis
The idea that different phonetic segments (physical entities) can be understood as realizations of a single phoneme (a psychological entity) did not become commonplace until the early 20th century, and the need for the phonemic principle is painfully obvious at many points in Lyman’s exposition. He treated contrastively short and long vowels as single versus double vowels, and he described a double vowel as “the same sound doubly prolonged, or repeated.” However, he also perceived duration differences between vowels that in a modern analysis would all be treated as phonologically short, but he provided almost no information about environments, presumably because he did not have the concept of conditioned allophonic variation to work with. He seems to have believed that speakers of Japanese simply had to memorize which words contained a
slightly longer vowel and which words contained a slightly shorter vowel of the same quality, and this implies a potential for contrast. There was no such potential, of course.

4. Lyman’s Perceptual Acuity

Lyman’s description of the “longer” allophone of the phoneme corresponding to modern Tokyo /u/ is quite remarkable. He said it was between the vowels in English rule and French jeûne ‘fast’, which implies a tongue position between IPA [u] and IPA [ø]. Comparing the vowel diagrams provided by Fougeron and Smith (1999:78) for French and by Okada (1999:117) for Japanese, if we draw a line on the French diagram connecting the dots that show the prototypical tongue positions for French /u/ and /ø/ and then superimpose the dot from the Japanese diagram that shows the prototypical tongue position for modern Tokyo /u/, the superimposed dot falls near the line, although closer to the dot for French /u/ than to the dot for French /ø/:

5. Pedagogical Value

Lyman’s descriptions of Japanese vowel qualities are far more detailed than those of his contemporaries. Brown (1863) says the five short vowels are “invariably” like English a in ah, ey in they, i in machine, o in no, and oo in fool, and Hepburn (1872:xii–xiii), in the introduction to the second edition of his famous dictionary (the latest available when Lyman was writing), provides only slightly more information. But Brown and Hepburn were aiming to produce practical tools for ordinary learners of Japanese. The kind of detail Lyman provided would have been overkill and presumably not much practical help.

References


List of technical Terms

Conditioned Allophonic Variation: a situation in which the phonetic realization of a phoneme is predictable from the environment, i.e., the surrounding sounds
Phonemic Principle: the idea that physically different phonetic segments can be understood as realizations of a single abstract unit called a phoneme
Rendaku (連濁): the appearance of voiced obstruent in place of a voiceless obstruent at the beginning of a morpheme in non-word-initial position (e.g., the /d/ in /me+dama/ 明玉 ‘eyeball’; cf. /tama/ ‘ball’)
