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THEORETICAL ASPECTS OF KASHAYA PHONOLOGY AND MORPHOLOGY. By Eugene Buckley. Stanford, Calif.: Center for the Study of Language and Information, 1994. Pp. 408. (Paper.)

This book is a revised version of Buckley's 1992 UC–Berkeley dissertation. It consists of a thoroughgoing generative analysis of many—perhaps most—aspects of the phonology of Kashaya, a Pomoan language of northern California. The book contains eight chapters, the ordering of which reasonably hugs the levels of prosody proposed by the author. Thus, chapters 2 and 3 consist of posited underlying and lexical segmental representations and segmental processes, respectively, while later chapters investigate higher-order structure such as the mora, the syllable, and the

foot. Language data are taken from Oswald's fieldwork on Kashaya (1961; 1975; 1990; I did not have access to these works while writing this review), augmented by additional forms elicited by Buckley from Kashaya speakers Milton "Bun" Lucas and Otis Parrish. The book will be of value to both generative and nongenerative theorists, who will be rewarded with a state-of-the-art presentation of generative phonology circa 1992, as virtually all major theoretical subdomains are given thorough airings. However, as with many of the earliest generative grammars that emerged in the immediate post-*SPE* era, the admirable exactitude and doggedness with which Buckley pursues his theoretical ends may prove to be something of a burden to the current reader. Just as many early generative grammars, expressed almost exclusively with linear rewrite rules, were often found to be opaque by later phonologists trained in autosegmental and metrical theory, so too might today's readers, working in optimality theory, find some of the finer theoretical details here to be beside the point. This should hardly be interpreted as an indictment of Buckley's endeavor, but instead points to the changeable nature of the accepted theoretical model. Indeed, in his brief chapter 4, Buckley considers, then largely rejects, a constraint-based approach to certain aspects of the segmental phonology. One wonders, had he written the book only a year or so later, whether a constraint-based approach would have been more thoroughly investigated.

Chapter 2 presents the segment inventory. Kashaya's consonant inventory possesses six places of articulation: labial, dental, alveolar, palatal, velar, and uvular. Employing radical underspecification (Kiparsky 1982 and Archangeli 1984), Buckley establishes underlying feature co-occurrence restrictions when one value is predictable from the other. For example, [w] is underlyingly [Labial], with dorsality and height filled in by rule. Kashaya's five-member vowel system is minimally specified at the underlying level, with the high front vowel being left featureless.

Among the most interesting aspects of the segment inventory is the laryngeally specified series of consonants. All contoids have contrastively glottalized and aspirated counterparts, which are realized in a postglottalized, postaspirated fashion, for example, [nh, nʰ]. The only exception is the sole fricative, which lacks an aspirated counterpart. Although not discussed in detail until chapter 6, Kashaya also has a series of so-called laryngeal increments, whereby consonants may be further contrastively specified for glottalization or aspiration. The laryngeal increment may be present without another laryngeal specification on the consonant or may co-occur with another laryngeal, provided that the laryngeal features match. So, for example, [m, mh, mʔ, ʰm, ʰm, ʰmh, ʰmʔ] are all contrastive, although [ʰmʔ, ʰmh] are absent. Buckley's treatment of the voiced stop series deserves special mention. Voiced stops appear in complementary distribution with the glottalized nasals: voiced stops appear prevocally, while glottalized nasals appear preconsonantly: [caḏu] 'look'; [canʰi] 'if he sees'. Buckley treats the glottalized nasal as basic and derives the voiced stop by rule. He opts for this directionality since it results in a more symmetrical underlying segment inventory, as other consonants may be glottalized, whereas voicing is otherwise noncontrastive. Furthermore, deriving the onset form is consistent with the general tendency for coda alternations to be neutralizing, and not allophonic. Moreover, the voiced stops take only the glottalized increment ([ʔb, ʔd], never the aspirated increment (*ʰb, ʰd]), which is consistent with his observation that the laryngeal increment must match for features with

further laryngeal specifications. Finally, since obstruents are present at six places of articulation, we might expect, counterfactually, that voicing should fully cross-classify here. Since voiced stops—like nasals—are limited to front articulations, Buckley feels that these are best treated as nasals at the level of underlying representation. He thus argues that [b] derives from /m/ despite the fact that the two never alternate with each other.

Chapter 3 details the segmental phonology of Kashaya. Working in the theory of lexical phonology, Buckley posits five levels to the Kashaya grammar, the first three of which are cyclic. The best way to motivate a model involving rule ordering, level ordering, and cyclicity is to show how the sound pattern lends itself to such an analysis, and to further show how alternatives cannot adequately model the data. Unfortunately, the chapter is not structured in a way which adequately motivates Buckley's selected model. Instead, the chapter is organized by the features classes which are mentioned in the proposed rules, with Kiparsky's level-ordered theory more or less assumed. Levels are mentioned in passing, and a few rule orderings are provided, but the reader is left rather bereft of an adequate picture of the overall grammatical structure posited by Buckley. In a book that is specifically theoretical in its orientation, Buckley might have considered an organization of this chapter along theoretical rather than featural lines.

Rules involving laryngeals are considered first, followed by place-based processes, such as debuccalization and consonant-vowel interactions, and harmony processes. Among the laryngeal processes discussed are Glottal Merger, in which plain consonants merge with laryngeals across morpheme boundaries. In a phenomenon reminiscent of Grassman's Law, the first of two aspirated consonants is deaspirated. Coda stops are aspirated in Kashaya, although there is no plain–aspirate contrast here.

There is a pervasive process of coronal debuccalization: at levels three and above, the first of two adjacent coronals is reduced to a laryngeal. As coronals are regarded as underlyingly unspecified for place features, Buckley suggests that, in the course of the derivation, these coronals acquire, then forfeit, their oral features. Uvulars both undergo and trigger a number of processes: they debuccalize in coda position and usually lower neighboring vowels to [a]. Buckley models this lowering as spreading the consonantal place node to the vocalic place node. While such processes lend themselves to autosegmental modeling due to their articulatory naturalness, there are many others which remain resistant to such descriptive devices. Buckley employs linear rewrite rules in such cases. For example, /i/ lowers to [a] after [m], and backs to [u] after [d]. Also, /e/ raises to [i] between dorsals. Regarding nonlinear processes, translaryngeal harmony is pervasive in Kashaya, and there is a rounding-dependent height harmony which is limited to instrumental suffixes.

By far, chapter 5 is the most ambitious and impressive portion of the book, tackling as it does the extremely unwieldy metrical system of Kashaya. Buckley is to be congratulated for extracting patterns out of data that would seem to defy so many of the regularities we expect to find in stress systems. Employing Hayes's bracketing grid formalism (published in 1995), the Kashaya pattern loosely consists of left-to-right iambs, end-rule left. But in fact, any one of the first five syllables of a Kashaya word may be stressed. There are several near-novel devices that Buckley posits in order to make sense out of the pattern. The first is iambic "foot-flipping," by which

an initial CVV.CV sequence is converted into an iamb, provided it is followed by a nonfinal light syllable. Foot-flipping applies at levels two and three. The second, "stress-shift," moves stress from a flipped iamb onto a following foot. Two sorts of left-edge extrametricality are posited, both syllable- and foot-, which may co-occur, thus potentially rendering extrametrical feet nonperipheral: [$\langle\sigma\rangle\langle\Phi\rangle$. . .]ω. This rather powerful device is characterized as "hierarchical extrametricality": a prosodic element may be extrametrical provided it is peripheral AT ITS LEVEL OF PROSODY. Thus, an extrametrical syllable may intervene between an extrametrical foot and a word edge, as the foot is peripheral AT THE FOOT LEVEL. While this may prove descriptively adequate in the case of Kashaya, it remains for Buckley to explain why the vast array of possible systems that this powerful formal device allows are so rare cross-linguistically.

Chapter 6 investigates mora and syllable structure in detail. Kashaya syllables are of the form CV(X), where X is always weight-bearing; a word-final extra C is also allowed. When morphological concatenation would create a CVVC syllable, the vowel shortens, even word-finally: CVVC(#) → CVC. Stem-final consonant clusters are subject to cyclic epenthesis. In addition to the laryngeal increment, Kashaya also possesses a laryngeal "decrement" which deletes the increment in morphologically conditioned contexts, for example, upon locative or directional suffixation. Interestingly, the decremental process does not affect any additional laryngeal specifications, and so, for example, /^hch . . . +decremental suffix/ becomes [ch . . .], with the intervening laryngeal surviving.

Chapter 7 finally presents the grammatical levels that Buckley posits. Broadly now, Buckley divides the morphology into five levels. Prefixes and certain of Oswald's so-called inner group of suffixes are level-one morphology, while most of the remainder of the inner group are level two. The middle suffix group composes the level-three morphology, while the outer group is divided between levels four and five. Chapter 8 provides details regarding some of the finer points of templatic morphological processes, such as infixation and reduplication, and further discusses aphesis and compounding.

Buckley has done an admirable job of presenting the hard-to-find data collected by Oswald, augmenting it with data from his own fieldwork, and assembling it all in a fashion that serves his primary purpose of exploring theoretical aspects of the Kashaya phonological system. Most importantly, it is through works such as these, which make readily available linguistic patterns from a near-dead language (*Ethnologue* reports that Kashaya speakers currently number in the double digits), that future linguists will understand the sorts of variation that languages previously possessed.

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AMERICAN INDIAN LANGUAGES: THE HISTORICAL LINGUISTICS OF NATIVE AMERICA. By Lyle Campbell. *Oxford Studies in Anthropological Linguistics*, vol. 12. Oxford: Oxford University Press, 1997. Pp. xiv + 512.

The publication of a handbook of the size and scope of Campbell's work (henceforth *AIL*) is certainly a major event in any discipline. Summing up the state of an art as vast and ramified as the historical and comparative exploration of Native American languages is a gargantuan task, and the result of Campbell's efforts to cope with this challenge single-handedly deserves to be called impressive, even awe-inspiring. Few specialists today combine Campbell's standing as a theoretician of language change, the determination of genetic relationship, and historical reconstruction, paired with decades of experience in actual down-to-earth data-work on all these issues in Native American language families, of which Mayan and Uto-Aztecan are only two.

Equipped with these tools, the author was able to present his readers with a true handbook, dealing with all possible aspects of Native American languages, as long as they fit in the frame of Historical or, rather, Historical-Comparative Linguistics. Thus, any detailed presentation or discussion of the linguistic typology of American languages, their grammar or, in short, questions of "how they are like" are not dealt with in a systematic way. For information on this, the interested reader may wish to consult the recently published volume by Mithun (1999), which thus forms a handy companion to Campbell's book for anyone venturing into this vast field as casual information-seeker (with linguistic background), student, or even professional specialist in one or several of the languages and language families dealt with.

AIL is organized into nine major chapters, "Introduction" (1), with a very interesting and up-to-date, but maybe a bit oddly placed, appendix on "Native American Pidgins and Trade Languages"; "The History of American Indian Linguistics" (2); "The Origin of Native American Languages" (3); "Languages of [respectively] North, Middle, and South America (4–6); and three theory-oriented chapters on "Distant Genetic Relationships: The Methods" (7), "Distant Genetic Relationships: The Proposals" (8), and "Linguistic Areas of the Americas" (9). All this is completed by a section of black-and-white maps, a long section of endnotes, where we find, inter alia, etymological explanations for Native American ethno- and glossonyms, a 50-page, two-column list of references, and three indexes (of languages—including proposed genetic relationships, even "Dene-Caucasian" has an entry, authors, and subjects). All these features add up to a very user-friendly format.