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A Grammar of Blackfoot

By

Allan Ross Taylor

A.B. (University of Colorado) 1953

DISSERTATION

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Approved: Mary R. Haas

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Date

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INTRODUCTION

The Algonkian people speaking the language described here first came to the attention of Europeans during the 18th century; since then there has been considerable vacillation in the literature regarding the designation of these Indians. The earlier references to people who were probably Blackfeet name them with Cree terms which have been translated as 'alien,' 'enemy,' or 'slave'. (Legardeur de Saint Pierre, Anthony Hendry, both c. 1750-1755). The designation 'Slave' was used as late as the first two decades of the 19th century (Alexander Henry, John Richardson, et al.). Other writers designate them by one or the other of the native self-designations. Matthew Cocking, the earliest in this tradition (1772-1773) gives the names of the Blackfoot tribes in Cree translation (Conquest of the Great Northwest, Vol. 1, p. 254), as does Richardson, the ethnologist and surgeon with the Franklin expedition of 1819 (A Narrative of a Journey to the Shores of the Polar Seas, Vol. 1, p. 168). Cree names were succeeded by English translations of the latter or by renderings of the actual Blackfoot names. Now quite familiar are Piegan (rhymes with they can), from the native pii?kán?i; Blood, a translation of the Cree name mihkiwi·nowak 'red people'; Siksika, and Blackfoot/Blackfeet, which are the English equivalents of the last given native term. In this

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study the American and Canadian groups together will be called Blackfeet, singular Blackfoot, and the adjective will be Blackfoot.

Whatever may have been their habitat at an earlier, prehistoric period,[1] by the time the Blackfeet were contacted by

[1]No conclusive proof has been advanced as yet for a more northern or eastern prehistoric home for the Blackfeet. The question has been much discussed (Grinnell, Wissler, Hyde, Lewis, Ewers), but the most persuasive argument for such a hypothesis remains the fact that all Algonkian congeners of the Blackfeet (Fox, Cree, Menomini, Ojibwa, Pottawattomie, Arapaho, Cheyenne, etc.) can be traced historically to a region further east than the historical home of the Blackfeet.

traders on the plains between the forks of the Saskatchewan (c. 1770) they were already mounted and a typical north-west plains people following a nomadic way of life centered around pursuit of the buffalo. By 1840 they had expanded their range westward to the Continental Divide and southward beyond the Missouri, displacing toward the south and west all the non-Blackfoot former inhabitants of these territories (Snake, Crow, Kootenai, some Salish groups). At their cultural zenith between 1800 and 1840 they were an aggressive and far-ranging nation and an effective barrier to the penetration and settlement by Europeans of their vast territory at the foot of the American and Canadian Rockies. It was happily at their zenith that the Blackfeet were visited by men of such diversified talents as the painters George Catlin and Karl Bodmer, the amateur eth-

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nographer Prince Maximilian of Wied-Neuwied, and the religious Pierre Jean de Smet and his diarist-artist Nicolas Point. Few native American groups have had their heyday so thoroughly recorded by such a variety of skilled contemporary observers.

At the present time there are many thousands of persons of Blackfoot descent, concentrated for the most part in Montana and the Province of Alberta. The American (South Piegan) reservation is located in north-west Montana in Glacier (formerly Teton) County, and includes most of the county.[2] The Canadian

---

[2]The last cession of land by the South Piegans was accomplished in 1896, when a large tract of land at the west side of their reservation was relinquished. The cession was from the Continental Divide down to and including most of the foothills. This territory is today part of Glacier National Park. The remaining reservation is still in excess of one million acres, not all Indian owned.

---

reserves are much smaller than the American reservation. Closest geographically to the latter is the Blood Reserve, which is located just across the international boundary at Cardston, Alberta. This is the largest Blackfoot-speaking reserve in Canada, and indeed the largest Indian reservation in the country. North and slightly west of the Blood reserve is the reserve of the North Piegans, located at Brockett, west of Fort Macleod, Alberta. The third Canadian reserve is east and slightly south of Calgary; here on the Bow River near Gleichen (pronounced glee-son), Alberta, live the Northern Blackfeet. The same language, with small differences, is spoken on all the re-

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servations on both sides of the border. Genetically the American Blackfeet are mostly of mixed Indian and European origin. In Canada, due to different historical and political conditions, the Blackfeet are both more racially pure and more culturally intact. Not surprisingly, the position and state of the Blackfoot language on both sides of the border differ accordingly. Among the American Blackfeet the language is on the decline, whereas among the Canadian Blackfeet it is still vigorous. There are few persons in Montana who are monolingual in Blackfoot,[3] but there are many

[3]The writer knew only three: Jim White Calf, Fish Wolf Robe, and Juniper Old Person, and heard of only two others: Chewing Black Bone and Joe Beaver. All were born before 1900, some before the reservation period began in earnest with the disappearance of the last wild buffalo, c. 1878. There may have been other monolinguals who were not mentioned by informants, but they could not have been numerous.

who are monolingual in English, if one excludes their smattering of Blackfoot words or phrases. Nevertheless, in the streets and stores of Browning, and out on the reservation, the language is often heard yet; generally the speakers are older and/or less culturally assimilated people, usually, but not always, fullbloods. Competence in Blackfoot decreases with the age of the individual (one does not always note a corresponding increased competence in English), although all individuals who have grown up in Indian society on the reservation have some knowledge of the language, much as is common in first and second generation immigrant families elsewhere in the United

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States.

Field work for the present study was all performed in Montana. There were three separate trips: June-August, 1960; June-August, 1961; and January-March, 1964. The work was sponsored in 1960 and 1961 by the Survey of California Indian Languages; a grant from the American Council of Learned Sccieties made the 1964 trip possible.

A number of informants were consulted, some, of course, more than others. Principal informants were the following individuals:

1. Irene Butterfly, a South Piegan fullblood born in 1899.

2. Grace Douglas, a woman of mixed South Piegan-European ancestry born around 1905.

3. Mary Ground, a woman thought to be of pure European ancestry, reared from infancy in a fullblood family (Gardipee), born around 1885.

4. Margaret Many Guns, wife of number 5, a woman of mixed Northern Blackfoot-Cree-European ancestry, born around 1910. She contributed a few Canadian forms which differ from current South Piegan usages.

5. Tom Many Guns, a South Piegan fullblood born around 1900.

6. Mae Williamson, a woman of mixed Northern Blackfoot-European ancestry (granddaughter of a sister of Chief Crow Big Foot), born around 1895 on the South Piegan reservation and

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reared there.

Other individuals consulted on occasion were the following:

7. Darryl Blackman, a South Piegan fullblood (?) born around 1935.

8. Julia Iron Pipe, a South Piegan fullblood born around 1890.

9. George Kicking Woman, a South Piegan fullblood born around 1918.

10. Katie Lahr, a woman of mixed South Piegan-European ancestry born around 1898.

11. Lucille Last Star, a South Piegan fullblood born around 1900.

12. Bridget Night Gun, née Sanderville, a woman of mixed Flathead-South Piegan-Mexican-European ancestry, born around 1905.

13. John No Runner, a South Piegan fullblood born in 1922.

14. Earl Old Person, a South Piegan fullblood born around 1925.

15. Annie Running Crane, sister of number 11, a South Piegan fullblood born around 1892.

16. Annie Sanderville, stepmother of number 10, a woman of mixed South Piegan-European ancestry born around 1900.

17. John Tatsey, son of one of Uhlenbeck's principal

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informants, and himself an informant of Uhlenbeck when a boy, a South Piegan fullblood born around 1895.

18. James White Calf, Jr., a fullblood of mixed South Piegan-Blood ancestry born around 1920. He is a distant relative of number 6.

To all of these people I owe a debt of gratitude for their patience and many kindnesses.

Other individuals have been very helpful and it is a pleasure to mention them here. Most important has been Donald L. Frantz, of the Summer Institute of Linguistics. My thinking has often profited from discussions with him, and he has generously checked many particular points with informants when none were available to me. My sincerest thanks go to him and to his wife Patricia for their unstinting help and warm friendship.

Dr. Claude E. Schaeffer, former curator of the Museum of the Plains Indian, now retired, was most helpful during all my field work on the reservation. He was generous with the facilities and premises of the Museum of the Plains Indian, and gave valuable advice on field procedures. For these and many other services and kindnesses I am grateful.

The Department of Slavic Languages and Literatures of the University of Colorado has been of great help, particularly in the present academic year, by allowing me an unusually light teaching load and by furnishing funds for copying portions of

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the present work. I am happy to acknowledge this support.

Finally, I wish to thank my committee. Dr. Mary R. Haas has been an unfailing source of inspiration and encouragement, and she is entitled to much of the credit for the accomplishment of this study. Dr. Murray Emeneau and Dr. Francis Whitfield both made instructive observations regarding the theoretical basis and the style of particular points in the description. Working with these people, both as graduate student and candidate, has been a privilege I shall always appreciate.

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BIBLIOGRAPHY

Scholarly interest in the language of the Blackfoot Indians dates almost from their discovery by Europeans. This is due to a historical accident: their full emergence from "prehistory" during the last quarter of the 18th century happens to coincide with the rise of modern linguistic science, with its interest, among others, in the genetic relationships of languages.

Blackfoot is of course an Algonkian language, the westernmost member of the stock.[1] Evidence of this relationship

[1] Yurok and Wiyot, formerly spoken on the Pacific Coast in northern California, are not Algonkian in the same sense as the Eastern, Central, and Plains Algonkian languages are. While unquestionably related, the two Pacific Coast languages are obviously of remoter affinity.

is abundant in the phonology, grammar, and semantics of the language. It is rare, however, that inspection alone discloses this fact, and the necessity of rigorous comparison, together with the general paucity before 1845 of actual specimens of the language, hindered the correct classification of the language as Algonkian. Credit for the 1848 announcement of the Algonkian affinity of Blackfoot belongs to Albert Smith Gallatin, although the fact must have been known much earlier to some Cree-speaking Europeans who worked in the Hudson's Bay Company posts which served the Blackfeet.

The major portion of this section will consist of a list-

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ing of all published works known to the author which treat the Blackfoot language. To be included, the work must be concerned primarily with some aspect of Blackfoot linguistics, or contain actual Blackfoot forms listed in other than a random or incidental way. Before turning to this enumeration, however, it would be well to list several standard ethnographic works on the Blackfeet. By consulting these works the interested reader can orient himself quite adequately on the historical and cultural context of the contemporary American and Canadian Blackfeet.

ETHNOGRAPHIC BIBLIOGRAPHY

For detailed ethnographic references the reader should consult:

Murdock, George Peter. Ethnographic Bibliography of North America. New Haven: The Human Relations Area Files.

Works listed below with comments are especially noteworthy.

Ewers, John C. The Blackfeet, Raiders on the Northwestern Plains. Norman: University of Oklahoma Press, 1958.

This popularization is number 49 of the University of Oklahoma series Civilization of the American Indian. The work is devoted almost entirely to the South Piegan tribe of Montana.

Goldfrank, Esther S. Changing Configurations in the Social Organization of a Blackfoot Tribe during the Reserve Period. American Ethnological Society, Monograph number 8. New York: J. J. Augustin, 1945.

This study is devoted to the Blood tribe of Alberta.

Hanks, Lucien M., and Jane Richardson Hanks. Tribe under Trust. Toronto: University of Toronto Press, 1950.

This is an anthropological and sociological study of the Northern Blackfeet of Alberta, based on notes taken before 1941. The study gives extensive background information on all the Canadian Blackfoot groups.

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Lewis, Oscar. The Effects of White Contact upon Blackfoot Culture, with Special Reference to the Role of the Fur Trade. American Ethnological Society, Monograph number 6. New York: J. J. Augustin, 1942.

This work is an excellent historical study with attention to both American and Canadian Blackfeet.

It would be both unfair and a grave mistake to omit from mention the many valuable monographs written early in this century by Dr. Clark Wissler. These works should also be consulted for their wealth of information on all aspects of Blackfoot life (primarily South Piegan) up to the time of their writing. They have not been mentioned by title here because the more recent Ewers and Goldfrank bibliographies give full listings.

For glimpses into the actual life of the Blackfeet during the early 19th century the reader should look at the paintings made *in situ* by Bodmer, Catlin, and Father Point. Blackfoot folklore in English can be found in C. Wissler and D. C. Duvall, *Mythology of the Blackfoot Indians*, New York: 1908. Much rather romanticized Blackfoot history and folklore can be found in the extensive popular writings of James Willard Schultz, including *Blackfoot Lodge Tales*, New York: Charles Scribner's Sons, 1892. Another popularizing work of half a century ago is *The Old North Trail: or Life, Legends, and Religion of the Blackfeet Indians*, London: McMillan, 1910. This work is by Walter McClintock.

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Catlin, George. Letters and Notes on the Manners, Customs, and Condition of the North American Indians. Vol. 2, London, 1842. Pp. 262-265.

Given is a list of 128 poorly transcribed Blackfoot words and expressions. According to R. G. Latham (q.v.), the list was prepared for Catlin by Kenneth McKenzie, employee of the American-Missouri Fur Company.

Curtis, Edward S. The North American Indian. Norwood, 1911. Vol. 6, pp. 167-173.

Given is a South Piegan vocabulary of 234 items. The transcription is sufficiently good to permit ready recognition of most items, although it is neither phonemic nor phonetic.

de Josselin de Jong, Jan Petrus Benjamin. Blackfoot Texts. Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 14, no. 4, 1914.

This very valuable collection of texts and other materials of ethnographic interest was collected in Montana in 1910 in conjunction with C. C. Uhlenbeck (q.v.). This appears to be this distinguished Dutch anthropologist's only publication on the Blackfeet Indians.

de Smet, Father Pierre Jean. Oregon Missions and Travels over the Rocky Mountains in 1845-1846. New York, 1847. Pp. 411-412.

Given are a Blackfoot Lord's Prayer (411) and 23 body part terms (412). The transcription does not follow English norms (Flemish?). Reprinted in Early Western Travels, 1748-1846, edited by Reuben Gold Thwaites. Vol. 29, pp. 422-423. Cleveland, 1904-1907.

Franklin, Sir John. Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21, and 22. London, 1823. P. 109.

Given is a list of 18 Blackfoot lexical items collected by the surgeon of the expedition, Dr. John Richardson. Gallatin (q.v.) published these items (followed in each instance by a

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small capital R), but through oversight he failed to acknowledge the source in any other way. Though poorly transcribed, all words are readily recognizable.

Frantz, Donald L. "Person Indexing in Blackfoot," International Journal of American Linguistics, 32:50-58, January, 1966.

This is a very useful preliminary exploration of the problem of person indexing.

-------. "Blackfoot Paradigms and Matrices," Contributions to Anthropology:Linguistics I (Algonquian), Bulletin No. 214 of the National Museum of Canada, Anthropological Series No. 78 (Ottawa, 1967), pp. 140-146.

In this article certain verbal paradigms of the Independent Order are analyzed by the matrix technique developed by Kenneth L. Pike.

-------. The Blackfoot Alphabet. Santa Cruz:The Summer Institute of Linguistics, April, 1968.

_____. First Blackfoot Reader. Santa Cruz:The Summer Institute of Linguistics, April, 1968.

Both of these mimeographed pamphlets (16 pages and 12 pages respectively) are avowedly experimental and will undoubtedly be revised.

Gallatin, Albert Smith. "Hale's Indians of North West America, and Vocabularies of North America; with an Introduction," Transactions of the American Ethnological Society, Vol. 2 (New York, 1848), pp. 113-114.

Gallatin's list of 53 poorly transcribed items was collected originally for him by Kenneth McKenzie, agent of the American-Missouri Fur Company. This list was one of the sources utilized by Gallatin to demonstrate the Algonkian affiliation of Blackfoot. See also the remarks under Latham.

Geers, Gerardus Johannes. The Adverbial and Prepositional Prefixes in Blackfoot. Leiden, 1917.

This is a doctoral dissertation based on materials collected by Uhlenbeck and de Josselin de Jong. The work would be considered primitive by today's standards.

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Grinnell, George Bird. Blackfoot Lodge Tales. New York, 1890. Pp. 208-210; 221.

Given is a list of 40 Blackfoot, Blood, and Piegan band names, 22 kin terms, 12 society names. Portions of this work were written by James Willard Schultz.

Hale, Horatio. "Report on the Blackfoot Tribes," Report of the British Association for the Advancement of Science, Vol. 55 (1885), pp. 697-708.

Pages 702-703 contain a list of 50 lexical items, including numbers and subject pronouns, and two paradigms of dependent nouns. All entries are compared with Cree and Ojibwa equivalents.

Hanks, Lucien M., and Jane Richardson. Observations on Northern Blackfoot Kinship. Monograph Number 9 of the American Ethnological Society. New York, 1945. Pp. 29-31.

A list of 22 Blackfoot kin terms is given which is very valuable for its exploration of the meaning of the terms. There are numerous inaccuracies with respect to vowel and consonant length and position of stress.

Hayden, Ferdinand Vandeveer. "Contributions to the Ethnography and Philology of the Indian Tribes of the Missouri Valley." Transactions of the American Philosophical Society. Vol. 12 (1863), pp. 257-273.

In this interesting paper are found 6 pages of "remarks upon the grammatical structure of Blackfoot," followed by 9 pages of lexical items. All of the material is in the transcription used in the Riggs Grammar and Dictionary of the Dakota Language, published by the Smithsonian Institution in 1852. This is the first treatment in print of the grammatical structure of Blackfoot.

Henry, Alexander, and David Thompson. New Light on the Early History of the Greater Northwest. Edited by Elliott Coues. New York, 1897. Vol. 2, pp. 534-538.

This list of 360 items was apparently collected by Henry himself at Rocky Mountain House (Alberta) in 1810 or 1811. The transcription is poor, but the list is of interest because of its age and length, especially in regards designations of game

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animals; some of these terms are now obsolete.

Howse, Joseph. "Vocabularies of Certain North American Indian Languages," Transactions of the Philological Society. Vol. 4 (1849), pp. 104-111.

Given are two Blackfoot lists containing virtually identical items, 146 in all. The lists are presented together with lists of three other Algonkian languages. The author (who later published grammars of Cree and Ojibwa) did not term Blackfoot Algonkian, but it is apparent that he suspected the relationship. Gallatin's recent classification of Blackfoot as Algonkian was apparently unknown to Howse at the time the article was published.

Lanning, C. M. A Grammar and Vocabulary of the Blackfoot Language. Fort Benton, Montana Territory, 1882.

The 143 pages of this work represent a rather primitive attempt at grammatical description on the part of an unsophisticated amateur. It is nevertheless part of the mainstream of Blackfoot scholarship because it was used by Tims (q.v.) in the preparation of his dictionary.

Latham, Dr. Robert Gordon. "Miscellaneous Contributions to the Ethnography of North America." Proceedings of the Philological Society. Vol. 2 (1845), p. 34.

The 63 items published here are attributed by Latham to Kenneth McKenzie of the American-Missouri Fur Company. The list was transmitted to Latham by Albert Gallatin (q.v.). The list of which this is a part was apparently never published in its entirety. Latham published the present 63 items. Gallatin published 53, some identical, in 1848. The original list was probably Gallatin's 600-word vocabulary list, designed specifically for use in linguistic comparison.

Maclean, Reverend John. "The Blackfoot Language," Transactions of the Canadian Institute, vol. 5 (1895-1896), pp. 128-165.

Given are linguistic "first impressions" by a missionary to the Blackfeet. Maclean announced a sequel at the end of his essay, but it was apparently never published. Pilling also published the table of contents of a formal grammar by Maclean, but the work seems never to have been issued.

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McClintock, Walter. "Medizinal und Nutzpflanzen der Schwarzfuss Indianer." Zeitschrift fuer Ethnologie, Heft 2 (1909, pp. 273-279.

Given is a 66-item ethnobotany in a barely adequate orthography. Very valuable for the description of the uses of the plants by the Indians, the list also contains an apparently reliable identification of the plants. The list was reprinted in Old Indian Trails (Boston and New York, 1923), pp. 319-326.

-------. The Old North Trail. London, 1910, pp. 395-405.

The pages cited (Chapter 29) treat Blackfoot personal names. Many examples are given. Less reliable are some of the author's conclusions regarding naming elements and practices.

Maximilian, Alexander Philip, Prince of Wied-Neuwied. Reise des Prinzen Maximilian zu Wied Neuwied in das Innere Nord-Amerika in den Jahren 1832 bis 1834. Coblenz, 1839-1841, vol. 2, pp. 480-486.

This list of 151 items, written in a generally German orthography, is one of the better of the early lists. Maximilian was an excellent amateur linguist and ethnographer, and his intentions were purely scientific. The entire work was translated and republished as volume 24 of Early Western Travels, ed. R. G. Thwaites, Cleveland, 1906.

Michelson, Truman, "Notes on the Piegan System of Consanguinity," Holmes Anniversary Volume. Washington, D. C., 1916, pp. 320-333.

This is a list of 29 kinship terms (pp. 330-331) with analysis. The renderings are narrow phonetic.

Morgan, Lewis Henry. Systems of Consanguinity and Affinity of the Human Family. Volume 17 of Smithsonian Contributions to Knowledge. Washington, 1871, pp.

Morgan includes 39 Piegan and Blood kin terms collected by himself in 1861 and 1862. As Michelson noted, Morgan's phonetics are "extremely crude". 27 additional lexemes are given on page 209 of this work. As is the case with most of the older materials, the higher quality of later treatments makes Morgan's efforts of no value other than historical.

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Murphey, Edith van Allen. Montana Native Plants Used by Blackfeet Indians, and Stock Poisoning Plants Found on Blackfeet Reservation. Blackfoot Agency, Browning, Montana, 1941. Uncopyrighted.

These mimeographed pamphlets contain names and descriptions of plants known to the South Piegans. Transcriptions are crude, but descriptions and identifications are useful. Some of the same information is repeated in the same author's Indian Uses of Native Plants, Palm Desert, California, 1959.

Palliser, John. The Journals, Detailed Reports, and Observations Relative to Captain Palliser's Exploration in British North America in 1857-1860. London, 1863, pp. 212-216.

Found in this work is an extensive list of lexemes and phrases, as well as a Blackfoot translation of the Ten Commandments. The material was collected by J. W. Sullivan. Some lexemes (now obsolete) collected by Sullivan were recorded by no other writer.

Petitot, Reverend Father Emile Fortuné Stanislas Joseph. "Vocabulaire piéganiw," Société philologique, Actes, Vol. 14 (Paris, 1885), pp. 170-197.

This list includes around 400 vocabulary items with French gloss, rough paradigms for slightly more than a dozen verbs, and four Catholic prayers. The informant is named, as is the time and place of collection. In common with some earlier collectors (e.g. Umfreville, Richardson), Petitot uses r before a consonant to represent /x/, while following k, r represents /s/. The article is marred by considerable mystical speculation on the religious and linguistic affinities of Blackfoot. The list is nevertheless of interest because certain forms contained in it have been recorded nowhere else (e.g. anorkiman 'enture de flèche', matsapis 'sein, mamelle'.)

Redhorn, Peter F., Jr. A Guide to the Spoken Blackfeet Indian Into English. Browning, Montana, c. 1959.

This droll booklet contains 142 lexical items in an erratic, inaccurate transcription. The pamphlet was published by the Blackfeet Tribal Business Council, apparently to be sold as a souvenir.

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Schaeffer, Claude E. "Bird Nomenclature and Principles of Avian Taxonomy of the Blackfoot Indians," Journal of the Washington Academy of Sciences, vol. 40, no. 2 (Feb. 1950), pp. 37-46.

Schaeffer's article is of exceeding value because of its careful identification of the species to which the Blackfoot names are applied.

Schoolcraft, Henry Rowe. Historical and Statistical Information Respecting the History, Conditions and Prospects of the Indian Tribes of the United States. Philadelphia, 1860. Vol. 2, pp. 495-505.

This list of 211 items, recorded by the trader J. B. Moncrovie, is one of the worst of the early lists as to transcription. It is of value, nevertheless, because it alone records a loanword for "pig" which is now completely obsolete. The term (cou cou sh) is common to most of the Indian languages spoken in the area of the Great Lakes, south along the Mississippi River, and north-east along the St. Lawrence River. It probably reached Blackfoot through Ojibwa.

Schultz, James Willard. Signposts of Adventure, Glacier National Park as the Indians Knew It. New York, 1926, pp. 20-203.

This work contains 148 names for topographical features in Glacier National Park. Some of these names may be traditional names current in the late 19th century. Others are back-translations from the English name still used today. Many are pure invention by Schultz and various Blackfoot collaborators. Deliberate naming of topographical features which were not a part of daily life, and permanent names, were (and are) foreign to Blackfoot culture, and it is not surprising that none of Schultz's inventions have remained in the language.

———. Blackfeet and Buffalo, Memories of Life among the Indians, Keith C. Seele, editor. Norman: University of Oklahoma Press, 1962, pp. 369-377.

Given in this interesting historical work is a glossary of local Montana and Alberta geographical names current in the last half of the 19th century. Most are obsolete today, although older informants recognize some.

Taylor, Allan Ross. "Initial Change in Blackfoot," Contributions

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to Anthropology:Linguistics I (Algonquian), Bulletin No. 214 of the National Museum of Canada, Anthropological Series No. 78 (Ottawa, 1967) pp. 147-156.

This article is the first report in print on this characteristic Algonkian feature in Blackfoot.

Tims, Reverend John William. Grammar and Dictionary of the Blackfoot Language in the Dominion of Canada. London, 1889.

This is a grammar on the Latin model, together with a glossary. Tims nowhere records /x/, but his transcription is otherwise recognizable. The glossary was partially reelicited by Uhlenbeck, and contains material of value even today. Tims recognized the usefulness of the imperative as a diagnostic form, and includes such a form for every verbal stem listed in the glossary.

Uhlenbeck, Christianus Cornelius.

A slight departure will be made at this point from the format followed to this point. Commentary will not be offered following each Uhlenbeck entry, both because not every item has been available for examination, and because the same comments would apply in most cases.

Uhlenbeck's entire corpus is of extreme importance. Even with its imperfections it is far superior to anything produced by earlier students of Blackfoot. Reelicitation of Uhlenbeck material is very easy, and it is often not necessary to reelicit at all, since many individual points are perfectly represented. Moreover, we owe Uhlenbeck a debt of gratitude for the great bulk of his field and scholarly corpus and for his zeal and dedication in publishing on Blackfoot for three decades. The comments in the next paragraph are hence not intended as criticism of this scholar, but simply as a necessary supplement to Uhlenbeck's own published instructions regarding the interpretation of his recordings.

In consulting publications of Uhlenbeck, the user of the materials should keep the following points in mind:

1) The transcription used is both phonetic and morphophonemic, with no clear distinction between the two.

2) /ʔ/ is seldom written, and virtually the only long consonants recorded are the nasals.

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3) Length and stress in vowels are often confused, and long and short vowels are clearly distinguished only in some cases.

———. Original Blackfoot Texts. Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 12, no. 1 (1911), pp. 1-106.

———. A New Series of Blackfoot Texts. Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 13, no. 1 (1912), pp. 1-264.

———. "The origin of the otter-lodge." Festschrift Vilhelm Thomsen. Leipzig, 1912, pp. 74-77.

———. "De vormen van het Blackfoot (The forms of Blackfoot)." Verslagen en mededeelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, 4e Reeks, no. 12 (1913), pp. 174-220.

———. "Flexion of substantives in Blackfoot, a preliminary sketch." Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 14, no. 1 (1913), pp. 1-39).

———. "De conjunctief-achtige modi van het Blackfoot (The conjunct-like modes of Blackfoot)." Verslagen en mededeelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, 4e Reeks, no. 12 (1913), pp. 244-271.

———. "Some general aspects of Blackfoot morphology, a contribution to Algonquian linguistics." Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 14, no. 5 (1914), pp. 1-61.

———. "Supplementary list of addenda et corrigenda to Blackfoot publications." Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 14 (1914), pp. 1-3.

———. "Philological notes to Dr. J. P. B. de Josselin de Jong's Blackfoot texts." Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 16, no. 1 (1915), pp. 1-43.

———. "Some Blackfoot song texts." Internationales Archiv fuer Ethnographie, vol. (1916), pp.

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------. "A survey of the non-pronominal and non-formative affixes of the Blackfoot verb. A contribution to the knowledge of Algonquian word-formation." Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 20, no. 2 (1920), pp. i-130.

------. "Blackfoot notes." International Journal of American Linguistics, vol. 2, nos. 3-4 (1923), p. 181.

------. "Some word-comparisons between Blackfoot and other Algonquian languages." International Journal of American Linguistics, vol. 3, no. 1 (1924), pp. 103-108.

------. "Nieuwe woorden in het Blackfoot (New Words in Blackfoot)." Verslagen en mededeelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, 4e Reeks, vol. 59 (1925), pp. 199-215.

------. "Blackfoot Imitá(ua), Dog." International Journal of American Linguistics, vol. 3, nos. 2-4 (1925), p. 236.

------. "De afwezigheid der datief-conceptie in het Blackfoot (The absence of the dative concept in Blackfoot)." Symbolis grammaticis in honorem Ioannis Rozwadowski. Cracow, 1927, pp. 72-82.

------. "Additional Blackfoot-Arapaho comparisons." International Journal of American Linguistics, vol. 4, no. (1927), pp. 227-228.

------. "Het emphatisch gebruik van relatief-pronominale uitgangen in het Blackfoot (The emphatic use of relative-pronominal endings in Blackfoot)." Festschrift W. Schmidt. Vienna, 1928, pp. 148-156.

------. "Blackfoot notes." International Journal of American Linguistics, vol. 5, no. 1 (1929), pp. 119-120.

------. "Blackfoot kimmat." Scritti in onore di Alfredo Trombetti. Milan, 1936, pp.

------. "Blackfoot notes." International Journal of American Linguistics, vol. 9, no. 1 (1936), p. 76.

------. A Concise Blackfoot Grammar. Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde,

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Nieuwe Reeks, Deel 41 (1938). Pp. 1-240.

Uhlenbeck considered this to be his major contribution to Blackfoot linguistics. It is unquestionably a valuable work. Not all parts of the grammar are equally useful, as is to be expected. The major fault is the organization of the grammar as if the language described were Indo-European. In this respect there is little difference between this work and that of F. V. Hayden, which is the earliest work which aspired to completeness.

Uhlenbeck, C. C. and R. H. van Gulik. An English-Blackfoot Vocabulary. Verhandelingen der Koninklijke Akademie van Wetenschappen. Afdeeling Letterkunde, Nieuwe Reeks, Deel 29 (1930). Pp. 1-258.

———. A Blackfoot-English Vocabulary. Verhandelingen der Koninklijke Akademie van Wetenschappen, Afdeeling Letterkunde, Nieuwe Reeks, Deel 33 (1934). Pp. 1-378.

These two works are among the most important contributions of Uhlenbeck's Blackfoot Scholarship. The "vocabularies" are lengthy (250 and 367 pages respectively), and are based on the field data of both C. C. Uhlenbeck and J. P. B. de Josselin de Jong. Although the morphological analysis which underlies the separate entries is occasionally incorrect, and there is little cross-reference between initial and noninitial forms of stems, the vocabularies are indispensible for rapid reference and copious examples. There is some misidentification of items, so the user should verify entries against each other and against other sources, when possible.

Umfreville, Edward. The Present State of the Hudson's Bay. London, 1790, p. 202.

This work contains the first published Blackfoot vocabulary. The vocabulary was apparently collected on the North Saskatchewan between 1784 and 1787, possibly by Andrew Graham, a Hudson's Bay Company employee. Most of the 44 poorly-recorded items, many for trade articles, are still current today.

United States Congress. "Agreement made with Indians of the Blackfeet reservation by Commissioners appointed under the Act of March 2, 1895." United States 54th Congress, 1st session, Senate Document, vol. 4, no. 118 (1896).

Appended to the text of the treaty agreement are the signa-

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tures of 211 adult male South Piegans. This corpus of names (in Blackfoot, with English translation) is of value for the study of structure and typology of aboriginal personal names.

Voegelin, Charles F. "The position of Blackfoot among the Algonquian languages." Papers of the Michigan Academy of Science, Arts, and Letters, vol. 26 (1940), pp. 505-512.

This is a very useful article, but one with some incorrect analyses. The transcriptions are not completely phonemic in some cases.

Wilkes, Charles. Narrative of the United States exploring expedition during the years 1838, 1839, 1840, 1841, 1842. Philadelphia, 1846. Vol. 6, pp. 143-158.

Included at the cited pages is a list of 141 items collected by Horatio Hale. The transcriptions are by far the best of the early recordings. Gallatin utilized 43 forms from this list in his 1848 demonstration of the Algonkian relationship of Blackfoot.

Wilson, Reverend Edward F. "Report on the Blackfoot tribes." Report of the British Association for the Advancement of Science, vol. 57 (1887), pp. 183-197.

Pages 194-197 contain a vocabulary of 187 items, accompanied by some grammatical remarks from a long-time missionary to the Ojibwa Indians.

Wilson, R. N. Our Betrayed Wards. Ottawa, 1921, pp. 38-40.

Given are the signatures to a memorial presented to the Canadian government May 31, 1920 of 200 adult male members of the Blood tribe. This large name corpus would be useful for study of the structure and typology of Blackfoot personal names.

Wissler, Clark. "The Social life of the Blackfoot Indians." Anthropological Papers of the American Museum of Natural History, vol. 7 (1911), pp. 8, 15.

In this monograph are given 15 kin terms.

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CHAPTER I

100. PHONOLOGY

110. PHONEMICS

The inventory of phonemes is small. There are eleven consonants (three of marginal status), two semivowels, seven vowels (one extremely rare), and at least six suprasegmental phonemes, as shown in the chart below.

SEGMENTALS

Consonants Central to the System

OBSTRUENTS				
Stops	p	t	k	ʔ
Fricatives		s	x	
SONORANTS				
Nasals	m	n		
Semivowels	w		y	

Consonants Marginal to the System

OBSTRUENTS				
Affricate			č	
Spirant				h
SONORANTS				
Lateral		l		

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Vowels

High	i		u
Upper-mid		(ö)	o
Lower-mid	ɛ		ɔ
Low		a	

The vowel in parentheses is marginal to the system in the same sense that /h/ is marginal in the consonants. The other vowels may be properly termed central to the system.

SUPRASEGMENTALS

Stress

Primary, marked by the acute accent (′).

Secondary, marked by the grave accent (ˋ).

Boundaries

Word, marked by a preceding and a following space.

Nonterminal, marked by a comma (,), colon (:) or dash (—).

Neutral Terminal, marked by a period (.).

Emphatic terminal, marked by an exclamation point (!).

111. Phoneme Matrix

The most readily defined phonological matrix for the description of Blackfoot phonemes is the phrase. The phrase is the minimum form utterable in isolation, and is defined morphologically as well as phonologically. On the phonological level it is defined by stress and boundary phenomena. It has only

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one primary stress (the number of secondary stresses which may appear is not predictable at the phonemic level). In isolation it is preceded and followed by silence and has an onset, a melodic contour, and a final. A phrase may consist of a single word or of several words.

Within the phrase, the syllable, regardless of its structure, is the matrix for the suprasegmental phonemes which are found. Stress may appear with any syllable. The remaining suprasegmentals are boundary phonomena, the appearance of which is restricted, of course, to initial and final syllables.

120. Discussion of Segmentals

The consonant inventory of Blackfoot is simple and requires but little comment.

121. Consonants Central to the System. Thanks to Uhlenbeck's voluminous published materials in and on Blackfoot, virtually all of the phonemes which are central to the structure of the language are already well-known to interested scholars. Certain of these phonemic oppositions may be demonstrated by minimal pairs, although such pairs are not common in the language. The remainder are demonstrable in analogous environments. /p/ vs. /t/: nitsipɛ́ɛ́po yi 'I am standing upright', nitsitɛ́ɛ́ʔpoʔyi 'I am talking': /t/ vs. /k/: míístapoota 'go thou away!', míístapooka 'go ye away'; /k/ vs. /ʔ/: iiksíkinniʔwa 'it (house) is very warm',

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nitsi?innaʔwa 'I skinned him by hand'; /ʔ/ vs. /ø/: iinnisa 'seize thou him!', i?innisa 'skin thou him by hand!'; iipiiʔwa 'he had, made arrows', ii?piiʔwa 'it is wet'; aapinákosi 'tomorrow', aa?pinákosi 'when it is morning'; nitáaakapootowaʔwa 'I will furnish him meat', nitáaakapoo?towaʔwa 'I will set him free', etc.;[1] /s/ vs. /x/: ookowassisi 'his belly fat',

[1]This is the only obstruent phoneme which cannot be established using Uhlenbeck's materials alone, and more examples have been given of it than of others in order to establish its phonemic status beyond all doubt. /ʔ/ is more audible in the speech of some individuals than in that of others. For example, it was very difficult to distinguish in the speech of Margaret Many Guns and Darryl Blackman, but very easy in that of Irene Butterfly, Grace Douglas, Mary Ground, Tom Many Guns, and Mae Williamson. My early materials, most of which derive from Margaret Many Guns, contain many examples of missed glottal stops, and despite much effort to verify these recordings later, their sheer bulk prevented complete reelicitation and verification. Uhlenbeck apparently failed to discover the rules by which certain instances of /ʔ/ are generated, and therefore decided to write it only when no fluctuation was observable. On the other hand, he wrote it in some morphemes where it never appears, cf. mi?ni 'berry'. The correct form of this morpheme is miini.

omísstowaxsi 'his facial hair'; /s/ vs. /k/: nitsipóxksiniiʔpa 'I clipped it (hair), I cut it', nitsipókksiniiʔpa 'I squashed it flat'; /s/ vs. /ø/: óxkoʔsiks 'his bowls, his dishes', ókoʔsiks 'his children'; /m/ vs. /n/ máxka 'that one (animate)', náxka 'this one (animate)'. The semivowels are discussed and illustrated in a later section.

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There is an alternative possibility in the analysis of the obstruents which should be mentioned at this time. According to this solution two additional phonemes would be added to the inventory. These are the affricates /ts/ and /ks/. Such a solution affords an economy in the phonotactics, for segments considered as clusters then become units, with a resultant simplification of consonant sequences including these segments. This solution is unsatisfying for other reasons, however; the occurrence of gemminate /s/ between stops makes a complicated syllable canon inevitable, cf. for example, the item ksstsíí 'snail shell, spiral shell'. Phonemes /t/, /k/, and /s/ are necessary irrespective of the problem at hand, and the clusters /st/ and /sk/ also occur in any solution. For these reasons the segments [ts] and [ks] are regarded as clusters rather than as units.

122. One of the thornier problems of Blackfoot phonemics, as, indeed, of Algonkian phonemics in general, is the question of phonemic semivowels. There is an abundance of phones which may be described as nonsyllabic vowels, and morphophonemic analysis shows that there are frequent alternations between syllabic and nonsyllabic allomorphophones.

For reasons of economy it might be tempting to posit nonsyllabic variants of /i/ and /o/ or /u/, and so eliminate two

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phonemes from the inventory. In order for this to be valid, of course, syllabicity vs. nonsyllabicity of the vowels would have to be rigorously predictable, and the resulting structures should be in harmony with the total structure of the language.

Examples were collected of the following relevant phonetic sequences: [i̯i̯i•], [i•i̯i•], [i̯i•i̯i], [i•i̯i̯i̯i•]. Two phonemic interpretations are possible. If length is regarded as a phoneme, then the nonsyllabic i-phones are predictible by counting from the right: <u>even</u> vowels are nonsyllabic. Following this interpretation the above sequences would have the following phonemic shapes: /iii•/, /i•ii•/, /ii•ii/, and /i•iiii•/. Although such a rendering adequately represents the phonetic content of the sequences, it is phonemically very unusual due to the number of successive occurrences of the same vowel which it represents, viz. up to five. No other phoneme occurs in chains of this length in Blackfoot. A very plausible syllable structure results, however, if the nonsyllabic occurrences of /i/ are regarded as belonging to a separate phoneme, /y/: /iyi•/, /i•yi•/, /yi•yi/, /i•yiyi•/.

Another phonemic solution, differing slightly from the last, can be made. Long vowels can be regarded as a cluster of two short vowels, eliminating the necessity of a phoneme of length. Following this interpretation the sequences are /iyii/, /iiyii/,

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/yiiyi/, and /iiyiyii/. This is the best solution for Blackfoot, as will be seen later. Blackfoot forms which support the foregoing are óxpai?piyiimiiwà?yi 'he made him jump', nitáa?siiyii?pa 'I sneezed on it', sááyiiyi?wa 'rabid dog or coyote', íípakiiyiyii 'they moved camp',

A /w/ phoneme can be justified in the same way. All instances of nonsyllabic [o] are predictible by fairly simple rules, but if the nonsyllabic vocalic phone is treated as an allophone of the phoneme /o/, then such vocalic sequences as the following occur: [iN?Ixkioô·?OA] 'he went singing', [nitá·oa·?OAxkA] 'I am moving on foot, I am walking', [kicíN?IxkIxpooa·?OA] 'you (pl.) sang'. On the other hand, if nonsyllabic [o] is constituted as a separate phoneme, the number of vowels which can occur in sequence after /w/ is reduced to a maximum of two, which corresponds with the syllable structure of the rest of the language. An added advantage, as with /y/, is that the phonetic content is also more clearly represented in this transcription. The above forms in such a phonemic transcription are as follows: in?ixkiwóo?wa, nitááwaa?waxka, kitsín?ixkixpowaa?wa.

123. Consonants Marginal to the System. A palatal affricate /č/ was found in two loanwords from English: čɛpiníikoan?a 'Japanese (person)', and čipowaikoan?a 'Chippewa, Ojibwa'.

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Other examples could probably be found. Likely candidates might be common English names containing /č/ or /ǰ/. Uhlenbeck lists several of these in his Blackfoot-English Vocabulary in the form current around 1910, at which time the English affricates were replaced in Blackfoot by /ts/: tsáni 'Johnny', 'Charley'; tsáutsi 'Georgie'; tsíma 'Jim'; tsó 'Joe', tsóni 'Julie'.

Quite clearly phonemic, but also of low functional load, is the phoneme /h/. Of the marginal phonemes, this one is, or was, found in most if not all idiolects. /h/ is found in a number of interjections (Uhlenbeck lists these both in his Concise Grammar, page 232, and his Blackfoot-English Vocabulary) which are now mostly obsolete. Of greater interest is the status of [h] not found in interjections. Instances of this type of [h] are always predictible from the morphophonemic environment, and never obligatory, i.e., appearance and non-appearance do not contrast. The phonemic or phonetic status of this predictible phone thus depends entirely upon whether the ideolect includes words (interjections) containing the non-predictible, phonemic /h/. Forms which illustrate the two possible phonemic interpretations of predictible [h] are the following: /ɛʔsamóóʔyi/, /hɛʔsamóóyi/ 'it was long, long ago'; /ayíístapaaɔʔpa/, /ayíístapaahɔʔpa/ 'we (inclusive) went away'; /itsipáaɔpiʔwa/, /itsipáahɔpiʔwa/ 'he is sitting up'.

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In those idiolects where a phonemic /h/ may be posited it would be possible to classify the h-phones as allophones of /x/. This is so because the two are in complementary distribution: /x/ appears only before obstruents other than itself, while /h/ occurs only word-initially before vowels or medially between vowels. In spite of this complementation, the two are classed here as separate phonemes for the following reasons: 1) Phonetically the sounds are quite different; 2) /x/ is of high statistical frequency, /h/ is exceedingly rare; 3) /x/ occurs only medially in morphemes, /h/ occurs only at morpheme boundaries; 4) the morphophonemic background of each is quite different: /x/ is ‖S‖ at the morphophonemic level, while /h/ is either ‖h‖ or ‖Ø‖ .

Two words were supplied by Tom Many Guns which contain a phoneme /l/. These were the loan word apsáloka 'Crow', from the Crow self-designation apsá·ruke (Lowie), and kákalottsstooki 'horned owl'. The latter is a native term, ordinarily given as kákanottsstooki, literally 'hollow ears'. The word is regarded by the Indians themselves as onomatopoeic (Shaffer, p. 42). Why Many Guns uses /l/ in this word is unknown. After mentioning the term accidentally he remarked "Them owls talk Piegan, you know that?"

124. Vowels. The skewed vowel system of Blackfoot is a

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prime example of the enlargement of a system through secondary split.[1]

[1]Henry M. Hoenigswald, Language Change and Linguistic Reconstruction (Chicago: University of Chicago Press, 1960).

The vowels /i/ and /o/ require no particular comment. The opposition may be illustrated by the following minimal pair: kòo?kí?wa 'it is a corner' vs. kòo?kó?wa 'it is night'. Both have been further illustrated in examples already cited in other connections.

The vowels /ɛ/, /ɔ/, and /ö/, in non-borrowed words, are always the result of vowel contractions of one kind or another. These contractions are discussed in section 341.3 below. Examples of each are mὲɛ́ɛ́?wa 'robe, blanket', nitɛ́xpii 'I am dancing', ɛ́nnisi?wa 'he is falling'; ɔ́oyi?wa 'he is eating', ɔ́xki?wa 'he is barking'; innö̀ö́sopàa?tsisi 'bench'. Stress in this word is on the front rounded vowels. A minimal pair is available for the opposition /ɔ/ vs. /o/: ɔttakówɛɛniki 'if I give him a drink', ottakówɛɛniki 'when I give him a drink'. For the opposition /ɛ/ vs. /i/ cf. the analogous pair nitɛ́kkaaya?yi 'I am running fast', nitsíkkaaya?yi 'I ran fast'. /o/ was encountered in the speech of only one informant, Tom Many Guns, but the fact that the origin of the vowel is exactly parallel to that of the other contracted vowels suggests that the vowel may occur in other

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idiolects. Other South Piegans consulted pronounced the sequence without contraction; however, all recognized the Many Guns form as correct and termed it "the same" as their own.

The vowel /u/ is phonemic because of contrast with /o/ before geminate consonants. Although perfect minimal pairs are lacking, such forms as únni 'his father' and ónni?wa 'he has a father', and sokúttaan?i 'spittle' and asóttoan?i 'knife sheath' establish /u/ as a phoneme. One minimal pair was encountered with /u/ and /i/ in opposition: ksiistsikúm?sstaan?i 'window' vs. ksiistsikím?sstaan?i 'brew, infusion, steeping'. The phonemic status of /u/ is also supported by the presence of a loan word: kutuɛɛi?wa - kutuɛɛɛ?wa 'Kootenai'.

The phoneme /a/ may be illustrated by the following minimal pairs: pásskaan 'festival dance', písskaan 'buffalo pound, trap for impounding wild buffalo'; amáa 'this one (animate)', omáa 'that one (animate)'. /a/ contrasts with /ɛ/ in the following analogous pair: nitákkàa?wa 'my friend, my comrade' vs. nitɛ́kkaaya?yi 'I am running fast'. The phoneme /ɔ/ is so rare that no examples may be cited in which it is in opposition to /a/.

Not yet discussed is the phonemic interpretation of phonetic long vowels. That there is three-way contrast is shown by such

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minimal and near minimal pairs as the following: otsistsín?i 'his palate' vs. otsistsíín?i 'strawberry'; iikítsim?o 'it smells foul' vs. iikítsìim?o 'it is very fragrant'; ikksstsí?wa 'he is narrow, he is slender' vs. ikksstsíí?wa 'it is narrow, it is slender'; pokáakii?wa 'small woman' vs. pokáaa?kii?wa 'Whirlwind Woman' (name).

As is clear from the many examples cited so far, and as was mentioned above (122), long vowels are interpreted in this study as successive occurrences of short vowels. There are two reasons for this:

1) Long vowels are the structural equivalent of such diphthongs as /ai/ and /ao/, where there is no question of a two-unit make-up;

2) analysis of long vowels as short vowel plus length would require three kinds of phonemic pitch: high, low, and falling cf. [sà·xkǎ·kì·?WA] 'short woman', [ǎ·kí·?WA] 'woman', [mecówà·kì·?WA] 'handsome woman'. All contrasts in both length and pitch can be represented adequately by analysis of these sequences as a cluster of short vowels, occuring with or without primary or secondary stress: saaxkáákii?wa, àakíí?wa, matsówaakii?wa.

One major problem in the phonemicization of vowels remains to be mentioned.

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In many cases it was impossible to decide whether vowels before /ʔ/ (almost always followed by a consonant) are phonemically long or short. Diphthongs in this position are unambiguous and are specifically excluded from this discussion. Vowels before /ʔ/ almost always have the quality of long vowels, even though their absolute duration may be shorter than that of a long vowel.

In this study certain (essentially arbitrary) criteria have been followed in phonemicizing syllabics before /ʔ/. These are ennumerated below.

1. The vowel is written short when it is known to be morphophonemically short: nitsí?ittaki 'I flayed, I skinned with a blade', i?ní?wa 'he died', siiksipá?wa 'he bit him'.

2. The vowel is written long when it is known to be morphophonemically long: nítsksinii?pa 'I know it', nitááwaaxpitsii?taki 'I am lonely', nitsiksísatòo?pa 'I hid it', niítaxtaa?yi 'river'.

When no such structural criteria were available to aid in the decision, reliance has been entirely on the apprehension of the length and quality of the vowel. Long vowels were sometimes identified by their (falling) pitch contour as well. Examples are níi?sa 'my elder brother', àa?síítaxtaa yi 'creek', mòo?ksis 'awl', naatóo?si?wa 'sun'.

Most instances of syllabics before /ʔ/, especially when these are morpheme-medial, have been phonemicized long; it is

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possible that some might actually be short.

130. Discussion of Suprasegmentals

131. Stress. The phonemic feature of stress is intensity. Nonphonemic features which accompany stress are slight prolongation of the stressed vowel and a higher pitch than that of contiguous stressless vowels. There are three levels of phonemic stress: primary, marked by the acute accent, secondary, marked by the grave accent, and weak or stressless, which is unmarked. The intensity of the three stress levels is not defined absolutely, but rather for each relative to the others. Having greatest intensity are vowels with primary stress, with least intensity, stressless vowels, while vowels with secondary stress have intensity somewhere between these extremes. The following minimal pairs illustrate the three contrasting stress levels: ákaitapii wa 'he is an old person' vs. akáítapii?wa 'there are many people'; áxpɛi?pii?wa 'he jumped from a height, he hurtled through the air' vs. ɔxpɛ̀i?pii?wa 'he had another vouch for him'.

132 Boundaries. There are four phonemic boundaries defined in various ways. One of the boundaries occurs phrase medially, the remaining three occur phrase finally. The boundary which occurs phrase medially is word boundary, those occurrung in phrase final position are the non-terminal and the two

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terminal boundaries.

Phonological word boundary is marked as such only when it happens to coincide with phrase boundary. Otherwise word boundary is not recognizable at the phonemic level, but it is usually defined at the morphophonemic level and always defined at the syntactic level. In the former case the occurrence of certain morphophonemic alternations conditioned by the proximity of the phrase boundary signals the presence of the boundary; in the latter case the boundary is signaled by the presence of construct-opening and construct-closing morphemes and by the potential presence of a final boundary, either terminal or nonterminal. Word boundary is represented in this study by a space preceding and following each word.

The nonterminal boundary, represented by various punctuation marks, comma (,), colon (:), dash (--), is marked by the arresting of the pitch decrescendo before the articulatory force is fully expended. The last syllable of the phrase is pronounced on a steady pitch level whose height is determined by the distance from the first stressed syllable of the phrase, and the phrase-final phoneme is not devoiced. There may be an instant's pause or the next phrase may begin immediately. The first stressed syllable of the new phrase never has loudness or pitch higher than that of the first or primary stressed syllable of the pre-

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ceding phrase. The following sentence contains several examples of this type of boundary:

ki áámuyi kanɛ́ɛ́pisátowaxsiists: matsiníyaawa, óótookyaawa--
áámuyi kanɛ́ɛ́tsiwaa?pyowaxsiists é́itamoo?tapɛsspuxpiixkii!

'And behold all the delicacies: tongues, kidneys--all the lovely foods jumping up all over!'

Two kinds of terminal boundary are found. The declarative terminal boundary, represented in this study by /./, is marked by a complete decrescendo, with a gradual expiration of the articulatory force. Before this boundary are found only voiceless final syllables, followed by an obligatory silence. The onset of a new phrase is marked by renewed vigor of articulation and an independent intonational contour. An example of this kind of terminal boundary is found in the following sentence:

"sáá, nitáaakɛ́i?kowan?i," misskawáání?wa.

'"No, I'll go on playing," he said anyhow.'

The emphatic terminal boundary is represented here by /!/. This boundary differs from the declarative in that there is no ebbing away of the articulatory force, especially on the final syllables, and phrase-final unvoicing of a final syllable does not occur. The emphatic boundary, like the declarative boundary, is followed by an obligatory pause, though it may be very short. Examples of the emphatic terminal boundary follow:

"aaá, máátuxtsikyo?pa! táaakstam?uxkɛ́i?kowan?i, yakú!"

'"Aw, we don't care about that! I'll just play, come on,

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let's go!"'

140. Articulation and Allophony

141. Stops. /p/ is bilabial, /t/ is apico-dental, /k/ is dorso-velar, /ʔ/ is glottal. All the stops are fortes and voiceless, except that /p/ in initial position may appear sporadically in a lenis or weakly voiced allophone. /t/ has no noticeable allophony. /k/ has varying posterior palatal to velar points of articulation depending upon its environment. Before /i/ and /ɛ/, /k/ is noticeably fronted, phonetically [k̟], as in óóki! 'hello!', okí! 'come on, hurry up!' Before the back vowels /k/ is generally mid-velar, as in ooxkátsi 'his foot, his leg', kóónʔssku 'snow', ksáxku 'earth, soil'. In some ideolects, however, /k/ before /ai/ was heard with post-velar articulation, as in káínaʔwa 'Blood Indian', /ʔ/ is a clearly audible catch in typical South Piegan speech.

142. Affricates. The single affricate, /č/, is found only in the speech of bilinguals, and is as in English.

143. Fricatives. /s/ is an apico-alveolar spirant. Generally this fricative has slit articulation, with slight retroflexion, although younger speakers use an English-like /s/. Following /k/ the retroflexion of /s/ is extreme, in some cases resulting in a sound resembling an English /r/ (e.g. Christmas); some early recorders actually transcribed /ks/ as kr. Examples

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are kʉísk͡sstaki?wa 'beaver', kʉiistsímaan?i 'bead, beads, bead-word'. The fricative /x/ has two quite distinct allophones conditioned entirely by the preceding vowel. Following /i/ and /ɛ/ the allophone is mid-palatal (compare with the fricative in standard High German ich); ixkitsíka 'seven', nitéxpii 'I am dancing'. Following other vowels (no example found following /ó/) the fricative is mid-velar, compare again with German as in Dach: áxsa! 'what?', nóxka 'my kettle', óxki?wa 'he is barking', uxkín?i 'his bone'. In initial position /h/ may be either voiced or voiceless; in exclamations a voiced allophone generally appears: háyu, kímmukkita! 'Hayu, pity me!' (a pagan invocation to the sun).

144. Nasals. /m/ is bilabial, /n/ is apico-alveolar. Ordinarily fully voiced, both are partially unvoiced before /?/, completely unvoiced following /?/ and before a whispered vowel. Examples of the nasal allophones are the following: maamíi?wa 'fish', úm?axksikim?i 'lake', ním?ssa 'my daughter-in-law, siksinám?ma 'he is black'; nínaa?wa 'man, chief', nitéén?ixki 'I am singing', maan?sstáám?a 'lodgepole', púm?na 'it is a bracelet'.

145. Lateral. In the two examples of this phoneme which were encountered the /l/ was as the English post-vocalic /l/.

146. Semivowels. /w/ is labial, /y/ is palatal. The phoneme /w/ appears in two allophones. Following /?/ there is a weakly labialized, voiceless allophone as in the word nínaa?wa 'man, chief'. Elsewhere /w/ is a clearly voiced, labialized

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glide comparable to English /w/ in away: áwakaasi?wa 'deer, elk', iwatóóma?yi 'he ate it'. /y/ appears in three allophones. Following /?/, /y/ is a voiceless glide: naanistsípo?yixpi 'as, how I stand', nitáámya?yi 'I stepped, I took a step up'. Between homorganic vowels, one of which is stressed, /y/ is typically an almost imperceptible dip or hiatus before the rise toward the syllable peak: niyítaxtaa?yi 'river', skíyim?a 'mare, bitch', káaksimìyiitapi?wa 'Osage (literally 'sage') Indian'. Note that when neither vowel is stressed, the sequence ǁiyiǁ or ǁIYIǁ may appear as either /iyi/ or /ii/, see below, section 342.1. Elsewhere following both consonants and vowels, /y/ appears as a voiced palatal glide with very little friction, comparable to /y/ in English yes. Examples are áyaaxky>xsi?wa 'Assiniboine (literally 'boatman, canoeist')', kaayíí?wa 'gull', naatááyo?wa 'bobcat, lynx', nitóótoyoom?a 'my brother-in-law'[1],

[1]This term is always used by a female speaker in referring to her sister's husband; literally the term means 'my remote husband'. Apparently this reflects the frequent aboriginal custom of sisters marrying the same man.

áókspyaaki?wa 'bat', iinyoo?tokáán?i 'buffalo head'.

147. Vowels. The allophony of the vowels is conditioned by segmental features, by the type of syllable in which the vowel is found, and by such suprasegmental features as presence or absence of stress and proximity to a boundary. For descriptive

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convenience in the discussion to follow, homophonous vowel clusters will be referred to as "long vowels", while a single occurrence of a vowel will be termed a "short vowel". All long vowels before /x/ are of duration comparable to a short vowel elsewhere, but are fully voiced. All stressless short vowels before /x/ are of slightly less than normal duration, and are voiceless. Unstressed short vowels before a phrase-final boundary are also always voiceless.

Discussion of individual vowel allophony may appropriately begin with /i/, which is statistically the most frequent of the vowel phonemes. When long and stressed following /p k s/, /i/ appears in an allophone which is phonetically a closed [e], as in French été, varying to somewhat higher. Examples are: ooxpííkiists 'his teeth', nituxkíímaan?a 'my wife', atsikíísts ' moccasins', sííamo?wa 'crane'. Before /x/ long /i/ is open, comparable to /i/ in English it: nitássinniixpa 'I am breaking it', piixksó 'nine', kiixtsípimiitapi?wa 'Cheyenne Indian'. Elsewhere long /i/ is high and closed, compare to French /i/ in Italie. Examples are ííksopo?wa 'it (wind) is blowing very hard', míínists 'berries', ìiní?wa 'buffalo', saaxkúmaapii?wa 'boy', spáyiikoaná 'Mexican', nítssksinii?pa 'I know it'.

Short /i/ has allophony which ranges from closed to open and from front to somewhat central. Following /s/ an open,

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rather centralized allophone is found: tsikatsí?wa 'grasshopper', istssímaa?tsis 'match, cigarette lighter; branding iron', nisísea 'my younger sibling' (female speaker). Before a vowel or semivowel and /?/, when not preceded by /s/, short /i/ appears in a closed, high allophone: niókska 'three', niyítaxtaa?yi 'river', iwatóóma?yi 'he ate it', i?naksípokaa?wa 'little child'. Immediately before a neutral phrase-final boundary unstressed /i/ appears in a closed, high (voiceless) allophone: oápsspi 'his eye', nòo?tokáán?i 'my head',; cf. also 'river' and 'he ate it' among the examples given above. In closed syllables, short /i/ not preceded by /s/ appears in an allophone comparable to /i/ in English it; the allophone is voiceless before /x/. Examples are immoyáán?a 'fur robe, buffalo robe', nín?na 'my father', úm?axksipìppo 'one thousand', isttoán?a 'knife', ixkitsíka 'seven'. Elsewhere whether stressed or stressless, short /i/ shows a variation along a continuum whose extremes are [I] and [i], similar in quality to the vowels in it and machine. Usually the i-phones are nearer the [I] end of the range. Examples are very numerous, the following are representative: pináápiisináá?wa 'Sioux' (literally 'eastern Cree'; the term asinaa?wa 'Cree' probably meant 'Assiniboine' at an earlier period); nitán?a 'my daughter'; nínaa?wa 'man, chief', napí 'partner!' (term of address used between males); kipitáakii?wa 'old woman'; kaínaa?wa 'Blood Indian'; iimitáá?wa 'dog'.

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Always short, the high back vowel /u/ appears in two allophones, one voiceless, one voiced, both with the open quality of /u/ in English put. Examples of the voiceless allophone are sík̲uxkyaa?yo 'black bear', kitɛ́ɛ́n?ixk̲uxt̲u 'I am singing to you', kitáxkanyu̲ 'I pierced you', ksáxk̲u 'dirt, earth, soil', nitsikóo?pu̲ 'I fear, I am afraid'. The voiced allophone is found in all environments except immediately before /x/ and the neutral terminal boundary. Examples are ún?ni 'his father', sokúttaan?i 'saliva, spittle', ús̲spi 'his gall, his gall-bladder', otsístap-un̲?ni 'his ancestor, his forebear', kii?sum̲?ma 'heavenly body, sun, moon', nitó́xpum̲?ma 'I am buying', ìi?k̲umí?wa 'he has lice', otuxtún?i 'his heel', t̲unaóksisa 'needle', k̲ut̲unɛ́ɛ́i?wa 'Kootenai Indian'.

The higher-mid front rounded vowel /ö/ has only one allophone, at least in the few recorded examples. In these it has the high, closed quality of the same sound in French peut. The only examples encountered are the following: innöösopaa?tsis 'bench (literally 'long seat')', innösspi?wa 'he has long hair', kumunöö 'dark green paint', mòo?töínɛɛkoana 'person of the Chiefs-all-over band', itöísimi?wa 'he went to drink'. Speakers other than Tom Many Guns gave these forms as follows: innuísopaa?tsis, innuísspi?wa, kúmunuy, mòo?tuínɛɛkoana, and ituísimi?wa.

The higher-mid vowel /o/ appears both long and short. Long

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/c/ has two allophones having the closed quality of /o/ in French eau. These allophones are differentiated by duration only. Before /x/ the long /o/ is of shorter duration than elsewhere. Examples of both allophones are the following: nooxksísa 'my nose', ááyooxtuxkyooxsi?wa 'he is sick'; kóón?ssku?yi 'snow (on ground)', kiipóó 'ten', óom?i 'her husband', póxsapoota 'come here!'

When the vowel is short the allophones are very similar to those of the long vowel. Examples are ksiwóxtsi 'down, below', oápsspi 'his eye', kokotó 'ice', otokísi 'his hide', ottsísi 'his entrails', aapinákosi 'tomorrow', ponoká?wa 'elk', ónni?wa 'he has a father'.

/ɔ/ is a low back partially-rounded phoneme. In most cases the vowel is long, where the allophone may be compared to Swedish /å/ in such a word as våra. Examples are nàaɔ́ɔ́?yi 'my mouth', stá?ɔɔ?wa 'ghost', aamisɔ́xsin?i 'ascent, climbing', ɔ́xki?wa 'he is barking', nisɔ́xko?yi 'my short ribs', mɔɔxksinám?ma 'he is red'. Much rarer is short /ɔ/. The short allophone is similar in quality to the long: saaɔttsísiiwa?yi 'he (cut) open another's belly', itsipáaɔpi?wa 'he sat up', ayíístapaaɔ?pa 'we (inclusive) went away'.

/ɛ/ appears in two allophones. When long the allophone is a low front vowel phone similar in quality to the /æ/ in marry

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in those dialects of American English which contrast merry, Mary, and marry. Examples of long /ɛ/ are náápiikowɛɛks 'white people', nɛ́ɛpsstsi?wa 'cloth, dress goods, woven fabric', nɛ́ɛɛ̀ppo 'sixty', nɛ̀ɛɛ́?wa 'my robe, my blanket', owɛ́ɛ́ 'egg (partitive)'. When short, /ɛ/ has two allophones. The one is found when the two subsequent phonemes are /i?/. This allophone is the highest of all the allophones of this phoneme, with a phonetic quality slightly lower than [e]: akɛ́i?ni?wa 'he is dead (already)', issikɛ́i?pii?wa 'he stopped', nitɛ́i?tsii?po?yi 'I am speaking an Indian language', ɛ́i?tsskaa?wa 'he is fighting', sɛ̀i?sápiitapiiks 'disagreeable, ill-tempered people'. The other allophone has the quality of the vowel in English met. Examples are ɛ́nnisi?wa 'he is falling', ixtɛ́kkyoo?pa 'bugle', ɛ́ssinnima?yi 'he is breaking it by hand', nitɛ́xpii 'I am dancing', nitɛ́?ɛttaki 'I am flaying, I am skinning with a blade', nɛɛɛppo 'sixty'.

The phoneme /a/ appears both long and short. When long the vowel occurs in a central, open allophone, comparable phonetically to /a/ in English bomb: náánaan?a, 'bogieman', aapinákosi 'tomorrow', áápasstaaminattsi?wa 'apple', aaminάaa?tsisi 'ladder'.

The allophony of /a/ when short is conditioned by the structure of the syllable in which it is found, by the segmental and suprasegmental environment of the vowel, and also apparently by

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individual style.

In both open and closed syllables, /a/ before /ʔ/ appears as a clear [a] resembling the vowel when long: kátaʔyooxkiimiʔwa 'bachelor', maʔtóókita! 'take it!', stáʔɔɔʔwa 'ghost', ponokáʔwa 'elk'. Stressed short /a/ before /x/ appears in a similar allophone: ksáxku 'earth, dirt ', áxsa 'what?'. In closed syllables otherwise /a/ appears in a schwa-colored allophone, voiceless before /x/. Representative examples are: noápsspa 'my eye', sikatsíʔwa 'grasshopper', miistákssku?yi 'mountains, mountainous region', pásstaamʔa 'tinder, punk', tóksskamʔmi 'one', ánʔnooxka 'now', niyítaxtaaʔyi 'river'.

The remaining environments are all in open syllables. Unstressed before a declarative terminal boundary the allophone found is voiceless; the quality is schwa-like: nitsiksímʔssta 'I thought', noápsspa 'my eye', nitsóoka 'I slept', ipisóʔwaxsa 'Morning Star', siksinámʔma 'he is black', nitánʔa 'my daughter'. Otherwise short /a/ has an allophonic range which varies between [a] and [ə]; [ə] appears regularly before /p t k s/ and the nasals, while the clearer allophone is most usual before the semivowels. Instances are found, however, where these distributions are reversed. Examples are the following: apóónistoota 'smash it!', noápisaki 'my thigh', katoyísa 'Clot-of-Blood' (name of a culture hero), aapátuxsooxtsi 'north, behind', nooʔkakíkinʔi 'my back', apákiiʔwa 'it is wide', asókaaʔsimʔi

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'coat, shirt, garment', saaxsásoo?kitaki?wa 'Stoney Indian', nisstamó?wa 'my brother-in-law (male speaker)', sootámamatoomay 'then he smelled it', nitán?a 'my daughter', óókoan?i 'his belly, his stomach'; ikkáwatoota 'break a hole in the ice!', isspawáni?wa 'he flew up', spáyiikowɛɛks 'Mexicans', napayín?i 'bread'.

148. Suprasegmentals. Three types of phonetic pitch are found within the syllable: level, falling, and neutral. Since pitch co-occurs with stress, it is necessary to mark only one in phonemic transcription. Level pitch is found with a stressed single vowel, or with a vowel cluster having both members stressed; graphically this is V́ or V́V́, V̀ or V̀V̀. Falling pitch is found only in vowel clusters in which the first member, but not the second is stressed. Graphic representation of this is V́V or V̀V. Neutral pitch is found with a single stressless vowel or in a vowel cluster of two stressless vowels, graphically V or VV.

The pitch levels of syllables relative to each other are determined by the position in the utterance of the first stressed syllable. The stress and pitch patterns are the same for all utterances, regardless of whether the utterance is a multi- or a single-word phrase, with the difference only that a multi-word phrase has a greater number of actual or potential stresses. Two rather distinct pitch contours are found, depending upon whether the first stressed syllable is toward the beginning

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or toward the end of the utterance.

Pitch Contour Number One. Utterances pronounced in this contour have their first stress either on, or, more usually, earlier than the penultimate syllable. Ordinarily the first stressed syllable is found near the beginning of the utterance. Statistically this contour is the most frequent in the language. The highest pitch in this contour is found with the first stressed syllable, regardless of whether the stress is primary or secondary. Any syllables (stressless by definition) which precede the first stress are lower in pitch than the stressed syllable, but are of higher pitch than any stressless syllables which follow the first stressed syllable.

There are several pitch decrescendos with this contour. If only one stressed syllable occurs in the utterance and the immediately following syllable contains a single vowel, then the pitch contour drops in a steady curving descent, each syllable pitched lower than the last, until the end of the utterance is reached: nimáátssksiniixpa 'I do not know (it)'. The same decrescendo is found if the single stressed syllable is followed immediately by at least two syllables containing more than a single vowel: ááwaawaakoyii?wa 'it is flowing', nitááwaasai?ni 'I am crying'. If the single stressed syllable is followed by a syllable containing more than one vowel, and the syllable following this contains a single vowel, a different type of decres-

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cendo occurs. After the stressed vowel(s) the pitch becomes low immediately, and remains low until the end of the word: máátsɛ́noyiiwaatsa 'he doesn't see him', aamyác?piita 'get on, mount!'

Somewhat differing decrescendos are found if a second, or other stressed syllables, occur subsequent to the first stressed syllable. When the second stress occurs prior to the penultimate syllable, the pitch of the stressed syllable(s) is very slightly above the level which would be found if the same syllable were stressless. The stresses subsequent to the initial stress stand out in the descending contour as intensity and pitch peaks. Representative examples are the following: òosáka 'it is backfat', nítsstawaawaxka 'I am approaching, nitákkàa?wa 'he is my partner', nítuxpàataki 'I packed, carried on my back', ásstsipìmaa?wa 'he is whipping (something living)', pákksisttuxkixkinìiiitsitapii?wa 'he is a Flathead (Indian)', maanistáipaxpòyissiyà?yi 'as she went on shaking it'. Examples which consist of more than one word are the following: ki únna?sina ixpókiisapoksskaa?si 'and the men-folk were running along too', itsɛ́i?pisskuxtoyiiyaawayi issapóóyi otaxkuítaxtaa?yi 'they chased the Crows to the Yellowstone', ki itóo?tsimayi maatsiniiyi, ki itsínnapan?ssiiwa?yi 'and she took the tongue and confessed'.

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When a second or subsequent stress (always secondary) is found on the last (in certain cases next-to-last) syllable in the utterance, the decrescendo is of a very different sort. In this case the contour found is a combination of contour number one and the other contour--pitch contour number two--now to be described.

Pitch Contour Number Two. If the first stressed syllable is the last syllable of the utterance, the entire contour is pronounced with a slow, deliberate, almost solemn cadence, and on a low pitch level. Any syllables which precede the final syllable receive an equal amount of stress, which is stronger than on stressless syllables in the contour just discussed. The stressed syllable is distinguished by its greater relative intensity, but its pitch does not differ from that of any preceding syllable or syllables. The characteristic feature of this contour is its measured, monotonous quality. Such contours are characteristically short in length: sáá 'no!', poká 'partner! (allocution used between females)', atsikíists 'moccasins', misisɛ́ɛ́ 'excrement'.

The same contour is found unpredictibly on a number of words with penultimate stress. Morphophonemically it can be shown that the stress on words of this kind is on the last syllable of the stem: píita 'come in!', spii?wa 'it is tall, high', maamii?wa 'fish, it is a fish', innoyii?wa 'it is long',

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maatsiniiʔyi 'tongue', imitáaʔwa 'dog', siksinámʔma 'he is black', iʔtsskuxtóóta 'unwrap it'. Morphophonemic analysis shows that words with penultimate stress pronounced in pitch contour number one never have the stress on their last stem syllable, cf. for example káyiists 'dried meat', nitsíístsi 'I carried on my back', niksísstə 'she is my mother'.

As mentioned above, one type of decrescendo has elements of both contours one and two. This decrescendo is found only with compounds in which the last member has pitch contour number two when an independent word. This means that the final, or penultimate syllable, is stressed, but this stress is not the first stressed syllable in the word. The first stressed syllable in the word occurs somewhere on the prior member or members of the compound. This portion of the compound is pronounced with the appropriate decrescendo of pitch contour number one, with the shift to the decrescendo of contour number two occurring on the first syllable of the element pronounced in isolation with contour number two. Examples are the names kyáayiitsiksinàmʔma 'Black Bear' and kyáaytooʔtokàànʔa 'Bearhead'.

149. In this section will be described a stylistic feature which is found in narrative style. The feature in question is an exaggerated prolongation of a vowel, usually, but not always with primary stress; the intensity and pitch of such a vowel

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are those appropriate to the intonational context. This type of length is termed superlength, and is indicated graphically by two raised dots following the affected vowel. The meaning of superlength varies according to the form class of the word in which it occurs. With demonstrative pronoun stems, prolongation of the stressed vowel indicates remoteness in time or space: mí··ka aapatóxtsika 'long, long ago', ki ó··miksskaokyaaʔwa 'and away off yonder they went'. With other stems superlength simply emphasizes the meaning of the morpheme in which it occurs: stámɛ·· nixkiyixkyaaʔwa 'they just sang and sang and sang', ki míiksi kaná··waaʔsitapiiyi mo··ʔtoyàakiiʔtàayaaʔwa 'and all the youths saddled up all over', ki maanistɛ́··paxpòyissiyàyi ki íikɛistapɛ̀··nnyooxpɛiʔpiiyixkii ìiníiksi 'and as she went on shaking it, they say that the buffalo just kept on jumping down out of it'.

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200. PHONOTACTICS

210. Syllable Canon. The syllable canon of Blackfoot is exceedingly complex. The maximum number of prenuclear positions is 5, the nucleus includes a maximum of 2 positions, while the number of postnuclear positions is limited to 3; in formula this is (C)(C)(C)(C)(C)V(V)(C)(C)(C). The minimum syllable, as shown in the formula, is V. Only one syllable in the language was found in which all positions are occupied: this is the syllable-word ksstsíísts 'snail shells, spiral shells'.

Stress environments found within the syllable are the following:

Primary:	V́	tókska 'one'
	V́V	níi?sa 'my elder brother'
	V́́V	áápaa?wa 'ermine'
Secondary:	V̀	nitássstsipìsima 'I am beating, whipping (something living)'
	V̀V	nitááyàapi 'I see, I am seeing'
	VV	nitááwɛɛstsipixtaki 'I am bringing something'
Stressless:	V	nóom?a 'my husband'
	VV	nituxkíímaan?a 'my wife'

The stress patterns V̀V́, V́V̀, V̀V̀, V̄V̀, V̀V̂, V́V̄, and V̀V̄ are always disyllabic. Syllable boundary in the first four is VV.V, in the second three, V.VV. Others of this type, for instance V́V̀,

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might be presumed to exist, although no example was collected. Examples of the above types are the following: àaápan?i 'blood', mɛ̀ɛ́ɛ́?wa 'robe'; áaattsistaa wa 'rabbit', aamisáaa?tsis 'ladder', kutenɛ́ɛɛ?wa 'Kootenai', ɔ́ɔoyi?wa 'he is eating', sɛ́ɛistoo?wa 'he cried the news' pákksisttuxkixkinìiiitsitapii?wa 'Flathead Indian'; ɛ́ɛ́saaɔ?tuxsi?wa 'he is undressing', áá́waa?waxkɔɔo?pa 'you and I are walking'; táàa 'which one?'; sɛikímaɔ̀ɔta 'cross the lodge!'; nitáaaksipowɔ̀ɔɔ 'I am going to get up'.

220. Distribution of vowels. Vowels have the widest privilege of occurrence of all Blackfoot phonemes. They appear in the environment of consonants and semivowels, in the environment of all the suprasegmentals, and in homophonous and heterophonous clusters. A separate listing of examples of the various consonantal and suprasegmental environments of vowels will not be given here, since most may be found in the examples already given. Some are obviously more rare than others, but, with the possible exception of /ɛ/ and /ɔ/, it is scarcely to be doubted that all potential combinations do occur in the language.

The same cannot be said of vocalic environments of vowels. All but /u/ occur in homophonous clusters ("long" vowels), but only certain combinations appear in heterophonous clusters. These are /ai/ áá́waipistsiim?sskaa?wa 'Navaho' (literally 'blanket weaver'), /ɨi/ óxpɛ́i?pii?wa 'he jumped off, he hurtled through the air', /au/ kítuxkanàùxkotu 'I gave you all', /ao/ ponokáómitaa?wa 'horse'

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(literally 'elk dog'), /aɔ/ staʔaɔʔwa 'ghost', aɔxkíí 'water'.

230. Distribution of Consonants. Consonants as a class are subject to more distributional restrictions than are the vowels.

Little can be said of the distributions of the consonant phonemes peripheral to the system; this is due entirely to the paucity of examples. /č/ was found in initial position in two unassimilated loans from English. /l/ was encountered in medial position in one native word and in one unassimilated loan from Crow. /h/ occurs ordinarily only in initial position in certain (perhaps obsolete) native exclamatory forms; in some idiolects it is also found in initial position in one specific morphophonemic environment and in medial position between vowels, again in specific morphophonemc environments. Examples of the marginal consonants are given in section 123 above.

Of the consonants central to the system, /x/ occurs only following vowels and before another obstruent. /ʔ/ occurs most often following vowels and before other consonants central to the system (except /x/), but it is also sometimes found between vowels and nasals. /ʔ/ occurs in initial position in only one form, áa 'yes'.[1]

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[1]This word is also pronounced in some idiolects with

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nasalization of the vowel. This is the only instance of vowel nasalization discovered. The word may be a loan from some other language of the Missouri Valley, cf. Plains Cree ʔę·hą, Dakota hą́, Arikara hą́·ʔ, Atsina ʔɛ́ɛ·. Sarcee has a similar word, but my field recording is not clear as to nasality.

Examples of the (consonantal) environments of /x/ and /ʔ/ are given in later sections in which consonant clustering is discussed. Examples of /ʔ/ between vowels are stá<u>ʔa</u>ɔʔwa 'ghost', nitɛ́<u>ʔ</u>ɛttaki 'I am flaying with a blade', kátaʔiʔsakiwaats 'doesn't he cook?', áxtsiwa<u>ʔ</u>uxkotsiiwaʔyi 'he trades with him'.

Of the remaining consonants central to the system, the stops /p t k/ never appear before any boundary. /s/ appears in virtually all possible initial, medial, and final environments, and is the consonant phoneme of least restricted occurrence. The nasals /m/ and /n/ appear in only certain specific consonantal environments, but their appearance is otherwise free. /w/ appears only <u>very</u> rarely following a boundary, never precedes a consonant, and only rarely follows a consonant; when it does, the consonant is always /k/, cf. ksiistsikwísts, an idiolectal variant of ksiistsikóists 'days'. /y/ never appears before a consonant, but its appearance is otherwise not restricted; it is, however, exceedingly rare immediately following a boundary. Examples of the consonantal environments are given in the next section. Most of the remaining environments of consonants can be seen in

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examples already introduced in this or other sections. Probable environments not already exemplified are /y/ and /w/ in the environment of a boundary; for these environments cf. yóomokii?wa 'it is crooked' and iimitáay 'dog' (obviative); wátsimaan 'hole', nitsí?nitaw 'I killed him'.

231. Consonant Clusters. Consonant clusters are simple (two members), expanded obstruent (three or more members, all obstruents), and expanded sonorant (three or more, at least one of which is a sonorant).

232. Simple Consonant Clusters. There are two types of simple cluster, one in which only obstruents are found, and one in which at least one is a sonorant. These two types of simple consonant cluster are the prototypes of the expanded consonant clusters.

232.1 Obstruent Clusters. Types and examples are ennumerated below.

1. Fricative plus obstruent
   a) /x/ plus /s/: áxsa 'what?'
   b) fricative plus stop:
      spií?wa 'it is high, it is tall'
      stooyíí?wa 'it is cold, it is winter'
      skíyim?a 'bitch, mare'
      nooxpíists 'my lungs'

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nooxtóókis 'my ear'

nóxka 'my kettle'

2. Geminate obstruents

náátsippo 'twenty'

ottowán 'his knife'

nitákkaa?wa 'my partner, my comrade'

ississ 'fat, suet'

3. /?/ plus obstruent

ii?pii wa 'it is wet'

ma?tóókita 'take thou it!'

noo?kakiní 'my back'

níi?s 'my elder brother'

From the foregoing it can be seen that clusters whose first member is /s/ may appear in initial position, clusters whose last member is /s/ may appear in final position, but all others appear only in medial position.

232.2 Sonorant Clusters. Types and examples of this kind of cluster follow:

1. Geminate nasals

nímmists 'west'

únni 'his father'

2. /?/ plus sonorant and nasal plus /?/

paaxkéi?mo?wa 'it smells very foul'

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i?ní?wa 'he died'

kátaʔyooxkiimiʔwa 'bachelor'

úmʔaxksikimʔi 'lake'

ninʔixkíta 'sing thou!'

3. Consonant plus /y/

pyómaaxkaaʔwa 'he ran far'

tatsikyóʔwaxsin 'lunch, midday meal'

mamyaaʔtsíkimiʔwa 'magpie'

áaʔwaxkànyaakiʔwa 'he is piercing'

Clusters whose second member is /y/ may appear in both initial and medial position; all other sonorant clusters occur only medially.

233. Expanded Obstruent Clusters. Obstruents may appear in clusters of up to five members in initial position and up to seven or eight (possibly even more) in medial position. In final position are found only clusters whose final member is /s/.

The following rules specify expanded clustering of obstruents:

1) /ʔ/ and /x/ participate as first member only; in accordance with restrictions on the distribution of these phonemes (see section 230 above), expanded clusters including these members never appear in initial position.

2) Each succeeding obstruent must differ in manner from

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its predecessor, except that:

a) /ʔ/ may be followed by one stop;

b) an obstruent may succeed itself.

The sequence of manners is thus always stopped-continuant-stopped, etc., or continuant-stopped-continuant, etc.

By the rules just given a very large number of expanded obstruent clusters is permitted. One special problem in this connection is that of geminate obstruents imbedded within a multi-member cluster. As a rule these are difficult for the English-attuned ear. Their reality is attested, however, by several minimal and near minimal pairs: nitsiksistssi 'I am finished' vs. nitsiksisttssi 'I am anxious'; nitɛ́ɛ́ʔtsskixtaki 'I make patties' vs. nitɛ́ɛ́ʔtskixtaki 'I unwrap something'; isttsíʔwa 'it hurts' vs. istssíʔwa 'it is burning'; kippsímita 'take thou a little nip, take a little drink' vs. kippssímatoota 'take thou a whiff of it, take a little smell of it'; míístapoksskaaʔsi 'he ran away' vs. otsíístapoksskaaʔssi 'when he ran away'. Definite proof of such contrasts was not discovered until much material had been amassed, with the result that all materials collected previously may contain some clusters which are phonemically incorrect by being underdifferentiated. Particularly susceptible to such error are /s/ vs. /ss/ between stops.

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Examples have not been found of all the obstruent sequences believed possible, and examples will not be given of all combinations found. It is felt that this is not necessary, since the rules for obstruent clustering are readily apparent from even a small number of representative examples.

Three member clusters

spsássksiimoko 'tall grass'

ksiwóxtsi 'down'

úm?axksikim?i 'lake'

isttowán?a 'knife'

akksín 'bed'

máttsikaan 'implement for removing hair in tanning'

ápssi 'arrow'

isspíkssi?wa 'he is thick'

áxssi?wa 'he is good'

nitéésikstaki 'I am biting'

opstóókists 'his entrails'

músskitsipaxpi 'heart'

Four member clusters

tsskáa 'which one?'

spssí?wa 'he is high'

íiksokaa?pssi?wa 'he is very good'

ksikkspáyiikoan?a 'Spaniard'

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ú́m?axkssiss 'big fat'

kippssímatoota 'take thou a quick smell of it!'

ikkssí?wa 'he is narrow'

kítsaxpssi 'you are weak'

isttsíkssi?wa 'he is slippery'

ìi?pssí?wa 'he is wet'

ksiistssí?wa 'he is finished'

nítsspikssi 'I am thick'

noápsspa 'my eye'

spsássksiimoko 'tall grass'

Five member clusters

ksstśíi 'snail shell, spiral shell'

ixtsítsksspai?wa 'he is looking past'

ksissksí?wa 'he is stiff with cold'

nitɛ́ɛ́?tsskixtaki 'I shape with the hands, I make patties'

nitsítssksimatowa?wa 'I wove him' (blanket)

síksii?ksskim?ma 'silver'

úttsskoinattsi?wa 'it is blue, it is green'

The following forms might contain clusters of five or six consonants, depending upon whether the cluster-medial /s/ is correct as written, rather than an incorrect apprehension of /ss/.

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nooxkstsímimmis 'hate thou him!'

iikókspssi?wa 'he is very sticky'

noo?kstsíís 'my popliteal'

Six member clusters

nitsiíkssksi 'I am very stiff with cold'

nooxkssksíta 'do thou please urinate!'

ákaiksistssksimataki?wa 'he has already finished weaving'

nimáátuxkattssksinowaawaats 'I do not know him either'

áxkumikippsstsimotsiiyoo?pa 'let us wrestle awhile with each other'

The following forms might contain clusters of six, seven, or eight consonants, depending upon whether the cluster-medial instances of /s/ are correct or incorrect, as above:

nitsíkkstsi 'I am slender, I am slim'

isttstsís 'hairbrush'

nooxkskskáatakita 'watch thou!'

úm?axkstskaa?wa 'there is a big dust'

òkskstsiíkaxpi 'gamble joint of the buffalo' (from Uhlenbeck)

234. Expanded sonorant clusters. All clusters of this type include at least one sonorant. Included are clusters in which the sonorant is a nasal and one of the other members is /?/, and clusters in which the final member is /y/ and the prior members are either all nasals or all obstruents. Clusters of /y/ with

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obstruents are attested with as many as seven members.

1) Clusters with /ʔ/

a) /ʔ/ precedes /ss/

nímʔssa 'my daughter-in-law'

kúmʔssiʔwa 'he is round'

maanʔssíʔwa 'he is young, he is new'

nimíítsiksikinʔsstsspi 'my palm, the palm of my hand'

b) /ʔ/ follows a nasal

siksinámʔma 'he is black'

nínʔna 'my father'

ámʔ ssikaaʔwa 'he is skimming'

2) Clusters with /y/

a) /y/ follows nasals

púnnyooxtɛ́ksistsikumyooʔpa 'wrist watch'

b) /y/ follows obstruents

íkkyaaʔwa 'he is broken' (horse)

itspyooxkitopiiʔwa 'Middle Rider' (name)

nitsíkkspyaaʔwa 'I hit him in the head'

ikkstsskyóómitaaʔwa 'greyhound' ('slender faced dog')

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300. Morphophonemics

310. In this section are described the productive and unproductive morphophonemic alternations of Blackfoot. The environments in which alternations occur are described and examples are given, usually in both morphophonemic and phonemic form. Some attempt has been made to treat early those alternations which are most basic, but in the main the arrangement is not rigorously ordered.

Before turning to the actual description, a few words are in order concerning what is here called the morphophonemic "level" and its embodiment, morphophonemic transcription. That such a structural system exists can no more be doubted than that morphological or tactic systems exist. But it is also incontestable that the morphophonemic level is more difficult to discover than are the other systems, and that morphophonemic transcription differs in important ways from phonemic or phonetic transcription. These latter are tied closely to phonetic reality, while morphophonemic transcription is often greatly influenced by the structuralizing opinions and supposed insights of the analyst. That these are sometimes in error can not be doubted, for the linguist who writes a work of this kind seldom possesses the intuitive (native) feeling which ensures most reliable analysis. Moreover, even with

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native control of a language, it is sometimes impossible to discover the exact morphophonemic make-up of all morphemes. For example, when two morphophonemes have the same phonemic representation in certain environments, it may be impossible in some such environments to decide which morphophoneme underlies the phonemic form in question. In such a situation an arbitrary decision must be made if the form is to be given a morphophonemic shape.

Thus it must be admitted at the outset that some portions of some forms in morphophonemic transcription are of less validity than other portions of the same or of other forms. This is regrettable because it is uneconomical to indicate which particular morphophonemes are certain, which are partially certain, and which are the arbitrary invention of the analyst. One can only hope that careful study of the description will acquaint the reader with the problem areas, so that he can recognize for himself the points where confidence must be tempered with caution.

320. Morphophonemic alternations in Blackfoot include both segmentals and suprasegmentals. Suprasegmental alternations include variations of both length and position of stress. Segmental alternations have consonants and vowels in alternation with other consonants and vowels or semivowels, as well as alternation of both with zero.

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321. The following symbols are used in the morphophonemic transcription of Blackfoot.

Segmentals

Consonants, symbolized hereinafter by C:

p	t	k	ʔ
	s	S	
m	n		
w	y		
	Y		

The symbol N represents either nasal.

Vowels:

i		o
I		
	a	

The symbol V represents any vowel. The vowels /o/ and /a/ are referred to hereinafter as morphophonemic back vowels; /i/ and /I/ as morphophonemic front vowels. The vowels /i/, /I/, and /o/ are referred to as morphophonemic high vowels, while /a/ is referred to as a morphophonemic low vowel.

Certain additional symbols are used to designate non-productive alternations. These alternations are described below, beginning in section 350. The symbols are introduced and defined in later paragraphs. A small number of as yet

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unpredictible alternations make it seem likely that still other morphophonemes might be required for a comprehensive description of the language.

Suprasegmentals

: (colon)

(number)

322. Definition of special symbols.

||S|| ||S|| is always the prior member of a cluster of consonants. It is represented at the phonemic level by /s/, /ss/, /x/, and /Ø/, Environments in which these appear are specified in a later section (342.4).

||I|| This morphophoneme is represented at the phonemic level by /i/ and /Ø/. It is identified by alternations of ||t||, ||k||, and ||S|| in its environment. See the sections where these morphophonemic consonants are described for examples of ||I||.

||Y|| This morphophoneme is a no longer predictible positional variant of ||I||, defined by the same features. It is found morpheme initially and medially only. It appears at the phonemic level as /y/, /i/, and /Ø/.

||y|| This morphophoneme appears at the phonemic level as /y/ and /Ø/. Examples of this and the preceding morphophoneme appear in section 342.1.

||o|| When short, ||o|| appears as /u/ in five environments,

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all defined by the following morphophoneme or morphophonemic sequence. These are ||N||, ||S||, $||C_1C_1||$, ||CCC||, and ||#||. Examples appear in sections 341.1 and 341.2.

||:|| The overt phonemic representation of this morphophoneme is a lengthening of the vowel which precedes it; in two environments ||:|| appears as a lengthened vowel at the phonemic level, elsewhere ||:|| is represented by /Ø/. See section 332 for examples.

||#|| This symbol represents an initial or final word or phrase boundary. Its position to the left or right of morphophonemes represents respectively initial or final boundary. Examples are ||#nikIta#|| /niksísta/ 'my mother'; ||#onni#|| /úmʔni/ 'his father'.

330. Specification of suprasegmental alternations.

331. Stress. Alternations in position of stress are common and apparently complex. Stress seems to be an inherent component of true noun stems. Verb stems, on the other hand, appear to have mobile stress. In all cases the position and kind of stress found in the finished construct seem to be determined by rules associated with morphophonemic length, which is often not represented at the phonemic level, and indeed possibly evidenced only by the position of stress in some cases.

Although tentative hypotheses might be advanced, since

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this area is still largely unclear, no effort is made to state rules of stress placement.

332. Length. Only specific morphophonemic vowels participate in alternations in length. Alternations found are the very common VV with V and the rather rare V with Ø. In the latter alternation, V is always /i/ at the phonemic level. The morphophonemic vowel is apparently ||I||.

Alternations of length are indicated in morphophonemic transcription by a colon. When this symbol follows a vowel, the VV to V alternation is indicated; when ||:|| follows a consonant, the V to Ø alternation is indicated.

||V:|| is represented at the phonemic level by VV in two environments:

1. The initial syllable of any construct:

   pá́á́ni?wa 'she tanned'

   paan?ssín 'tanning'

   cf. é́pani?wa 'she is tanning'

   ksiistsikúyi 'day'

   cf. naatoyíiksistsikuyi 'Sunday'

   soomó?si?wa 'she went for water'

   soomó?sita 'go thou for water!'

   cf. áaaksomo?si?wa 'she will go for water'

2. Any medial syllable in which ||V:|| is preceded immediately by a vowel. These vowels are always ||i||, ||I||, or ||a||. At the

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phonemic level the front vowels appear as a semivowel, the low vowel is often separated from a following low vowel by /w/:

nitáawaxkànyaaki 'I am piercing, I am sewing'

cf. nitánnaki 'I am seizing, I am holding'

nitáawaxkànyooka 'he is piercing me, he is doctoring me by lancing'

cf. nitsíkimmoka 'he pitied me'

nitáxkànyaa?wa 'I pierced him, I doctored him by lancing'

cf. nitsínna?wa 'I seized him'

áawaakotsi?wa 'it (water) is boiling'

cf. áaakakotsi?wa 'it is going to boil'

||C:|| is represented at the phonemic level by /Ci/ in the initial syllable of a construct, but by /C/ elsewhere:

ksistsiksíiyita 'scratch thou thyself!'

cf. ɛ́ɛ́kstsiksiiyi?wa 'he is scratching himself'

ksistonímmaan 'bangs, trimmed hair'

cf. nitsíkstonim?ma 'I cut bangs'

340. Specification of segmental alternations. In the following sections are specified the segmental alternations which occur in response to the morphophonemic environment. Described first will be the morphophonemics of vowels. Note that secondary vowel changes occasioned by the deletion of a morphophonemic semivowel are described together with the discussion of

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deletion of semivowels (342.1).

341. Vowels at morpheme boundaries. Vowels which appear at morpheme boundaries are here termed boundary vowels. These vowels are subject to several different morphophonemic rules. Three environments are important: 1) a contiguous ||#||; 2) certain following consonants and consonant clusters; 3) a contiguous boundary vowel.

341.1. Vowels in the environment of ||#||.

||o|| following ||#|| and preceding an unlike vowel often appears as /w/, but it may also appear as a fully articulated /o/ or /u/: wátsimaan, oátsimaan, uátsimaan 'hole, burrow'; wísspi, oísspi, ússpi 'his gall, his gall bladder'. (For syncope of /i/ in the last example, see section 341.2).

||o|| preceding ||#|| appears as /u/: ksáxku 'ground, earth'; nitáá?waxkànyu 'I am piercing you, I am doctoring you by lancing'; kakú 'go on, proceed!'; nitéékoo?pu 'I am afraid'.

||I|| and ||i|| are often dropped between ||s|| and ||N|| and a following ||#||. The rule is facultative, and when a vowel is present at the phonemic level it is /i/: otokís, otokísi 'his hide, his skin'; úss, ússi 'his elder brother'; asókaa?sim, asókaa?sim?i 'shirt'; akksín, akksín?i 'bed, bedstead'; tókskam?, tokskam?mi 'one'; pún?, pún?ni 'bracelet'. (For a discussion of the glottalization and truncation apparent in the

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||N|| examples, see sections 342.7 and 342.8).

||a|| is also subject to deletion between ||s|| and ||N|| and a following ||#|| : moksís, moksísa 'awl, somebody's awl'; níss, nísśa 'my elder brother'; nituxkíímaan, nituxkíímaan?a 'my wife'; nóom, nóom?a 'my husband'; nín?, nín?na 'my father'; siiksinám?, siiksinám?ma 'he is black'. (Glottalization and truncation, as noted, are discussed in sections 342.7 and 342.8). In both this and the preceding group it should be recalled that the vowels subject to apocope are whispered even when present if the following ||#|| is a terminal boundary (section 147).

Unstressed ||I|| and ||i|| are facultatively dropped before ||#|| when a homorganic semivowel precedes. Examples are numerous, the following forms, one noun, one verb, are illustrative of both the vowel deletion and the constructions where the deletion is most frequent: ksáxkuy, ksáxku?yi 'earth, dirt'; siiksipííway, siiksipííwa?yi 'he bit him'.

In an analogous way, unstressed ||a|| is often dropped when preceded by ||w|| and followed by ||#||: iimitááw, iimitáá?wa 'dog'; siiksipáw, siiksipá?wa 'he was bitten'.

Virtually all morphophonemic long vowels and diphthongs are shortened before ||#||: nitááwaa?waxka 'I am moving on foot, I am walking', cf. ááwaa?waxkaa?wa 'he is moving on foot, he is walking'; nitsiksisáttsiiwa 'I am jealous', cf. éékisisattsiiwaa?wa

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'he is jealous'; siksíka 'Blackfoot', cf. siiksikáá?wa 'he is a Blackfoot' (regarding the lengthened vowel in the first syllable of the last cited form, see section 353); náápi 'old man', cf. náápii?wa 'he is an old man'; kitá́ papaino 'I dream of you', from ||kitaaIpa:paInoo|| ; kitáaaksinò 'I will draw your picture', from ||kitayaakIsinao|| .

Some long vowels, however, are not shortened in this environment: itskáá 'dust'; kakkóó 'dove'; sii?kíí 'black paint'; nitsítòo 'I went there'; máa 'this one (animate)'; míi 'this one (inanimate)'; ánnòo 'this one (animate or inanimate)'. Which vowels remain long before ||#|| are unpredictable at present, and must be identified in each case. An arbitrarily-determined morphophonemic shape could be posited, together with rules for generating the correct phonemic forms, but this solution is unappealing to the writer.

341.2 Vowels preceding certain consonants and consonant clusters.

Connective ||I||. One of the most universal phenomena of Blackfoot morphophonemics is the appearance between certain morphemes of a non-etymological /i/. This /i/ is found before consonant-initial morphemes when the preceding morpheme does not end in /i/. The classical designation for this characteristic feature is connective -i-.[1] In this work it will be

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[1]See, for example, paragraph 16 of Leonard Bloomfield's sketch "Algonquian". In Harry Hoijer (ed.), Linguistic Structures of Native America. Viking Fund Publications in Anthropology, no. 6. The Blackfoot feature, while cognate, is not identical to that described by Bloomfield, as a comparison of his description with the above will show.

referred to as connective ||I||. Many examples could be cited, the following are representative: i?naksípokaa?wa 'little child'; itsápipoo?tsimay 'he inserted it, put it in'; siksipísa 'bite thou him!'; nítuxkanɛisinɛixpists 'all my writings, everything I have written'; áaakotuisasskimaaxkaa?wa 'he is going to make bows and arrows' (an obsolete euphemism for the death of an adult male).

The presence of connective ||I|| is often concealed by the operation of later morphophonemic rules: úm?axksstooki 'donkey, mule', from ||omaSkIStooki|| ; mii?kótɛɛkim 'copper', from ||mii?kotaaIkimma|| ; ɛɛ́puttaa?wa 'it is up in the air, it is flying', from ||aaIpottaawa|| ; i:tóókimii?wa 'it is full of a liquid', from ||iStooIkimíiwa || or ||iStooIkimIIwa||; nitáaaksasskima 'I am going to make arrow shafts', from || nitayaakIsaISkimaa|| ; nitáaaksikawɛi?piksiixpa 'I will open it', from ||nitayaakIkawa?IpikIiSpa|| .

Some theme-forming suffixes probably also contain this morphophoneme, but since there is no alternation with zero

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(the only basis for discovery of connective ‖I‖), the conjecture cannot be proved.

Connective ‖I‖ is sometimes (rarely) omitted when a preceding boundary vowel is present: nitááwaaxkàpyaa?wa 'I am bringing him home', cf. ‖pI‖ 'bring'; ksiistóókomi 'warm, hot water', cf. ‖komi‖, ‖kimi‖ 'liquid'; innoka-'elk' (in compounds), cf. ‖ka‖ 'foot, leg' (the meaning of the term is literally 'long legs').

Obligatory syncope of ‖I‖. Short, unstressed ‖I‖ is regularly syncopated when it is preceded by obstruents other than /?/ and nasals and followed by ‖S‖ or ‖s‖. Examples of the resultant clusters are very numerous; most of the rather complex consonant clusters found in the language seem to be the result of the operation of this rule.

Syncope of ‖I‖ before ‖S‖. Useful for illustrating the syncope of ‖I‖ before ‖S‖ is the animate derivational suffix ‖ISs‖, which is one of the theme formants for animate stative verbs. Examples are the following: ìi?pssí?wa 'he is wet', cf. ìi?píí?wa 'it is wet'; saaxkssí?wa 'he is short', cf. saaxkíí?wa 'it is short'; áxssi?wa 'he is good', cf. áxsi?wa 'it is good' (see section 342.9 below for shortening of the morphophonemic sequence ‖SsSs‖); sikím?ssi?wa 'he is stingy'. Other examples with different morphemes containing ‖Ss‖ are nitsikín?ssi 'I am warm', with the intransitive final ‖ISs‖ 'heat'; sim?ssín?i 'drinking, a drink', with the deverbative

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noun formant ||ISsin|| .

The same type of syncope is found in apparent morpheme-medial position: nín?ssta 'my elder sister'; nooxkín?sstsis 'my elbow'; ním?ssa 'my daughter-in-law'; kón?ssku 'snow in drifts'; ksiistsikúm?sstaan 'window'; aam?sskáápuxtsi 'south'.

Many apparent exceptions to this rule of syncope actually do not have a short morphophonemic vowel preceding ||S||: ´´simissammii?wa 'he is peeping at him, looking at him secretly', from ||aaIsimiISsammiiwa|| ; otooksíssissi 'kidney fat', from ||otookIISsiSsi|| ; ikkinissi?wa 'he is gentle', from || IkkiniISsiwa|| ; áápinissi?wa 'he is albino', from || a:piniISsiwa|| .

Syncope of ||I|| before ||s||. Illustrative of the syncope of ||I|| before ||s|| are verbal constructs containing a root having an initial ||s||. Syncopated in all cases is connective ||I||: ómatapsasski?wa 'it is beginning to grow', from ||omatapIsaISkiwa|| ; ááwattsaipiiyi?wa 'he is stretching himself', from || aawattIsaipiiyiwa|| ; nooxksáksista 'please go thou cut!', from ||nooSkIsa:kIta||; áxssootaa?wa 'it is a good rain', from ||ia·SsIsootaawa|| (see section 342.9 below for the shortening of the secondary morphophonemic sequence ||Sss||); ikkám?sii?katsiiniki 'if he kicks me', from ||IkkamIsii?katiiniki||; miin?saksista 'do thou not go out!', from ||miinIsa:kIta|| .

Such forms as the following list have not yet been satis-

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factorily explained. Some may have ||i|| in the critical environment; it is also very probable that many instances of /s/ before which an /i/ remains are not from ||s||. Examples are miinists 'berries'; unistsí 'her travois'; nitsínnisi 'I fell off, I was bucked off'; kímmisa 'pity thou him!'; únnikis 'her breast'; nowápisaki 'my thigh'; nitéépapisa 'I am shouting'. It could be assumed that each instance of /s/ in the above forms before which syncope did not occur derives from some unidentified morphophoneme. Such an assumption (with appropriate rules) has not been made because there is, as yet, no proof that a single morphophonemic background is involved.

Short, unstressed ||I||, preceded by ||aa|| (||a||?) may be elided before ||S||. Note that even though ||I|| is elided, the phonemic representation of ||S|| is nevertheless /ss/. The same elision may also occur before ||NN||. It also happens in both environments that the low vowel, rather than ||I||, is elided. Still a third alternative is that contraction of the vowels occurs, with no elision. Which of these is found is apparently not predictable. Examples are ásspooxpɛi?pii?wa, ísspooxpɛi?pii?wa, ésspooxpɛi?pii?wa 'he is jumping up', from ||aaISpooSpa?ipiiwa|| ; ássinnima?yi, íssinnima?yi, éssinnima?yi 'he is breaking it by hand', from ||aaISsInnimayi|| ; ánnisi?wa, ínnisi?wa, énnisi?wa 'he is falling' (the correct

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morphophonemic background of the full form is unknown, but the critical portion is ||aaInn-||); ám?ssikaa?wa, ím?ssikaa?wa, é m?ssikaa?wa 'he is skimming', from ||aaImmISsikaawa|| . Also belonging here, but of unknown morphophonemic background, are ásskoo?kiiⁿa, ísskoo?kiiⁿa, ɛ́sskoo?kiiⁿa 'ant' and káánasskiiⁿa, káánisskiiⁿa, káánɛsskiiⁿa 'mouse'.

A similar syncope may occur when ||I|| is preceded by ||o|| and followed by ||S||. The latter is again represented by /ss/, while the vowel appears as /u/. If syncope does not occur, the disyllabic sequence /ui/ is found: nússkitsipaxpi, nuísskitsipaxpi 'my heart', from ||noISkitipaSpi|| (possibly from ||nooISkitipaSpi||); ússpi, uísspi 'his gall bladder', from ||oISpi|| ; saakókotusskuy, saakókotuisskuy 'bottle', from ||sa:kokotoISkoyi|| .

Syncope of ||i||. Under unknown conditions an unstressed, short ||i|| between ||p t k s|| and ||S|| is also syncopated. When this occurs, ||S|| is represented at the phonemic level by /s/ rather than /s/: iiksípinaapstsii?wa 'it is far to the east', itstsíí?wa 'he was there', cf. itɛ́xtsii?wa 'he is there', all from ||iStii|| 'be, lie'; pisátskiitaan 'pastry', cf. ixkíítaa?wa 'she baked'; pisátspii?ssin 'fancy dancing', cf. ɛ́xpiiyi?wa 'he is dancing'; nitsipókkskii?pa 'I mashed it, flattened it with my foot', cf. nitɛ́ɛ́pakkixkiixpa 'I am bursting it

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with my foot'; nitáa?kyooxsspinnaan 'we strike ourselves', cf. nitáa?kyaakixpinnaan 'we strike'; nimáátokskaa?sspa 'I did not run', cf. nimáátaa?waxkaaxpa 'I did not walk'. The apparent unpredictability of this particular syncope is one of the most puzzling features of Blackfoot morphophonemics. It may be partly dialectal, since speakers who have no /x/ following /i/ from any source (see below, section 342.4) have more examples of this syncope than speakers who have /x/ following /i/. But "x-dialect" speakers also have some instances of this syncope. After much effort, no workable solution has presented itself. The fact that /s/ is found following the syncopated vowel rather than /ss/ rules out the possibility of an alternation between ‖i‖ and ‖I‖, with ‖I‖ regularly syncopated as described in the earlier part of this section.

Boundary vowels before geminate consonants.

‖o‖ before a cluster of identical consonants appears as /u/: úm?ni 'his father', from ‖onni‖ ; kayóo?pum?ma 'he was afraid', from ‖kayoo?pomma‖ ; nìipússi 'in the summer, when it is summer', from ‖niipossi‖ . Morpheme-medial instances of /u/ in this environment are also found: sokuttaan 'saliva, spittle'.

All long morphophonemic vowels and diphthongs are shortened before a geminate consonant cluster: oo?tsisíssin?i 'smoking (of tobacco)', from ‖oo?tisIISsini‖ ; okkúyiis 'his fur, his plum-

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mage', from ||ookkcyiisi|| ; ǫ́ttoksísi 'his knee', from ||oottokIsi|| ; tókskam?ma 'one'. The entire morphophonemic background of the latter form is unknown, but that the vowel in question is morphophonemically long is shown by the parallel inanimate form: tókskaa?wa. The following shortened vowels are reductions of contracted vowels (see below, section 341.3 for description of contraction): nitsíppotsipista 'I am braiding my hair', from ||nitaaIppotipistaa|| (the entire morphophonemic form may not be exact, but the vowel in question certainly is); ésttaxsiiyaa?wa 'they are celebrating a victory, they are holding a scalp dance', from ||aaittaSsiiYaawa|| ; ínnakiikoan 'soldier, policeman', from ||IYInnakiIkoana|| (for suppression of ||Y|| before shortening, see section 342.1 below); ónnimmiiwa?yi 'he has him as father', from ||aaonnimmiwayi|| ; ómmoyii?wa 'he looks like him, he takes after him', from ||aaommoyiiwa|| ; ?ttakówaaxsà?yi 'if he gives water to him, if he gives him a drink', from ||a?oottakowa:Ssayi|| (see section 342.6 below for loss of ||?|| prior to shortening).

Shortening is also found before other consonant clusters: ápsspini?wa 'Canada goose (Branta canadensis subsp.)', from ||a:pISpiniwa|| ; nímssa 'my daughter-in-law', from ||niYImISsa|| (See section 342.1 below regarding loss of ||Y||). ||o|| in this environment appears as /u/: ún?sstsi 'his elder

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sister', útsskuitsis 'blue jeans, Levis'.

||o|| before ||N|| and ||S||. ||o|| appears in these environments as /u/: nitsiikúnii?taki 'I'm hurrying', from ||nitIIkonii?ta:ki|| ; áaakunooxkyaa?wa 'he will have a nightmare, he will be troubled by a bad dream', from ||ayaakonooSkia:wa|| ; saaxkúmaapii?wa 'boy', from ||saaSkomaapiiwa|| ; ?xkumi?wa 'he is bellowing, he is yelling', from (probably) ||aao:Skomiwa|| ; nitáaakuxpokòomannaaná 'we (exclusive) will go together', from ||nitayaako:Spokoomaannaana|| ; nitsikóo?puxsi 'that I was afraid', from ||nitikoo?poSsi|| .

Deletion of vowels between ||#|| and ||S|| or a geminate cluster. This loss is a phenomenon of ||i|| and ||I|| only.

Short ||i||, preceded by ||#|| and unstressed at the phonemic level may be dropped when an ||S|| cluster follows. The rule is facultative, so that parallel forms, one with, one without deletion of the initial vowel, are found. When the initial vowel is lost, truncation of the following cluster always occurs. (For discussion of truncation, see section 342.8). Examples are: pún? 'bracelet', from ||iSponni|| (for discussion of the glottalization found in this form, see section 342.7); tsikatsí 'grasshopper', from ||iStikati|| ; kiipó 'ten', from ||iSkiipo|| ; sówaatsis 'tail feather, tail plume', from ||iSsowaatisi|| .

In an analogous way, a short initial ||I|| which is un-

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stressed at the phonemic level may be dropped before a geminate cluster. As was the case with the preceding rule, this rule is facultative. Loss of the vowel is always accompanied by truncation (section 342.8). Examples are rather infrequent; some of the few encountered are the following: tsyómoo?kaan 'cap,' from ||Ittiomco?kaani|| ; mistsyúnniki 'cream' (literally this means 'the skimming from the milk'; the correct morphophonemic form of the word is unknown, but the doublet form shows the gemination: immistsyúnniki).

Numerous examples of deletion of an initial ||a|| were encountered, but since this is not a productive alternation, its description is deferred to a later section of this chapter (below, section 353).

341.3 Contiguous boundary vowels.

Contiguous boundary vowels may appear at the phonemic level as vowels, as combinations of vowels and semivowels, or in some cases even as /∅/. Which of these alternatives is found in a given instance depends upon the other features present in the environment.

Like boundary vowels. When one of a sequence of like boundary vowels is long, a homorganic semivowel appears between them. With a , /w/ is the appropriate semivowel. Apparent exceptions to this rule are examples of deletion of a morpho-

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phonemic semivowel (see section 342.1 below for description of this phenomenon). Examples are: nitááwattsiiyi 'I am drunk, I am crazy', maatsiníiyi 'tongue' (in both of the preceding examples the final /i/ is suffixal); nitááwaam?i 'I am smelling, I smell something', nitáawattsìpaaki 'I am patching buckskin' (in both the preceding examples, /áá/ is an inflectional affix); no examples of the sequences /owoo/, /oowo/, and /oowoo/ were encountered. They may occur.

When like boundary vowels are both short, high vowels are contracted into a single long vowel, but instances of /a/ again show an intervening /w/: áókamanii?wa 'he begs', from ‖ aaokamanIiwa ‖ ; ksísskstakii 'beaver (subordinate)', from ‖ kISkiSta:kiI ‖ (this ignores the problem of the correct background of /kst/); ksísskstakiiks 'beavers', from ‖ kISkiSta:kiikI‖ ; stámiksiisaxkùmaapi 'Bull Boy' (personal name), probably from ‖ IStamikIIsaSkomaapii‖ ; otaxkóókuʔyi 'Yellow Wolf' (personal name), from ‖ otaSkookoyi‖ ; ákawakksikoyii?wa 'it has congealed, it has curdled', from ‖ akaakkIkoyiiwa‖ .

Contracted in the same way are sequences of ‖o‖ and ‖o:‖: otaxkóóʔmi 'Yellow Fish' (personal name), from ‖otaSkoo:mii‖ ; ksístoomitɛɛks 'stray dogs', from ‖kItoo:mitaaikI‖ ; kóónookita 'find thou me!', from ‖iSkoonoo:kita‖ . The same

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kind of contraction is found when the sequence at the morphophonemic level is ||o|| plus ||oo||: otaxkóósak 'yellow backfat', from ||otaSkooosaka|| ; nisóótskina 'Four Horns' (personal name), probably from ||nisoootiSkina|| .

Unlike boundary vowels. When unlike boundary vowels are contiguous, several different phonemic representations are found. In some instances the vowels appear as diphthongs or contracted vowels; in others, the prior vowel appears as a semivowel or as /ø/.

As a general rule, both diphthongs and contracted vowels appear only when the prior vowel is low, that is, either ||a|| or ||aa||. Only marginal instances appear in which the prior vowel is high. These instances will be illustrated in a later portion of this section.

Diphthongs which arise from vowels which are contiguous at the morphophonemic level are /ai/, /ɛi/, /ao/, and /au/; in some ideolects /ao/ may appear also as /ɔɔ/. The morphophonemic backgrounds of these diphthongs are numerous: ||aI||, ||ai||, ||ao||, ||aooo||, ||aao||, ||aaoo||, as well as sequences in which the second member is ||V:||.

/ai/ is always found in an open syllable: akáítapissku 'town', from ||akai:tapIISko|| ; akáínaamaaxka 'Many Guns' (personal name, literally 'takes home many guns', i.e., 'battle

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trophies'), from ||akaIuaamaaSkaa|| . /ɛi/ is always found in closed syllables: siksikɛ́íks 'Blackfeet', from (probably) ||ISsikIkaikI|| ; nitsísttuxkɛ́ixts 'I am lying flat', from ||nitIttoSkaiSti|| .

Examples with varieties of ||o|| are: akáópan?i 'Many Butterflies' (personal name), from ||akaopani|| ; ponokáómita 'horse', from ||ponokao:mitaa|| ; akáó?kumiyaa?wa 'they are lousy, they have lice', from ||akaoo?komiYaawa|| ; áótotsooki?wa 'devil', from ||aaototIo:kiwa|| ; itáópii?wa 'he is sitting there', from ||itaao:piiwa|| ; áotaa?wa 'she is making leggings', from ||aaootaawa|| . /au/ is found only unstressed before /x/: amauxksinám?ma 'he is red', from ||amao:SkInamma|| .

Contracted vowels which result from sequences of unlike morphophonemic vowels are /ɛ/, /ɔ/, and /ö/.

Of great statistical frequency is /ɛɛ/, which has various morphophonemic backgrounds, all with ||aa|| as the prior member: ||aaI||, ||aai||, ||aaI:||, ||aai:||, ||aaII||, and ||aaii||. Note that in the contraction of all these morphophonemic sequences, the phonemic vowel is always stressed and long, unless subsequently shortened (see section 341.2). Examples are nitɛ́ɛ́kamoo?si 'I am stealing', probably from ||nitaaIka:mooYIsi|| ; iimitɛ́ɛ́ks 'dogs', from ||i:mitaaikI|| ; nitɛ́ɛ́tapooxsi 'when I went there', from ||nitaai:tapooSsi|| ; ɛ́ɛstapistsiiway 'he is strangling him,

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he is hanging him', from //aaIItapItiiwayi// ; nitɛ́ɛ́ʔtsiiʔpoʔyi 'I am speaking an Indian language', from //nitaaiiʔtIIʔpoyi// ; ɛ́sstawaaʔsiʔwa 'he is growing', from //aaI:Stawaa siwa// .

/ɛ/ may also be the result of a unique contraction of //ia//. Contraction of this sequence to /ɛ/ is found only in the expression kɛ́nni, kɛ́nnyaʔyi 'That is all." This formula is used to terminate narratives. The morphophonemic backgrounds are respectively //ki anni// and //ki anniyayi// .

/ɔ/ as a contraction of a sequence of unlike morphophonemic vowels has two sources, //ao:// and //aao://; both are always followed by //S//. Examples are akɔ́xsowaatsiimi 'Many Tail Feathers, Many Plumes' (personal name), from //akao:Ssowaatiimi// and ɔ́xkiʔwa 'he is barking', from //aao:Skiwa// .

The contracted vowel /ö/ represents a rather special case. This front rounded vowel occurred in the speech of only one individual, Tom Many Guns. The rare examples show a pattern similar to that of /ɛ/. In innöösopaaʔtsis 'bench' (literally 'long seat'), the morphophonemic background is //InnooIsopaaʔtisi// . kumunö 'dark blue or dark green paint' is presumably from // komonoi// , in which the final vowel is certainly the suffix of inanimate gender. Another example, with shortening after contraction, is innösspiiʔwa 'he has long hair', from //InnooISpiiwa// . These forms in the speech of other informants are innooʃsopaaʔtsis,

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kúmunuy, and innússpii?wa.

When the prior member of a sequence of unlike contiguous morphophonemic vowels is ||I|| or ||i||, these vowels appear at the phonemic level as /y/ or /Ø/, depending on the ideolect of the speaker. The rule operates only when the ||I|| or ||i|| is preceded by ||p t k s m n|| . Note that when elision occurs, the loss is <u>after</u> the application of any other relevant rules. ||k|| appears before ||I|| as /ks/ whether or not ||I|| is overtly represented at the phonemic level, and before both ||I|| and ||i||, ||t|| appears as /ts/, whether or not the vowels are elided. Moreover, a ||V:|| following either ||I|| or ||i|| appears as a long vowel regardless of the phonemic representation of ||I|| and ||i||. It is actually not always possible to know whether ||I|| vs. ||i|| is in question, except following ||k||. In the examples which follow, the morphophonemic background of forms will be given only when it is known: áókspyàaki?wa, áókspàaki?wa 'bat (literally 'clinger')'; áótotsyòoki?wa, áótotsòoki?wa 'devil (literally 'the one who roasts us')', containing the allomorph ||o:ki|| 'third person acts on higher person'; áaakokakyòòpatoomay 'he is going to think it over', iikakóópatoomay 'he is thinking it over', in both of which is found ||okaki|| 'reflect, count'; stamiksyóópi, stamiksóópi 'Sitting Bull', from ||stamikIo:pi|| ; nitásstsipìsyaa?wa, nitásstsipisaa?wa 'I

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am whipping him'; áá?waxkànyaaki?wa, áá?waxkànaaki?wa 'he is piercing, he is sewing', from //aawaSkania:kiwa// ; nitááwaatakìmyaaki, nitááwaatakìmaaki 'I am stirring'. It seems likely that the presence or absence of representation of these vowels at the phonemic level constitute a dialectal isogloss within South Piegan speech.

When the prior member of a sequence of unlike contiguous morphophonemic vowels is //o// and the following member is //I// or //i//, the //o// may appear at the phonemic level as /w/, but often appears as /u/. /w/ is more usual in allegro speech, /u/ in slow, precise speech. As was true for //I// or //i// as prior member, //o// must be preceded by a consonant. In fact, the rare examples all have //k// before //o//: ksiistsikwísts, ksiistsikuísts, ksiistsikúists 'days', from //kI:tikoisti// ; otaxkwínattsi?wa, otaxkuínattsi?wa 'it is yellow', from //otaSkoInattiwa// ; ootsíímokwists, ootsíímokuists 'green grass, meadows', of unknown morphophonemic background: áxkwinnimaan, áxkuinnimaan 'pipe, calumet', also of unknown morphophonemic background.

When a morpheme-final //o// is followed by a variety of //a// the situation is quite different. There are no known examples of //o// followed by //a//, but there is one example followed by //aa//, and several by //a://. In stems, a morpheme-final //o// is elided in these environments, with the following vowels appearing as /aa/ in all cases. Examples are: kyááyaawaa?waxkaa?wa

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'Bear Walker' (personal name), from ||kyaayoaawaawaSkaawa|| ; otaxkáápii?si?wa 'Yellow Wolf' (personal name), from || otaSkoa:pii?siwa|| ; síípisttaatoo?si 'Owl Medicine' (personal name), from ||si:pIttoa:too?siwa|| or ||si:pIttoa:tooYIsiwa|| ; útsskaapini 'blue eyes', from ||otIskoa:pini|| ; maaksín 'wound', from ||moa:kIni|| .

Between a stem and an inflectional affix the elision may or may not appear. Examples are too few to determine whether the apparent variation is free or in specific environments only. Without elision: nitéénowaa?wa 'I see him', from || nitaaInowa:wa|| ; mowáá?wa 'he was wounded', from ||moa:wa|| ; kitéeyiisowaa?wa 'you are feeding him', from ||kitaaIYIIsoa:wa|| . Examples with elision here are rare: nitéékamaa?wa 'I steal from him', from ||nitaaIka:moa:wa|| . Uhlenbeck gives nitáikamoau 'I steal from him', which is the form without elision of the stem-final ||o||.

Unlike morphophonemic vowel sequences are also found in which the prior high vowel is long. The phonemic representation of certain of these requires comment and illustration.

Morpheme-final ||II|| and ||ii|| between || p t k s m n || and a following back vowel are developed almost exactly as morpheme-final ||I|| and ||i||. The only difference is that following these consonants, ||II|| and ||ii|| are <u>always</u> represented by /y/, i.e.,

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there is no option of elision as is the case with //I// and //i// in this environment. Examples are náápyoyis 'wooden house, European-style house', from ||naapiIoyisi|| or ||naapIIoyisi|| ; miistsyóyis 'log house, wooden house', from ||mIItIIoyisi|| ; saokyááwakaasi 'antelope', from ||saokiIaawakaasi|| ; pii?ksyókkuyiisii?kaan 'feather tick, feather comforter', from ||pii?kIIookkoyiisii?kaani|| ; saaxsyáaki 'Sarcee woman', from ||saaSsIIaakii|| or ||saaSsiIaakii|| ; pumyáanakimaa?tsis 'oil lamp', for which the full morphophonemic shape is unknown, but in which the first portion is certainly ||pomII|| ; míínyooxki 'wine', from ||miinIIo:Skii|| or ||miiniIo:Skii|| .

One additional problem of vowel morphophonemics remains to be described. This phenomenon involves vocalic assimilation across syllable boundaries.

//I// and //i// represented by /ɛ/. This statistically infrequent alternation is secondary to the contraction of vowel and vowel-semivowel sequences resulting in /ɛɛ/. The appearance of /ɛ/ rather than the expectable /i/ is apparently facultative, for forms with /ɛ/, when questioned, were always supplied with /i/ instead. It is probably significant, however that forms with /ɛ/ always occurred naturally, while those with /i/ were always given in secondary elicitation.

/ɛ/ is found when the preceding syllable contains /ɛɛ/,

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either in hiatus or followed by a single /ʔ/. In traditional terms, the vowel of the following syllable is assimilated to the vowel of the preceding syllable. Examples follow: nitɛ́ɛ́ʔɛ̲ttaki 'I am flaying with a blade, I am skinning with a knife', from //nitaaIʔitta:ki// ; mɛ̀ɛɛ́ɛ̲ʔwa 'fur robe', from //maaYIwa// ; nɛ́ɛɛ̲ppo 'sixty', from //naaYIppo// ; sɛ́ɛɛ̲ssapiʔwa 'he is looking out', from //sa:YISsaipiwa// .

//a// represented by /ɛ/. One form was encountered which has either /a/ or /ɛ/ before /ɛɛ/ in the following syllable, with /ʔ/ between the vowels. The word is sɛʔɛ́ɛ́iʔwa, saʔɛ́ɛɛ́ʔwa '(domestic) goose, duck'. As was the case with the preceding alternation, /ɛ/ forms were much more frequent than /a/ forms; the latter appeared when the former were questioned. The morphophonemic background of the entire form is unknown, although a contraction is clearly behind /ɛ́ɛ́i/. The stress contour suggests a contraction of something like either //aayii// or //aaYII// .

//o// represented by /ö/. Only one example of this was collected. The informant was Tom Many Guns, who supplied all forms containing /ö/. The example is mooʔtö́inɛikoan 'person belonging to the Chiefs-all-over band', from //mooʔtoInaaIkoana// . Other individuals present when this form was given pronounced mooʔtuínɛikoan.

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342. Alternation of consonants. Productive consonant alternations are predictible in terms of both preceding and following morphophonemes, in some cases noncontiguous. Some consonantal alternations are secondary results of the operations of rules of vowel syncope. Certain morphophonemic phenomena are characteristic of semivowels, others of both semivowels and consonants. Described first are alternations restricted to semivowels.

342.1 Deletion of semivowels. All the morphophonemic semivowels are subject to deletion in specific environments. Deletion of semivowels often occasions secondary mutations in surrounding vocalic environments. Such secondary mutations as occur are described here rather than in the sections devoted to vowel morphophonemics because the necessary prior conditions are a function of the morphophonemics of semivowels.

Deletion of ||Y|| and ||y||. Following ||#|| both ||Y|| and ||y|| appear as /ø/: aapíta 'look thou!', from ||Yaapita|| , cf. nitéέyaapi 'I am looking', from ||nitaaIYaapi|| ; áátoo?wa 'he (dog) howled, he whined', from ||yaatoowa|| , cf. éέyaatoo?wa 'he is howling, he is whining', from ||aaIyaatoowa|| .

Following all consonants but ||?|| , morpheme-initial ||y|| appears as /ø/. (Examples are not actually available for all the consonants ||p t k s m n|| , but it is very likely true of all.) Following ||?|| , ||y|| may appear as either /y/ or /ø/.

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Representative are: nítsiʔtapooxtsiixpa 'I really heard it', from ||nitiiʔtapyooStiiSpa|| ; nitsítooxtsiiʔpa 'I heard it', from ||nitityooStiiʔpa|| ; nooxkóxtookita 'hear thou me!', from ||nooSkyooStoo:kita|| . For all the preceding examples, cf. nitéέyooxtsimʔi 'I hear', from ||nitaaIyooStimi|| . Further examples: nisóótamooxsìnyaaʔwa 'I then knocked him out', from ||nisootamyooSsinia:ˇwa|| , cf. nitéέyooxsìnyaaʔwa 'I am killing him', from ||nitaaIyooSsinia:wa|| . For ||ʔ||, the following are illustrative: ííksskaʔyaaxkitsiʔwa, ííksskaaaxkitsiʔwa, both meaning 'it (fire) is really smoking', from ||iikISkaʔyaaSkitiwa|| .

||Y||, on the other hand, appears as /y/ following the consonants ||p t k s m n|| . (Again, not all are represented in the examples.) Illustrative are ixpyóokyaakiʔwa 'he closes, he blocks or corks something', from ||iSpYookia:kiwa|| . This form contains the anaphoric prefix ||iSp||; cf. also òokyááksin 'dam, obstruction, beaver dam', from ||Yookia:kIni|| ' itsyookaaʔwa 'he slept there', from ||itYookaawa|| ; ixpoksyóokaamiiway 'he slept with him', from ||iSpokYookaamiiwayi|| ; sóótamyookaaʔwa 'he went to sleep then', from ||sootamYookaawa|| . For all preceding examples with 'sleep', cf. nitéέyooka 'I am sleeping', from ||nitaaIYookaa|| , and òokááta 'sleep thou!', from ||Yookaata|| . No example is available following ||ʔ||, but it is reasonable to suppose that ||Y|| would appear as /y/ in this environment also.

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Rather frequently encountered is the facultative deletion of ‖Y‖ and ‖y‖ between vowels which appear as /i/ at the phonemic level. It is apparently unimportant whether the vowels are morphophonemically ‖I‖ or ‖i‖. The vowels which are in hiatus after the deletion of the semivowel may remain in separate syllables, or they may be contracted into a single long vowel: mátsiyikkapis, mátsiikkapis 'frog' (literally 'pretty slender legs'), from ‖matiYIkkapisa‖ or ‖matIYIkkapisa‖. In this example the vowels in hiatus as a result of the deletion of ‖Y‖ remain uncontracted because a long vowel never appears before a geminate consonant. (See above, section 341.2.) spoopiiyíks, spoopíiks 'turtles', from ‖SpoopiiyikI‖ or ‖SpoopIIYikI‖ or ‖SpoopIIyikI‖. The same type of deletion is found in apparent medial position in several morphemes, although it is possible that the alternation signals a boundary of some kind: niyím?ssa, niím?ssa, ním?ssa 'my daughter-in-law'; miyísstowaan, miísstowaan, místowaan 'facial hair, mustache, beard'; iyínnakikoan, iínnakikoan, ínnakikoan 'policeman, soldier', (literally 'catcher'); niyítaxtaʔyi, niítaxtaʔyi 'river; canal'.

Rare examples are available of the deletion of ‖Y‖ and ‖y‖ between back vowels. These sequences, and their phonemic representations, are given in the immediately following paragraphs.

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//aYaa//. The deletion of the semivowel yields a contracted vowel with falling pitch in the two known examples: akáapyoyis 'Fort Benton' (South Piegan), 'Fort McCleod' (North Piegan). The literal meaning of the word is 'many houses'. The morphophonemic background is //akaYaapiyoyisi// . The other example of this deletion is úm?axksisttowàapiikoan 'White American', from //omaSkIttowaYaapiikoana// , literally 'sword White man', sometimes poetically rendered 'Long Knife'.

//oYaa//. An identical phonemic sequence is yielded by the deletion of the semivowel: útsskàam?sski?wa 'green lizard', from //otISkoYaamISkiwa// ; innáapiiniwaan 'candy', from // InnoYaapiiniwaani// ; nitéépaxpàaki 'I shake something', from //nitaaIpaSpoIa:ki// . An apparent exception is makúyaapi 'Wolf Old Man' (personal name). The morphophonemic background of the form, however, is //makoIYaapii// , which explains the lack of deletion of //Y//.

Both //aYaa// and //oYaa// appear as /áa/ only in stems; the deletion never occurs when the sequences straddle a morpheme boundary between a stem and an affix.

// ayo //. The deletion of the semivowel is apparently facultative, although the form with deletion was given first. The phonemic result of the deletion is /ɔ́/, which, if unstressed, would undoubtedly be /ɔɔ/. akɔ́xkotoksskuy,

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akaɣɔ́xkotoksskuy 'Conrad, Montana' (literally 'place where many rocks are found'); the morphophonemic background is // akaɣo:SkotokISkoyi// . Additional examples are needed.

// aayo://. One example of this sequence was collected, apparently with obligatory deletion of the semivowel. The phonemic form is /aaɔ/, with the vowels in hiatus; naaɔ́ʔyi 'my mouth', from // naaɣo:yi// .

|| aaYo:||. One certain example of the contraction of this sequence was collected. The vowels are again in hiatus: áaɔyiʔwa 'he is eating', from ||aaYo:yiwa|| . Some speakers pronounce ɔ́ɔoyiʔwa.

|| aaYI|| and ||a:YI||. These morphophonemic sequences, with deletion of the semivowel, are assumed to account for the two-syllable sequences of /ɛɛi/ (varying apparently freely with /ɛɛɛ/, see the end of section 341.3). This analysis appears to be confirmed by one "Blood" form (collected from Irene Butterfly, a South Piegan with Blood family connections) which contains /y/. Possibly this indicates that deletion of the semivowel is facultative, although South Piegan forms always had the deletion. Examples, first those with the background //aaYI//, are: mɛ̀ɛ́ʔwa, mɛ̀ɛɛ́ʔwa 'robe', from //maaYIwa// ; sikɛ́ɛipistsiʔwa, sikɛ́ɛɛpistsiʔwa 'black blanket', of partially unknown morphophonemic background, but of which the critical

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portion is certainly ||SsikaaYI-|| ; nέέippo, nέέɛppo 'sixty', from ||naaYIppoi|| . Possibly also here is saʔέέiʔwa, sɛʔɛɛɛʔwa 'goose, duck', but the morphophonemic sequence might as well be ||aayii|| as ||aaYII||. The morpheme or morphemes which make up this form do not reappear elsewhere, so that it is probably impossible to establish its full morphophonemic background. Examples with ||a:YI|| are: sέέissapiʔwa, sέέɛssapiʔwa 'he looked out', from ||sa:YISsapiwa|| , cf. the "Blood" form sέέyɛssapiʔwa 'he looked out'; sέέistoʔwa, sέέɛstoʔwa 'he went about crying, announcing', from ||sa:YIttowa|| . Forms in which ||a:YI|| does not appear in the first syllable are itsέssapita 'look thou out!' and έέsɛstoʔwa 'he is announcing, he is crying out the news'. Note that the morphophonemic sequence appears in contracted form at the phonemic level.

Rather infrequent, but nevertheless well attested, are sequences in which ||w|| is deleted; the ||w|| in question is always between back vowels. Deletion of the semivowel leaves vowels in hiatus, and in most cases subsequent contraction does not occur.

||awo||. This sequence appears as /aɔ/ at the phonemic level: tunaɔ́ksis 'sewing needle', from ||tonawokIsa|| .

||awoo||. One example of this sequence is available, saikimaɔ̀ɔta 'cross thou the lodge; cross the camp circle!', from ||saikimawoota|| .

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a:woo. Possibly this sequence should be *a:wo*; the phonemic representation is /aaɔ/, and several examples are available. sáaɔʔtomoyiiway 'he scalped him', probably from || sa:wooʔtomoyiiwayi|| or || sa:woʔtomoyiiwayi|| , cf. nítsaɔʔtomowaaʔwa 'I scalped him'; sáaɔʔtuxsiʔwa 'he undressed', from || sa:wooʔto:Ssiwa|| or || sa:woʔto:Ssiwa ||, cf. ɛ́ɛ́saɔʔtuxsiʔwa 'he is undressing'.

aawoo. This sequence differs quite markedly in its phonemic representation from the immediately preceding: /ɔɔ o/. The sequence is easy to elicit, since first person plural inclusive verb forms of the independent indicative (also some dependent modes) of *aa* stems always contain it. Noun forms based on these verbal constructs also contain it. Representative are: ááwaaʔwaxkɔɔoʔpa 'you and I are walking', from || aawaawaSkaawooʔpa|| , cf. ááwaaʔwaxkaaʔwa 'he is walking'; ixtástssimɔɔoʔpa 'branding iron', probably from || iStItISsimaaoʔpa|| .

owoo and *owo:*. These sequences have the same phonemic form: /ɔoo/. Examples are: nitsipɔ́ooʔtaki 'I am an "Indian giver", I take back things I give', from || nitIpowooʔta:ki|| ; itsipɔ́oopiʔwa 'he sat up, he was sitting up', from || itIpowo piwa|| .

oowoo. This sequence has the same phonemic representation as *aawoo*: /ɔɔ o/. It occurs commonly in the same

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morphological forms with stems having the intransitive final //oo// 'go'. Examples are míístapɔ̀ɔ̀oʔpa 'we left, we went away', from //mIItapoowooʔpa//; ííksistsikɔ̀ɔ̀oʔpa 'we are tired', presumably from //IIkItIkoowooʔpa//. In hypercorrect speech the phonemic representation of this sequence is often /ɔɔho/: ííksistsikɔ̀ɔ̀hoʔpa 'we are tired'.

//awa://. The deletion of the semivowel in this sequence results in the only genuine contraction of sequences of this type. Examples are rather numerous. The following are representative: nitásstaaki 'I hammer, I picket', from //nitaaIStawa:ki//; nitásstaaʔwa 'I picket him', from //nitaaIStawa:wa//; nitɛ́ɛ́sapsskaaʔwa 'I am threading him' (needle), from //nitaaIsapISkawa:wa//; akáápyotaaʔsi 'Many White Horses' (personal name), from //akawa:piotaaʔsi//.

Other phonemic sequences comparable to the foregoing exist for which the morphophonemic backgrounds are unknown. Probably all of the following have the same background: nitáaaksipowɔ̀oo, nitáaaksipowɔɔ̀ɔ 'I will get up, I will arise'; makúyiipowɔooxsin, makúyiipowɔɔɔxsin 'Rising Wolf' (personal name); innisɔ́oota, innisɔ́ɔɔta 'get out, descend!'; axtsíwɔooʔtomatòoʔwa 'he went instead'. Possibly with a different morphophonemic background is stáʔaɔʔwa, stáʔɔɔʔwa 'ghost'.

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Before leaving the subject of deletion of semivowels it should be noted that additional intensive research could be devoted to this feature. Uhlenbeck was apparently unaware of this area of the structure of the language, and the writer feels that many more examples should be discovered and tested before the proposed categories can be considered as firm and the phenomenon of deletion considered as understood.

Contraction of sequences containing ‖Y‖ and ‖y‖. When the sequences ‖IY‖, ‖iY‖, presumably also ‖Iy‖ and ‖iy‖, are preceded by a morpheme-final ‖p t k s m n‖ and followed by a back vowel, the phonemic representation of the sequences is /y/. ‖k‖ appears as /ks/ before this /y/ only when the consonant is followed at the morphophonemic level by ‖I‖. Note that the vowel of the sequence must be at a morpheme boundary, but the semivowel is not necessarily so, although it may be. Examples with the entire sequence in one morpheme are: nítsyaapi 'I saw', from ‖nitIYaapi‖ ; nitáaaksyooka 'I am going to sleep', from ‖nitIYookaa‖ . Examples with the vowel in one morpheme, the semivowel in another are: ánnya 'that one', from ‖anniya‖ , in which ‖ann‖ is a demonstrative pronoun theme, ‖i‖ the marker of inanimate gender, ‖ya‖ (or ‖Ya‖) a demonstrative suffix; áá?waxkànyaakyaa?wa 'they are piercing, they are sewing', from ‖aawaSkania:kiYaawa‖ , in which ‖Yaawa‖ is an affix marking third person plural number; nitésstamyaapstsii?yixpinnaan 'then

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we are blind', which includes the sequence ||IStamIYaap|| . ||Yaap|| is a root having to do with sight, while the other morpheme has resumptive force and often appears in verbal forms in narratives.

Quite similar is the case of makúyaapi 'Wolf Old Man' (personal name), from ||makoIYaapi|| . The morpheme boundary is between ||I|| and ||Y||. The phonemic representation of the sequence is /y/ even though the sequence is preceded by a vowel rather than a consonant. Other examples of this kind would be desirable.

342.2 ||Y|| represented by /ʔ/. ||Y|| appears as /ʔ/ when a following ||I|| is syncopated before ||S|| or ||s||. Examples are numerous: pii<u>ʔ</u>ssiʔwa 'he is ragged', from ||pIIYISsiwa|| ; nitááʔsii<u>ʔ</u>ssi 'that I sneezed', from ||nitaaʔsIIYISsi|| ; nitáókoo<u>ʔ</u>sska 'I build a house', from ||nitaaokooYISkaa|| ; nitáó<u>ʔ</u>ssi 'I am picking berries or fruit', from ||nitaaoYISsi|| ; kaamó<u>ʔ</u>siʔwa 'he stole', from ||ka:moYIsiwa||.

342.3 Consonants in the environment of ||I|| and ||i||.

Before ||I|| and ||i||, ||t|| appears at the phonemic level as /ts/: i<u>ts</u>íʔniʔwa 'he died there', from ||itIʔniwa|| , cf. i<u>t</u>ókiiʔkaaʔwa 'he camped there', from ||itokiiʔkaawa|| ; ɛ́ɛ́kaxtà<u>ts</u>iiʔwa 'he is playing cards with him, he is gambling with him', from ||aaIkaStatiiwa|| , cf. nitɛ́ɛ́kaxtà<u>t</u>aʔwa 'I am gambling with him'.

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Following //I//, //t// appears at the phonemic level as /st/: isttoán 'knife', from ||Ittowana|| , cf. ottoán 'his knife', from //oottowani// ; saaksísta 'go thou outside', from ||sa:kIta|| , cf. nín?ixkíta 'sing thou!', from //niniSkita// .

Before //I//, //k// appears as /ks/: nooxksi?nitsis 'just kill thou him!', from //nooSkI?nitisa// , cf. nooxkítsi?nitsis 'just kill thou him there!', from //nooSkiti?nitisa// . Some South Piegan speakers of Blackfoot have a dialectal variation on this rule. In these idiolects the sequence //kIt// appears as /kist/, not /ksist/. Such speakers have nikísta 'my mother', from ||nikIta||; kiistsikó?wa 'it is day', from //kI:tikowa//, kiistó?wa 'thou', from ||kI:towa||. Compare these words as pronounced by others: niksísta, ksiistsikó?wa, ksiistó?wa.

342.4 //S//. The phonemic form of this morphophoneme is predictable in terms of the preceding morphophonemic vowel. When preceded by //i//, //a//, and //o//, //S// appears as /x/: ooxsíssi 'his fat', from //ooSsISi// , cf. issíssi 'fat', from ||ISsISsi|| ; aa?kyáxsi 'when he got hit', from ||aa?kia:Ssi||, cf. otéén?ixkssi 'that he is singing', from ||otaaIniSkISsi||; nitáá?kyookooxsi 'when I got hit', from //nitaa?kio:koo:Ssi//. When preceded by //I//, //S// appears as /ss/; an example is 'fat' above.

Many South Piegan speakers have a slightly different form

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of this rule. In the speech of these individuals, ‖S‖ appears as /s/ following both ‖I‖ and ‖i‖: isskitsíka 'seven', from ‖iSkitika‖ ; nìn?ssksín 'song', from ‖niniSkIni‖ ; éspiiyi?wa 'he is dancing', from ‖aaiSpiiyiwa‖ . Other speakers have respectively ixkitsíka, nìn?ixksín, éxpiiyi?wa.

342.5 Generation of /h/. When an initial morphophonemic vowel or vowel sequence is followed at the morphophonemic level by ‖?C‖, the vowel which is initial at the morphophonemic level may be preceded (facultatively) at the phonemic level by /h/. Lexemes with and without /h/ are equally acceptable. /h/ appears rather more often in slow, deliberate speech, or in pronunciation in isolation, as for emphasis, of forms containing the critical environment. When /h/ is present, it is quite strong in the speech of older speakers (50 and above in 1960) but much weaker in that of younger speakers. Since the feature is very clearly obsolescent, forms in which /h/ is acceptable are written without /h/ except in this section. The following examples are illustrative: hi?ní?wa, i?ní?wa 'he died'; hìi?píí?wa, ìi?píí?wa 'it is wet'; ha?sipís, a?sipís 'thread'; hé́i?nikki?wa, é́i?nikki?wa 'he is killing game'; hóo?pi, óo?pi 'his brain'.

/h/ may also appear as a secondary result of the deletion of ‖w‖ in the sequence ‖oowoo‖, at least when the sequence is

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followed by ||ʔC||. This /h/ is also facultative, and also appears only in very deliberate repetitions. An example is míístapɔɔhoʔpa 'we went away'.

342.6 Morpheme-final ||ʔ||. A morpheme-final glottal stop before a boundary vowel appears at the phonemic level as /ʔ/ in some environments, as /Ø/ in others. When the morphophoneme is represented at the phonemic level by /ʔ/, the latter may be in a different position vis-à-vis the other segmentals than at the morphophonemic level. Segmentals in the immediate or close non-immediate environment may also be affected in various ways as rules connected with ||ʔ|| are applied.

||ʔ|| regularly appears at the phonemic level as /ʔ/ when the following boundary vowel or diphthong is followed in turn by a single consonant or semivowel. In passing to the phonemic level ||ʔ|| and the following vowel or diphthong undergo metathesis, with the result that /ʔ/ appears at the phonemic level immediately before the first subsequent consonant or semivowel. Examples are numerous, the following are illustrative: paaxkɛ́íʔmoʔwa 'it stinks', from ||paaSkaʔImowa|| ; kátɛiʔsaksiwaats 'he doesn't go out', from ||kataʔIsa:kIwaati|| ; ixpɛ́iʔkɔ́yi 'rapids, rushing water', from ||iSpaʔIkoyi|| or ||iSpaʔIkoYI|| ; aamyáoʔpiita 'mount thou, get thou on sitting', from ||aamiaʔo:piita|| ; pokɛ́íʔwa 'it is blowing', from ||pokaʔIwa|| .

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When a geminate consonant or an ‖ S‖ or ‖ ʔ‖ cluster is found following the boundary vowel or diphthong which ‖ ʔ‖ precedes, the latter may appear as /ʔ/ in unshifted position. The boundary vowel or diphthong may appear as such, or may be preceded by the appropriate semivowel. Examples are the following: nitsiníʔimmaʔwa, nitsiníʔyimmaʔwa 'I am satisfied with him', from ‖ nitiniʔImmaːwa ‖ ; káta?iʔittakìwaatsiks 'didn't he skin?', from ‖ kataʔIʔittakiwaatikI ‖ ; áxtsiwaʔuxkotsiiway, áxtsiwaʔwuxkotsiiway 'he trades with him', from ‖ aStiwaʔoSkotiiwayi ‖ ; káta?ɛistòowaats, káta?wɛistòowaats, 'isn't he coming?', from ‖ kataʔaItoowaati ‖ ; káta?iʔsakiwaats, káta?yiʔsakiwaats 'doesn't he cook?', from ‖kataʔIʔsaːkiwaati‖ .

‖ ʔ ‖ in these environments may have other developments as well.

When the contiguous boundary vowel is followed by a geminate consonant, ‖ʔ‖ may appear as /ø/: ɔttakówɛɛniki 'whenever I offer him a drink', from ‖ aʔoottakowaaIniki‖ ; éppooniʔwa 'ten days gone, ten days ago', from ‖ aʔIppooniwa ‖ .

When the contiguous boundary vowel is followed by an ‖ S ‖ or ‖ʔ‖ cluster, ‖ ʔ ‖ may appear as /ø/, or the morpheme-final ‖ ʔ ‖ may be shifted in position, with deletion of the following ‖S‖ or ‖ʔ‖: nitsípokayiixpa 'I fanned gently', from ‖ nitIpokaʔiiSpa ‖ ; axtsiwáoʔkotsiiway 'he is trading with him', from ‖ aStiwaʔoːSkotiiwayi ‖ ; kikátaoʔkanɛssiksikaikoaⁿi

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'Are you all Blackfeet?', from ||kikata?o:SkanaISsikIkaIkoani|| ; nitsííkuxtsinìiii?taki 'I appreciate it', from ||nitiiko:Stini?ii?ta:ki|| .

When a morphophonemic semivowel appears at the morpheme boundary following ||?||, or when a previously applied morphophonemic rule would otherwise generate a semivowel at the phonemic level, both ||?|| and the semivowel may appear at the phonemic level, or both may be represented by zero. Examples: ííksska?yaaxkitsii?wa, ííksskàaaxkitsii?wa 'it is very smoky', from ||iikISka?yaaSkitiiwa|| ; issikáá?yattsiway, issikááàttsiiway 'he stopped him', from ||ISsikaa?yattiwayi|| ; káta?yaatòòwaats, kátaaatòòwaats 'doesn't he howl?', from ||kata?yaatoowaati|| ; ííksskɛi?poka?yaaki?wa, ííksskɛi?pokaaaki?wa 'it is blowing a powerful whirlwind', from ||IIkISka?Ipoka?ia:kiwa|| .

Other morphophonemic environments--for example, a long contiguous boundary vowel--were not encountered, although it is possible that they exist. What the development of ||?|| would be in these environments is unknown.

342.7 Glottalization. By glottalization is meant the appearance at the phonemic level of glottal stops in the immediate environment of resonants. Sequences found are /?w/, /?y/, /m?/, /n?/, /m?m/, /n?n/. These glottal stops are generated automatically in three (following) morphophonemic environments: 1) a non-contiguous ||S||; 2) a non-contiguous ||s||; 3) a non-contiguous ||#||.

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When a sonorant is followed by a stressless morphophonemic //i//, //a//, or //o//, followed in turn by //S//, glottalization of the sonorant occurs. Examples, as will have been noted, are very numerous: ááwaa?waxkaa?wa 'he is walking, he is playing', from // aawaawaSkaawa // ; sakóó?wuxtsi 'the last one (inanimate); in the last place', from // sakoowoSti // ; nitóxkyaa?yixpii 'I am bear dancing', from // nito:SkyaayiSpiiyi // ; úm?axksim?ma 'he is big, from // omaSkImma // ; nín?ixkàtsis 'name thou him!', from // nIniSkatisa // ; tássin?nixpa 'I am breaking it by hand', from // nitaalSsinniSpa // ; no example is available of //mm// in this environment.

Only the nasal sonorants are involved when the vowel before //S// is //I//. (It will be recalled that ||I|| in this environment is syncopated, see section 341.2 above.) Phonemic forms of this environment show /m?ss/ and /n?ss/: um?sstsi 'that poor little one', from // omISti // ; nitɛ́ɛ́sin?sstaki 'I am licking', from // nitaaIsinISta:ki // . Geminate nasal clusters in this environment appear at the phonemic level as a single nasal: nitsikín?ssi 'I am warm', cf. kayínnii?wa 'it is warm'; án?sstaoksi 'there the poor little thing is', from //ánnIStaokI // , cf. annaoka 'there he is'; máátsikoo?pùm?ssaats 'the little thing is not afraid', from // maatIkoo?pommIsaati // , cf. máátsikoo?pummaats 'he is not afraid'; nitɛ́ɛ́yim?sskuxtowaa wa 'I am laughing at him', from // nitaaIYImmISkoStowa:wa // , cf. nitɛ́ɛ́yim?mi 'I am laughing'.

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Non-contiguous ||s|| conditions glottalization only when an immediately preceding ||I|| is syncopated, and only when the latter is preceded by a nasal sonorant. Phonemic forms have /m?s/ and /n?s/. No examples were encountered of ||NN|| in this environment. Some examples of this type of glottalization are given above, in section 341.2. Additional examples are sootám?saayiiyi?wa 'then he became maddened, then he went berserk', from ||sootamIsaaYIIyiwa|| ; miin?siitamita, piin?saitamita 'do thou not breathe, do not inhale!', containing the prohibitive prefix ||miin|| and connective ||I||.

When a sonorant is followed by a single vowel which is followed in turn by a final ||#||, the sonorant is glottalized at the phonemic level if the following vowel is present and stressless: iimitáá?wa 'dog'; nitsíkkaaya?yi 'I ran'; nóom?a 'my husband'; nitóxkum?i 'I am yelling'; moo?tokáán?a 'It is a head.'; nooxkokín?i 'my neck'.

342.8 Cluster truncation. Often found facultatively in the environment of ||#|| is cluster truncation. By this is meant the loss of one of the members of specific consonant clusters.

Affected by an initial ||#|| are geminate and ||S# clusters. The loss is always concommittant with the loss of a boundary vowel (see above, section 341.2). Lost is the first member of the cluster.

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Geminate consonant clusters preceded by a single morphophonemic vowel are rather rare in the first morpheme of a construction, so that instances of this kind of truncation are also infrequent. Enough are available to establish the validity of truncation of these clusters: kám?sstsimìiyita 'wipe thy hands quickly!', from // IkkamIStimiiyita // or // IkkamIStimIIyita // ; tsyómoo?kaan 'cap', from // Ittiomoo?kaani // ; moyíxkin 'head hair', from // ImmoyiSkini // ; náápotusstsinimatsooko?wa 'eastern school' (Carlisle), from // InnapotoIStinimatio:kowa // . The same forms occur without truncation, i.e., with the first morphophonemic syllable intact at the phonemic level.

Many examples of the truncation of // S // clusters are found in the language. Truncated and untruncated examples of the same forms occur, but the truncated forms are generally supplied first and are statistically more frequent. Examples: kúnaxkànyaakyoo?pa 'let us sew!', from // aSkonaSkania:kioo?pa // ; pakúyittsi 'fire, flame', from // iSpakoyitti // ; tookímiisa 'fill thou him (kettle) with water', from // iStookimiisa // ; sówaatsis 'tail feather, tail plume', from // iSsowaatisi // . When the vowel preceding // S // is // I // , the // S // cluster is not truncated in the same way. It will be recalled (section 342.4) that the ordinary phonemic realization of // S // following // I // is /ss/. In the truncating environment, // S // is not deleted,

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as occurs following other vowels, but its phonemic form is /s/, not /ss/: siksíka 'Blackfoot', from ‖ISsikIka‖ , cf. íssikotoyi 'blacktail, black-tailed deer' (Odocoileus hemionus columbianus); spóxpɛi?piita 'jump thou up!', from ‖ISpoSpai?piita‖ , cf. isspixtsí?wa 'it is on high, it is above'. In the South Piegan idiolects where ‖i‖ and ‖I‖ have merged before ‖S‖, the development is as for ‖I‖ : skitsíkam? 'Big Dipper, Ursa Major' (literally the meaning of the Blackfoot word is 'the seven'), from ‖iSkitikamma‖ .

Cluster truncation in the environment of a final ‖#‖ appears as the facultative dropping of the final member of the cluster, concommittant, of course, with the loss of a final short, unstressed vowel (see section 341.1 above). Only geminate nasal clusters are affected. The truncated nasal clusters have glottalization of the nasal which remains. Examples: siksinám? 'he is black', from ‖ISsikInamma‖ ; nitɛ́ɛ́yim? 'I laugh, I am laughing', probably from ‖nitaaYImmi‖ ; nín? 'my father', from ‖ninna‖ ; pún? 'bracelet', from ‖iSponni‖ .

342.9 Contraction of sibilant clusters. It often happens that syncope of ‖I‖ would leave ‖s‖ in contact with ‖Ss‖ at a secondary morphophonemic stage. By the ordinary morphophonemic rules this would yield a phonemic sequence of /sss/,

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a sequence which is not attested. Since more than two contiguous occurrences of /s/ never appear, it is necessary to assume a rule subsequent to the rule of syncope which shortens the morphophonemic sequence by one component, so that the phonemic equivalent is never more than /ss/. Examples are not rare: nitáótaa?sska 'I fashion a horse, I make a horse', from ||nitaaotaa?sISkaa|| ; nítààxsskata?wa 'I claim him as grandfather, I acknowledge him as father-in-law', from ||nitaaSsISkata:wa|| ; nitóo?suxsstooki 'my ear lobe', from ||nitoo?soSsIStooki|| ; móo?tuisokaa?sskowaa?wa 'dresses were made for her all over', from ||moo?toisokaa?sISkowa: wa|| ; tsiksísstòotaa?sskooka 'he gave me a horse for a present', from ||nitikIStootaa?siSkoo:ka|| ; áxssi?wa 'he is good', probably from ||yaaSsISsiwa|| .

342.91 Sporadic representation of ||k|| by /t/. Most instances of this seem to occur in the speech of those persons who have dissimilatory loss of /s/ following /k/ (see section 342.3 above). However, since some examples were collected also from individuals who do not have this dissimilation, the representation of ||k|| by /t/ cannot be predicted. As a matter of fact, even individuals with the dissimilation are not consistent in having /t/ for ||k||. Examples are: mii?tsikátsi for mii?ksikátsi 'teal duck', from ||mii?kIkati|| , literally 'pink feet'; otóksstsiis for otóksksiis 'tree bark', of unknown

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morphophonemic background; saxtsináám?a for saxksináám?a 'pistol', from ‖ saSkInaama ‖ ; páttsaa?tsis for pákksaa?tsis 'stone hammer', containing the verbal root ‖pakk‖ 'smash', One such example was also recorded over a century ago by Sullivan, who gives kat-sa-kin 'axe' for current standard káksaakin. Numerous examples of the /t/ for ‖ k ‖ are also given by Shaffer in his study of bird nomenclature; his examples all contain the morpheme ‖ omaSk ‖ 'big'.

One instance is on record of the reverse of the preceding, namely ‖ t ‖ represented by /k/: piksíiksiina for pitsíiksiina. The non-initial form of the noun stem is -isttsiiksiina, which clearly points to the initial stem with /t/ as the correct historical form. It is interesting that the form with /k/ is the preferred and, as it were, standard form.

350. Morphophonemic alternations predictable from the morphotactic environment. The major portion of this area of Blackfoot morphophonemics concerns root morphemes in different initial and medial environments. A very small amount of alternation in affixal morphemes also occurs.

351. Described first are morphophonemic alternations in root morphemes. Alternations predictable in terms of the morphotactic environment are two kinds. Some occur in noun, verb, and attributive roots alike, others occur only when the root

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appears in certain verbal constructions. Environments in which alternation is found are the following: 1) initial position in a construction; 2) position following a personal prefix; 3) position following any other element.

352. Because it is both universal in application and simple in statement, description will begin with the second-listed environment: position following a personal prefix.

Morphemes beginning with ‖V:‖ have the vowel either long or short at the phonemic level when the morpheme directly follows a personal prefix in a verbal construction. It will be recalled (section 332) that a vowel of this kind is long otherwise only in the first syllable or following a vowel. Representative examples are: nitsíiníʔimmaʔwa, nitsíníʔimmaʔwa 'I appreciate him, I am satisfied with him', from ‖nitI:niʔimma:wa‖, cf. nitsííkuxtsìniiiʔtaki 'I appreciate (it) very much'; nitsíítsimʔsskyaaʔwa, nitsitsímʔsskyaaʔwa 'I bloodied his nose', from ‖niti:timISkia:wa‖, cf. nooxkitsímʔsskiisa 'kindly bloody thou his nose!'; nitáákomiiʔtaki, nitákomiiʔtaki 'I love', from ‖nita:komii ta:ki‖, cf. nitsiikákomiiʔtaki 'I love very much'; nitáápiiʔma, nitápiiʔma 'I make a shelter', from ‖nita:piʔimaa‖, cf. nooxkápiiʔmaata 'please build a shelter!'; nitóxkumʔi, nítuxkumʔi 'I shout, I halloo', from ‖nito:Skomi‖, cf. nitáaakuxkumʔi 'I will halloo'; nitóxpɛiʔpiiyi, nítuxpiɛiʔpiiyi

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'I jump off a height, I hurtle through the air', from || nito:Spa?IpIIyi ||, cf. nooxkuxpéi?piiyita 'please jump thou off, down!'.

Note that this rule applies only in verbal constructions: nitsíístotuxsi, nitsístotuxsi 'I dress myself, I am dressed', but nitsistotóxsiists 'my clothes'; nitsíístawata?wa, nitsístawata?wa 'I brought him up, I reared him', but nitsistawatsimáán?a 'my foster child'.

Roots with three-way initial/non-initial alternation (section 353 below) do not follow this rule. These roots appear in the ||i:|| shape following personal prefixes, but the vowel is always long.

353. Alternation in initial vs. non-initial position. The remaining two environments, initial position in a construction vs. position following any element other than a personal prefix, are best treated together.

Accretive nasals. In a large number of noun, verb, and attributive roots the phonemic shape of the root in initial position in a construction differs from that in non-initial position only by the presence of a preposed nasal consonant in the construction-initial root. In this function appear both /m/ and /n/. With some roots the presence of the nasal is obligatory in all or certain environments, with others the nasal is facultative. At the morphophonemic level all roots of this

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type begin with a vowel or one of the semivowels ‖Y‖ or ‖y‖. Note that whereas ‖Y‖ appears as /y/ elsewhere following nasals, following accretive nasals it has the shape /Ø/.

Representative examples of obligatory accretive nasals are given in the following paragraphs.

Examples with ‖m‖.

‖I‖. miistsís 'tree', àa?kíítoyiistsis 'quaking aspen'; míksskissi?wa 'he is stiff', nítsiksskissi 'I am stiff'; míssi?wa 'he is hard, he is strong', káta?yissii (from Uhlenbeck) 'that is why they (horses) were hard, strong'. Examples with ‖I‖ are very numerous.

‖i‖. mitsíxtata (from Uhlenbeck) 'think!', nitéésimiitsixta 'I am scheming, I am thinking secretly or silently' (this form contains the attributive root ‖simi‖ or ‖si:mi‖ 'stealthy'). This is the only example encountered in this category.

‖a‖. máa?s 'wild turnip' (Lithospermum linearifolium), úm?axkaa?s 'big turnip'; ma?isstóó 'crow', úm?axka?issto 'big crow'. Examples with ‖a‖ are infrequent; possibly such roots are actually ‖y‖ roots.

‖o‖. mokákita 'be thou wise, careful', iikókaki?wa 'he is very wise'; mowáá?wa 'he was wounded', nitóóka 'he wounded me'. The morphophonemic shapes of the preceding two forms are

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respectively ||mowa:wa|| and ||nitoo:ka|| . Examples with ||o|| are infrequent.

||y||. máakixtaki?wa 'he packed, he stowed away', ákayàakixtaki?wa 'he already packed'; máakokiiyita 'raise thou the lodge, set up the tepee!', ááyàakokiiyi?wa 'she is setting up the lodge'; maanikápi 'young man', pokáánikapi 'small young man'. ||y|| roots are not numerous.

Examples with ||n||.

||I||. nímmists 'west', itsímm?ssapi?wa 'he looked west'; niisitó 'five', éesitusstooyimi?wa 'he is five years old'; roots of this kind are rather numerous.

||i||. nii?túmmo 'butte, hill', sikíi?tummo 'black butte'; nínaa?wa 'chief', úm?axkìnaa?wa 'big chief'. Roots of this category are also rather numerous.

||a||. naatááyo 'wildcat, bobcat', úm?axkataeyo 'mountain lion'; napayíín 'bread', óo?kapayiin 'raw bread, i.e., flour'. Examples of this category are infrequent.

No examples with ||o|| roots were encountered.

||Y||. náápi 'old man', makápyaapi 'bad old man'; nàam?sskíí 'lizard', i?náksaam?sskii 'little lizard'; naamáxkiita 'sweep thou it!', nítsaamàxkiixpa 'I swept it'. Examples of ||Y|| roots are not numerous, but by no means rare either.

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||y||. náámassapi?wa 'he is looking left', nitáaakaam?ssapi 'I will look left, I will look east'; nooxkíítsiitapii?wa 'foreigner', nitááyooxkiitsinyooxsi 'I transform myself'; noxkstáu (from Uhlenbeck) 'he wishes', nitáioxkst (from Uhlenbeck) 'I wish'. Roots of this category are not numerous.

Isolated instances also occur where the presence of a nasal with a construct-initial root appears to be facultative. In elicitation informants gave some forms both with and without the preposed nasal, and characterized the competing forms as equivalent. That they are <u>semantic</u> equivalents cannot be doubted, but whether they are also <u>grammatical</u> equivalents is not certain. In other instances a form containing a morpheme in initial position may always have an accretive nasal, while a different form containing the same morpheme in initial position may never have the accretive nasal. In such cases there can be no question of facultative appearance of accretive nasals. Many more examples are required, particularly in context, before the rules (if any) can be discovered. This is an area where additional investigation is needed.

||m||. miníksiu (from Uhlenbeck) 'he is angry', iníkksi?wa 'he is angry'; míístapòota (also: níístapòota) 'go thou away', iistapóxsini (normalized from Tims) 'going away', íístapèènakaa?si?wa 'he is rolling away'; mátsàpsiu (from Uhlenbeck) 'he is crazy', átsàpsiu (from Uhlenbeck) 'he is

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crazy', cf. also mátsàpsini (from Uhlenbeck) 'folly, madness', and mátsapsit (from Tims) 'be thou mad!'. In all of the foregoing the correct form of the theme is ||attIIyi|| ; in modern usage the theme has meanings 'be crazy' and 'be intoxicated'.

||n||. níínapan?ssini 'confession', íínapan?ssini 'confession', cf. also níínapan?ssita 'confess thou!', níínapsskoosa 'notify thou him!', íínapsskoosa 'notify thou him!'; nìn?ixkíta 'sing thou!', ìn?ixkíta 'sing thou!'; níístamisa 'carry thou him on thy back!', íístamisa 'carry thou him on thy back!'; niin?ixkátsis 'name thou him!', iin?ixkátoota 'name thou it!', niin?ixkátsimaan 'naming'; niistsikím?ssisa 'melt thou him (metal)!', niistsikím?ssakssin 'melting, soldering', iistsikím?ssimay 'he melted him (metal)'; náápstsiiyi?wa 'he is blind', náápstsiiyita 'be thou blind!', áápstsiiyi?wa (normalized from Uhlenbeck) 'he is blind', àapstsííyita 'be thou blind', náápstsii?ssini (normalized from Tims) 'blindness'.

Initial change. Less than a hundred known verbal roots with initial ||p k s y Y|| are subject to a type of alternation known as <u>initial change</u>. Characteristic of these roots are two alternating shapes, here termed <u>augmented</u> and <u>unaugmented</u>. The unaugmented form of the root always begins with //CV-//, with //C// being one of the above consonants or semivowels, ||V|| one of the four morphophonemic vowels. In the augmented form of the root,

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an augment of //ay//[1] appears immediately after the first conson-

[1]Comparative evidence from other Algonkian languages show that the augment is actually //aY//, but this cannot be discovered with Blackfoot data only.

ant of the unaugmented root: //CayV-//. Recall that both //Y// and //y// in absolutely initial position appear as /ø/ at the phonemic level, so that the augment is not readily recognized as such with roots with these initial morphophonemes in their unaugmented form.

The rules for the distribution of these two shapes are not entirely understood. The augmented shape appears in initial position in non-imperative verbal forms having no personal prefix, but the unaugmented shape is also not incorrect here. The augmented shape also appears facultatively beside the unchanged shape in initial position in random imperative forms. One can say, then, that initial position in prefixless, non-imperative verbal forms is the accepted but not exclusive environment of the augmented shape, while other environments are the accepted (though not entirely exclusive) milieu of the unchanged shape. It would be interesting to know to what extent the two shapes of the root are considered as free variants of each other. Representative examples are given below. Additional examples are given on pages 152, 153, 154 of the author's "Initial Change in Blackfoot". Some printing errors are present in the published

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form of this article, and a somewhat different phonemicization is followed there. Neither of these, however, is of any importance for recognition of the stems or for illustration of initial change.

|| p ||. payíímʔa 'he entered', payííminowɛɛniki 'when, if you folks enter' vs. píímʔa 'he entered', pííminowɛɛniki 'if you folks enter'; payákkixkaaʔwa 'it burst' vs. pakkixkáán 'bursting, rupture'.

|| k ||. kayóoʔpumʔma 'he got scared', kayóoʔpooʔsi 'that we fear' vs. kooʔpúmʔma 'he fears', kooʔpússi 'when, if he fears', kooʔpóta 'be thou afraid!', nitsiiksikóoʔpu 'I am very frightened'; kayíínis 'touch thou him!', kayííniiway 'he touched him' vs. ksiinís 'touch thou him!', ksííniiway 'he touches him', nitáaaksiksiinaʔwa 'I am going to touch him'.

|| s ||. sayíiʔkiiway 'he covered him', sayíiʔkiixpa 'it was covered' vs. siiʔkíís 'cover thou him!', siiʔkyáákśin 'act of covering', siiʔkáán 'quilt'; sayíiʔtsiiʔwa 'it smoked (fire)' vs. siiʔtsíí 'smoke'.

|| y ||. ayóxtsimay 'he heard it' vs. óxtsita 'hear thou it!', nitóxtsiiʔpa 'I heard it'; ayóxkimay 'he waited for it' vs. óxkimay 'he waited for it', óxkita 'wait thou for it', nitóxkiiʔpa 'I waited for it'.

|| Y ||. ayíssiniimay 'he hit it with a missile',

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with missiles'; ayóxkoyiiway 'he covered him (a vessel)', ayóxkoyiisa 'cover thou him!' vs. óxkoyiisa 'cover thou him!', óxkòyimaa?tsis 'lid, cover', nitsóxkoyaa?wa 'I covered him'.

Some roots which take an accretive nasal when the root is in initial position may also have initial change. How many accretive nasal roots may also appear with initial change is unknown. Representative are: máakaxkumita 'shoot thou, fire!', ayáakaxkumi?wa 'he fired'; níístamisa, íístamisa 'carry thou him on thy back!', ayíístsi?wa 'he packed (something) on his back'.

Other types of initial change. What appears to be a kind of initial change with a similar augmentation is seen in connection with a rather large group of ||I:|| roots. Roots of this category <u>generally</u> appear with an obligatory accretive nasal, but competing forms, one with the nasal, one without, sometime occur; augmented forms <u>almost always</u> have a preposed nasal.

In those verbal forms in which initial change is expectable, these roots, when absolutely initial in the construction, <u>may</u> be augmented, but unaugmented examples were also collected, often together with augmented examples. It is when augmentation is present that these roots are of interest, for the phonemic representation of the morphophonemic sequence ||nayI:|| is both peculiar and unusual. Most often ||nayI:|| appears as /náá-/,

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but /nái-/ is occasionally found also as an alternative correct shape. In the examples which follow, the first cited form is augmented; if an unaugmented example of the same form was collected, this is also given. The other examples which follow are of the same root in environments where initial change does not occur. Among the examples, note the occasional lack of the accretive nasal. náánoyiiway, náínoyiiway, iinoyíiway 'he saw him, he recognized him' vs. niinóósa 'recognize thou him!', nitsíínowaa?wa 'I recognized him'; náátsikim?ssiiway, niistsikím?ssiiway, iistsikím?ssiiway 'he melted him, he welded him' (metal) vs. niistsikím?ssis 'melt thou him!', niistsikím?ssaksin 'melting', nitsíístsikim?ssa?wa 'I welded with him, I melted him'; náánapan?ssi?wa 'he confessed', ayíínapan?ssi?wa 'he confessed' vs. níínapan?ssita 'confess thou!', níínapan?ssin, íínapan?ssin 'confession', nitsíínapan?ssi 'I confessed'; náán?ixkatoomay, níín?ixkatoomay, níín?ixkatoomay 'he called it, he named it' vs. niin?ixkátsis 'name thou him, call him!', iin?ixkátoota 'name thou it, call its name!', niin?ixkátsimaan 'calling, naming', nitsíín?ixkatoo?pa 'I named it'.

Roots other than those in ||I:|| are also attested with this kind of augment; these roots are also vowel-initial. As with ||I:|| roots, the augment is preposed rather than inserted into

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the root. Examples are násskoo?wa 'he went back', from ‖ nayISkoowa‖ , cf. isskóota 'go thou back!', isskóoyaa?wa 'they came back'; nástsstsi?wa 'it burned', of uncertain morphophonemic background, cf. istssítsi?wa 'it is burned', istssíiway 'he branded him'.

Rare examples were collected of roots with both inserted and preposed augment: payótsimatsiiway, náápotsimatsiiway 'he poisoned him'; payíim?a, naipiim?a 'he entered'.

A restricted number of verbal roots beginning with a single consonant have vowel alternations in some or all of the environments where initial change is found. The alternations include both lengthening and ablaut. Parallel to initial change, the vowels in alternation are found following the root-initial consonant. Consistent rules for these alternations are as difficult of formulation as those for the types of initial change discussed so far.

Lengthening. Four roots were encountered in the field corpus which have this type of initial change. These roots are written morphophonemically with the symbol /./ following the vowel subject to lengthening. Note that all roots of this type have initial ‖s‖: sáaami?wa 'he hunted', cf. saamíta 'hunt thou!', nitéésaam?i 'I hunt, I am hunting'; the root is ‖ sa.ami ‖ . siiksipá?wa 'he was bitten', from

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|| si.kIpa:wa || , siiksipíiway 'he bit him', from //si.kIpiiwayi // , cf. siksipís 'bite thou him!', nítsiksipoka 'he bit me', siksták̀sin 'a bite, biting'. siimí?wa 'he drank', from ||si.miwa || , cf. simíta 'drink thou!', sim?ssín 'drink, drinking', ɛ́ɛ́simyattsii?wa 'he is making him drink'. sookiníiway 'he doctored him', from ||so.kiniiwayi || , cf. sokinísa 'doctor thou him!', pokɛ́ɛ́sokinaki 'Little Doctor', a personal name.

Ablaut. By ablaut is meant a morpheme-medial alternation of unlike vowels. The vowels in alternation are found immediately following the root-initial consonant. Two such alternations were encountered: /aa/ with /i/ and /aa/ with /o/.

/aa/ alternating with /i/. This alternation was found in two morphemes, one of which is well attested in the field corpus: páásatapini?wa 'he has a glass eye', páásatoo?tsiiyi?wa 'he has an artificial hand', páásatsistotowa?wa 'he was bewitched' vs. nitɛ́ɛ́pisatskaa?sata?wa 'I am doing tricks for him', nooxksípisatskaa?sita 'do thou a trick!', nitáaaksipisataxkàanyaaki 'I am going to embroider'. All contain the root // pisat // 'wondrous, marvelous'. The other root occurred only once, but several examples were collected. The root has the meaning 'hardly, barely, scarcely'. Examples illustrating the alternation are: páxtsikassapi?wa 'he is squinting, barely looking' vs. nitsípsstsikassapi 'I squint, I barely look'. The morphophonemic shape of the root is evidently //p.Stik// .

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/aa/ alternating with /o/. This alternation is attested in one root only, ‖kokoto‖ 'freeze': kaákoto?wa 'it (water) froze', vs. kokotú?yi 'ice'.

A rare instance of both lengthening and ablaut has either /aa/ or /oo/ in the initial form of the root, /o/ (or /u/) in the non-initial form. In certain instances either may appear in the root in initial position in a construction, in others only one or the other may appear. This alternation seems to parallel those instances of initial change where the change is found outside the usual environments. Examples: poon?ixtátsis, paan?ixtátsis 'pay thou him!', vs. nikkákaipumixtakkinnaan?a 'he already gave us our wages'; poonotáa?sita 'sell thou thy horse!', páánooxkita 'lose thou thy horse!' vs. nooxksipúnotaa?sita 'please sell thy horse!', nitsipunóxki 'I lost my horse, my horse got away'. Apparently also here belongs another root with the meaning 'swell up': kaaxpíyita 'swell thou!', káxpii?wa 'it is swollen', vs. áómatapikuxpii?wa 'it is starting to swell up'. Possibly also an example of this alternation is a modal root with the meaning 'may' or some such concessive notion. With imperative constructs the shape /nooxk-/ (with preposed nasal) appears: nooxkániita 'please say thou, kindly say!'; in non-imperative constructs, following personal prefixes, /aaxk/ is found: náxkanissi 'that I (may) say'. No examples

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were recorded of this root following anything but a personal prefix; all "medial" examples given by Uhlenbeck could be other roots. If the root is a genuine example of this kind of alternation, one would expect a medial */uxk/.

Roots with two initial shapes in complementary distribution. A very large group of roots, mostly verbal, have two basic initial as against one medial shape involving alternations of /a/ and /i/ or /ii/ vs. /o/ and /oo/. The morphophonemic backgrounds are ‖a‖, ‖i:‖[1], and ‖o‖, ‖o:‖, and ‖oo‖. In the dis-

[1]Some, or all, might also be ‖I:‖, but it is impossible to discover such cases, if any.

cussion to follow, these roots are designated as Group I. A closely related group of largely verbal roots has ‖S‖ as the first consonant of the root. The alternating shapes in this group have /ø/ (with cluster truncation) and /ii/ vs. /u/ and /oo/. Morphophonemic backgrounds are ‖ø‖, ‖i:‖, and ‖o‖ and ‖o:‖. Roots of this kind are described under Group II below. The a- and ø- alternants are found only initially in certain morphological constructions, while the other alternants (except ‖i:‖ with ‖S‖ roots) appear in specific environments in both initial and medial position. Some roots are not attested with the full range of alternations, and it is probable that some are defective in the present language.

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Group I. In this group the distributions of the various shapes of the roots are rather complex. The ||a|| alternant is never found in non-initial position. In verbal roots it is generally found only in non-independent mode verb and deverbal noun forms, although some examples were found with this alternant in verbal forms of the independent mode. The ||i:|| alternant is found in initial position in prefixless verbal forms of the independent mode, but it may also appear in such forms following a personal prefix. The ||i:|| shape was encountered also in initial position in one imperative form (see 'offer drink' among the examples below). The ||o|| shapes are generally found in non-initial position, except that when the morphophonemic background is ||o:|| or ||oo||, this shape may appear in all environments.

||a|| : ||i:|| : ||o||

This category includes many examples. /a/ is apparently seldom dropped in verbal roots, but it is often dropped, when stressless, in other roots. Examples are cited in series, in the same order as the morphophonemic heading to this paragraph. Examples are given for each shape, except when an example for a particular shape is missing. The series are separated from each other by semicolons. ákii?kaan 'a camp', nitsííkii?ka 'I camped', istókii?kaata 'make thou camp'; amíxkaata 'fish thou!',

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amíxkaan?i 'fishing', amíxkaa?tsis 'fishing gear', nitsíímiixka 'I fished', íímiixkaa?wa 'he fished', áómiixkaa?wa 'he is fishing', nitómiixkaa?tsis 'my fishing gear'; (a)mooxksinám?ma 'he is red', imóxkoasii (from Uhlenbeck) 'roan horse, cow', itáumauxksinatòm (from Uhlenbeck) 'it began to show red'; (a)móo?tsaaki?wa 'he wins at gambling', amóo?tsaakita 'win thou at gambling', (a)móo?tsaa?wa 'he got beaten, he lost at bambling', iimóo?tsaaki?wa 'he won at gambling', nitáómòo?tsaaki 'I am winning at gambling'; amokapistsís 'tie his feet together, hobble him!', ámokapistaa?tsis 'hobble', nitsíímokapista?wa 'I tied his feet together', iimokápista?wa 'he has his feet tied together, he is hobbled', nitáómokapista?wa 'I am hobbling him'; (a)pínimaa?tsis 'medicinal root', apíínomookita 'doctor thou me with herbs!', nitsíípiìnomowaa?wa 'I doctored him with roots', iipíínomoyiiway 'he doctored him with roots', akáópiinimaa?tsis 'an abundance of medicinal roots', nooxkopíínomookita 'please doctor thou me with medicinal roots!'; (a)tunaóksis 'needle', atunááta 'adorn thou with (porcupine) quills!', atunáán 'quillwork'; nitsíítuna 'I sew on quills for ornament', kumotunaóksis 'needle, round needle', áótunaa?wa 'she is adorning with quills'. The remaining examples are defective in one or another shape: innía?wa 'he has a father', nitúnnimma?wa 'I had him as father', ónnimmiiway (from //aonnimmiiwayi//) 'he has him as father'; (a)kóópis 'soup', áókopsskaa?wa 'she is making soup'; akksín?i 'bed', nitúkksin?i 'I have a bed';

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átsii?tsis 'mitten', sikaxkotsíi?tsis 'glove'; atokís 'hide, skin', óo?kotokis 'rawhide'; apánii?wa 'butterfly', úm?axkopanii?wa 'it is a big butterfly'.

Examples of this alternation are also found with an accretive nasal: matoí?miiway 'he blames him', matoí?mis 'blame thou him!' (also atoi?mis), nitsíítoi?ma?wa 'I blame him', iitoi?miiway 'he blames him', iitoí?motspa 'we get blamed kitáótoi?mu 'I blame you'; makii?takita 'lose thy temper, become angry!', nitókimma?wa 'I am mad at him'; makúyi 'wolf', úm?axkokuyi'big wolf'; makíínima 'curlew' (the term also means 'scaffold burial, burial lodge'), úm?axkokiinim?a 'big curlew'.

A similar alternation with accretive nasal is found in one word. The forms differ in two respects: the //i// alternant is short, not long, and it occurs with the accretive nasal in additon to the //a// alternant. There is thus a possibility that this is an example of a different alternating series: mamyáa?tsikimi, mimyáa?tsikimi 'magpie', vs. itomyáatsikimiwaa?si 'he turned into a magpie, became a magpie'.

//a// : //i:// : //o://

This alternation and the next differ from the preceding alternation in that the lines between the distributions of the root shapes are somewhat blurred. Moreover, some roots appear to

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lack certain of the expectable forms. Further testing is called for, but it is the writer's strong impression that some shapes of some of the roots have become obsolete, while others have lost some of the distributional characteristics which appear to belong to the class as a whole.

Examples of this alternation are the following: apíita 'sit thou!', apíssini 'sitting', nitsíipi 'I sit, I stay', ìipíi?wa 'he sat, was sitting', istópiita 'sit thou there!', nitáópi, nitóópi 'I am sitting', òopíi?wa 'he sat'; awáyita 'wear thou leggings, put on trousers', nitsíiwa?yi 'I wear pants', ìiwáyi?wa 'he wore leggings, he had on leggings or pants', máákowayita 'put on thy leggings!', òowáyi?wa 'he has on his leggings'; ayíkixtaan?i 'sunshade', iiyíkixtaa?wa 'he is making a sunshade', ooyíkixtaa?tsis 'umbrella', ooyíkixtaan?i 'sunshade', otoyíkixtaan?i 'his sunshade'.

Apparently also belonging here are the following: *amitáá?wa 'dog'--not used today, but such a form was recorded by Umfreville in the late 18th and Catlin in the early 19th centuries, iimitáá?wa 'dog'--the current form of the word, máttsoomitaa?wa 'crazy dog' (society name), sikómitaa?wa 'black dog'; *apisówaaxs 'morning star'--obsolete today, but so given by Grinnell late in the 19th century, iipisówaaxs 'morning star'--the current term, paxtsóópisowaaxs 'false morning star, evening

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star'; apitsóótoyi 'killdeer', iipitsóótoyi 'killdeer', úm?axkopitsootoyi 'big killdeer'; ím?axkìxkinay 'big horn sheep', úm?axkìxkinay 'big horn sheep', miistáksoom?axkixkinay 'mountain sheep'; (a)kániksi 'dry branch', okaníksiu (from Uhlenbeck) 'branch'.

||a|| : ||i:|| : ||oo||

Examples of this alternation are the following: anóótsita 'hunger thou!', anóótsi?wa 'he is hungry', nitsíínootsi 'I am hungry', iinóótsi?wa 'he is hungry', nitóónootsi 'I am hungry', iikóónootsi?wa 'he is very hungry', oonóótsi?wa 'he is hungry'; ìikátaki?wa 'she beads', nooxkóókatakita 'bead thou!', òokátakita 'bead thou!', òokátaksin 'beadwork'; ìitáá?wa 'he made leggings', nitáota 'I am making leggings', áotaa?wa 'he is making leggings', òotáá?wa 'he made leggings', ootááta 'make thou leggings!'; ittakóyii?wa 'he gave him a drink', ittakóósa 'give thou him a drink!', nitóttako?wa 'he gave me a drink', ottakóósa 'give thou him a drink!', nitáakottaki 'I will bring water'; ìi?píínita 'fringe thou it!', nitáo?piinixpa 'I am fringing it'; ìi?tsisíí?wa 'he smoked', áo?tsisii?wa 'he is smoking'; òo?tsisííta 'smoke thou!', òo?tsisíssin 'smoking', nooxkoo?tsisiita 'smoke thou!', nitóo?tsisi 'I smoked', òo?tsisíí?wa 'he smokes'; *a?ksisakoyi 'meat', based on akesaquoin, an early 19th century form given by Gallatin, íi?ksisakoyi 'meat', óo?ksisakoyi 'meat', axpatóo?ksissako?yi

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'sidemeat'.

Group II. The distributions of the shapes of roots belonging to this group are very similar to those of Group I. There are two differences: 1) the ||i:|| shape is never found following personal prefixes; 2) the ||i:|| shape frequently appears in initial position in imperative forms.

||Ø|| : ||i:|| : ||o||

No instances are recorded of the same lexeme containing all the shapes of a root in this group. The following examples all contain the anaphoric preverb ||i:/oSt|| 'with, along, by': tsítskoota 'go thou past, go by!', tsítskixpissi (normalized from Uhlenbeck) 'when he danced by', iixtáóksskaasi?wa 'he ran along', áaakuxtsin?ixkyoo?pa 'we are going to sing for it'.

//Ø// : //i:// : //o://

Many roots have this alternation; the following are illustrative: púmmaata 'buy thou!', púmmaan?i 'buying', iixpúmmaa?wa, óxpummaa?wa 'he bought, buys', nitóxpum?ma, nítuxpum?ma 'I buy, bought'; kíímatsis, iixkíímatsis 'marry thou her!', iixkíími?wa he is married', ooxkíímatsis 'marry thou her', ooxkíím?ssin?i 'marriage of a man', nitóxkiimata?wa, nituxkíímata?wa 'I marry, married her'; kótsis 'give thou to him!', kotáksin?i 'giving', iixkotsííway 'he gave to him', nitóxkota?wa, nítuxkota?wa 'I give to him, gave to him', isskuxkótsiiway 'he

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gives back to him'.

There is a very limited amount of evidence that Group II roots may have, or perhaps once had, //a// as one of their possible initial shapes; this of course relates Group II even more closely to Group I. Two examples were collected: ápssi 'arrow', cf. iixpssíʔwa 'he has an arrow', úmʔaxkuxpssi 'big arrow'; (a)ksipistakyóxkisskaaʔtsis 'willow backrest', cf. issksipistakyóxkisskaaʔtsis 'willow backrest'.

A rather rare alternation has initial /a/ in some initial forms of roots, initial /ii/ in other initial forms of the roots, as against non-initial /ii/ and /i/. The morphophonemic backgrounds of these alternations appear to be //a// vs. //I:// and //a// vs. //i://. Many more examples of each would be desirable, but on the basis of those at hand, it appears that the /a/-shape is found initially in noun and imperative constructions (prefixless forms belonging to other non-indicative modes are lacking), the /ii/-shape occurs following personal prefixes and initially in indicative mode verbal forms lacking a personal prefix, while the /i/ shape appears only following another root. This formulation is made on the basis of examples belonging to both alternations.

//a// : //I://

The following are all the examples collected of this alternation: (a)nááma 'bow, gun', iinaámayiʔwa 'he is armed',

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saxksinááma 'pistol', literally 'short gun'; (a)simímmis 'gossip thou about him!', iisimímmii?wa 'she gossips about her', nitáaaksisimimma?wa 'I will speak ill about him'; (a)ksii?ksáxku?yi, áksii?ksaxku?yi 'cutbank, precipice above a stream bed', úm?axksiksii?ksaxku?yi 'big cutbank'; (a)pákksaa?tsis 'stone hammer', úm?axksipakksaa?tsis 'big stone hammer'; (a)sináá?wa 'Cree', pináápisinaa?wa 'Sioux', literally 'eastern Cree'[1];

[1]The term asináá?wa must have meant 'Assiniboine' at an earlier period. This would explain the curious designation for the Dakota. The Cree and Assiniboine were often allies in late prehistoric and early historic times.

(a)soyín?na 'barrel, keg', óxkotoksiisoyin?na 'jug'; (a)sókaa?siima 'garment, shirt', spiksísokaa?siima 'coat', literally 'thick shirt'; (a)soópaa?tsis 'chair, seat', innuísòòpaa?tsis 'bench', literally 'long seat'; (a)sómyaan 'mat', ità́spiksisomàiau (from Uhlenbeck) 'then they would make a thick mat'; (a)sóókayis 'trunk, suitcase', pinii?tsisookayis 'coulee trunk', traditional name for the mouth of the Marias River; a?sipis 'sinew', isttuxksi?sipis 'thread', literally 'thin sinew'; a?sáán 'red paint', nii?tsi?saan 'Indian paint', literally 'real red paint'.

/|a|/ : /|i:|/

All examples of this alternation are given here.

(a)tsiníksin 'story', atsinikóókita 'tell thou me a story!',

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iitsíniksin 'story', iitsiníki?wa 'he related', nitsíítsinikata?wa 'I told about him'; atsikín 'moccasin, shoe', spísttsikitsikin 'boot'; atsís 'legging, trousers', útsskuitsis 'bluejeans, Levis'.

Some examples of this alternation also appear with an accretive nasal: matsiimó?wa 'it smells good', iikítsiimo?wa 'it is very fragrant'; matsisíí 'pus, matter', ákaitsisii?wa 'it has suppurated, festered'; matápiiks 'people, persons', makápitapiiks 'bad people'.

It is possible that a similar category exists in which the alternating shapes have /a/ and /o/, without an /i/-shape. In this category the initial shape of the root would have initial /a/, from *all*, while the medial shape would have initial /o/, of unknown morphophonemic background.

It is difficult to be certain of the existence of this category because the lack of /i/-shapes might be accidental. On the other hand, the certain existence of /a/ : /i/ alternations, without an accompanying /o/-shape, supports the liklihood of an /a/ : /o/ alternation. It will be recalled that certain "defective" examples were cited in the discussion of three-way alternation (/a/ : /i/ : /o/) in roots. Roots with no attested /i/-shape, such as in atokís 'hide', óo?kotokis 'rawhide', might thus belong to the category of an /a/ : /o/ alternation rather than the alternational category

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to which they were assigned above.

There is one absolutely certain example of /a/ : /o/ alternation with accretive ||m||. This is a verbal root with the meaning 'take with the hand'; all the critical (known) environments are represented: má?toyiiway 'he took him', ma?tóósa 'take thou him!', ma?táksin 'taking with the hand', vs. nitáó?towaa?wa 'I am taking him', miinó?tsita 'do thou not take it!'. Also here might be the "defective" (noun) roots represented in examples already cited above in the discussion of three-way alternations, e.g. makú?yi 'wolf' vs. úm?axkoku?yi 'big wolf'.

Another somewhat similar category contains roots with initial ||Y|| and ||y|| followed by ||o:||. Roots of this category have the sequences ||Yo:|| and ||yo:|| represented facultatively at the phonemic level by /ii/ in non-imperative verbal forms when the root is in absolutely initial position. One example is given of each.

||Y||. iiyí?wa 'he ate, he eats', iiwátsiiway 'he ate him, he eats him' vs. óoyi?wa 'he is eating', òoyíta 'eat!', maanyóóyita 'do thou not eat!', nítsoóyi 'I ate'.

||y||. iksstsímaa?wa 'he chews, he chewed' vs. óksstsimaata 'chew thou!', óksstsimaan 'chewing', nitóksstsima 'I chew'.

354. Isolated alternations in roots. By isolated alternations are meant those found in very few roots. Often a given alter-

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nation of this kind is found in only one root. Some isolated alternations are obligatory, others are facultative. First treated are the obligatory alternations.

Three anaphoric preverbs have, in some of their environments, the kind of alternation described above in section 353 under the heading Group II. It will be recalled that some roots belonging to this group have the shape ||#i:SC|| and ||#C|| in absolutely initial position, while in non-initial position the shape ||o:SC|| is found.

The present preverbs have two additional, apparently competing allomorphs when the preceding element is a personal prefix. In this environment the shapes ||mo:SC|| and ||omo:SC|| are found. ||mo:SC|| and ||omo:SC|| appear to be freely interchangeable, since some doublet examples were collected. Substitutibility has not been tested, however.

Statistically the commonest of the preverbs has the meaning 'with, from, by means of'. Its five alternating shapes are ||i:St||, ||t||, ||mo:St||, ||omo:St||, and ||o:St||. Much less common is a preverb with the meaning 'with, together, in the company of', appearing in the alternating shapes ||i:Sp||, ||p||, ||mo:Sp||, ||omo:Sp|| and ||o:Sp||. Virtually unrepresented in the author's field corpus is a preverb meaning 'as much, so much'. The alternating shapes of this preverb parallel those of the other two: ||i:Sk||, ||k||

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(probably--no example was found), //mo:Sk//, //omo:Sk//, and //o:Sk//. Examples, in the above order, are: ookoowaayi iixtóoʔtòoʔwa 'he came from his house'; tsíssitapiita 'use thou it!'; nàaáyi níʔuxtsikawɛ̀iʔpiksiiʔpa 'I opened it with my mouth'; kíʔuxtsikimʔmuxpowaaʔwa 'I have taken pity on you (pl)'; nooxkínʔsstsis nóʔuxtsiksisskowaaʔwa 'I bumped him with my elbow'; óʔuxtsipiixpi 'her reason for entering'; tsimáxta ásskuxtooʔtooxpiʔwaxta 'where could it come from?'; istáóka'tsi káxkuxtsitsyɛipsstaki 'stakes you can stretch hides with'. iixpopákiiʔwa 'he moved camp with (them)'; paxkayíta 'go thou home with (it)!'; níʔuxpapiʔyixpa, nóʔuxpapiʔyixpa 'my sibling'; táaakuxpitsipikkyaayaaʔwa 'I will pound them together'. ánnyayi iixkitsínikaaʔsiʔwa 'so much for the story'; nímoxksksinixpinan (from Uhlenbeck) 'we learned it all'; ómoxksksinooxpi (from Uhlenbeck) 'so they know'; ánnimaie nimátoxksksinoau (from Uhlenbeck) 'that is what I also know about him'.

A /p/ : /pp/ alternation is found in two morphemes; the /p/-shape occurs in the initial stem, the /pp/-shape in the non-initial: kiipó 'ten' vs. kiipíppo 'hundred', literally 'ten tens'; kipitáaki 'old woman' vs. nitáaaksippitaaki 'I will become an old woman'. Additional alternations are found in these roots. Note the vowel alternation ||ii|| or ||i:|| : ||I|| in 'ten', ||i|| : ||I|| in 'old woman'; this alternation is immediately before the consonants in question here. Moreover, the non-initial shapes of both roots lack the /k/ found in the initial shape of the root.

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Very similar is the case of a stem with the meaning 'snake': pitsíiksiina 'snake' vs. úm?axksìsttsiiksiina 'rattle snake'. The initial stem has /t/ to which corresponds /tt/ in the non-initial shape, before which is found an ||i|| : ||I|| alternation. Note also the absence of /p/ in the non-initial shape of the stem.

An additional pair of stems has the same kinds of consonant alternations, but it is impossible to prove that the same vowel alternation is, or was, found in the stems, These are pinoká?wa 'elk' (North Piegan) vs. siksínnoka 'black elk'; ponopáni (from Uhlenbeck) 'quiver with arrows' vs. únnopànists (from Uhlenbeck) 'his quiver with arrows'. Both have an /n/ in the initial shape of the stem corresponding to an /nn/ in the non-initial shape, both have an initial /p/ which is missing in the non-initial shape. 'elk' could have an ||i|| : ||I|| alternation before the consonant in question. Additional remarks about this lexeme appear below.

One additional stem was encountered in which the initial shape of the stem has an initial /p/ which is not found in the non-initial form of the stem. This stem has the meaning 'needled evergreen': paxtóka 'pine or spruce tree' vs. óo?kaxtoka 'green (literally 'raw') pine tree'. The initial shape was also collected with an initial /a/: apaxtóka.

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Alternation of initial /m/ and /p/. A scattering of examples has a facultative alternation of initial /m/ and /p/. Part of these are clearly obsolete (with the /m/ form generalized), and one living example of the alternation is said by informants to be dialectal.

Most occurrent examples of this alternation are in the prohibitive prefix main-. Vowel alternations also occur in this prefix, and these are discussed later. Examples of the initial alternation are: miin?axkániis vs. piin?axkániis 'do thou not puncture him, pierce him!'. Both alternants are completely acceptable and are of roughly equal frequency, although a given speaker tends to use one rather than the others.

The stem ||paataak|| 'potato, Irish potato' has the same alternation, but in this case the /p/ form is recognized as South Piegan, the /m/ form as North Piegan: paatááki, matááki. The word appears to be a loan from Canadian French, cf. pataque 'potato'.

Examples of this alternation are also found in early word lists, cf. F. V. Hayden's piksikáci 'teal duck' (Hayden, page 265). Hayden also gives this form with /m/ on the same page, glossed 'a kind of duck'. Only mii?ksikátsi occurs today. A curiously similar instance appears in the Schoolcraft (Moncrovie) Blackfoot list, where pa ca psé is glossed 'bad', ma chap sé

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is glossed 'ugly'. (The exact page of each of the Schoolcraft forms was not noted at the time the entire list was copied off by the writer.) The current makáa?pssi(?wa) means 'he is bad, he is foul', with 'ugly' as a probable possible translation in some contexts.[1]

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[1]This interesting obsolescent feature is reminiscent of Crow, where /w/ has allophones [m] and [b] in free variation in initial position; see Dorothea V. Kaschube, Structural Elements of the Language of the Crow Indians of Montana, University of Colorado Press, December, 1967, page 8. If Crow (or ancestral Crow-Hidatsa) is the source of this alternation, then some linguistic support is present for Hyde's hypothesis that the Blackfeet were once earth-lodge dwellers together with the Cheyenne, Arapaho, Crow-Hidatsa, Mandan, and Arikara. See George E. Hyde, The Early Blackfeet and their Neighbors, Denver, 1933.

Vowel alternations in roots and stems. Occasional instances are found of (presumed) ||a|| and ||o|| in the environment of a following high front morphophonemic vowel represented by /i/. The same environments also sometimes have the high front vowel represented by /a/ or /o/. Both facultative and obligatory alternations occur.

Two doublet pairs were collected in which the representation of ||a|| by /i/ is said by native speakers to be a dialectal characteristic. These are South Piegan sɛ́itsyóxko?s, North Piegan siitsyóxko?s 'dish'; South Piegan nitɛ́ɛ́saitam?i, North Piegan nitɛ́ɛ́siitam?i "I am breathing'. Another doublet was

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collected in which //ai|| or ||aI|| is represented in one instance by /ii/, in the other by /aa/: sii?kɛ́ɛ́n, saa?kɛ́ɛ́n 'quilt, blanket, coverlet'. This set is South Piegan. F. V. Hayden collected this lexeme in the /aa/ form over one hundred years ago: sá-a-kan 'bed' (Hayden, page 266). Another doublet pair is níípumaki, náipumaki 'chicadee' (Penthestea Sp.). The first form (níípumaki) was collected numerous times by the writer and by both Uhlenbeck and de Josselin de Jong. The second form (náipumaki) was collected once by de Josselin de Jong (Blackfoot Texts p. 25). His informant was a South Piegan.

Root-final ||a|| appears obligatorily as /i/ in two examples: ixkitsíkiikopoto 'seventeen', cf. ixkitsíka 'seven'; osáókaapiiks 'their spines', cf. nisáókspa 'my spine'.

The representation of ||o|| by /i/ is found in a fairly large number of examples, all of which also occur in a doublet form with one of the usual representations of ||o||. In one instance a North vs. South Piegan dialectal opposition may be involved. Examples are: soyíikayi, siyíikayi 'mink'; áwoyiinay, áwiyiinay 'crossed guns'; nóóksska, niókssska 'three'; innáápiinowan (this form was collected from Margaret Many Guns and might be North Piegan), innáápiiniwan 'candy'; ɛ́ɛ́ssiksikomi, ɛ́ɛ́ssiksikimi 'coffee'; matsówaa?pssi?wa, matsíwaa?pssi?wa 'he, she is handsome'; atsówatssko?wa, atsíwatssko?wa 'forest', saatsóópaa?tsis, saatsíipaa?tsis 'gumpowder'; issokɛ́i?piyi?wa

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'he stopped', nítssikɛi?pi?yi 'I stopped'; sunó?iskipis, sinó?iskipis 'kiss thou him, her!'; nitáaaksikstonummowaa?wa, nitáaaksikstonimmowaa?wa 'I am going to cut his forelock (horse)'; ésstsipuxtoomay, ésstsipixtoomay 'he brings it, he is bringing it'.

A special instance of this alternation is South Piegan ponoká?wa, North Piegan pinoka?wa 'elk'. As noted above in the discussion of initial vs. medial shapes of roots, the North Piegan form apparently correctly reflects the true morphophonemic shape of the root. The South Piegan form thus has /o/ to represent a morphophonemic //i// or //I//.

One lexeme was encountered in which one syllable was correct with /u/, /i/, and /a/: isttsúmo?kaan, isttsímo?kaan, isttsámo?kaan 'cap, hat'. What the vowel is at the morphophonemic level is unknown.

Parallel to the obligatory alternations of /a/ and /i/ are several instances of obligatory alternation of /o/ and /i/. These are: niisíikopoto 'fourteen', cf. nííso 'four'; kyaayiisisaaxtaay 'Marias River' (literally 'Bear River'), kyaayiimi?wa 'he has, he owns a bear', cf. kyaayo 'bear'.

Other alternations. One example was collected of a facultative root-medial alternation of /oo/ with /owa/. The morphophonemic form is apparently //owa//: nitóónootsi, nitóónowatsi 'I am hungry'. This doublet was collected in 1960 from Tom Many Guns. Pos-

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sibly other instances of /oo/ would be accepted by older speakers with the /oo/ replaced by a semivowel sequence, but such testing has not been done. A similar instance is given below in the description of morphophonemics in affixes.

Several examples were encountered of morphophonemic vowels represented by /ø/ at the phonemic level. As usual, some of these instances are facultative, others obligatory.

A facultative example is sapátsikuy, spátsikuy 'sand'.

Obligatory examples all have elision of //I// following ||oo||: innookɛ́ístamika 'bull elk', which contains //InnooIka// 'long legs' as the first member of the compound; ksiistóókomi 'warm water', from //kI:tooIkomi// ; níkksyòokoan 'my kinsman, my intimate friend', from ||nIkkIooIkoana|| .

355. Alternations in affixal morphemes.

Intercalated /t/. The personal prefixes //ni// 'I, we', //ki// 'thou, you', ||o|| 'he, she, it, they' have the respective shapes /nit/ (/nits/), /kit/ (/kits/), /ot/ (/ots/) when followed by a vowel, including movable ||I||. This /t/, in accordance with classical Algonkianist usage, is termed intercalated /t/. Intercalated /t/ is not present when the stem with which the prefix appears is a dependent noun, and when certain anaphoric and modal affixes follow the personal prefix directly. Prefixes of this kind must be identified in each case. Representative

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examples are the following: nitsí?nita?wa 'I killed him', from ||niI?nita:wa|| ; nitáá?waxkaaxpinnaan 'we walked, moved on foot', from ||niaawaSkaaSpinnaana|| ; kitsín?ixki 'thou didst sing', from ||kiIniSki|| ; kitóómitaamowaaweiks 'your dogs', from ||kio:mitaamowaawaikI|| ; otsipíssi 'when, that he (3rd) entered', from ||oIpIISsi|| ; otsítanikka 'he (4th) told him (3rd)', from ||oita:nItka|| ; otuxkíímeeksyayi 'his (4th) wives', from ||oo:SkiimaaikIayi|| ; otsikóo?puxsyaa?wa 'that they (3rd) fear', from ||oIkoo?poSsiYaawa|| .

Elision of the vowel of personal prefixes. When the personal prefixes appear with vowel-initial elements which do not require the intercalated /t/, the vowel of the personal prefix is elided. According to this rule, the shapes of the prefixes of the first and second persons are respectively /n/ and /k/, while that of the third and fourth persons has the shape /Ø/. Examples are: noo?tokáán 'my head', from ||nioo?tookaani|| ; naanistéxpii?yi 'how I am dancing, as I am dancing', from ||niaanistaaiSpiiyi|| ; kooxkówaa?wa 'your son', from ||ko:Skowaawawa|| káxkuxtokoopsskaaxpixka 'let thou make broth with them', from (probably) ||kia:SkoStokoopISkaaSpiSka|| ; otokís 'his hide', from ||ootokisi|| .

Elision of suffix-initial vowels. This type of elision is frequent, but unfortunately not entirely predictable.

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A suffix-initial ||i|| is usually elided following a long morpheme-final back vowel. This elision is statistically rather frequent due to its appearance in the inflection of transitive inanimate stems in ||oo||; with the verbal affixes which appear in the inflection of these stems the rule is completely productive. Examples are nítsii?katoo?pa 'I kicked it', from ||niIsii?katooi?pa|| , cf. nitáxkàniI?pa 'I pierced it', in which the stem is ||aSkani|| ; sayíi?katoomay 'he kicked it', from ||sii?katoomayi|| with initial change, cf. axkániimay, 'he pierced it', from ||aSkaniimayi|| ; sii?katóóta 'kick thou it!', from ||sii?katooita|| , cf. axkániita 'pierce thou it!', from ||aSkaniita|| . That these suffixes really contain initial ||i||, and are not consonant-initial suffixes (with the vowel being movable ||I||) is shown by the presence of the vowel following stems which end in ||i|| or ||I||, cf. the examples cited above for comparison.

Additional examples will be given. With the final ||ipi|| (either or both vowels might be ||I||), 'bring' nit áúx pumàápyooka 'he is making me buy', from ||niaao:Spomaaipio:ka|| , cf. nitéésimìipyooka 'he is giving me drinks' (i.e.'bringing me to drink'), from ||niaaIsimiipio:ka|| , containing the stem ||Isimi|| 'drink'. The final ||ipit|| forms intransitive stems with the meaning 'have the habit or custom of

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doing --'[1]. An example with this suffix is sokúttàapitsi?wa

[1]Bloomfield designates the cognate structure in Menomini "verbs of addiction"; see The Menomini Language 15.16-17.

'he is always spitting, he is a spitter', cf. sokúttaa?wa 'he spits' and iiksíkimmapiipitsi?wa 'he is always very kind, he is a very kind person', based on the stem ||kimmapi|| . By accident, no examples were collected of either of these suffixes following ||oo||. A pronominal example is annóoksi 'those', the animate plural form of the stem ||anno|| ; the full morphophonemic form is ||annóikI|| . The parallel inanimate form, by contrast, does not have elision of ||i||: annóoistsi, from ||annooisti|| . Nominal and denominative examples are nitóómitaam?a 'my dog', from ||nio:mitaaima|| , cf. isskáo?toyiimi?wa 'he has a lot of hay', from ||ISka?otoyiimiwa|| , based on ||otoyi|| 'grass, hay', cf. matoyís 'grass, hay'.

Vowel assimilation in affixes. A variety of examples was collected in which front morphophonemic vowels were represented by phonemic back vowels, and the reverse. Competing doublets were collected in some instances, in others the alternations are obligatory.

Probably the most frequent facultative interchange of /i/ and /a/ is in the prohibitive prefix, whose morphophonemic shape is ||main|| or ||maIn||. (It has already been noted that this ||m|| may appear as either /m/ or /p/, see the beginning of the

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present section.) The phonemic forms of this prefix are /miin/, /main/, and /maan/, as well as /piin/. An example in which all varieties occurred is miinóxkattsyooxkaniita, piinóxkattsyooxkaniita, mainóxkattsyooxkaniita, maanóxkattsyooxkaniita 'do thou not speak so loudly!'.

In section 353 above, in the discussion of various kinds of initial change, the presumed morphophonemic sequence /|nayI:|/ was described. It will be recalled that this sequence appears variously as /nái/ and /náá/, while "unchanged" forms of the roots in question have /nii/. As examples of initial change these are unusual in that the "changed" shapes have an accretive nasal, a combination unknown elsewhere. The alternating shapes are identical to those found in the series presently under consideration, but unlike these, the section 353 alternating shapes are only partially interchangeable. It is thus possible that the above alternation is really <u>not</u> an example of initial change, but a variety of the present alternation, with the slight difference that with verbal roots the alternating shapes have come to appear in predictable environments. If initial change is excluded as a possible explanation, however, a major new problem arises. This is the identity of the implied prefix /|nai|/, which would represent a unique type in Blackfoot morphology.

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Other examples of assimilation of vowels appear in suffixes. The suffix ||is|| (or ||Is||) marks the transitive animate imperative; following stems which end in ||o|| this suffix <u>always</u> has the shape /os/: kóónoosa 'find thou him!', from ||iSkoonoisa|| or ||iSkoonoIsa|| ; máaki?toosa 'saddle thou him!', from || yaaki?toisa || with accretive ||m||. With these examples compare isstááxkaisa 'suckle thou him!', axkániisa 'pierce thou him!'. The suffix ||im|| forms "possessed themes" from noun stems. These themes appear in both verb and noun constructs. When the suffix follows a stem ending in ||o|| or ||a||, ||i|| is <u>usually</u> assimilated to the preceding vowel: áakiikowaami?wa 'he has a girl (friend)', from || aakiikowaimiwa || , cf. àakííkoan?a 'girl'; ixkyááyoomi?wa 'he has, he owns a bear' from ||iSkyaayoimiwa || , cf. kyááyo 'bear'. ixkyááyiimi?wa was also collected.

Consonant gemination in affixes. Certain instances were encountered in which suffixes containing a single consonant appear at the phonemic level with the consonant doubled. No conditioning has been discovered for this gemination. The largest number of examples contain the ||im|| allomorph of the relator for transitive inanimate verbal constructions. A group of examples with gemination is given first, followed by a group in which the relator has a single consonant. issksin<u>imm</u>ay

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'he knew it'; ákainimmay 'he already saw it'; ɛ́ɛ́paiksimmay 'he is pounding it'; sooyinímmay 'she fringed it'; ɛ́ɛ́piksimmay 'he is pounding it, striking it'; kaawéi?piksimmay 'he opened it'; áapiksimmay 'he threw it'. ásstunnimay 'he is afraid of it'; isskímay 'he broke it with his foot'; ɛ́ssinnimay 'he is breaking it by hand'; issíkiimay 'he broke it'; ɛ́ɛ́kàa?kiimay 'he is chopping it'; áo?tsimay 'he is taking it'; ɛ́ɛ́sìnaimay 'he is drawing it, making a picture of it'; sáápsskaimay 'she dressed it'. Similar examples are attested for the suffix ||im||, used, as already noted, to form verb themes from nouns: áótaa?simmiiway 'he has him for a beast of burden, for a horse'; únnimmiiway 'he had him for father'. Several examples of this type of gemination also occurred with the suffix ||ta||, which marks the singular imperative of intransitive verbs; all instances occur with the same stem, ||aapikI||, 'cause to move in the air', and all were supplied by Mary Ground in 1964. By accident, no examples of the parallel plural form were collected from any informant. Representative examples are: aapíksistta 'throw, toss thou (something)!'; spáápiksistta 'throw, toss thou (something) upwards!'; nooxksípaxpàapiksistta 'flap thou, shake thou (something flexible, as fabric)!'.

Alternations in particular affixes.

In two suffixal morphemes, ||S|| may appear facultatively at

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the phonemic level as /ʔ/ when a back vowel precedes. The morphemes in which this alternation was encountered are the transitive (inanimate) relator ‖iSp‖ and the conjunctive desinence ‖Ss‖. Informants recognize alternants with /x/ and /ʔ/ as equivalent, and the same speaker may use both on occasion. Examples are the doublets nítssksiniixpa, nítssksiniiʔpa 'I know it', and nitsikóoʔpuxsi, nitsikóoʔpoʔsi 'that, when I feared'.

The suffix ‖o:k‖, which marks the reverse paradigms of the transitive animate verb, has the shape ‖k‖ in the environment of transitive suffixes which terminate in ‖t‖. The resultant sequence ‖tk‖ appears as /kk/ at the phonemic level: nítsskunaakakka 'he shot me', from ‖niISkonaatka‖. When ‖I‖ precedes ‖t‖ in this environment, no /s/ is generated (see section 342.3 above): nitáánikkyaaʔwa 'they told me', from ‖nia:nItkiYaawa‖. With these forms compare nítssammoka 'he looked at me', from ‖niISsammo:ka‖; nooxksipásskookita 'please sing while I dance', from ‖nooSkIpaISkoo:kita‖; kitááʔwaxkànyooka 'he is piercing you, doctoring you by puncturing', from ‖kiaawaSkanio:ka‖.

The suffix ‖waawa‖, pluralizer for the prefix ‖ki‖ 'you', has the shape /owaawa/ when a consonant-final element precedes: kitááʔwaxkànyaakixpowaaʔwa 'you are piercing, you are sewing';

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kitánikkowaa?wa 'he told you'; kitóómitaamowaa?wa 'your dog'; with the foregoing compare kitánistawaa?wa 'you told him'. Analogous is the suffix ||mo||, which forms transitive animate stems with the meaning 'do —— for one, do —— in someone else's place'. Following a stem ending in a consonant this suffix has the shape /omo/: nitsínnootomowaa?wa 'I am butchering in his place'; payísomoyiiway 'she patched (moccasins) for her'; soomóo?moyiiway 'she got water, brought water in her place' (stem ||so:mo||). With these compare: nitsíísinamowaa?wa 'I am writing to him' (stem ||si:na||); nitsípokɛi?mowaa?wa 'I am fanning him, fanning for him' (stem ||poka?i||).

The suffix ||nnoon||, pluralizer for inclusive first person plural noun constructions was collected once in the shape /nnawan/. The usual shape is /nnoon/. The example in which the /nnawan/ shape occurred is koxkátsinnawanists 'our legs'. This word is not from the author's field notes, but was supplied by Dr. Mary R. Haas, who collected it at Edmonton, Alberta, Canada, during the summer of 1967. The informant was Dave Melting Tallow, a North Piegan. It is probable that the suffix in this shape reflects the true morphophonemc shape, with /nnoon/ being a contraction of the longer form. Recall that the author collected a similar alternation in a verbal root: nitóónootsi: nitóónowatsi 'I am hungry'.

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356. Alternations restricted to a particular form-class.

Stressed vowels in demonstrative and interrogative pronoun constructions are always long, even though the same vowel is short when unstressed. That the vowel in these environments has indeed been lengthened is also shown by the fact that affixal vowels which are long in these constructions are short in all other occurrences. In the examples to follow are found the themes ||amo-|| 'this', ||anno-|| 'this', ||ann-|| 'that', and ||om-|| 'that'. Affixes are the gender-number suffixes ||a||, ||i||, ||ikI|| (with elision of ||i||) and the deictic suffixes ||-ma||, ||-ya||, ||-ka||, and ||-Ska||. Recall also that stressed vowels before ||S|| are written short, though they are structurally long, and that morphophonemic long vowels are always shortened before a geminate cluster. Examples:

demonstrative pronouns	interrogative pronouns
amóo, ʔáámuy amóóksi, ʔáámoksi	tsimáa 'which?'
annóxka, án?nuxka	tayáa 'which'
annááka, ánnaka annáxka, án?naxka	takáa 'who?'
omáa, ʔóómaka omíi, ʔóómika	tsixkáa 'when?'

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CHAPTER II

400. GRAMMAR

The balance of this study will be devoted to a description of the morphology of Blackfoot. A description of the syntax of this language will not be undertaken at this time; this important part of the grammar will be done at a later date.

In the discussion to follow, roots, stems, themes, and affixes will be cited in morphophonemic transcription; words will be cited in phonemic transcription.

410. Blackfoot has two major and one minor word classes. In most cases, class membership is overt only at the level of the word. The major classes are substantives (including nouns and pronouns) and verbs. All members of these classes are constructions, that is, composite forms consisting of a theme and at least one affix. Membership in both classes is defined both morphologically and syntactically.

411. After all substantives and verbs have been isolated from a Blackfoot corpus there remains a relatively small residue of forms which are termed particles. This is the third word class of the language. Definition of this class is by the negative criterion of non-participation in derivation and inflection. Particles have a wide variety of syntactic functions, but most are peripheral to the grammatical core. Many are parenthetics: interjections, greetings, certain

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exhortations and address forms, words for 'yes' and 'no', expressive equivalents of English 'now then', 'well (then)', 'so'. Also here are a small group of interrogative words. As particles, moreover, appear certain elements borrowed from the other two word classes. Particles of this type may be structurally either themes or constructions, but it is important to note that they are borrowed at random and as units, sometimes with quite different meaning. The vocative forms of independent nouns are an example of noun themes in particle function, while examples of constructions in this function are ánni 'like', which is the inanimate singular of a demonstrative pronoun meaning 'this' as a pronoun, and takáa 'for, because', which is the animate singular form of an interrogative pronoun meaning 'which one?'

420. Below the level of the word, the universal structural unit is the theme. A theme is any inflectible form, or any uninflected form which may appear, as such, as a word. Themes are composed of stems, with or without affixes. Themes which contain at least one affix are derived themes.

421. A stem is a morpheme or combination of morphemes which may appear as the head of a thematic construct. Conversely, an affix is a morphological element which never serves as head in a thematic construct. Classified according to the morphological constructions (words) in which they are head, stems are nominal, pronominal, verbal, and particle.

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422. Many simple stems appear in several allomorphs, depending on their position in the theme. When allomorphy of this kind occurs, one allomorph is found, as a rule, in construct-initial position, while non-initial occurrence requires a different allomorph or allomorphs, depending on the particular stem and its immediately preceding environment. Most widespread is a dual allomorphy in which one allomorph is construct-initial, the other construct-medial following another stem. In some cases the differences in shape between the allomorphs are predictable (see sections 351 through 353); in other cases the difference is unpredictable and the allomorphs may differ so much as to be suppletive. By long-established usage the allomorph which appears in initial position is called an <u>initial stem</u>, the allomorph which must be preceded by an element not an affix, a <u>medial stem</u>. The foregoing will be made clear by citation of representative examples. In iimitééks 'dogs', the initial stem iimitaa- 'dog' is found. In ponokáómiteeks 'horses', the medial stem o:mitaa- 'dog' is found. In aksstóótaaʔwa 'count thou them!' is found the initial stem akI- 'count'. A second initial stem is found in iksstóómyaaʔwa 'he counted them'; the shape here is ikI-. In nitáóksstoomyaaʔwa 'I am counting them' is found the medial stem okI-.

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423. The simplest stem consists of a single root morpheme. Nominal and especially verbal roots are exceedingly numerous. Pronominal roots are few. Nominal and verbal roots appear widely in both nominal and verbal themes, but pronominal roots appear frequently only in pronominal themes; pronominal roots also appear in some verbal themes. An important subclass of verbal roots is here called attributive roots. With one of these roots as head, the theme is always a stative verb theme. These roots also appear with great frequency in attributive function in noun themes and in other verb themes. Particle roots, the smallest group of roots, are unique in that they do not participate in derived and inflected constructions at all. They are thus simultaneously roots, stems, themes, and words.

430. Affixes are of two quite distinct types. Belonging to the one group are morphemes which fulfill relational functions between words, that is, at the syntactic level. Affixes of this kind are phonologically part of the word with which they appear, and, moreover, they are morphologically also often bound to the construction in which they appear. For example, the anaphoric preverb follow the personal prefixes; the relative suffixes follow the completed construction. The reference of these elements is nevertheless outside their own construction to another independent word in the syntactic unit.

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431. Belonging to the other type are affixes with morphological function. Derivational affixes appear with stems to form inflectible themes. In most instances these affixes have purely grammatical meaning, but in others they contribute lexical meaning to the construction as well. Examples of derivational suffixes of this kind are the so-called instrumental suffixes with which are formed transitive verbal themes. Inflectional affixes convert themes into words.

440. Before presenting a general characterization of the formation and inflection of the various kinds of themes it will be useful to outline briefly the grammatical categories indexed in the inflectional systems of the language.

441. Universal categories in the inflection of all themes are number, gender, and person. Usually these are overtly marked, but in a few cases one or the other is implicit. There are two numbers, singular and plural, and two genders, animate and inanimate. Gender is largely natural, although the occurrence of some forms which depart from this norm makes the gender system ultimately grammatical. There are four persons: first, second, third, and fourth, or subordinate. In the first person plural, inclusive and exclusive forms are distinguished in certain constructions. Inclusive forms include at least one addressee, exclusive forms exclude all addressees. Third and fourth persons correspond to the third person of Indo-European languages. The distinction is

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almost wholly grammatical, although the system affords a useful means for distinguishing as to their relative importance persons who are neither speaker nor addressee. This usefulness is at times attenuated by unpredictable shifts of focus which advance the subordinate person to the rank of third person.

442. Number, Gender, and person are not the only features found in Blackfoot inflection. Some themes are inflected for other features as well, some obligatory, some facultative.

450. Noun themes are all either <u>independent</u> or <u>dependent</u>. These themes contrast in a number of structural ways. For example, dependent themes are obligatorily inflected for possession. Inflection of independent themes for possession, while possible, is optional. Again, the semantic reference of dependent themes is almost entirely to inalienable entities: parts of the body, members of the kin circle, and the most intimate of personal property and tools. Independent themes refer to all other entities of the physical and spiritual world, which, for the most part, occur independent of human ownership or possession. There are indicators in most dependent themes which mark them as dependent, but the difference between the two categories is completely overt only when the theme appears in a construction.

451. All noun themes are of implicit animate or inanimate gender. For example, the themes miin- 'berry', and mI:tis-

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'tree' are implicitly inanimate and animate respectively. But with the meaning 'stick', mI:tis- is implicitly inanimate. Expectably animate are themes whose reference is to living creatures capable of independent locomotion and ghosts and supernatural beings, including heavenly bodies such as the sun, the planets, and stars. The gender of themes referring to vegetable life and lifeless objects, including parts of living creatures, is unpredictable.

452. With independent and dependent themes appear inflectional suffixes which simultaneously index gender, number, person, and specificity. The latter term is used here to designate the morphological elements by which are indexed a specific versus a general or non-specific occurrence of a referend. This feature of Blackfoot grammar can be roughly equated with English definite and indefinite articles. Inanimate themes appear with third person suffixes only, but animate themes take suffixes of both third and subordinate person. Some of the contrasts which the inflectional system would permit in theory are neutralized by the occurrence of homophonous morphs among the inflectional morphemes. Contrast is nevertheless often preserved in accompanying forms, which may be overtly linked by cross-reference of one or another kind.

453. Besides the obligatory inflection of the noun theme for the above categories, certain optional inflections also occur.

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These include inflection for four degrees of spatial/temporal proximity and for address. The semantic reference of the suffixes of spatial/temporal proximity is not entirely clear, but the meaning seems to vary from close to very remote location with respect to a point of reference.

460. Four different types of pronoun theme are found: subject, demonstrative, interrogative, and indefinite. These types are defined both by their morphology and their syntax.

461. There are seven personal pronoun constructions, all built on a common theme. Personal affixes are added to this theme exactly as to dependent noun themes, i.e., without intercalated-||t||. There is obligatory inflection for animate gender, for both numbers, and for the highest three persons. Inclusive and exclusive first person plural are also distinguished in these pronouns.

The presence of a personal pronoun in a predication is almost always redundant, since the verb almost always contains corresponding personal affixes. For this reason it appears that the meaning of personal pronouns is somewhat more emphatic than in English. An adequate translation of the subject pronouns might thus be 'I myself', 'you yourself', etc.

Rare examples are also on record which seem to have truly emphatic inflection of these themes. With these affixes the meaning is apparently 'I', 'me', etc.

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462. The demonstrative pronouns are by far the most frequent in occurrence of all the pronouns. Scarcely any predication is found which does not include some form of one of these pronouns. Demonstrative pronoun themes are inflected obligatorily for gender, number, and person. As with nouns, these categories are simultaneously indexed by a single inflectional suffix. Inflection for person, as with nouns, does not include first and second person.

Besides the obligatory inflections, demonstrative pronouns may be optionally inflected for spatial/temporal proximity.

463. There is only one interrogative pronoun theme in the language. The inflection of this theme is quite similar to that of the demonstrative pronouns. The usual obligatory inflection for gender and number is found, with personal inflection restricted to third and fourth persons. In contrast with the demonstrative pronouns, this theme appears to have obligatory inflection for spatial/temporal proximity.

464. There is also only one certain indefinite pronoun theme, inflected for the same obligatory categories as the demonstrative pronoun themes. This pronoun never has inflection for spatial/temporal proximity.

470. Derivation and inflection of verbal themes is the most complex area of the morphology of the language. All verb themes are either active or stative. Active themes are either

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intransitive, with the gender of the subject generally implicit, or transitive, with the gender of the object usually overtly marked both in the theme and in the inflectional affixes; the gender of the subject, on the other hand, is implicit in transitive themes.

471. Many different types of intransitive themes, including derivatives from transitive types, are found. A notable type of derived theme based on transitive themes is the pseudo-intransitive; constructions based on these themes seldom occur with a substantival complement (object), although a goal is always implied. Pseudo-intransitive themes have meanings such as 'burn (inanimate things)', 'brand (animate things)'. Even themes which are not derivationally pseudo-intransitive seem to have this kind of meaning when the verbal stem references the performance of an act which has effects on objects or individuals.

472 . Transitive themes generally appear in pairs, one when the referenced object is animate, the other when the object is inanimate. The former are termed transitive animate themes, the latter, transitive inanimate themes. The system of complementary pairs is not universal, however, for there are several themes which are of indifferent gender, and there are instances when only one of a presumed pair occurs. In some cases these gaps are explainable in terms of the meaning of the stem.

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For example, a transitive inanimate theme parallel to (transitive animate)-Iʔnit- 'kill one' was never encountered.

473 . Numerous suffixes appear in the derivation of transitive themes; several of these are probably no longer productive. Unique among the suffixes used to form transitive themes are those termed instrumental suffixes. Alone among all the derivational affixes of the language, these contribute both lexical and class meaning to the theme. Instrumental suffixes specify the means by which the verbal action is performed. Usually the two themes are formed by suffixes of different shape, but in some cases the suffix, and consequently the resultant theme, are identical. Suffixes of this kind indicate action performed by the mouth or teeth, by the hands, by the feet or body, by blade or cutting edge, and by heat. Analogous in use to the instrumental suffixes is a pair of suffixes which form themes which indicate that the emotions of the subject are involved in the performance of the verbal action.

480. Inflection of verbal themes is generally quite similar to the inflection of substantive themes, in particular nouns. For example, affixes marking person, gender, and number are the same, and the affixes appear in the same relative position in the completed construction.

481. All verbal themes are inflected in two complexes which are called orders. These orders, which are defined morphologically

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as well as syntactically, are the independent and the dependent.

482. Each of the orders is inflected in one or more modes, which are marked in each case by the presence (or by the systematic absence in one case) of a modal suffix.

483. Modes of the independent order are the indicative, the negative-interrogative, the historical, and the imperative.

483.1 The indicative mode is the mode of basically neutral statement. This mode lacks a modal suffix in most persons. Due to the fact that preverbs with modal meaning may be present in indicative mode constructions, the latter have a wide range of meanings which in some cases even duplicate the meanings of other independent or dependent modes. So, for example, the presence of a negative or interrogative preverb in an indicative mode construction makes that construction as clearly interrogative or negative in force as constructions which belong to the negative/interrogative mode. Likewise, a preverb with dependent meaning can make an independent indicative construction the virtual equivalent of a construction belonging to the conjunctive mode of the dependent order. One striking result of these flexible resources is that indicative mode forms far outnumber forms belonging to other modes. Another is that virtual equivalents belonging to different modes are employed in the stylistics of the language. This latter area has scarcely been considered, and it is very likely

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that careful analysis would reveal wide stylistic exploitation of the various combinational possibilities of modal preverbs and modal suffixes.

483.2 The negative/interrogative is so designated because forms with only this suffix are of ambiguous meaning: they can have either negative or interrogative force. Clear differentiation of negative or interrogative meaning is accomplished only by the additional presence in the construction of a negative or interrogative preverb.

483.3 The historical mode is encountered only in mythical narratives. It is used in making purportedly factual assertions about the remote past, about which the speaker has only heard. Paradigms of this mode are defective in that only third and fourth persons are represented.

483.4 The imperative mode is the mode of direct command. Forms in this mode never have a marked subject, but the latter is always implicitly second person. This mode is also unique in that there is no modal suffix.

484. The dependent order contains the conjunctive, relative conjunctive, subjunctive, and unreal modes.

484.1 The conjunctive mode is the equivalent in dependent predications of the indicative mode in independent predications. Verbal forms in this mode are the semantic equivalents of

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English verbs in dependent clauses introduced by such conjunctions as because, for, since, while, etc. The role of preverbs in conjunctive constructions, while not so important as in the independent indicative, is still great. For example, the negative conjunctive is formed by a preverb alone.

484.2 The relative conjunctive mode has great morphological resemblance to the conjunctive mode, though it is marked by its own modal suffix. As is implied in the designation of this mode, relative conjunctive forms have function and meaning similar to that of certain English relative clauses, either pronominal or adverbial: 'which I bought', 'what he says', 'where we went', 'how they feel', etc.

484.3 The subjunctive is the mode of indefinite time. Verbal forms in the subjunctive are the equivalents of English dependent clauses introduced by the conjunctions <u>if</u>, <u>when</u>, and <u>whenever</u>. Any of these meanings may be correct for constructions with the modal suffix alone; only the presence of specific modal preverbs in the construction makes one or the other meaning specific.

The subjunctive mode is opposed to all the other modes by a number of structural differences. Personal prefixes never appear with this mode, with the practical result that initial change is often found in subjunctive forms. The modal sign appears in a large number of allomorphs, and the position of this

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sign is always final in its construction in all paradigmatic forms--a situation found in no other mode.

484.4 The unreal mode is found in the apodosis of conditional sentences. It expresses the action or state which would result if the contrary-to-fact statement of the protasis should happen. Most often such forms are translated would, could, should, might.

The unreal mode is the only dependent mode which may appear in an independent clause, and as such it is the equivalent, in its own type of sentence, of the indicative mode of the independent order. It is thus not surprising that there are also close structural relationships with the indicative mode. For instance, fourth person singular is marked in intransitive constructions by the same allomorph as in the indicative, whereas this person in equivalent constructions belonging to other dependent modes is marked uniformly by another allomorph. Moreover, those persons which have a modal affix in the indicative mode have the same affix in the unreal mode, in addition to the suffix (or suffixes) which mark the unreal construction.

485. Personal affixes which appear in transitive verbal constructions may index either subject or object, and there is no indication in the affix itself as to the status of its referend as actor or undergoer. This function is fulfilled by a special

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inflectional affix which appears immediately following the theme in all transitive constructions. These elements are called relators. There are six such relators, most of which occur in more than one allomorph. For descriptive convenience, the relators have been arranged in an arbitrary order and given a number from one to six. The first four relators index action between animate subjects and objects. The last two relators index action by an animate subject on an inanimate object.

The relator series follows. 1) Higher persons act on lower persons (i.e., first or second persons act on third or subordinate persons). In forms with this relator, the personal prefix refers to the subject, the suffix to the object. 2) Lower persons act on still lower persons (i.e., third or fourth persons act on subordinate persons). In such forms the first personal suffix refers to the subject, the second (if present) to the object. 3) First persons act on second persons. In forms of this kind the personal prefix, always that of second person, refers to the object. The subject is referenced (only when plural) by a number suffix. 4) Lower persons act on higher persons (i.e., any persons lower than first person act on any higher persons). This group falls naturally into three subgroups. The first subgroup is the reverse of number 1) above.

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In this group the personal prefix references the object, the personal suffix, the subject. The second subgroup is the reverse of number 2) above. In forms with this relator the first personal suffix references the object, the second, (if present,) the subject. Subgroup number three is the reverse of number 3) above. Personal prefixes (again those of second person) reference the subject, personal suffixes, if present, the object. 5) Higher persons act on inanimate persons. In forms of this kind the personal prefix refers to the subject, the suffix to the object. 6) Lower persons act on inanimate persons. In forms containing this relator, the first personal suffix references the subject, the second suffix, if present, references the object.

Paradigms containing relators number 1), 2), 3), 5), and 6) are called <u>direct</u> paradigms. Paradigms containing relator number 4) are called <u>inverse</u> paradigms. Because of the system of relators, paradigms of opposite meaning differ in each case only by the presence of the relator. Thus, paradigms belonging to group 1), to the first subgroup of group 4), and group 5) are identical in shape except for the relator. The same is true of group 2), the second subgroup of 4), and group 6), and of group 3) and the third subgroup of group 4).

490. One very important feature of verbal constructions, already mentioned in passing, remains to be characterized. This is the category of preverbs.

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Defined as preverbs are all elements found between the personal prefix and the verbal head of the construction (the stem). Some members of this group are particle roots, but some are also verbal roots of the type designated above as attributive roots (423).

Preverbs as a class have little allomorphic variation.

The meaning of preverbs ranges from clearly lexical, as -IIk- 'very', -kI:t- 'finish', -Itti- 'in trees or underbrush', to clearly grammatical, such as -aa- 'durative', miin- 'prohibitive', a?- 'generalizing: when, whenever'. Indeed some preverbs may have either lexical or grammatical meaning, depending upon the type of construction or their position in the construction. Of the former type is -Ikkam-, which means either 'fast' or 'if'; of the latter are the so-called anaphoric preverbs. These preverbs have primarily grammatical meaning when they stand first in the preverb complex, but largely lexical meaning if other preverbs precede. An example of this is the preverb -it-, which means either 'thither, there' or 'so, in a certain way' in the above respective positions.

Up to three or four preverbs may appear in a verbal construction, and their order with respect to each other varies in direct proportion to whether their meaning is mostly (or entirely) lexical or mostly (or entirely) grammatical. So,

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when the meaning of several co-occurring preverbs is adverbial, the emphasis which the speaker wishes to give the one as against the other seems to determine the relative sequence of the preverbs. On the other hand, preverbs with grammatical meaning do have their appointed place, for the most part, in the preverb complex. So, for example, the preverb -a:Sk- precedes all others, while the anaphoric preverbs may be preceded by -a:Sk-, but must precede all others when their function is anaphoric.

Preverbs with grammatical meaning are also subject to quite strict rules governing the type of construction in which they may appear; thus, a given preverb such as -Ikkam- may be present only when a subjunctive modal suffix is also present in the construction.

The anaphoric preverbs are of special interest because of their unique function in the mechanics of the language. Phonologically and morphologically they are a part of the verb, yet their anaphoric function is entirely syntactic: they mark the close concord between the verbal construction (the "comment") and an immediately preceding word, generally a substantive or clause (the "topic").

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500. Derivation of noun themes. Derived themes include both independent and dependent varieties. They are derived from both stems and from other themes.

510. Derivation from stems. Before specifying the details of theme derivation from stems, a word must be said concerning a very widespread kind of allomorphy found in many noun stems which enter into themes. The same allomorphy is also found in one thematic affix.

Many stems of both independent and dependent nouns have two allomorphs, one which ends in -s, -n, or -m, one in which these consonants are missing. Such, for example, are the following stems (dependent stems are preceded by a dash):

asokaaʔsim-, asokaaʔsi- 'garment', cf. asokaaʔsimʔi 'coat, dress', asokaaʔsiists 'coats, dresses';

atikin-, atiki- 'moccasin', cf. atsikínʔi 'moccasin', atsikíísts 'moccasins';

aʔsipis-, aʔsipi- 'sinew', cf. aʔsipísa 'sinew', aʔsipíi 'some sinew';

-kIs-, -kI- 'awl', cf. aksísa 'awl', aksííks 'awls';

-tokis-, -toki- 'skin', cf. atokísa 'skin, hide', atokíi 'leather';

-Skokin-, -Skoki- 'neck', cf. ooxkokínʔi 'his neck', mooxkokíísts 'necks';

-Spin-, -Spi- 'lung', cf. oxpínʔi 'his lung', moxpíísts 'lungs'.

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The thematic affix has the allomorphs -aʔtis- and -aʔti-; for details and examples, see section 525 below where this affix is described.

511. Derivation of dependent noun themes. Several thematic prefixes are added to dependent noun stems[1] to form dependent noun themes. In all cases but one the prefixes are vocalic.

[1]There is one instance of a derivational prefix added to the medial allomorph of an independent stem: -ooppitam- 'old woman'. Whether other examples of this kind exist is unknown.

511.1 The prefix -aa- appears with stems which begin with ‖Y‖ and ‖y‖. The examples cited here are the only ones known:

-aaYapan- 'blood', cf. àaápanʔi 'blood';

-aayaSs- 'grandparent, parent of spouse', cf. nàaáxsa 'my grandparent';

-aaYI- 'robe, blanket', cf. mèɛéʔwa 'blanket';

-aaYIpISsim- 'belt', cf. méɛpssimʔi 'belt';

-aaYo:- 'mouth', cf. naaóʔyi 'my mouth'.

511.2 A very large group of dependent stems has a thematic prefix of either -o- or -oo-. By far the greater number take -oo-. Which prefix is found with which stem does not appear to be predictable. Representative examples of each are given below:

-o-:

-oISkitipaSp- 'heart', cf. ússkitsipaxpi 'his heart';

-oIStokIs- 'face', cf. usstoksísi 'his face';

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-okIs- 'awl', cf. moksísa 'awl, somebody's awl';

-oko?s- 'offspring, child', cf. nóko?sa 'my child';

-omataSkis- 'groin, genital region', cf. omátaxkis 'his groin, his genitals';

-onna?tis- 'digging stick', cf. únna?tsis 'her digging stick';

-onnikis- 'female breast, milk of female breast', cf. únnikis 'her breast';

-otokis- 'skin, hide', cf. otokísi 'his hide';

-otoniim- 'mons veneris', cf. otúniim?i 'her mons veneris';

-owaam- 'snowshoe', cf. nowáámists 'my snowshoes';

-oyinna- 'male sibling of female', cf. noyín?na 'my brother'.

-oo-

-ookitis- 'finger, claw', cf. òokítsis 'his claw';

-ookoowaa- 'dwelling, lodge', cf. nookóówaa?yi 'my lodge, my tepee';

-ookkoyiis- 'fur, plumage', cf. okkúyiis 'his fur';

-oom- 'husband', cf. nóom?a 'my husband';

-oopan- 'penis', cf. kóópan 'thy penis';

-oosak- 'back fat', cf. òosáki 'his back fat';

-oota?s- 'beast of burden', cf. nóóta?sa 'my horse, my dog';

-ootoonis- 'lip', cf. òotóónis 'his lip';

-oottowan- 'knife', cf. nóttoan?a 'my knife';

-ooSk- 'kettle', cf. nóxka 'my kettle';

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-ooSko- 'son', cf. ooxkú?yi 'his son';

-ooSkIsis- 'nose, beak', cf. mooxksisís 'nose, beak, someone's nose or beak';

-ooSsopom- 'fontanel', cf. ooxsopúm?i 'his fontanel';

-ooStookis- 'ear', cf. ooxtóókis 'his ear'.

-oowaa- 'egg', cf. oowááyi 'her egg'.

-oowos- 'anus', cf. òoósi 'his anus'.

512. Derivation of independent noun themes from dependent noun stems. Noun themes produced by this kind of derivation are the independent (unpossessed) analogues of dependent noun themes. No derived independent themes are known which are based on those dependent stems which designate kin relationships. All examples are for body parts and tools.

512.1 Derived independent noun themes are formed partly by prefixes, partly by lack of a prefix. Prefixes found are I-, i-, and a-. Some instances of a- apparently require an accretive nasal in addition. Examples:

I-:

ISk- 'kettle', cf. ísska 'kettle', óxki 'his kettle';

ISsISs- 'fat', cf. issíssi 'fat', ooxsíssi 'his fat';

ISsoyis- 'tail', cf. íssoyisa 'Tail' (society member), ooxsoyís 'his tail';

Ittowan- 'knife', cf. isttóan?a 'knife', ottoán?i

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'his knife'.

i-:

itiSkina- 'horn', cf. ítskina 'Horn Society, member of the Horn Society', otskínay 'his horn';

a-:

akIs- 'awl', cf. aksísa 'awl', oksísi 'her awl';

anaama- 'bow, gun', cf. (a)náámaʔwa 'gun', ináámaʔwa 'my gun';

apakkIaʔtis- 'stone maul, stone hammer', cf. (a)pákksyaʔtsis 'stone hammer, stone maul', nipákksyaʔtsis 'my stone maul';

atina- 'fat', cf. atsinayí 'fat, suet', otsinayí 'his fat, his suet';

atokis- 'hide, skin', cf. atokís 'hide, skin', otokís 'his hide, his skin';

attis- 'gut, intestine', cf. attsíísts 'guts', ottsíísts 'his guts'.

With accretive nasal:

atokin- 'hip, hip bone', cf. matokínʔi 'hip', otokín 'his hip'.

Dependent stems which begin with a cluster ordinarily take no prefix, with the result that the finished constructions show truncation (342.8):

Skinakin- 'liver', cf. kinakín 'liver', ooxkinákin 'his liver';

Spiikis- 'rib', cf. pííkis 'rib', ooxpííkis 'his rib';

Sponn- 'bracelet', cf. púnʔ 'bracelet', ooxpúnʔni 'his bracelet';

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Stookipis- 'earring' cf. tóókipiists 'earrings', ooxtóókipiists 'her earrings'.

One theme which should belong to this group shows aberrant development. The word ápssi 'arrow' should be based on an independent theme SpISs- 'arrow', cf. óxpssi 'his arrow'. The independent form might have been expected to be *pissi or *pssi. The reason for the different development of this form is unknown.

513. Independent noun stems become inflectible for possession by the addition of the suffix -im-. The suffix is added to the non-initial form of the independent stem, if there is contrast in initial and non-initial forms. The vowel of the suffix is elided when a long vowel precedes (355). Representative examples of these possessive themes are the following:

-aakiim- 'female sibling of male', cf. otáákiim?i 'his sister, àakíí?wa 'woman';

-omaSkinaam- 'old man, father', cf. nitúm?axkinaam?a 'my old man, my father', úm?axkinaa?wa 'old man';

-o:mitaam- 'dog', cf. nitómitaam?a 'my dog', iimitáá?wa 'dog';

-okoyiim- 'semen', cf. otókuyiimiks 'his semen' (literally 'his wolves'), makúyi?wa 'wolf';

-oSkakIaakinim- 'axe', cf. nituxkáksyaakinim?a 'my axe', káksyaakin 'axe';

-o:Skiim- 'water', cf. nitɔ́xkiim?i 'my water', ooxkíí 'water';

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-oSkiniim- 'rose hips, tomatoes', cf. otuxkíniimiks 'her rose hips', kin i 'rose hip, tomato;

-oSkyaayoom- 'bear', cf. nituxkyááyoom?a 'my bear', 'my pet bear', kyááyo?wa 'bear';

-o?piim- 'rope', cf. nitó?piim?a 'my rope', cf. apís 'rope'.

Occasional dependent noun themes also contain the suffix -im-. The occurrence of -im- in dependent noun themes is unpredictable. Examples are:

-naapiim- 'old man, husband', cf. ninaápiim?a 'my old man', náápi 'old man';

-ooppitaam- 'old woman, wife', cf. oppitáám?i 'his old woman', kipitáakii?wa 'old woman'.

514. Diminutive themes are apparently formed by a suffix -?s-. Only two examples were collected:

kimmatapaakiikowanI?s- 'poor, pitiful little girl', cf. kímmatapaakiikoan?sa;

kimmatapIsaSkomaapii?s- 'poor, pitiful little boy', cf. kímmatapsaxkumaapii?sa.

It is possible that this same suffix is also present in two dependent noun themes: -oko?s- 'child', and -oota?s- 'beast of burden, horse, dog'. If these dependent themes do contain a suffixal -?s-, it is likely that the suffixal character is no longer recognized. This assumption is based on the fact that doublets without -?s- do not occur, and informants do not translate the themes with any indication that they are diminutive.

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515. With the suffix -ʔsin- are formed collective noun themes. The stem is an animate noun, either independent or dependent, and the theme is also animate. If the stem is an independent noun, it usually appears in a medial allomorph, although often enough informants formed the theme with the initial allomorph also. When the theme has a medial allomorph as stem there is an obligatory, apparently formal, prefix; the prefix has the shape o- before a consonant, ot- before a vowel. The presence of the prefix appears to be optional if the noun stem is an initial allomorph. As typical collective themes may be cited the following:

-aakiiʔsin, cf. otáákiiʔsinʔa 'womenfolk';

-iimitaaʔsin, cf. iimitáaʔsinʔa 'pack of dogs';

-I:niʔsin-, cf. iiníʔsinʔa, otsííniʔsinʔa 'herd of buffalo';

-Innokaʔsin-, cf. otsínnokaʔsinʔa 'herd of elk';

-nnaʔsin-, cf. únnaʔsinʔa 'menfolk';

-nnokaʔsin-, cf. únnokaʔsinʔa 'herd of elk';

-o:mitaaʔsin-, cf. otómitaaʔsinʔa 'pack of dogs';

-po:kaaʔsin-, cf. opokáaʔsinʔa 'little folk, children'.

516. Noun themes formed by the suffix -Sko- signify a place in which certain entities occur in abundance. Stems with this

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suffix are always independent, and may be of either gender. The theme is inanimate. Examples are:

akaitapIISko-, cf. ákaitapiisskuy 'town, place where people congregate';

ISsikotoyISko- cf. ísikotoyisskuy 'haunt of blacktail deer';

mI:takISko-, cf. miistáksskuy 'mountainous region';

paStokISko-, cf. paxtóksskuy 'grove of pines'.

520. Derivation of noun themes from verbal themes. Most independent order verbal themes may also serve as noun themes. Some require thematic affixes before inflection as nouns is possible, others require none.

521. Discussed first are noun themes which are coterminous with verbal themes.

521.1 Noun themes which specify an actor or agent are identical in shape to intransitive verbal themes. Reflexive, middle, and stative verb themes, with nominal suffixes, reference a person or thing in a certain state.

aaInISki- 'be singing', cf. één?ixki?wa 'singer';

aaIsikiSta:ki- 'bite', cf. sík̓sstakii 'pliars';

aaIyInnimaa- 'seize', cf. ééyinnimaa?wa 'hawk';

aaIyo:StoSko:Ssi- 'be sick', cf. ééyooxtuxkooxsi?wa 'sick person';

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itoo?too- 'arrive', cf. itóo?tòo?wa 'one who has arrived';

i:Skito:pii- 'sit on top, ride horse', cf. iixkitópii?wa 'rider';

i:SpoSsimaa- 'melt fat', cf. iixpóxsimaa?wa 'Fat Roaster' (band name);

I?nakoSti- 'be small', cf. i?nákuxtsiists 'small ones';

kimmatapIssi- 'be pitiful', cf. kímmatapssi?wa 'pitiful one';

kiStipimi- 'be spotted animal', cf. kixtsípimi?wa 'pinto horse';

omaSkaa- 'run', cf. óm?axkaa?wa 'runner';

omaSkImm- 'be large', cf. úm?axksim?ma 'big one';

pakkiSkaa- 'be ruptured, exploded', cf. pákkixkaa?wa 'flat tire, blow-out';

pi:kIni- 'be lean', cf. piiksíni?wa 'skinny one';

sattikiSkinIIsi- 'have cut head', cf. sáttsikixkiniisi?wa 'person with cut on head'.

521.2 Noun themes which are identical in shape to transitive verbal themes have two meanings. Themes identical to themes from the direct paradigms signify, if animate, the undergoer, if inanimate, the end result of the action. Examples:

aa?kia:- 'strike one', cf. áa?kyaa?wa 'one struck';

IIkaomooniSp- 'roll up', cf. ííkaomoon?ixpi 'cigarette';

ISkInowa:- 'recognize one', cf. issksínowaa?wa 'one known, recognized';

I?nita: 'murder one', cf. i?nitáá?wa 'victim, one (human) killed';

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I$^{?}$siSp- 'cook', cf. i$^{?}$si$^{?}$pi 'cooked thing';

i:SpommatooSp- 'buy', cf. iixpúmmatooxpi 'purchase';

o:Stookisata:- 'address one', cf. ooxtóókisata$^{?}$wa 'interpreter'.

521.3 Noun themes based on verbal themes from the inverse paradigms specify a person or thing which acts on human beings. Such themes are rather infrequent. Representative are:

a$^{?}$pitotoo:ki- 'create', cf. á$^{?}$pistotooki$^{?}$wa 'God, creator';

-ototio:ki- 'burn up', cf. áótotsyooki$^{?}$wa 'devil'.

522. The negative of noun themes of this kind is <u>not</u> identical to the corresponding verbal theme. The latter have the negative prefix -maat-, whereas negative noun themes have the prefix -kata$^{?}$-. In verbal themes this prefix has interrogative meaning. Examples are:

kata$^{?}$yo:Skiimi-, cf. káta$^{?}$yooxkiimi$^{?}$wa 'unmarried man, bachelor' < 'man marries';

kata$^{?}$II$^{?}$poyi-, cf. katɛ́i$^{?}$poyi$^{?}$wa 'dumb, mute person' < 'speak';

kata$^{?}$Immi-, cf. káta$^{?}$yimmi$^{?}$wa 'Not Laughter' (band name) < 'laugh';

kata$^{?}$IItinita:-, cf. káta$^{?}$yiistsinita$^{?}$wa 'ungelded animal' < 'cut one';

kata$^{?}$Ikimmokk-, cf. kátɛi$^{?}$kimmukka 'one who does not pity me' < 'pity me'.

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523. Noun themes which specify action, result, state, and sometimes even actor are derived from intransitive, pseudo-intransitive, and stative verbal themes. Most are inanimate. Apparently one morpheme is involved, but there are several allomorphs: -n-, -In-, -Ssin-, -aSsin-, and possibly others as well.

523.1 With verbal themes in -aa- the allomorph which occurs is -n-:

akaan-, cf. akáán?i 'snare, snaring';

amiSkaan-, cf. amíxkaan?i 'fishing', amíxkaan?a 'fish which is caught, catch';

amopItaan-, cf. amopistáán?a 'medicine bundle';

I:nIsimaan-, cf. iin?símaan?i 'planting, cultivated plant';

Yoo?kaan-, cf. oo?káán?i 'sleep, sleeping'.

523.2 When the verbal theme ends in theme-closing -i-, this vowel is dropped, and the noun suffix is -In-:

anii?ta:kIn-, cf. aníi?taksin?i 'haste, hurrying';

aSkania:kIn-, cf. axkányaaksin?i 'stitch, sewing';

ka:moo?sIn-, cf. kaamóo?sin?i 'theft, stealing';

pikkIsakia:kIn-, cf. pikksisákyaaksin?a 'woodpecker';

sikISta:kIn-, cf. siksstáksin?i 'bite, biting';

yooStoSkoo:SsIn-, cf. ooxtuxkóxssin?i 'sickness'.

When the thematic -i- is preceded by ||o||, the -i- of

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the verbal theme is dropped and the suffixal allomorph is -aSsin-:

aowaSsin-, cf. aó?waxsin?i 'meal, food, eating';

naapii?powaSsin-, cf. náápii?po?waxsin?i 'English language, speaking of English'.

523.3 When the verbal theme ends in -I-, the suffixal allomorph is -Ssin-. With middle themes which terminate in ||IIyi||, the theme closing vowel is dropped before the suffix:

a?sIISsin-, cf. a?sissin?i 'sneeze, sneezing';

a:nISsin-, cf. aanissin?i 'word, pronouncement, speaking';

iSkito:pIISsin-, cf. ixkitopíssin?i 'riding on horseback';

iSpommo:tIISsin-, cf. isspúmmotsissin?i 'mutual help, helping one another';

pIISsin-, cf. pissin?i 'entering';

kimmapIISsin-, cf. kimmapissin?i 'mercy, pity';

si:mISsin-, cf. sim?ssin?i 'odor, smelling';

simISsin-, cf. sim?ssín?i 'beverage, drinking'.

523.4 Those verbal themes which have no thematic suffix are also nominalized by -Ssin-:

a:misooSsin-, cf. aamisóxsin?i 'ascent, climbing';

a?pIStooSsin-, cf. a?psstóxsin?i 'beckoning, signaling by signs';

koo?poSsin-, cf. koo?póxsin?i 'fear';

yaatooSsin-, cf. áátooxsin?i 'howling'.

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523.5 By accident, no examples of noun themes based on stative themes were collected. Tims gives many, but Uhlenbeck gives only a few examples. Since Tims' recordings are so difficult to interpret, and Uhlenbeck's examples are so few, little can be concluded about the formation of these themes.

There is a scattering of apparently well-recorded examples which do not fit into the above description. For these, and for noun themes derived from stative themes, additional investigation is needed. Some of the aberrant examples may be proved to be mistaken recordings, or simply noun forms for which the underlying verbal theme is now obsolete.

524. Noun themes which specify the instrument by which an action is accomplished are formed by two suffixes. Often noun themes with slightly different meaning are formed with each. In other cases, only one or the other theme is found. What governs choice is such cases is unknown.

525. One theme has a suffix which has the type of alternation described in section 510. The two shapes are -aʔtis- and -aʔti-. The suffix appears almost exclusively with pseudo-intransitive themes, although it is also attested with a scattering of true intransitive themes. Theme building with this suffix is apparently productive; the themes are usually inanimate.

With verbal themes other than those in -i- or -I-

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the phonemic shape of the final of the verbal theme and the initial portion of the suffix is /áaaʔt/. Evidently this is the result of the generation of a semivowel (341.3) with subsequent deletion (342.1).

Around 100 examples of this type of noun theme were collected. Examples of themes with deletion are cited with deletion completed, since the exact morphophonemic shape of the theme at the boundary with the suffix is uncertain. Moreover, only the -s shape of the theme is cited, since the other shape is entirely predictable from this shape. Examples:

-aa-:

akaaaʔtis-, cf. akáaaʔtsis 'lariat, rope', áókaaʔwa 'he snares';

IStipisimaaaʔtis-, cf. isstsipísimàaaʔtsis 'whip, quirt', istsipísimaaʔwa 'he whips (animals)';

Ittokimaaaʔtis-, cf. isttókimàaaʔtsis 'drum', cf. isttókimaaʔwa 'he knocks on things, he drums';

pokaʔimaaaʔtis-, cf. pokɛ́iʔmàaaʔtsis 'fan', pokɛ́iʔmaaʔwa 'he fans';

-i- and -I-:

Ikkiaʔtis-, cf. íkkyàʔtsis 'whistle', ikkíʔwa 'he whistled';

maakiSkinio:SsIaʔtis-, cf. máakixkinyooxsyaʔtsis 'comb', máakixkinyooxsiʔwa 'he combs his hair';

nIniSkiaʔtis-, cf. nínʔixkyaʔtsis 'musical instrument, piano, violin', ɛ́ɛ́nʔixkiʔwa 'he is singing';

ISsa:piaʔtis-, cf. sáapyaʔtsis 'mirror', issapíʔwa 'he looked';

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yaaSkio:Ssiaʔtis-, cf. áxkyooxsyaʔtsis 'boat', áxkyooxsiʔwa 'he propels himself, he rows'.

Without theme-closing vowel:

a:misooaʔtis-, cf. aamisáaaʔtsis 'ladder, staircase', aamisóoʔwa 'he ascends'.

In some cases these themes appear to preserve an intransitive verbal theme which is no longer current. For instance, no verbal themes are known for saapapístaaaʔtsis 'spear', and kínayàaaʔtsis 'porcupine-foot fetish formerly worn in the hair at a child's forehead'. Likewise, an intransitive theme kIsi- 'hide', attested by ksísyaʔtsis 'bone hider used in the hand game', is also well attested in derived transitive themes, but unknown as an intransitive theme.

526. The other theme is formed by the suffix -oʔp- added to the theme of the intransitive verb. Obligatorily present in the noun theme also is the anaphoric preverb i:St-, 'with'. Noun themes so formed are usually inflected inanimate. This type of theme formation is apparently productive, and examples are very frequently encountered. Examples are:

i:StaaIkkInia:kioʔp-, cf. iixtɛ́kksinyaakyoʔpi 'hoe';

i:StaaIkkioʔp-, cf. iixtɛ́kkyoʔpi 'bugle', ikkíʔwa 'he bugled, he whistled';

i:StaaIpoSkia:kioʔp-, cf. iixtɛ́ɛ́poxkyaakyoʔpi 'mowing machine', ɛ́ɛ́poxkyaakiʔwa 'he cuts grass';

i:Staaonoʔp1Skaaoʔp-, cf. iixtáónoʔpsskaoʔpi 'bait';

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i:Staao:Spommaac p-, cf. iixtóxpummaoʔpi 'money', óxpummaaʔwa 'he buys'.

Uhlenbeck identified nouns formed on these themes as first person plural inclusive verbal forms used syntactically as nouns (Concise Grammar, paragraph 8, page 16). He translates such nouns as 'where-we- --- -with'. He does the same with themes which specify the place where a verbal action occurs (Concise Grammar, loc. cit.). That these are, however, true noun forms cannot be doubted, since they are inflected exactly as are other nouns.

527. Noun themes which reference the place where a verbal action is performed are identical in structure to the themes just described, with the difference that the obligatory anaphoric preverb is it- rather than i:St-:

itaaIkaStioʔp-, cf. itéékaxtsyoʔpi 'pool hall', éékaxtsiʔwa 'he plays cards, he gambles';

itaaIpisatiSkaaʔsioʔp-, cf. itéépisatskaaʔsyoʔpi 'movie theater', éépisatskaaʔsiʔwa 'he is doing tricks, he is doing wondrous things';

itaaISkInimaatIStoSkioʔp-, cf. itássksinimaatsstuxkyoʔpi 'school', ássksinimaatsstuxkiʔwa 'he teaches';

itaaIYooʔkaaoʔp-, cf. itééyooʔkaoʔpi 'bedroom, pullman car', itééyooʔkaaʔwa 'he sleeps';

ito:Spommaaoʔp-, cf. itóxpummaoʔpi 'store', óxpummaaʔwa 'he buys'.

530. Inflection of noun themes. As has already been stated, all noun themes have obligatory inflection for gender,

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number, and person. With independent themes, specific vs. non-specific inflection is also obligatory. Dependent noun themes always have specific inflection.

Most themes may be inflected for possession, and in the case of dependent themes such inflection is obligatory. Any restrictions on inflection for possession seem to be semantic rather than grammatical.

A further type of inflection of independent themes specifies certain spatial and/or temporal relationships with reference to a particular point. These generally appear when the noun is in constituency with a demonstrative pronoun also having the same affixes.

Independent themes and certain dependent themes may also be inflected for address.

531. Given below in tabular form are the suffixes which mark inflection for gender, number, person, and specific/non-specific in noun constructions.

It will be noted that a single affix simultaneously indexes all the categories: when two affixes are listed, they represent <u>allomorphs</u> conditioned by the syntactic environment. When supposedly different suffixes have the same shape, contrast is generally preserved, often overtly, by other morphological or syntactic features. (w) with third specific is always present when a vowel precedes.

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Inanimate themes

	Singular		Plural	
	Specific	Non-specific	Specific	Non-specific[1]
3rd	-i	-i	-isti	-yaawa, -ii
		Animate themes		
3rd	(w)-a	-i	-ikI, -ii	-yaawa, -ii
4th	-i	-i	-ikI, -ii	-yaawa, -ii

[1]Don Frantz, of the summer Institute of Linguistics, does not agree with the analysis proposed here. Frantz denies that number contrasts occur in the non-specific category. Frantz has worked extensively on Blackfoot, and the only defense for the present disagreement is that the corpus used here has several nouns with the suffix -yaawa which are in analogous environments, in some cases identical frames, to those in which the singular non-specific noun forms were given. If Frantz is wrong, it may possibly be due to mishearing of the alternative plural allomorph -ii as -i. Still another possible explanation is that South Piegan and Northern Blackfoot, the Blackfoot variety which Frantz knows best, actually differ on this point of inflectional morphology.

532. When two forms of a noun theme are found due to stem allomorphy of the ||s||, ||n||, ||m|| vs. ||ø|| variety (510), the theme distributions are as follows: the consonant-final theme is found in the singular with the specific suffixes, the zero-final theme with the non-specific suffixes. In the plural, the reverse is found, the zero-final theme appearing with the specific suffixes or when a number suffix follows the theme; the consonant-final theme occurs only when the non-specific suffixes follow immediately. It is the presence of this allomorphy in constructions which proves that the categories

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of specific and non-specific are [illegible], even when the inflectional affixes do not contrast, as in the inanimate inflection and in the singular non-specific inflection of (animate) third and fourth persons.

533. The theme formant described in section 523 above (verbal action or result of verbal action) has the ||n|| of the suffix deleted when preceded by a vowel and followed by number or plural inflectional suffixes.

534. Examples of the various morphological forms will now be given.

Inanimate

	miin- 'berry'	niniSkIn- 'song'
3	míín?i 'the berry'	nìn?ixksín?i 'the song'
	míín?i 'a berry'	nìn?ixksín?i 'a song'
	míínists 'the berries'	nìn?ixksíísts 'the songs'
	míínyaa?wa 'berries'	nìn?ixksínyaa?wa 'songs'

	Skinakin- 'liver'	mI:tis- 'stick'
3	kinakín?i 'the liver'	miistsísi 'the stick'
	kinakíi 'a liver'	miistsíi 'a stick'
	kinakíists 'the livers'	miistsíísts 'the sticks'
	kinakínyaa?wa 'livers'	miistsísyaa?wa 'sticks'

moo tokaan- 'head'

3	moo tokaan i 'the head'
	moo tokaan i 'a head'
	moo tokaanists 'the heads'
	moo tokaanyaa wa 'heads'

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Animate

	aakii- 'woman'	ninaa- 'man'
3	àakíí?wa 'the woman'	níinaa?wa 'the man'
	àakíí?yi 'a woman'	níinaa?yi 'a man'
	àakííks 'the women'	níneeks 'the men'
	àakíiyaa?wa 'women'	níinaayaa?wa 'men'
4	àakíí?yi 'the woman'	níinaa?yi 'the man'
	àakíí?yi 'a woman'	níinaa?yi 'a man'
	àakííks 'the women'	níneeks 'the men'
	àakíiyaa?wa 'women'	níinaayaa?wa 'men'

	Ittowan- 'knife'	mI:tis- 'tree'
3	isttoán?a 'the knife'	miistsísa 'the tree'
	isttoá?yi 'a knife'	miistsíi 'a tree'
	isttowéeks 'the knives'	miistsíiks 'the trees'
	isttowányaa?wa 'knives'	miistsísyaa?wa 'trees'
4	isttoá?yi 'the knife'	miistsísi 'the tree'
	isttoá?yi 'a knife'	miistsíi 'a tree'
	isttowéeks 'the knives'	miistsíiks 'the trees'
	isttowányaa?wa 'knives'	miistsísyaa?wa 'trees'

535. Inflection for possession. All noun forms inflected for possession have personal affixes. Possession by the first three persons singular is indicated by a personal prefix; possession by fourth person singular and by all plural persons is indicated by one of the personal prefixes together with a suffix.

The basic shapes of the personal prefixes are:

first person	ni-
second person	ki-
third person	o-, m-
indefinite person	m-

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Third person m- is found with dependent noun themes with initial ||a||. o- appears elsewhere. Indefinite person m- appears with dependent noun themes whose denotata are body parts or intimate personal possessions. When inflection for possession is of an independent theme, the prefixes are always followed by intercalated ||t|| (355). When the theme inflected for possession is dependent, the affixes appear in their above-listed form, but with elision of the prefixal vowel before vowels (355).

Fourth person has the prefix of the third person, plus a suffix -ayi. This suffix is a construction-closing suffix, and hence follows all other suffixes.

All plural persons have a personal prefix, plus a number suffix. Exclusive first person plural has the prefix ni-, inclusive first person plural has ki-, as does second person plural. Third and fourth persons have the proper form of the third person prefix. The number suffixes are:

first person exclusive	-nnaan-
inclusive	-nnoon-
second person	-waawa, -owaawa
third person	-waawa, -owaawa

The number suffixes follow the theme directly. The suffix for second and third person plural has the first-listed allomorph following a back vowel, the second-listed allomorph elsewhere.

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The final syllable is virtually always dropped when a suffixal ||wa|| follows, yielding number allomorphs of the shapes -waa- and -owaa-. The shorter forms also occur unpredictably before other suffixes.

The person-gender-number suffix in a noun construction follows the number suffix when one is present; when this suffix is not present, the person-gender-number suffix follows the noun theme directly. First and second person prefixes may appear with third and subordinate person suffixes, but third and fourth person prefixes can appear only with subordinate person suffixes.

536. A few examples of nouns inflected for possession will make the preceding remarks clear. On the following pages are paradigms of eight noun themes, three independent, five dependent. Suffixes are singular and plural specific. Forms for second person singular are omitted because they are identical, except for prefix, with those for first person singular. Also omitted from the examples is the inflection of the theme -okIs-, -okI- 'awl' for indefinite possessor. The indefinite possessor forms are identical with third person forms except that the prefix m- is present in the former. Unexplained at present is the presence of the theme-final ||n|| of 'wife' in 22, 33, and 44 forms.

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	-o:Skiimaan-	-aakiim-
1	nituxkíímaanʔa, nituxkíimɛɛks 'my wife, my wives'	nitáákiimʔa, nitáákiimiks 'my sister, my sisters'
3	otuxkíímaanʔi, otuxkíimɛɛks 'his wife, his wives'	otáákiimʔi, otáákiimiks 'his sister, his sisters'
4	otuxkíímaanyaʔyi, otuxkíimɛɛksyaʔyi 'his wife, his wives'	otáákiimyaʔyi, otáákiimiksyaʔyi 'his sister, his sisters'
11	nituxkíímannaanʔa, nituxkíímannaaniks 'our wife, our wives'	nitáákiiminnaanʔa, nitáákiiminnaaniks 'our sister, our sisters'
21	kituxkíímannoonʔa, kituxkíímannooniks 'our wife, our wives'	kitáákiiminnoonʔa, kitáákiiminnooniks 'our sister, our sisters'
22	kituxkíímaanowaaʔwa, kituxkíímaanowaawɛɛks 'your wife, your wives'	kitáákiimowaaʔwa, kitáákiimowaawɛɛks 'your sister, your sisters'
33	otuxkíímaanowaawaʔyi, otuxkíímaanowaawɛɛks 'their wife, their wives'	otáákiimowaawaʔyi, otáákiimowaawɛɛks 'their sister, their sisters'
44	otuxkíímaanowaawayaʔyi, otuxkíímaanowaawɛɛksyaʔyi 'their wife, their wives'	otáákiimowaawayaʔyi, otáákiimowaawɛɛksyaʔyi 'their sister, their sisters'

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	-kIt-	-oSko-
1	niksísta, niksístsiks 'my mother, my mothers'	noxkó?wa, noxkúyiks 'my son my sons'
3	oksístsi, oksístsiks 'his mother, his mothers'	oxkú?yi, oxkúyiks 'his son, his sons'
4	oksístsya?yi, oksístsiksya?yi 'his mother, his mothers'	oxkúya?yi, oxkúyiksya?yi 'his son, his sons'
11	niksístsinnaan?a, niksístsinnaaniks 'our mother, our mothers'	noxkúyinnaan?a, noxkúyinnaaniks 'our son, our sons'
21	kiksístsinnoon?a, kiksístsinnooniks 'our mother, our mothers'	koxkúyinnoon?a, koxkúyinnooniks 'our son, our sons'
22	kiksístowaa?wa, kiksístowaawɛɛks 'your mother, your mothers'	koxkówaa?wa, koxkówaawɛɛks 'your son, your sons'
33	oksístowaawa?yi, oksístowaawɛɛks 'their mother, their mothers'	oxkówaawa?yi, oxkówaawɛɛks 'their son, their sons'
44	oksístowaawaya?yi, oksístowaawɛɛksya?yi 'their mother, their mothers'	oxkówaawaya?yi, oxkówaawɛɛksya?yi 'their son, their sons'

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-okIs-, -okI-	-oSkat-
1 noksísa, noksíiks 'my awl, my awls'	noxkátsi, noxkátsists 'my foot, my feet'
3 oksísi, oksiiks 'his awl, his awls'	oxkátsi, oxkátsists 'his foot, his feet'
4 oksísya?yi, oksíiksya?yi 'his awl, his awls'	oxkátsya?yi, oxkátsistsya?yi 'his foot, his feet'
11 noksínnaan?a, noksinnaaniks 'our awl, our awls'	noxkátsinnaan?i, noxkátsinnaanists 'our foot, our feet'
21 koksínnoon?a koksinnooniks 'our awl, our awls'	koxkátsinnoon?i, koxkátsinnoonists 'our foot, our feet'
22 koksyówaa?wa, koksyówaawɛɛks 'your awl, your awls'	koxkátowaawa?yi, koxkatowaawɛɛsts 'your foot, your feet'
33 oksyówaawa?yi, oksyówaawɛɛks 'their awl, their awls'	oxkátowaawa?yi, oxkátowaawɛɛsts 'their foot, their feet'
44 oksyówaawaya?yi, oksyówaawɛɛksya?yi 'their awl, their awls'	oxkátowaawaya?yi, oxkátowaawɛɛstsya?yi 'their foot, their feet'

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	-atikin-, -atiki-	-IniSkIn-
1	natsikín?i, natsikíists 'my moccasin, my moccasins'	nitsín?ixksìn?i, nitsín?ixksìists 'my song, my songs'
3	matsikín?i matsikíists 'his moccasin, his moccasins'	otsín?ixksìn?i, otsín?ixksìists 'his song, his songs'
4	matsikínya?yi, matsikíistsya?yi 'his moccasin, his moccasins'	otsín?ixksìnya?yi, otsín?ixksìistsya?yi 'his song, his songs'
11	natsikínnaan?i, natsikínnaanists 'our moccasin, our moccasins'	nitsín?ixksìnnaan?i, nitsín?ixksinnaanists 'our song, our songs'
21	katsikínnoon?i, katsikínnoonists 'our moccasin, our moccasins'	kitsín?ixksìnnoon?i, kitsín?ixksinnoonists 'our song, our songs'
22	katsikyówaawa?yi, katsikyówaawɛɛsts 'your moccasin, your moccasins'	kitsín?ixksyòwaawa?yi, kitsín?ixksyòwaawɛɛsts 'your song, your songs'
33	matsikyówaawa?yi, matsikyówaawɛɛsts 'their moccasin, their moccasins'	otsín?ixksyòwaawa?yi, otsín?ixksyowaawɛɛsts 'their song, their songs'
44	matsikyówaawaya?yi, matsikyówaawɛɛstsya?yi 'their moccasin, their moccasins'	otsín?ixksyòwaawaya?yi, otsín?ixksyòwaawɛɛstsya?yi 'their song, their songs'

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537. Inflection for spatial/temporal proximity. This inflection is characteristic of demonstrative pronoun plus noun constructions, and nouns alone seldom have the inflection.

There are four deictic suffixes of the present kind: -ma-, -ya-, -ka-, and -Ska-.[1] The precise meaning of the suffixes is still unclear, but distance in space and time from the speaker appear to increase from -ma- through -Ska-. It is possible that other categories are represented in the meaning of the suffixes, for example, visible vs. invisible, or stationary vs. moving. Additional investigation is needed here.

[1]Uhlenbeck appears to have regarded the suffix -Ska- as identical with a nearly homophonous syntactic suffix which appears in relative clauses. For this reason he recognized only three suffixes of spatial/temporal proximity. Nouns and demonstratives with both suffixes are treated in paragraph 18 of the Concise Grammar, as well as in Chapter 9.

With nouns, these suffixes always follow the gender-number-person suffix. Nouns and demonstrative pronouns with these suffixes are so numerous that a glance at any page of Blackfoot text affords an abundance of examples. The following are all from the writer's texts:

míístsima moyíístsima	'these lodges'
máaya pookáawaya	'this child'
annáaka kíssaka	'that son-in-law of yours'
náxka níssaxka	'that son-in-law of mine'
ánnistsska sinaáksiistsska	'those writings'
amóóksska ksikkixkíniiksska	'these bald eagles'

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538. Only a small group of dependent nouns has attested inflection for allocution. There are also four particle themes used exclusively as vocatives: kóókowa 'girl!', napí 'partner, friend!' (used between males), poká 'partner, friend!' (used between females), and tsíki 'boy!'.

In allocutional inflection, singular and plural of the addressee are distinguished, but there is no number distinction for the speaker: the spokesman for a group uses the form he alone would use, although accompanying verbal forms are plural.

538.1 The singular vocative has two allomorphs: -aa and -yii.[1]

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[1]Uhlenbeck observes, Concise Grammar, page 27, that the -yii- allomorph is "rather obsolete". This hypothesis has not been tested; note, however, that some forms recorded in the 1960's (son, daughter, younger brother) have only this suffix.

The suffix is always stressed. Which allomorph occurs with a given theme appears to be unpredictable.

All known examples of vocative constructions are the following:

naàxsíi 'oh my grandparent!'

ninnáa 'oh my father!'

nisissáa 'oh my younger sibling!' (female speaker)

nisskaníi 'oh my younger sibling!' (male speaker)

nitaníi 'oh my daughter!'

ni?sáa 'oh my elder brother!'
'oh my elder sister!' [1]

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noxkoyíi 'oh my son'

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[1]This use of a basically male kin term (cf. -ʔs- 'elder brother!) for a feminine addressee is attested only by Uhlenbeck. It occurs several times in the tale "The Seven Stars", A New Series of Blackfoot Texts, pp. 101-112.

Also belonging here is a vocative form of the above type based on a theme which occurs in no other form:

naʔáa 'oh my mother!'

Uhlenbeck recorded this term once in a slightly different form (A New Series of Blackfoot Texts, page 127): naʔáiau.

One of the vocative particles also appears with a vocative suffix:

tsikiyáa 'oh boy!'

Outside this group the bare theme, in particle function as with names in general, serves as the singular allocutional form:

ápistotooki 'oh God!'
kipitáakii !oh old woman!'
maanikápii 'oh young man!'
nááapii 'oh old man!'
piiʔkáni 'oh Piegans!'

538.2 Plural vocatives are not as well attested, either in Uhlenbeck's or the writer's materials. The plural suffix may evidently appear with any noun theme which may be used in address. The basic plural suffix seems to be -aaki or -aaka (terms have been recorded with both), but forms are also on record

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which differ from both of these. In the following examples, the writer recorded only 'oh old women' and the aberrant 'oh my little brothers!'; the remainder are from Uhlenbeck:

kipitáakiiwaaka	'oh old woman!'
nisskánàaki	'oh my younger brothers!'
nóko?saaki	'oh my children!'

ni?sáuaki 'oh my elder brothers!', 'oh my elder sisters!', recorded by Uhlenbeck, appears to have a suffix -awaaki.

An aberrant form recorded in a text in 1964 appears to have both singular and plural vocative suffixes: nisskánaakyàa 'oh my little brothers!'

Some further exploration of vocative morphology is required, since it is possible that additional structural types, as well as alternative analytic possibilities, might be found.[1] It would also be interesting to know whether the

[1]For example, Uhlenbeck suggests that a plural vocative does not exist; the suffix here termed a pluralizing suffix he considers to be an expletive suffix, and there is some evidence for this in the forms which he quotes in his discussion, see Concise Grammar, paragraph 16, pages 36-37.

morphological vocative is really a living structure in the present-day language. Most examples collected both by Uhlenbeck and this writer are in traditional tales.

539. By way of summary, the following table gives the inflectional affixes and their order of affixation, where

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appropriate. Following the table is an alphabetical listing of the affixal allomorphs and a brief identification as to their meaning, followed by the citation of the paragraph in which the affix is described.

Prefix		Suffixes		
		1	2	3
ni-	NOUN THEME	-nnaan-	$-i_1$	-ya
ki-		-nnoon-	$-i_2$	-ma
o-,		-waawa-,	$-i_3$	-ka
m-		-owaawa		-Ska
			-(w)a	
		-aa, -yii	-ikI	
		-aaki,	-isti	
		-aaka		-ayi
			-yaawa	

Alphabetical listing

-aa	singular person addressed (538.1)
-aaki, -aaka	plural person addressed (538.2)
-ayi	subordinate person as possessor (535)
$-i_1-$	specific third person singular inanimate (531)
$-i_2-$	specific subordinate person singular (531)
$-i_3-$	non-specific singular (531)
-ii	alternative form for -ikI, -yaawa (531)
-ikI-	specific animate plural (531)
-isti-	specific inanimate plural (531)
-ka	deictic (537)
ki-	second person as possessor (535) first person plural inclusive as possessor (535)

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m-	third and subordinate person as possessor indefinite third person as possessor (535)
-ma	deictic (537)
ni-	first person as possessor (535)
-nnaan-	first person plural exclusive as possessor (535)
-nnoon-	first person plural inclusive as possessor (535)
o-	third and subordinate person as possessor (535)
-owaawa-	second, third, and subordinate plural persons as possessor (535)
-Ska	deictic (537)
-(w)a-	specific third person singular animate (531)
-waawa-	second, third, and subordinate plural persons as possessors (535)
-ya	deictic (537)
-yaawa	non-specific plural (531)
-yii	singular person addressed (538.1)

550. Derivation of pronoun themes. Only two kinds of derived pronoun themes are found. These are demonstrative and attributive.

551. Derived demonstrative themes are all based on demonstrative stems, of which there are three: ann-, am-, and om-. The meaning of the first two is 'this', of the last, 'that'. There are two derived thematic constructs formed by suffixes. These are a diminutive theme and a theme best characterized as an il o||-theme.

551.1 The diminutive theme is formed by the suffix -ISt-. The chief meaning of the suffix is diminutive, but also present are

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nuances of pity and/or endearment. Since -ISt- appears with all the demonstrative pronoun stems, the three simple diminutive themes are annISt-, amISt-, and omISt-.

551.2 The other suffix-derived theme is formed by the suffix -o-. This morpheme apparently references a position, actual or figurative, which is especially close to the speaker. -o- is found with the demonstrative pronoun stems ann- and am- and the diminutive themes based on the same two stems. The four themes with -o- are thus anno-, amo-, annISto-, and amISto-.

551.3 Demonstrative pronoun themes are also derived by a shift in stress. The neutral themes have the stem unstressed, i.e., the stress in the finished demonstrative pronoun rests on an affix. In the stress-derived themes, the vowel of the stem is stressed. Thus, for example, the neutral stem-themes ann-, am-, and om-, and the themes annISt-, amISt-, and omISt-, are matched by ánn-, ám-, and óm-, ánnISt-, ámISt- and ómISt-. The latter, it will be recalled (356), have the stressed vowel lengthened at the phonemic level where the environment permits a long vowel. The difference in meaning between the neutral and the stress-derived themes is probably one of emphasis, as has been suggested by Uhlenbeck (Concise Grammar, page 79).

Examples of demonstrative pronoun themes are given below (562), where the inflection of such themes is described.

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552. Derivation of attributive pronouns. A derived pronoun theme based on certain attributive stems is formed by the suffix -oSt-. All examples collected have stems with a meaning of location, either in space or time: 'the last one', 'the one in the middle', 'the outside one', etc. Examples occur very frequently in texts, mostly inanimate and in constituency with verbs. Representative examples are the following:

aapatoSt-, cf. aapatóxtsi, aapatóxta 'the one behine, the one in the north, the ancient one';

akimoSt-, cf. kímʔoxtsi, kímʔoxta 'the one in the back of the lodge, the one oppcsite the door';

amISkapoSt-, cf. amʔsskápuxtsi, amʔsskápuxta 'the one ahead, the one in the south';

apamoSt-, cf. apámʔuxtsi, apámʔuxta 'the one on the other side (of the mountains)';

ISkoSt-, cf. isskóxtsi, isskóxta 'the one behind, the one of long ago';

ISpoSt-, cf. spóxtsi, spóxta 'the one above';

iStatikoSt-, cf. tátsikuxtsi, tátsikuxta 'the one in the middle';

miinoSkoSt-, cf. míínʔuxkuxtsi, míínʔuxkuxta 'the one on the end, the one at the tip'.

560. Inflection of pronouns. Description of the inflection of personal, demonstrative, interrogative, and indefinite pronouns are found in the following paragraphs. Pronouns share most inflectional features with nouns, but other features are peculiar to this class alone.

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561. Personal pronoun constructions are all based on a single theme: -I:to-. This theme is inflected in a neutral and an emphatic paradigm.

561.1 In the neutral inflection, the theme has the same personal prefixes as are found in possessive inflection of nouns. The prefixes appear in their basic form, i.e., without intercalated ||t||. In this respect the inflection is parallel to that of dependent noun themes. Plural personal pronoun forms also have the same number suffixes as in the possessive inflection of nouns. A personal pronoun for subordinate person was not recorded, so it is unknown whether the -ayi suffix of nominal inflection also appears here.

Although personal pronouns are of animate gender only, a gender suffix is always found. The suffix is -a for first and second persons, -i for third (and subordinate ?) persons.

In sum, the inflection of the personal pronoun theme is <u>in appearance</u> identical to the inflection of a dependent noun theme. It differs <u>in essence</u> in that the suffixes which appear in possessive noun inflection index the gender-person-number-specificity of the construction, whereas in inflection of the personal pronoun, suffixes of the same shape are all allomorphs of a single morpheme, and index gender only.

The following are the Blackfoot personal pronouns in neutral inflection:

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niistó?wa	'I, myself'
ksiistó?wa, kiisto?wa[1]	'you, yourself'
ostúyi[2]	'he, she, himself, herself'
niistúnnaan?a	'we, ourselves'
ksiistúnnoon?a, kiistúnnoon?a	'we, ourselves'
ksiistówaa?wa, kiistówaa?wa[3]	'you, yourselves'
ostówaawa?yi	'they, themselves'

[1]For the loss of /s/ following /k/, see section 342.3 above.
[2]For the loss of ||I:|| from the theme, see section 341.2 above.
[3]Both forms have haplological shortening of * kiI:towaawawa .

561.2 The emphatic inflection of the personal pronoun is represented in the author's field materials by one form only. A very small number of first and second person singular emphatic forms does occur in Uhlenbeck's texts, and Uhlenbeck discusses these in his treatment of the inflection of personal pronouns, Concise Grammar, paragraph 29, pages 70-72. Uhlenbeck regarded these as obviatives, which they certainly are not.

In the attested examples of emphatic personal pronouns the shape of the emphatic suffix appears to be -yi. Uhlenbeck gives nistoi, ksistoi, which are evidently niistú?yi, ksiistú?yi 'I', 'you'. The single example collected by the writer is a first person form with the above shape. The virtual absence of emphatic personal pronoun forms from materials

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collected during the 1960's is probably due to the relatively small number of texts collected. Moreover, the style of the author's texts is largely descriptive rather than narrative.

Emphatic forms might exist also for persons other than first and second singular, but noneappear ever to have been recorded. Future field work should include attention to this question.

562. Inflection of the demonstrative pronoun themes is accomplished by the same suffixes as in the specific inflection of nouns.

In the inflection of all ||o||-themes, the suffixes of the third person singular--both animate and inanimate--are always elided. The ||i|| of the animate plural affix is also always elided and the same vowel in the inanimate plural affix may be facultatively elided. By way of illustration, cf. the inflected forms of amo- 'this (here)':

inanimate:	amóo
animate:	amóo
subordinate:	amóóyi
inanimate plural:	amóóstsi, amóóyistsi
animate plural:	amóóksi

Compare these with the inflection of am- 'this':

inanimate:	amíi
animate:	amáa
subordinate:	amíi
inanimate plural:	amíístsi
animate:	amííksi

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563. The suffixes of spatial/temporal proximity also appear in demonstrative inflection. When present, these suffixes follow the suffixes of gender-person-number; so, for example: amáámma, amááya, amóóka, amóxka.

The suffix -ayi, which belongs to the same suffixing order as the spatial/temporal suffixes (539), occasionally appears in the inflection of demonstrative pronouns: áámoksyaʔyi omííksyaʔyi. Both these examples were recorded in texts by the writer, and a few such forms also occur in Uhlenbeck's texts.[1]

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[1]Uhlenbeck did not recognize the existence of such a suffix with demonstratives, and it appears that he regarded such examples as these as carelessly pronounced examples of demonstratives with the suffix -ya- and the syntactic affix -yi.
He lists them throughout his discussion of demonstrative pronouns as "verbalized" forms.

In demonstrative pronoun constructions, -ayi appears only following the suffix -ikI-. It is not completely clear what the function of -ayi is, but it seems to be used to mark as subordinate those plural constructions in which it appears. Possibly its appearance is so rare because it is facultative in most syntactic environments.

The number of individual morphological forms of demonstrative pronouns is enormous. A detailed survey of Uhlenbeck's texts was made during the analysis of the morphology of demonstrative pronouns, and between Uhlenbeck's and the

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author's texts, almost all predictable forms are attested. Such as have not been recorded must certainly be of rare potential appearance, but the completely random pattern of the unattested forms rules out the liklihood that there are real gaps in the morphological pattern.

564. Inflected interrogative pronouns are all based on a theme t- .[1] The obligatory inflection for gender-person-number employs the suffixes of the specific noun inflection, exactly as in the inflection of demonstrative pronouns. Interrogative pronoun themes differ from all other substantive themes in that inflection for spatial/temporal proximity is obligatory. -ayi is precluded from appearance because of the presence of one of these suffixes.

[1]Informants used in the 1960's did not recognize the interrogative pronoun saká given by Uhlenbeck, Concise Grammar, page 104; this form implies an interrogative theme s-. Uhlenbeck indicates that the cited form was already obsolete in 1910.

The interrogative pronoun examples given below are arranged in columns by gender. Starred forms, as can be seen, are predictable, but were not recorded either by Uhlenbeck or the writer. Forms for subordinate person probably also occur, but Uhlenbeck listed none in his discussion of these pronouns, and the writer recorded none. (Uhlenbeck's texts have not been searched with these forms in mind.) The shape

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of the forms would not be difficult to predict. Some of the translations reflect the consistent use in Blackfoot of antecedentless inanimate pronominal forms as verbal adjuncts, i.e., adverbs.

Animate		Inanimate	
tamáa	'who, which?'	tsimáa	'what, which?'; 'where?'
tayáa, táàa	'who, which?'	tsiyáa	'what, which?'; 'where?'
takáa	'who, which?'	tsikáa	'what, which?'; 'when?'
taxkáa	'who, which?'	tsixkáa, tskáa	'what, which?'; 'when?'
tsiksimáa	'which?'	tsistsimáa	'what, which?'
tsiksiyáa	'which?'	tsistsiyáa	'what, which?'
tsiksikáa	'which?'	*tsistsikáa	'what, which?'
*tsiksisskáa	'which?'	*tsistsisskáa	'what, which?'

The inanimate form tskáa comes, with syncope of ||i||, from the same morphophonemic background as its parallel. This is another instance of the (at present) unpredictable syncope of ||i|| discussed in section 341.2 above. In spite of the common origin, tskáa might contrast with tsixkáa in meaning, as Uhlenbeck implies, Concise Grammar, page 105. This possible difference was not explored by the present writer.

564.1 A brief remark is in order concerning certain of the "interrogative words" listed by Uhlenbeck in paragraphs 47-49

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of his Concise Grammar. Those which are not particles are in reality phrases or clauses composed of an interrogative particle or interrogative pronoun fused with a following noun or verb. Such constructions, while often a single phonological word, are structurally transparent. Examples are: tamáatàpuxta, 'which one?', from tamáa itápuxta; nánnaxka 'where is --- ?', from annáa ánnaxka; tsàànistápiiwaats 'what is that?', from tsáa aanistápiiwaats. In precise speech such "words" show their true phrasal or clausal character.

565. The single inflected indefinite pronoun theme is IStik-. Very few examples of this theme occur in the author's field materials, but the theme is well represented in Uhlenbeck's texts. IStik- has inflection similar to that of the demonstrative pronouns, viz. obligatory inflection for gender-person-number, facultative inflection for spatial/temporal proximity. It is noteworthy, however, that whereas demonstrative themes are frequently inflected for spatial/temporal proximity, the indefinite pronoun theme has this inflection less frequently, cf. Uhlenbeck examples, Concise Grammar, paragraph 53, pages 110-113.

Certain syntactic peculiarities distinguish constructions with IStik- from other pronoun constructions. For example, this theme occasionally contains the attributive stem matt- 'again'; no other pronoun theme includes even facultative

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appearances of attributive elements. Again, pronouns based on this theme sometimes appear in constituency with demonstrative pronouns. This is not unique, for second person personal pronouns occasionally also appear in constituency with demonstrative pronouns. When IStik- is accompanied by a demonstrative pronoun, however, its inflection is more like that of a noun than a pronoun. Thus, a singular form of IStik- may appear with a plural demonstrative pronoun, exactly as occasionally occurs with nouns.

The basic inflectional forms of the indefinite pronoun are the following:

inanimate:	stsíki
animate:	stsíka
subordinate:	stsíki
inanimate plural:	stsíkists
animate plural:	stsíkiks

One additional word with the syntax and meaning of an indefinite pronoun occurs fairly often in Uhlenbeck's texts. This form, given as áiàua by Uhlenbeck, was never collected by the author. In the texts, áiàua always has an animate referend, and Uhlenbeck translates 'that certain one, so-and-so'. The word appears to have the suffix which marks third person animate singular specific in the inflection of substantives, but it is impossible to extract a theme with certainty, since no other forms occur which might be considered

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as inflectional. The word may thus be a particle rather than a pronoun.

566. Attributive pronoun themes are inflected exactly as demonstrative pronoun themes; so, for example:

aapatóxtaka	'the one behind'
isskúxtsika	'long ago, the long ago time'
spóxtaxka	'the one above'

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600. Derivation of verb themes. Description of the formation of verbal themes is organized according to the ultimate category of the theme. These categories are intransitive, stative, and transitive. Within each of these broad groupings, attention will be directed first to themes derived from stems, then to themes derived from other themes, where such occur.

610. Intransitive themes. The simplest intransitive theme is coterminous with a verb or noun stem. The stem, of course, may be composed of more than one morpheme. Themes coterminous with stems are, for example:

-Ikki- 'blow on whistle', cf. ɨ́kkiʔwa 'he whistles';

-Ippitaakii- 'be old woman', cf. nitsíppitaakii 'I am an old woman';

-itapoo- 'go in a direction', cf. itapóoyaaʔwa 'they went there'.

610.1 By far the majority of intransitive themes, regardless of their internal structure (that is, whether derived from stems or from other themes) have one of three theme-closing suffixes. These are, in order of descending frequency of appearance, -i-, -aa-, and -I-. Note, however, that what is here indicated as -i- seldom stands in an environment where ||i|| and ||I|| are in contrast. For this reason, many instances of the present -i- could be -I-. Examples of themes derived from stems by these suffixes alone are:

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-a:wakoyii- 'flow, move, as water', cf. ááwaawakoyii?wa 'it runs, it flows';

-Ikkaayayi- 'speed, run swiftly', cf. nitsíkkaaya?yi 'I run swiftly';

-IniSki' 'sing', cf. nii?ixkíta 'sing thou!';

-onni- 'have a father', cf. nimáátum?nixpa 'I have no father';

-o:pii- 'sit', cf. itáópii?wa 'he is sitting there';

-oota?si- 'own animal', cf. máátoota?siwaats 'he has no horse';

-sooSkitti- 'have big belly', cf. sooxkíttsii?wa 'he has a big belly';

-a:waSkaa- 'walk, move on foot', cf. áawaa?waxkaa?wa 'he is walking, he is moving on foot';

-Ikkawaa- 'break hole in ice', cf. ikkawáayaa?wa 'they broke a hole in the ice';

-IniSkaa- 'call name', cf. nitsín?ixka 'I call a name, I read off a roll';

-Inaa- 'be chief', cf. nínaa?wa 'he is a chief';

-kIsattiiwaa- 'be jealous', cf. nitsiksisáttsiiwa 'I am jealous';

-sootaa- 'rain', cf. soótaa?wa 'it rained';

-ISkI- 'urinate', cf. issksíyaa?wa 'they urinated';

-IttISkI- 'be safe, out of harm's way', cf. nitsisttsksi 'I am safe, I am out of harm's reach';

-sa:kI- 'go out', cf. saaksísta 'go thou out!'.

610.2 A small group of intransitive themes has a theme-closing suffix of -mm-. (One attested theme has -m-.) The suffix is unusual in that it is not universally present in constructions based on

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the appropriate stems. This suffix has been observed in affirmative and negative (presumably also interrogative) independent mode constructions inflected for third and subordinate persons; it also appears facultatively in the subjunctive in all first and second person constructions except the inclusive first person plural. Whether the suffix appears elsewhere is unknown. Examples follow:

Independent examples

paápisamminayi 'he (subordinate) shouted', cf. nitɛɛpapisa 'I am shouting';

kayóo?pummyaa?wa 'they feared', máátsikoo?pummaats 'he is not afraid', cf. nitsikóo?pu 'I fear';

áótsim?ma 'he is swimming', cf. nitáótsi 'I am swimming';

payíímm?a 'he entered', cf. nitsípii 'I entered'.

Dependent examples

koo?puyíiniki, koo?púmmiiniki 'if I feared';

saayikóo?puyiiniki, saayikóo?pummiiniki 'when I am not afraid';

saayipínnaaniiki, saayipííminnaaniiki 'when we do not come in'.

611. A variety of non-theme-closing suffixes is found. First to be described and illustrated are those which are added to stems.

611.1 Themes with meaning similar to that of the middle in Classical Greek are formed by a suffix which occurs in two allomorphs. In themes of this kind the subject is always

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intimately involved in his own action; in some cases the meaning is virtually reflexive. The two suffixal allomorphs are -II- and -IIs-, the theme-closing suffix is -i-. A very large number of examples of each allomorph was collected. Examples follow:

-II-:

-aa?sIIyi- 'sneeze', cf. nitááwaa?sii?yi 'I sneeze';

-a:pIStitikinIIyi- 'take off one's shoes', cf. aapsstsítsikiniiyita 'take off thy shoes!';

-attIIyi- 'become intoxicated', cf. aáwattsiiyi?wa 'he is drunk';

-I:SsitapIIyi- 'utilize', cf. nimúxtsissitapii?yi 'I utilize';

-IStimIIyi- 'wipe one's hands', cf. isstsimíiyita 'wipe thy hands!';

-omitikkinIIyi- 'wipe one's nose', cf. nitáomitsikkiniii?yi 'I am wiping my nose';

-pisatoo?tIIyi- 'wear an artificial hand', cf. páasatoo?tsiiyi?wa 'he has an artificial hand'.

-IIs-:

-IkkISpIIsi- 'have an injured head', cf. ikksspiisi?wa 'he got his head hurt';

-ISsikoSkokinIIsi- 'have a broken neck', cf. issikoxkokiniisi?wa 'he got his neck broken';

-IttiyakIIsi- 'suffer terrible pain', cf. asttsiyàksiisi?wa 'he is in terrible pain';

-o:Spa?ISkItonIIsi- 'have hiccoughs', cf. nitóxpa?issksistùniisi 'I have hiccoughs';

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-oyIIssi- 'grieve, mourn', cf. áóyiisi?wa 'she is mourning';

-saakinIIsi- 'suffer miscarriage', cf. sayáaksìniisi?wa 'she had a miscarriage'.

611.2 Themes with meaning very similar to those just described are formed by a suffix -aa?s-; the theme-closing suffix is still -i-. Examples are not numerous, around a dozen themes based on verbal stems appear to contain the suffix. Representative are:

-Ikkia:kaa?si- 'get trapped', cf. ikkyáákaa?si?wa 'he got trapped';

-ikIaa?si- 'hide (oneself)', cf. ásskuxsɛ́iksyaa?si?wa 'he is always hiding';

-IStakaa?si- 'boast, brag', cf. nitásstakaa?si 'I boasted';

-IStawaa?si 'grow', cf. isstawáa?si?wa 'he grew';

-YootiimIStaa?si- 'fast, do without food', cf. nitɛ́ɛ́yootsim?sstaa?si 'I am fasting'.

611.3 The suffix -Sk- forms themes with the meaning of the state which results from the action designated by the verbal stem. The theme-closing vowel is -aa-. Examples are rather numerous, the following are representative:

-aokISkaa- 'be pierced', cf. áoksskaa?wa 'it has a (round) hole pierced in it';

-aoSkaa- 'be crumbling, be caving off', cf. áawaoxkaa?wa 'it is crumbling down';

-IkkiSkaa- 'be inflated, be swollen: have boil', cf. nitsíkkixka 'I have a boil', ikkixkáa?wa 'he has a boil';

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-pakkiSkaa- 'be ruptured, be burst open', cf. payákkixkaʔwa 'it burst, it is burst or exploded';

-painiSkaa- 'be painful', cf. páinʔixkaaʔwa 'it is sore, it hurts';

-piiniSkaa' 'be ripped, torn', cf. payíínʔixkaaʔwa 'it ripped, it tore' (as fabric);

-ISaipiSkaa- 'stretch', cf. éésaipixkaaʔwa 'it is elastic, it stretches';

-ISsikooʔkakiniSkaa- 'have broken back', cf. nítssikooʔkakínʔixka 'my back is broken'.

612. Themes which contrast animate and inanimate actor are very rare in the intransitive category, although this is quite usual in stative verbs.

One kind of strictly animate intransitive theme has already been mentioned. Such are those themes which have an obligatory suffixal -mm- in third (and subordinate) persons--the precise area in which gender contrast is of importance. Gender contrast, however, is only minimal, both because of the paucity of such themes, and because the contrast is between a marked and a merely implied unmarked counterpart. In view of the clear structural contrast of gender themes in the category of stative verbs, one might expect a more positive expression of the same in intransitive verbs than that seen in the -mm- intransitive themes. As a matter of fact, only one set of genuine intransitive themes does have full derivational contrast, and these themes will now be described.

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612.1 Themes which belong to this class have the meaning 'with heat, accompanied by heat'. The suffix which forms the animate theme has the shape -ISso-. This shape conforms largely to the expectable morphophonemics except that //S// is represented by /ʔ/ unpredictably and unusually often. The inanimate suffix is attested three shapes. The most frequent allomorph is -iti-; occurring once each were the phonemic shapes /ittsi/ and /itsis/. Both of the latter are clearly variants of the former.

Both animate and inanimate suffixes are followed by the theme-closing suffix -i-.

Matching themes did not always occur, and one may guess that there are a few cases where only one gender is represented. The animate theme and example always precedes the inanimate.

-a:koSsoyi- 'boil', cf. áawaakuxsoyiʔwa 'he is boiling'; -a:koti-, cf. áawaakotsiiʔwa 'it is boiling';

-iiSpakoyiSsoyi- 'be in flames, be blazing', cf. iixpaykúyiʔsoyiʔwa 'he is in flames, he is blazing'; -o:Spakoyitti-, cf. ooxpakúyittsiiʔwa 'it (fire) is blazing';

-IkI:toSsoyi- 'warm up', cf. nitéékisistuxsoʔyi 'I am warming up'; -IkI:totisi-, cf. ksiistotsísiiʔwa 'it is warm (weather)';

-IkkanaSsoyi- 'be resplendent, sparkle', cf. ékkanaʔsoyiʔwa 'he is shining brightly';

-ISsoyi- 'be severely burned, be cooked', cf. iʔsoyíʔwa 'he got a third degree burn, he is cooked';

-ItISsoyi- 'burn', cf. ástssoyiʔwa 'he is burning'; -Itiiti-, cf. ástssitsiiʔwa 'it burned';

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-IttokinISsoyi- 'burn up', cf. nitsísttokin?sso?yi 'I am burning up'; -Ittokiniti-, cf. áaaksisttokinitsi?wa 'it will burn up completely';

-sikkoSsi- 'render grease', cf. sayíkkuxsoyi?wa 'he (fat) is rendered'.

620. Formation of verbal themes from other themes. Several intransitive verbal themes are formed by the addition of suffixes to transitive verbal themes and to noun themes. Description of derived noun themes follows that of derived verb themes.

621. Derivation from transitive themes.

621.1 Reflexive themes are formed by the suffix -o:Ss-; the theme-closing suffix is -i-. The ordinary representation of ||S|| is these forms is /x/, but a scattering of forms contained /?/. Representative are the following:

Ikimmo:Ssi- 'pity oneself', cf. nitsikím?muxsi 'I feel sorry for myself';

-IniSkoStoo:Ssi- 'sing to oneself', cf. áawattsin?ixkuxtoo?si?wa 'he sings to, for himself';

-a:kano:Ssi- 'hurt oneself', cf. nitákan?uxsi 'I hurt myself';

-ISsYaapinio:Ssi- 'rub the eyes', cf. éssyaapinyooxsi?wa 'he is wiping his eyes, rubbing his eyes';

-sa:o?to:Ssi- 'undress oneself, strip', cf. sáaɔ?tuxsi?wa 'he undressed';

-yaaSkoomo:Ssi- 'take a vow', cf. nooxkáaxkoom?uxsita 'take thou a vow!'.

621.2 Recriprocal themes are formed by the suffix -o:ti-.

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This suffix is followed by the theme-closing suffix -i-.

Examples:

-a:komimmo:tiyi-- 'love one another', cf. aakomímmotsiiyaa?wa 'they love one another';

-aSkanio:tiyi- 'doctor each other by piercing', cf. nitááwaxkànyootsiixpinnaana?a 'we doctor each other by piercing';

-IkippISṭimo:tiyi- 'have a short wrestle with each other', cf. áxkanikippsstsimotsiyoo?pa 'let us wrestle each other for a little while!';

-o:Spommoo:tiyi- 'trade, make purchases', cf. itáúxpummootsiiyaa?wa 'they traded there'.

621.3 Pseudo-intransitive themes which refer to actions directed against indefinite animate objects are formed by a suffix having two allomorphs. The allomorph -im- appears with transitive themes which end in a consonant, the allomorph -m- with transitive themes ending in a vowel. The theme-closing suffix is -aa-. Examples of themes of this type are exceedingly numerous, illustrative are:

-ai?tinnimaa- 'sew', cf. tsí?tsinnima 'I am sewing a dress';

-attipamaa- 'patch buckskin', cf. áawattsìpamaa?wa 'she is patching moccasins';

-ItISsimaa- 'brand', cf. nitsístssimaaxpinnaana?a 'we are branding';

-Ittokimaa- 'drum', cf. nitsísttokim?a 'I drum';

-Iyinnimaa- 'seize animals or birds', cf. ɛ́ɛyinnimaa?wa 'he seizes animals or birds' (hawk)';

-omowaa?kimaa- 'round up cattle', cf. nitáómowaa?kim?a 'I am rounding up cattle'.

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Many themes formed by this suffix are built on transitive themes which do not appear elsewhere. Some examples are:

-Ikaa?kimaa- 'chop lodge poles', cf. ɛ́ɛ̀kàa?kimaa?wa 'he is chopping lodge poles';

-Ikkatimaa- 'blow on a whistle or flute; bugle (of bull elks)', cf. ékkatsimaayaa?wa 'they are bugling';

-IsayaaSkimaa- 'hoist flag or banner', cf. sayáxkimaata 'hoist thou a flag!'.

-itapI:Skatimaa- 'dance in the sun dance', cf. áakitapisskatsimaa?wa 'he will dance in the sun dance';

-I:yikaa?kimaa- 'endeavor, persevere', cf. iiyikáa?kimaata 'be thou brave, try thou hard!';

-pakkInikimaa- 'mash cherries', cf. payákksinikimaa?wa 'she mashed the cherries';

621.4 Pseudo-intransitive themes which indicate action directed toward indefinite inanimate objects are formed by the suffix -a:k- added to transitive inanimate themes. The theme-closing suffix is -i-. Many examples were collected, the following are representative:

-ai?tinna:ki- 'sew things', cf. nitááwɛ́i?tsinnaki 'I am sewing things', nitáawɛi?tsin?nixpa 'I am sewing it';

-attipaa:ki- 'patch leather goods', cf. áawattsìpaaki?wa 'she is patching leather things', áawattsìpaimay 'she is patching it';

-IStISsa:ki- 'burn things', cf. nitásstssyaaki 'I am burning things', nitásstssiixpa 'I am burning it';

-Ittokia:ki- 'knock on things', cf. nitsísttokyaaki 'I knocked on things', nitsisttokiixpa 'I knocked on it';

-Iyinna:ki- 'seize, catch things', cf. nitɛ́ɛyinnaki 'I am catching things', nitɛ́ɛyin?nixpa 'I am catching it';

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-omoona:ki- 'roll things up', cf. nitáómoonaki 'I am rolling things up', nitáómoon?ixpa 'I am rolling it up'.

When the transitive inanimate theme has a formant ending in -oo-, this portion of the suffix is dropped before -a:k- is added:

-ka:SkItISta;ki- 'saw wood', cf. nitɛ́ɛ́kaxksistsstaki 'I am sawing wood', nitɛ́ɛ́kaxksistsstooxpa 'I am sawing it';

-ISkImata:ki 'weave things', cf. ésssksimataki?wa 'he is weaving', issksimátoomay 'she wove it';

-ISsIItISta:ki 'wash, launder', cf. nitássiistsstaki 'I am doing laundry', nitássiistsstoo?pa 'I am washing it';

-ISsita:ki- 'to shoot at things and hit them', cf. ayisstaki?wa 'he shot and hit', ayissitoomay 'he shot it';

-okISta:ki 'count things', cf. nitáóksstaki 'I am counting', nitáóksstooxpyaa?wa 'I am counting them';

-omatISkaSta:ki 'give away presents', cf. nitáómatsskaxtaki 'I am giving away things', áómatsskaxtoomay 'he is giving it away';

-o:Spaata:ki- 'carry, pack things on the back', cf. nitɔ́xpàataki 'I am packing things on my back', nitɔ́xpàatooxpa 'I am carrying it'.

There is one anomaly in the distribution of the suffix -a:k-. When the transitive animate theme ends in ||t||, matched by a transitive inanimate theme which has no derivational suffix, -a:k- is added to the transitive animate theme, while retaining its usual meaning. Examples:

-aapikIta:ki- 'throw things', cf. nitáápiksistaki 'I threw things', nitáápiksista?wa 'I threw him', nitáápiksiixpa 'I threw it';

-Isattinitaki- 'slit things', cf. ɛ́ɛ́sattsinitaki?wa 'he is slitting things, sayáttsinitsiiway 'he slit him, he vaccinated him', sayáttsinimmay 'he slit it';

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-Iso:yinitaki- 'fringe things', cf. ɛ́ɛ́soyinitaki?wa 'she cuts fringes', ɛ́ɛ́soyinitsiiway 'she fringed him' (leather coat), socyinimmay 'she fringed it';

-IyISkIpItaki- 'tie things up', cf. nitɛ́ɛ́yissksipistaki 'I tie things up', nitɛ́ɛ́yissksipista?wa 'I am tying him up', nitɛɛyissksipiixpa 'I am tying it up'.

630. Derivation of intransitive themes from noun themes.

631. It was noted above (610.1) that some themes are formed by the addition to a stem or theme of a theme-closing suffix alone. The theme-closing suffix -i- added to dependent or possessed noun themes forms intransitive verbal themes with the meaning 'possess the referend of the noun theme'.

Examples:

-aakiikowaami- 'have girl (friend)', cf. áakiikowaami?wa 'he has a girl friend';

-okI:ti- 'have mother', cf. saakyáóksistsi?wa 'he still has a mother, his mother is still living';

-oko?si- 'have child', cf. máátaoko?siwaats 'she has no children';

-o:mitaami- 'have dog', cf. íiksskao?mitaami?wa 'he owns many dogs';

-onni- 'have father', cf. nitún?ni 'I have a father';

-otokiimi- 'have, own hides', cf. akáótokiimi?wa 'she has a lot of hides'.

632. A suffix of -Sk- added to noun themes forms themes with the meaning of producing (or otherwise acquiring) the referend of the noun theme. The theme-closing suffix is -aa-. The suffix is apparently productive. Examples:

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-InaamaaSkaa- 'count coup, take a trophy in battle', cf. nitsínaamaaxka 'I took a weapon, I counted coup', -Inaamaa- 'bow, gun ';

-itikiSkaa- 'make moccasins', cf. nitɛ́ɛ́tsikixka 'I am making moccasins', -itiki- 'moccasin';

-okoopISkaa- 'prepare soup', cf. áókopsskaaʔwa 'she is making soup', -okoopI- 'soup';

-ookooYISkaa- 'build house', cf. nitáókooʔsska 'I am building a house', -ookooyI- 'house';

-oomiiSkaa- 'fish', cf. áómiixkaaʔwa 'he is fishing', -omii- 'fish';

-o:SpiikiSkaa- 'cut teeth', cf. áómatapooxpiikixkaaʔwa 'he is beginning to cut teeth', -o:Spiiki- 'tooth'.

633. The suffix -aaʔs- added to noun themes forms intransitive themes with the meaning 'become the referend of the noun theme'. The change of state is not considered as a natural or usual one, as of a child becoming a man, but rather as an unusual one, as through the mediation of magic, and inducing wonder. The accompanying theme-closing suffix is -i-. Derivation of themes of this kind is productive, and quite a large number of examples were collected. Representative examples are:

-aakiiwaaʔsi- 'become a woman', cf. máátattaakiiwaaʔsiwaatsinay 'he did not become a woman again';

-aStokaaʔsi- 'become a needled evergreen', cf. itaxtókaaʔsiʔwa 'he became a pine tree, turned into a pine tree';

matapiiwaʔsi- 'become a person', cf. matápiiwaaʔsiʔwa 'it (animal) became a person';

-o:Skyaáyowaaʔsi- 'turn out to be a bear, become a bear', cf. otuxkyaáyowaaʔssi 'that it was a bear, that it had turned out to be a bear';

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-yo:Skotokaa?si- 'become a rock', cf. ayóxkotokaa?siyaa?wa 'they became rocks'.

640. Derivation of intransitive themes from pronoun themes. An intransitive theme is derived from demonstrative, personal, and attributive pronoun constructions. The derivational suffix has the shape -ok-. The suffix follows the last element of the completed (neutral) pronoun construction. The meaning of the verbal portion of the theme so formed is rather obscure, but it seems to refer to position in a place rather than to existence. Constructions based on themes of this type are translated by informants as 'there this or that one is, goes', 'there is the first one', etc. The only example of this kind of theme based on a personal pronoun was translated 'It is me'.

Examples:

ánnaoka	'there he is'
ánnimaokinàyi	'there he (subordinate) was'
ánniksimaokyaa?wa	'there they (animate) were'
ánnistsimaokyaa?wa	'there they (inanimate) are'
óóm?axkaoka	'away yonder she is'
áámoyaoka	'right here he, it is'
aakóxtaxkaoka	'yonder he was'
apatúxtsikaokinay	'there he (subordinate) was, coming behind'
niistówakaoka	"It is I'

This theme is subject to further derivational suffixing, comparable to other verbal themes. So, with the diminutive suffix -?s-:

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án?nsstaoksi 'there the little thing was'

Note that the pronoun is also diminutive. Again, with the suffix of the historical mode:

ánnaokixka 'there he purportedly was'.

650. Stative themes. Stative themes always have an attributive stem as head, and separate themes regularly appear for animate and inanimate subjects. In animate themes, moreover, a distinction is often made between human and non-human subjects. Several suffixes are employed in the derivation of stative themes; some appear in dozens of different themes, others in only a few each or even in one. Consonant-final derivational suffixes are generally followed by one of the same theme-closing suffixes as appear in intransitive themes.

651. Animate themes with a non-human referend are formed by a suffix of -im- which is added to attributive stems. The theme-closing suffix is -i-. Several examples were collected accidently, and Uhlenbeck also lists many. Representative are the following:

-a:piimi- 'be white', cf. aapíímí?wa 'he (horse) is light colored';

-kiStipimi- 'be spotted, be pinto', cf. kixtsipimi?wa 'he is spotted, he is a pinto (horse)';

-omaSkimi- 'be big', cf. úm?axkimi?wa 'he is big';

-ootimi- 'be sorrel', cf. ootsímí?wa 'he is sorrel (horse, bear)';

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-Ssikimi- 'be black', cf. sikimi?wa 'he is black'

Other examples are given by Uhlenbeck, Concise Grammar, paragraph 27, pages 66-67, and in the vocabularies.

652. Stative themes with other than animal reference are formed by several suffixes. Each such theme is matched by an inanimate theme with its own formant suffix.

652.1 The commonest pair of themes has the animate suffix -ISs-, with theme-closing -i-, and inanimate -i-, also with theme-closing -i-. Examples:

-a:tooyISsi- 'be holy', cf. naatoo?ssi?wa 'he is holy'; -a:tooyii-, cf. naatooyii?wa 'it is holy';

-IISsi- 'be hard, strong, brave', cf. missi?wa 'he is hard, strong, brave'; -Ii-, cf. mii?wa 'it is hard';

-IkkISsi- 'be slender, narrow', cf. ikkssi?wa 'he is slender, he is narrow'; -Ikkii-, cf. ikkii?wa 'it is slender, it is narrow';

-Ik:SkISsi- 'be stiff with cold', cf. ksisskssi?wa 'he is stiff with cold'; -Ik:Skii-, cf. ksisskii?wa 'it is stiff with cold';

-ImmoyiISsi- 'be hairy', cf. immoyissi?wa 'he is hairy'; -Immoyii-, cf. immoyii?wa 'it is hairy';

-ISpISsi- 'be high', cf. spssi?wa 'he is high, he is gay from drinking alcohol'; -ISpii-, cf. spii?wa 'it is high';

-IttikISsi- 'be slick', cf. isttsikssi?wa 'he is slick'; -Ittikii-; cf. isttsikii?wa 'it is slippery';

-kinnISsi- 'be warm', cf. kayin?ssi?wa 'he is warm'; kinnii-, cf. kayinnii?wa 'it is warm';

-sokaa?pISsi- 'be good', cf. sokaa?pssi?wa 'he is good'; sokaa?pii-, cf. sokaa?pii?wa 'it is good';

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-ya:SsISsi- 'be kind, be good', cf. áxssiʔwa 'he is good'; -ya:Ssii-, cf. áxsiiʔwa 'it is good'.

653. Most stative themes based on stems referencing numbers have an animate -I- (or -i-), inanimate -o-. Those number themes which do not belong here are described later (655.3, 655.4), where a full list of the themes is given. It is to be understood that all themes not given in the later sections belong to the present category. Only representative examples will be given, since the group of themes which belongs here is quite large.

Examples:

-IIsitI- 'be five', cf. niisitsíyaaʔwa 'they (animate) are five, there are five of them'; -IIsito-, cf. niisitóyaaʔwa 'there are five, they (inanimate) are five';

-naaI- 'be six', cf. nɛ́ɛyaaʔwa 'they (animate) are six, there are six of them'; naao-, cf. nɔ́ɔyaaʔwa 'they (inanimate) are six, there are six of them';

-piiSkII- 'be nine', cf. piixksííyaaʔwa 'they (animate) are nine, there are nine of them'; piiSkIo-, cf. piixksyóyaaʔwa 'they (inanimate) are nine, there are nine of them';

-kiipI- 'be ten', cf. kiipíyaaʔwa 'they (animate) are ten, there are ten of them'; kiipo-, cf. kiipóyaaʔwa 'they (inanimate) are ten, there are ten of them';

-I:tikopotI- 'be twelve', cf. nitsiistsikópotsspinnaanʔa 'there are twelve of us'; na:tikopoto-, cf. náátsikopotoyaaʔwa 'they (inanimate) are twelve, there are twelve of them'.

654. A scattering of examples of stative stems was collected in which a suffix -isi- (or with either vowel ||I|| instead) is found. A theme-closing -i- follows the suffix. Some of the examples appear to be inanimate, others animate, so Uhlenbeck's

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statement (A Blackfoot-English Vocabulary, page 87, entry ákaisíu) that the referend may be either animate or inanimate may be correct. Examples of this kind, and indeed the (unlikely) theoretical possibility that some stative themes do not distinguish the gender of the subject, should be investigated further.

655. The remaining theme types all have one feature in common: the animate theme is always closed by a suffixal -mm- when inflected for third or subordinate persons. It will be recalled that an identical structural feature was present with certain intransitive themes (610.2). In stative themes the suffix usually redundantly expresses the animate gender of the theme, but in some cases the animate theme is marked in no other way. This feature should be studied further, since complete paradigms have not been collected for themes of this kind.

655.1 A small group of themes has animate -I-, inanimate -o-. The following examples include all the known themes of this type:

-a:kayI- 'be much', cf. nitáka?yi 'there's a lot of me', aakayím?ma 'there is a lot of him'; -a:kawo-, cf. aakawó?wa 'there is a lot of it';

-ISsokI- 'be heavy', cf. kítssoksi 'thou art heavy', soksím?ma 'he is heavy'; -ISsoko-, cf. íssoko?wa, sokó?wa 'it is heavy';

-itimI- 'stink, smell', cf. nitsitsím?i 'I stink', itsimím?ma 'he stinks'; -itimo-, cf. itsimó?wa 'it stinks';

-omaSkI- 'be big', cf. nitúm?axksi 'I am big', úm?axksim?ma 'he is big'; omaSko-, cf. úm?axko?wa 'it is big'.

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One theme has animate -i-, inanimate -o-:

kI:saIki- 'be sharp', cf. iiksíksisaikim?ma 'he (knife) is sharp'; kI:saako-, cf. ksiisáako?wa 'it is sharp'. The slight difference in shape between the two themes is probably due to vowel assimilation in the environment of stress (inanimate theme).

655.2 Certain stative themes, for the most part based on attributive stems referencing colors or other phenomena of appearance, all contain a final meaning 'look like'. The animate form of the final is -Ina-, the inanimate form is -Inatti-. Representative examples are the following:

-Ikkana- 'shine, be resplendent', cf. nitsíkkan?a 'I shine, I am bright', íkkanam?ma 'he is shiny, radiant'; -Ikkanatti-, cf. íkkanattsi?wa 'it is shiny, it is bright';

-ISsikIna- 'appear black', cf. nitssiksín?a 'I am black', siksinám?ma 'he looks black, he is black'; -ISsikInatti-, cf. siksináttsi?wa 'it looks black, it is black';

-itiIna- 'be handsome', cf. iikítsiinam?ma 'he is very nice looking';

kIkkIna- 'appear white', cf. ksikksinám?ma 'he looks white, he is white'; kIkkInatti-, cf. ksikksináttsi?wa 'it looks white, it is white';

otISkoIna- 'appear blue', cf. útsskuinam?ma 'he looks blue, he is blue'; otISkoInatti-, cf. útsskuinattsi?wa 'it looks blue, it is blue'.

An example based on a noun stem rather than on an attributive stem is:

onnikiInatti- 'be milk-like in appearance', cf. ómnikiinattsi?wa 'it looks milky'

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655.3 In stative themes based on stems for 'four' and 'eight', the animate theme has -yi- (or -YI-), the inanimate theme has no suffix:

niisooyi- 'be four', cf. niisooyímmyaaʔwa 'they are four, there are four'; niisoo- cf. niisóóyaaʔwa 'they are four, there are four';

naanisooyi- 'be eight', cf. náánisooyimmyaaʔwa 'they are eight, there are eight'; náánisoo- cf. náánisooyaaʔwa 'they are eight, there are eight'.

655.4 Stative themes based on stems for 'one', 'two' 'three', and 'seven' are alike, except that the theme-closing -mm- is present in those forms where contrast is needed. (Examples for other than third person subject were not collected, but one may predict that the suffixal -mm- would be absent.) Examples:

nitokISkaa- 'be one', cf. nitóksskamʔma 'he is one, there is one'; nitóksskaaʔwa 'it is one, there is one';

naatookaa- 'be two', cf. náátookammyaaʔwa 'they are two, there are two'; náátookaayaaʔwa 'they are two, there are two';

niokISkaa- 'be three', cf. nióksskammyaaʔwa 'they are three, there are three'; nióksskaayaaʔwa 'they are three, there are three';

iSkitikaa- 'be seven', cf. ixkitsíkammyaaʔwa 'they are seven, there are seven of them'; ixkitsíkaayaaʔwa 'they are seven, there are seven';

655.5 There are other stative themes which differ only by the presence of -mm- in the animate theme; so, for example, themes with the final -IkI- 'stick':

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-omaSkIkI- 'be big stick, tree', cf. úm?axksiksim?ma 'he is a big tree'; -omaSkIkI- 'be big stick', cf. úm?axksiksi?wa 'it is a big stick'.

656. In quite a few instances only one of a pair of stative themes was collected. This is presumed to be accidental for the most part, although there must be instances when one of a pair, for semantic reasons, seldom occurs, if ever. Thus, the inanimate theme -a:pinako- 'become light', cf. aapináko?wa 'it dawns, it shows light', probably has no animate counterpart. Similarly, the inanimate theme -ISkiinatti- 'be dark', cf. skíinattsi?wa 'it is dark, night has fallen' certainly has no animate counterpart with similar meaning.

657. Diminutive stative themes are formed by a suffix of -?s- added to the stative theme. The theme-closing suffix is -i-. Only those examples of diminutive stative themes were collected, but the formation of such themes is evidently productive. Examples:

-itapiinammI?si- 'look like a person, look like a human being', cf. níi?tuxksskai?tapiinam?siixka 'they say the poor little thing (girl) looked like a real person then';

-okaa?pininatti?si- 'look shabby', cf. ásskao?kaa?pininattsi?siixka 'they say that the poor little thing (tent) was so shabby looking';

-yootipinammI?si- 'be dingy looking', cf. ootsipínam?siixka 'they say that the poor little thing (girl) was so dingy looking'.

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660. Derivation of transitive themes.

661. The simplest transitive theme is coterminous with a verbal stem. Themes of this kind are either animate or inanimate. A very large number of examples was collected, of which the following are typical:

-Ina- 'draw', write', cf. nítsinaaʔwa 'I drew his picture', nitsinaixpa 'I wrote it';

-ISta- 'pound, drive in', cf. nitásstaaʔwa 'I am picketing him (horse)', nitásstaixpa 'I am driving it (a stake) in';

-Iʔs- 'burn, cook', cf. nitsíʔsaʔwa 'I burned him, I cooked him', nitsíʔsixpa 'I burned it, I cooked it';

-IkIIn- 'touch', cf. nitsiksíiinaʔwa 'I touched him', nitsiksiinʔixpa 'I touched it';

-IkItto- 'prick, jab', cf. nitɛ́ɛ́ksisttaaʔwa 'I am pricking him, I am innoculating him', nitɛ́ɛ́ksisttoiʔpa 'I am jabbing it';

-omoon- 'wrap, roll up', cf. nitaómoonaʔwa 'I am wrapping him up', nitaómoonʔixpa 'I am rolling it up';

-o:Skot- 'give', cf. nítuxkotaʔwa 'I gave him', nítuxkotsixpa 'I gave it'.

662.1 Themes with the meaning 'perform with the mouth or the teeth' are formed by transitive animate -p-, transitive inanimate -St-. Illustrative are:

-a:top- 'taste', cf. áátopiiway 'he tasted him', -a:toSt-, cf. áátuxtsimay 'he tasted it';

-IkkIStinip- 'sting', cf. ékkststsinipiiway 'he is stinging, pricking him';

-IpakkIp- 'smash with the teeth, cf. ɛ́ɛ́pakksipiiway 'he is smashing him with his teeth', -IpakkISt-, cf. ɛ́ɛ́pakkststsimay 'he is smashing it with his teeth';

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-Ipikkip- 'chew', cf. ɛ́ɛ́pikksipiiway 'he is chewing him', -IpikkISt-, cf. ɛ́ɛ́pikksstsimay 'he is chewing it';

si.kIp- 'seize with the mouth, bite', cf. siiksipiiway 'he bit him', si.kISt-, cf. siiksstsimay 'he bit it';

-Isono?iSkip- 'kiss', cf. nitsúno?isskipa?wa 'I kissed her', -Isono?iSkiSt-, cf. nitsúno?iskixtsixpa 'I kissed it'.

662.2 A few examples were collected in which the transitive animate theme has a suffixal -mm-, the transitive inanimate a suffixal -Stoo-. Themes of this kind refer to cutting:

-IkaSkIIStImm- 'saw', cf. nitɛ́ɛ́kaxksisstsimma?wa 'I am sawing him in two', -IkaSkIIStIStoo-, cf. nitɛ́ɛ́kaxksisstsstooxpa 'I am sawing it up';

-IkIsItImm- 'sharpen', cf. ɛ́ɛ́ksisistsimmiiway 'he is sharpening him (knife)', -IkIsItISt-, cf. ɛ́ɛ́ksisistsstoomay 'he is sharpening it (axe)';

-IItinimm- 'cut', cf. nitsíístsinimma?wa 'I cut him';

-Iso:yinimm- 'cut fringes', cf. nítsoyinimma?wa 'I fringed him'.

662.3 Other themes which seem to reference an action by a cutting edge have a different type of structure. Many transitive animate themes of this kind have a suffixal -t-, and in some cases a transitive animate theme with a different suffix, or no suffix, also occurs. The transitive inanimate theme is poorly represented in the examples, but those which occur have no derivational suffix. Examples:

-a:Skatinit- 'eviscerate', cf. nitáxkatsinita?wa 'I cut him open, I gutted him'.

-IItinit- 'cut', cf. nitsíístsinita?wa 'I cut him', (also nitsíístsinimma?wa 'I cut him'); -IItini-, cf. ayíístsinimmay 'he cut it up';

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-Iso:yinit- 'fringe', cf. ɛɛsoyinitsiiway 'she is fringing him (leather jacket)', (also ɛɛsoyinimmiiway 'she is fringing him');

-IyaamiSkinit- 'cut hair', cf. ɛɛyaam?ixkinitsii?wa 'he is cutting her hair';

ka:Skaanit- 'cut off nose', cf. káxkaanitsiiway 'he cut off her nose';

ka:SkInit- 'cut off', cf. kaaxksinítsiiway 'he cut him off';

-Ika:Sko?kit- 'cut off head', cf. nitsíkaxko?kita?wa 'I cut off his head', (also nitsíkaxko?kyaa?wa 'I cut off his head');

piinit- 'cut, pare up', cf. payíinitsiiway 'he cut him up into small pieces', (also payíiniiway 'he pared him up'); piini-, cf. payíinimay 'he cut it up'.

Two additional slightly divergent themes also probably belong here: -I?itt- 'flay with a blade', cf. nitɛɛ?itta?wa 'I am skinning him with a knife'; si:saapitt-, 'cut narrow strips', cf. siisáápittsisa 'cut him (hide) into strips'. Possibly also here is -I?nit- 'kill, cf. nitsí?nita?wa 'I killed him.'

Other themes are found with structure identical to that outlined here (see below, 667). The latter, however, do not have the consistency in meaning exhibited by the present themes, nor do parallel transitive animate themes with the same meaning occur. For this reason it is assumed that homophonous suffixes are involved, and the two are described separately.

663. Several transitive themes are formed by elements which pattern rather like the suffixes just described, but which

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are identical, or virtually so, with well-attested verbal stems. These will be described as suffixes, but there is some doubt in the author's mind as to their true status. It is possible, for instance, that the most correct analysis would class these as stem-final elements rather than as suffixes.

663.1 Performance of an action by using the hands is indicated by the suffix -inn-. The theme so formed is either animate or inanimate. Typical examples are:

-Ikippoyinn- 'squeeze, wring', cf. nitáaaksiksip-poyinnaʔwa 'I am going to squeeze him, wring him'; nitáaaksiksippoyinʔnixpa 'I will wring it out';

-ISpinn- 'lift, hold up', cf. isspínniiway 'he lifted him up'; ásspinnimay 'he is holding it up';

-ISsinn- 'break with the hand', cf. nitássinnaʔwa 'I am breaking him with my hand'; nitássinniʔpa 'I am breaking it by hand';

-IʔInn- 'skin by hand', cf. iʔínniiʔwa 'he pulled off his skin';

-okISpainn- 'plaster, daub', cf. nitáókssp<n?nixpa 'I am plastering it, daubing it';

-opottinn- 'compress', cf. áóputtsinniiway 'he is pressing him'; áóputtsinnimay 'he is compressing it'.

Compare with these the stem -Inn- 'seize, hold in the hand': nitsínnaʔwa 'I seized him, held him'; nitsínʔnixpa 'I held it'.

663.2 Other themes with the meaning 'perform with the hand' are derived by transitive animate -oʔto-, transitive inanimate -oʔt-. Examples:

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-Ika:SkInio?to- 'cut, tear', cf. nitáaaksikaxkinyo?towaa?wa 'I will tear him apart'; -Ika:SkInio?t-, cf. nitáaaksikaxksinyo?tsixpa 'I will tear it up';

-I:Ssinio?to- 'catch, grab', cf. nitsíssinyo?towaa?wa 'I grabbed him'; -I:Ssinio?t-, cf. nitsíssinyo?tsixpa 'I grabbed it';

-ominio?t- 'break off portion', cf. nitáominyo?tsixpa 'I am breaking off a piece';

pakkio?to- 'smash', cf. payákkyo?toyiiway 'he smashed him with his hand;

sa:o?t- 'take out, take off', cf. sáao?tsimay 'he took it out, he took it off';

sattikanio?t- 'scratch', cf. sayáttsikanyo?tsimay 'he scratched it'.

Compare with these the stem -o?t-, 'take': -o?to-, cf. nitáo?towaa?wa 'I am taking him'; -o?t-, cf. nitáo?tsixpa 'I am taking it'.

663.3 An isolable -Sk- appears in a number of themes, all having meanings associated with motion of the body or pressure by the feet. The transitive animate theme has -Sko-, the transitive inanimate theme has -Sk- alone:

-IkIsaISko- 'chase', cf. nitsíksisasskowaa?wa 'I chased him';

-IpakkiSko- 'burst with the foot', cf. nitsipákkixkowaa?wa 'I burst him open'; -IpakkiSk-, cf. nitsipákkixkixpa 'I burst it with my foot';

-IpokkIniSk- 'squash with the foot', cf. nitsipókksinixki?pa 'I squashed it with my foot';

-IpokkISk- 'mash with the foot', cf. nitsipókksski?pa 'I mashed it with my feet';

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-i:SpattISko- 'push, jostle, run over', cf. iixpáttsskowaa?wa 'he got run over'.

The stem //ISk// means 'break with the foot', cf. -ISko-, nitásskowaa?wa 'I am breaking him with my feet'. ||Sk|| appears as a final referencing motion by feet in intransitive themes, cf. -aawaSkaa- 'walk', nitáawaa?waxka 'I am walking'.

663.4 Themes which indicate an action accomplished or accompanied by heat or fire are formed by a suffix -Ss-. Gender is not differentiated in the themes so formed.

-a:koSs- 'boil', cf. áawaakuxsiiway 'he is boiling him', áawaakuxsimay 'he is boiling it';

-I:SkanakISs- 'shoot with a fire arrow', cf. nitsísskunakssa?wa 'I shot him with a fire arrow';

-ItISs- 'burn', cf. nitástssa?wa 'I am burning him, branding him', nitástssixpa 'I am burning it';

-IttokinISs- 'burn up', cf. isttokín?ssiiway 'he burned him up', isttokín?ssimay 'he burned it up';

-IkI:toSs- 'warm up', cf. nitɛ́ɛksistuxsa?wa 'I am warming him up', nitɛɛksistuxsixpa 'I am warming it up';

sikkoSs- 'render grease', cf. sayíkkuxsimay 'he rendered it';

so.kinISs- 'doctor with heat', cf. ɛ́ɛsokin?ssiiway 'he is doctoring him with heat'.

The stem -ISs- has the meaning burn and cook, cf. nitsí?sa?wa 'I burned him, I cooked him', and nitsi?sixpa 'I burned it, I cooked it'.

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664. Similar to the instrumental themes are themes which specify an action whose performance or results have an effect on the emotions of the subject. Also here, for apparently formal reasons, are themes meaning 'look at'. The transitive animate theme is formed by the suffix -mm-, the transitive inanimate by the suffix -ʔt-. A very large number of examples was collected, of which the following are typical:

-aImm- 'woo', cf. ɛ́mmiiway 'he wooes her';

-a:komImm- 'love', cf. nitaákomimmaʔwa 'I love her', -a:komIʔt-, cf. nitaákomiʔtsixpa 'I love it';

-IkaImm- 'dislike', cf. nitsiiksikɛ́mmaʔwa 'I dislike him very much';

-IpisatImm- 'marvel at, wonder at', cf. nitɛ́ɛpisatsimmaʔwa 'I marvel at him';

-IpoyinaImm- 'be annoyed at', cf. nitsiiksipoyinɛ́mmaʔwa 'I am annoyed at him', -IpoyinaIʔt-, cf. nitsiiksipoyinɛ́iʔtsixpa 'I am annoyed at it';

-ISkISkamm- 'care for, watch over', cf. nitássksskammaʔwa 'I care for him, watch over him', -ISkISkaʔt-, cf. nitássksskaʔtsixpa 'I take care of it';

-ISsamm- 'look at', cf. nitássammaʔwa 'I am looking at him', -ISsaʔt-, cf. nitássaʔtsiʔpa 'I am looking at it';

-IttImm- 'be angry with or about', cf. nitsiiksisttsimmaʔwa 'I am very angry at him', -IttIʔt-, cf. nitsiiksisttsiʔtsixpa 'I am very angry about it';

-onImm- 'be concerned or anxious about', cf. nitsiikunimmaʔwa 'I am anxious about him';

sikimImm- 'refuse to part with, be stingy with', cf. sikimimmiiway 'he will not part with him', sikimIʔt-, cf. sikímiʔtsimay 'he is stingy with it';

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-yaaSsImm- 'like', cf. nimáátaaxsimmàwaats 'I do not like him', -yaaSsI?t-, cf. nimáátaaxsi?tsixpa 'I do not like it'.

665. Frequently encountered are transitive themes formed by a suffixal -i-. There is no gender contrast in the themes so formed:

-aa?ki- 'strike, hit', cf. nitáawàa?kyaa?wa 'I am striking him', nitáawàa?kiixpa 'I am striking it';

-aSkani- 'pierce, sew', cf. nitáá?waxkànyaa?wa 'I am piercing him, doctoring him by piercing', nitáá?waxkanii?pa 'I am sewing it';

-Ikaa?ki- 'chop', cf. nitɛ́ɛkaa?kyaa?wa 'I am chopping him (log)', nitɛ́ɛkaa?kiixpa 'I am chopping it';

-IkkitISti- 'sacrifice, make offering', cf. nitsíkkitsstsyàa?wa 'I made a sacrifice of him (blanket)', nitsíkkitsstsiixpa 'I sacrificed it, made an offering of it (tobacco)';

-ISsi- 'rub, wipe', cf. nitássyaa?wa 'I am rubbing him, wiping him', nitássii?pa 'I am wiping it';

-ISsiki- 'break', cf. nitássikyaa?wa 'I am breaking him', nitássikii?pa 'I am breaking it';

-o:Spatti- 'tumble, cause to sprawl', cf. nítuxpàttsyaa?wa 'I knocked him down, I ran over him', nítuxpàttsiixpa 'I sent it hurtling';

sii?ki 'cover', cf. sayíi?kiiway 'he covered him', sayíi?kiimay 'he covered it'.

666. Transitive themes are formed from a very large number of verbal stems by the addition of a suffixal -at-. The transitive animate theme requires no further suffix, the transitive inanimate has an additional -oo-. Examples:

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-aamat- 'smell', cf. nitáawaamata?wa 'I smell him', nitáawaamatoo?pa 'I smell it';

-aapISkat- 'place on a bet, wager with', cf. nitáapsskata?wa 'I placed him on a bet, I wagered him', nitáapsskatooxpa 'I wagered it';

-aSkomat- 'shoot at', cf. áxkumatsiiway 'he shot at him', áxkumatoomay 'he shot at it';

-IkIsat- 'hide', cf. nitɛ́ɛ́ksisata?wa 'I am hiding him', nitɛ́ɛ́ksisatoo?pa 'I am hiding it';

-I:nakat- 'roll, cause to roll', cf. nitsiinakata?wa 'I rolled him', nitsiinakatooxpa 'I rolled it';

-InniStat- 'boil', cf. nitsin?nixtata?wa 'I boiled him', nitsin?nixtatooxpa 'I boiled it';

ka:moo?sat- 'steal', cf. káamoo?satsiiway 'he stole him', káamoo?satoomay 'he stole it';

-o:Spommat- 'buy', cf. nitɔ́xpummata?wa 'I am buying him', nitɔ́xpummatoo?pa 'I am buying it'.

667. Transitive animate themes are formed from specific stems by a suffix of -t-. There is no corresponding derived transitive inanimate theme, although there once must have been, since intransitive themes derived by the suffix -a:k- 'act on indefinite inanimate objects' regularly appear with a ‖t‖-theme as base. In the present language the transitive inanimate theme is coterminous with the verbal stem. Examples are not numerous:

-aapikIt- 'throw', cf. nitáapiksista?wa 'I threw him', -aapikI-, cf. nitáapiksiixpa 'I threw it';

-Ika:wa? IpikIt- 'open', cf. nitsikawɛ́i?piksista?wa 'I opened him', -Ika:wa?IpikI', cf. nitsikawɛ́i?piksiixpa 'I opened it';

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-IpikIt- 'pound', cf. nitɛ́ɛ́piksistaʔwa 'I am pounding him', -IpikI-, cf. nitɛ́ɛ́piksiiʔpa 'I am pounding it';

-IYISkIpIt- 'tie up', cf. nitɛ́ɛ́yissksipistaʔwa 'I am tying him up', -IYISkIpI-, cf. nitɛ́ɛ́yissksipiiʔpa 'I am tying it up';

-omokapIt- 'tie the feet together, hobble, cf. nitáómokapistaʔwa 'I am hobbling him (horse)'.

As noted above (662.3) these sets are identical in structure to themes in which a suffixal transitive animate -t- is presumed to be an instrumental suffix referring to action by a cutting edge. It is possible that both groups are in reality a single group.

668. Three themes were encountered which have a transitive animate -t-, transitive inanimate -too-:

-a:nIt- 'tell, say', cf. nitáánistaʔwa 'I told him'; -a:nItoo-, cf. nitáánistooxpa 'I said it';

-a:wapIt- 'hang, suspend', cf. nitááwapistaʔwa 'I put him in a swing'; -a:wapItoo-, cf. nitááwapistooxpa 'I hung it up';

-ISsit- 'wrap up, bundle up', cf. nitéssitaʔwa 'I am wrapping up the baby'; -ISsitoo-, cf. nitéssitooxpa 'I wrapped it up'.

669. Transitive animate themes are formed from specific stems by the suffix -o-. The corresponding transitive inanimate theme is coterminous with the verbal stem. Representative examples are:

-Isaato- 'miss in shooting', cf. nítsaatowaaʔwa 'I missed him'; -Isaat-, cf. nítsaatsixpa 'I missed it (target)';

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-ISkIno- 'know, recognize', cf. nitssksínowaa?wa 'I knew him'; -ISkIn-, cf. nitssksini?pa 'I knew it';

-IStonno- 'fear', cf. nitásstumnowaa?wa 'I fear him'; -IStonn-, cf. nitásstun?nixpa 'I fear it';

-Itipoo?to- 'put down, place', cf. istsipóo?toosa 'put thou him down!'; -Itipoo?t-, cf. istsipóo?tsita 'put thou it down!';

-IyooSko- 'await', cf. nitéeyooxkowaa?wa 'I am waiting for him'; -IyooSk-, cf. nitéeyooxki?pa 'I am waiting for it';

-o:Skoono- 'find', cf. nikkóxkoonowaa?wa 'I already found him'; -o:Skoon-, cf. nikkóxkoon?ixpa 'I already found it';

-yooSto- 'hear', cf. nitóxtowaa?wa 'I heard him'; -yooSt-, cf. nitóxtsi?pa 'I heard it'.

670. Transitive animate themes which reference the performance of an action for another's benefit are formed from stems by a suffix of -o-. Derivation of these themes is apparently no longer productive with stems. There are no inanimate counterparts for these themes. Quite a large number of themes of this kind was deliberately elicited, the following are illustrative:

-I:mISko- 'save food, keep food', cf. nitáaaksim?sskowaa?wa 'I will take the rest of the food to him';

-InniSto- 'boil', cf. nitéén?nixtowaa?wa 'I am boiling for him';

-Innooto- 'butcher, flay', cf. niténnootowaa?wa 'I am butchering for him, skinning for him';

-IpaISko- 'dance', cf. nitéépasskowaa?wa 'I am providing music so he can dance';

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-Ipommo- 'bestow supernatural power, initiate into a society, transfer a bundle', cf. nitɛ́ɛ́pummowaaʔwa 'I am transferring a bundle to him';

-Isaamo- 'hunt', cf. nítsàamowaaʔwa 'I am hunting (i.e., chasing game) for him';

-Isiiʔko- 'prepare bed', cf. nitɛ́ɛ́siiʔkowaaʔwa 'I am making a bed for him';

-iSkiiʔto- 'bake', cf. nitɛ́xkiiʔtowaaʔwa 'I am baking for her';

-i:tiniko- 'relate events', cf. ɛ́ɛ́tsinikowaaʔwa 'we (inclusive) are telling stories to him';

-otisaaʔko- 'tatoo', cf. áótsisàaʔkoyiiway 'he is putting a tatoo on for him'.

671. There are several other likely formants for transitive themes, but in most cases the patterns and their mechanics are not well enough attested to permit description. The problem is complicated in some cases by the presence of what are quite likely stem final elements. More research must be devoted to this fascinating area, a task which the writer hopes to undertake when additional field work is possible.

680. Derivation of transitive themes from noun stems.

681. Transitive animate themes are derived from animate dependent noun stems by a suffix which may appear in two allomorphs. These themes have the meaning 'to have or treat one as ---'. The most reliable examples (collected late in the field work) all have -mm- (preceded by connective ‖I‖ following consonant-final stems). Examples collected early in the

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field work have -m- rather than -mm-. -m- may be a mishearing of -mm-, numerous other instances of such mishearing are known to have occurred. On the other hand, real allomorphy may be involved. Uhlenbeck's examples (Concise Grammar, paragraph 79, pages 146-147) include some examples of each type. A double consonant in Uhlenbeck's recordings is usually reliable, but single consonants are often mistaken, so that the question cannot be settled without further investigation with informants. Examples:

-IkkIoʔkoam- 'have as relative', cf. nitsikksyóʔkoamayaaʔwa 'I am related to them, I have them as relatives';

-okI:tImm- 'have as mother', cf. nitáóksistsimmaʔwa 'I have her for mother';

-onnIm- 'have as father', cf. nitónnimaʔwa 'I have him for father';

-o:Skoyim- 'have as son', cf. nitóxkoyimannannʔa 'we have him for son';

-otaʔsImm- 'to have as beast of burden', cf. áótaʔsimmiiway 'he has him for a horse'.

690. Derivation of transitive themes from other themes. Derivation of transitive themes from other themes, either verbal or nominal, requires additional suffixation. Several such suffixes occur, some identical to suffixes used in derivation from stems.

691. Many transitive animate themes are formed from intransitive themes by the suffix -m-. Intransitive themes which contain the preverb ii/o:Spok- 'along with'

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regularly take this suffix as formant for the transitive animate theme. Apparently also predictably taking -m- are transitive animate themes based on reciprocal themes (622). Matching transitive inanimate themes are lacking for most themes of this kind. Where such themes are available there is almost no agreement as to theme formant; transitive inanimate themes are accordingly not cited among the examples. More investigation is required to determine whether transitive animate themes with -m- have a regular and predictable relationship with any transitive inanimate themes.

Examples:

-a:koSkoo:tiim- 'argue', cf. nitáawaakuxkootsiimaʔwa 'I am arguing with him';

-a:timoyiSkaam- 'entreat', cf. nitáawaatsimoʔyixkaamaʔwa 'I am praying to him';

-iiʔtISkaam- 'fight', cf. éiʔtsskaamiiʔway 'he is fighting with him';

-iStIttam- 'swallow', cf. nítstisttamaʔwa 'I swallowed him' (chewing gum)';

-IStimo:tiim- 'wrestle', cf. nitásstsimotsiimaʔwa 'I am wrestling with him';

-Ittikinam- 'slide', cf. ásttsikinamiiway 'he is sliding him';

kI:kIIm- 'whistle with the lips', cf. ksiiksiimiiway 'he whistled to him';

-o:SpokIooʔkaam- 'sleep with', cf. itóxpoksooʔkaamiiʔwa 'he sleeps with her';

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-o:SpokokISkaa?sim- 'overtake', cf. nituxpokoksskaa?sima?wa 'I caught up with him';

-o:Spokoom- 'accompany', cf. nitóxpokòoma?wa 'I am going with him';

-o:Spoko:piim- 'marry, cohabit', cf. nitsítuxpokopiima?wa 'I married her then';

-simaatam- 'carry on back', cf. simáátamii?wa 'he is carrying him on his back'.

692. Transitive themes are derived from certain apparently true intransitive verbs by transitive animate -ISkoSto-, transitive inanimate -ISkiSt-. It is likely that more than one morpheme is present, but if so, their identities are unknown. These themes seem to be structurally comparable to English transitive expressions derived from intransitive verbs by a preposition: 'laugh' > 'laugh at'. Transitive animate examples are numerous, transitive inanimate examples are rarer. The following are typical:

-a:sa?inISkoSto- 'weep for', cf. ááwaasai?nsskuxtoyiiway 'she is weeping for him'; cf. ááwaasai?ni?wa 'she is crying';

-a:timo?iSkaaSkoSto- 'pray for', cf. nitááwaatsimo?ixkaaxkuxtowaa?wa 'I am praying for him'; cf. nitááwaatsimo?ixka 'I am praying';

-a?ISkoSto- 'point at', cf. nitáaakai?sskuxtowaa?wa 'I will point at him', -a?ISkiSt-, cf. nitáaakai?sskixtsixpa 'I will point at it'; cf. nitaáwa?yi 'I am pointing';

-IkIaa?sISkoSto- 'hide from', cf. nitáaaksiksyaa?sskuxtowaa?wa 'I will hide from him'; cf. nitsiksyáa?si 'I hid';

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-InikkISkoSto- 'be angry at', cf. nitɛ́ɛ́nikksskuxtowaaʔwa 'I am mad at him'; cf. nitɛ́ɛ́nikksi 'I am angry';

-I:poyiISkoSto- 'stand for, vouch for', cf. nitáaaksipoyisskuxtowaaʔwa 'I will stand for him, vouch for him'; -I:poyiISkiSt-, cf. nitsipoyisskixtsixpa 'I can stand it'; cf. nitsipɛ́ɛ́poʔyi 'I am standing upright';

-IsaIStoSkoSto- 'announce to', cf. ɛ́ɛ́sasttuxkuxtoyiiway 'he is announcing to him'; cf. ɛ́ɛ́sasttoʔwa 'he is announcing';

-Isa:yiipitISkoSto- 'lie to', cf. nitsaayiipitsskuxtowaaʔwa 'I lied to him'; cf. nitsaayiipitsi 'I lie';

-IttayiISkoSto- 'dive for', cf. nitásttayisskuxtowaaʔwa 'I am diving for him in order to find him'; -IttayiISkiSt-, cf. nitásttayisskixtsixpa 'I am diving for it'; cf. nitásttayii 'I am diving';

-o:SpaʔipiISkoSto- 'jump over', cf. nituxpáiʔpisskuxtowaaʔwa 'I jumped over him'; cf. nituxpáiʔpii 'I jumped'.

An additional form of this type is of interest because the theme has been shortened, presumably by haplology:

-IniSkiSkoSto- 'sing to', cf. nitɛ́ɛ́nʔixkuxtowaaʔwa 'I am singing to him'; cf. nitɛ́ɛ́nʔixki 'I am singing'.

693. Transitive animate themes with causitive meaning are formed by the suffix -atti-. There is no corresponding transitive inanimate theme. The suffix is added to the intransitive theme when the theme-closing vowel is -i- or -I- following a consonant, but is added to the stem when the theme-closing vowel follows a vowel or is -aa-.

Formation of themes of this kind has been tested rather

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extensively. Representative examples are:

-aa?siiyatti- 'sneeze', cf. nitáá?siiyàttsyaa?wa 'I made him sneeze'; cf. àa?siiyi?wa 'he sneezed';

-a:pIStitikiniiyatti- 'take off shoes', cf. nitáápsstsitsikiniiyàttsyooka 'he made me take off my shoes', cf. nitaápsstsitsikinii?yi 'I took off my shoes';

-IkIsattiiwatti- 'make jealous', cf. nitsíksisattsiiwàttsyaa?wa 'I made her jealous', cf. ksisáttsiiwaa?wa 'she is jealous';

-Ioo?katti- 'sleep', cf. nitéyoo?kàttsyaa?wa 'I put him to sleep', cf. éyoo?kaa?wa 'he is sleeping';

-i:pakiiyatti- 'move camp', cf. iipakíiyattsii?wa 'he made him move camp', cf. iipakiiyi?wa 'he moved camp';

-i:piyatti- 'sit', cf. íipyàttsii?wa 'he seated him', cf. iipii?wa 'he sat';

-i:tapaaatti- 'go in a direction', cf. nitsiitapaaàttsyaa?wa 'I made him go there', cf. iitapóo?wa 'he went there';

-Ittokimatti- 'drum', cf. nitásttokimàttsyaa?wa 'I am making him drum', cf. isttókimaa?wa 'he drummed';

-okISkaa?siatti- 'run', cf. nitáóksskaa?syàttsyaa?wa 'I am running him', cf. áoksskaa?si?wa 'he is running';

-o:Skomiatti- 'squeak, make noise (animal)', cf. nítuxkumyàttsyaa?wa 'I made him squeak', cf. ɔxkumi?wa 'he is squeaking, making a noise'.

694. In an earlier section of this chapter (670) was described the animate suffix -o-, by which are formed double goal themes, that is, themes which reference the performance of an action (first goal) for another's benefit or in his place (second goal). Considered at that time was the deri-

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vation of transitive animate themes from verbal stems.

In this section will be described the derivation of semantically equivalent themes by a suffix whose commonest shape is -omo-. This suffix appears with both verbal stems and transitive inanimate themes. As usual, transitive inanimate formants such as -atoo- and -too- are shortened to -at- and -t- respectively when -omo- is added. The allomorphy of the suffix is as follows: following vowels, -mo- is found; -omo- is found in other environments.

It is apparently not possible to know when -omo- themes can be expected to be formed on a transitive theme rather than on a verbal stem. In fact, during testing of a fairly large group of typical stems and themes it was discovered that parallel themes of this kind often occur, one derived from the verbal stem, one from the transitive inanimate theme. Moreover, these two are often matched by a theme derived from the verbal stem by -o-. On occasion informants expressed a preference for one form as against the others, in other instances they regarded all themes as equivalent. As will be seen from the examples, the great possibilities afforded by a system with these options are exploited in the idiomatic structure of the language. Some examples of these parallel themes are included among the illustrative examples, which now follow:

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-Ikaaʔkomo- 'chop', cf. nitɛ́ɛ́kaaʔkomowaaʔwa 'I am chopping for him';

-Ikkiaakatomo- 'trap', cf. nitɛ́kkyaakatomowaaʔwa 'I am trapping for him'; -Ikkiaakomo-, cf. nitɛ́kkyaakomowaaʔwa 'I am trapping for him'; also nitɛ́kkyaakowaaʔwa 'I am trapping for him';

-Innootatomo- 'butcher, skin', cf. nitɛ́nnootatomowaaʔwa 'I am butchering for him'; -Innootomo-, cf. nitɛ́nnootomowaaʔwa 'I am butchering for him'; also nitɛ́nnootowaaʔwa 'I am butchering for him';

-IpaISkatomo- 'dance', cf. nitɛ́ɛ́passkatomowaaʔwa 'I danced in his place'; also nitɛ́ɛ́passkowaaʔwa 'I am making him dance, providing music so he can dance';

-Ipokaʔimo- 'fan', cf. nitsípokɛiʔmowaaʔwa 'I fanned (for) him';

-Isaamatomo- 'hunt', cf. nitɛ́ɛ́sàamatomowaaʔwa 'I am hunting in his place'; also nítsàamowaaʔwa 'I am hunting for him';

-Isa:oʔtomo- 'take off, scalp', cf. nítsaɔʔtomowaaʔwa 'I scalped him';

-Isinamo- 'draw, write', cf. nitɛ́ɛ́sìnamowaaʔwa 'I am writing to him';

-Iso:mo - 'fetch water', cf. ɛ́ɛ́somooʔmoyiiway 'she gets water in her place';

-IYImmISkoStomo- 'laugh at', cf. nitɛ́ɛ́yimʔsskuxtomowaaʔwa 'I am laughing at him';

-IYISkIpItomo- 'tie up', cf. nitɛ́ɛ́yissksipistomowaaʔwa 'I am tying for him';

-o:SkoStatomo- 'gather fuel', cf. nítuxkuxtatomowaaʔwa 'I went for wood for her'; -o:SkoStomo-, cf. nítuxkuxtomowaaʔwa 'I went for wood in her place'; also nooxkuxkuxtóósa 'bring thou wood for her!';

-ooʔtomo- 'take', cf. miinóoʔtomookita 'do thou not take from me!'.

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695. Two kinds of transitive animate theme are based on intransitive themes derived from noun stems by the suffix -Sk- (see above, section 632).

695.1 By the suffix -at- are formed transitive animate themes with the meaning 'make or claim as one's own'. Examples:

-aaSsISkat- 'claim as grandparent', cf. nítaxsskata?wa 'I claim her as grandmother';

-Innokao:mitaaSkat- 'claim as horse', cf. nitsínnokaomitaaxkata?wa 'I claim that horse as my own';

-okItISkat- 'claim as mother', cf. nitáóksistsskata?wa 'I claim her as mother';

-onnISkat- 'claim as father', cf. nitún?sskata?wa 'I claimed him as father';

The underlying intransitive theme apparently never occurs.

695.2 The suffix -o-, undoubtedly the same suffix as that described in 670 above, forms themes meaning that the referend of the noun stem is made for one and given to him. Examples:

akóóYISko- 'build·house', cf. akóó?sskoosa 'build thou a house for him!';

-Isokaa?sISko- 'make garment', cf. mó?toisokaa?sskowaa?wa 'dresses were made for her by everyone';

-i:tikiSko- 'make moccasins', cf. iitsikíxkowaa?wa 'moccasins were made for her'.

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700. Inflection of verbs. The inflection of verbs includes some affixes which appear in the inflection of most verbal themes, others which appear in the inflection of particular themes only.

Described first are those affixes which index the structural categories of widest occurrence, that is, those which mark person, number, and gender. Following this is the description of affixes found in the inflection of the modes. Described last are the relator affixes which appear in the inflection of transitive themes.

710. Inflection for person and number. In those paradigms in which personal prefixes and number suffixes are found, these affixes are generally as listed in section 535. Differences are specified as appropriate.

711. Personal prefixes are not followed by intercalated ||t|| when certain specific modal affixes and/or anaphoric preverbs follow the personal prefix. These elements are in no way marked and must be listed. Elements which do not require intercalated ||t|| are termed <u>dependent</u>; with these morphemes the shape of the personal prefixes is as with dependent noun themes. When the prefix is followed by elements other than those termed dependent, intercalated ||t|| is always present.

712. The first person prefix is ni-, as in possessed noun constructions. In colloquial Blackfoot this prefix is often dropped when intercalated ||t|| follows. Examples:

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(ni)tsítàòpiixpi 'where I am sitting'; (ni)tsíppitapiixpinnaana 'there are ten of us'; (ni)tsítaokumna?yixpinnaana 'we were camping there'; (ni)tsitóo?tooxsinnaani 'when we arrived there'; (ni)táo?tom?axkannaani 'as we were running'.

This personal prefix is also occasionally dropped before the dependent preverb -sootam- 'then, after that': (ni)sóótamo?toyinnayi 'then I caught them'; (ni)sóótamitsyaapyoo?kaaxpinnaana 'then we slept under shelter'.

Examples with -sootam- show the prefix in one of its dependent forms. Other dependent examples are naxksowatoo?pinnaana 'that we may eat'; nakooxkawaanists ʔɛ́ɛ ʔɛ́ɛ 'oh just let me do that!'

712.1 ni- appears with the number suffix -nnaan- to form the exclusive first person plural. Examples of such constructions are to be found among the examples already cited.

713. Second person singular and plural in non-imperative modes have the prefix ki-. The number suffix found in plural constructions has the same allomorphs as in 535, except that in the subjunctive is found -iinowaa-. The -iin- might be part of another morpheme, but such an element appears nowhere else in the subjunctive paradigms. A few examples of second person constructions are the following: kitaaakuxtsstoyim?i 'you will winter with that'; kitáaaksinoksatoo?pyaa?wa 'you will own his plentiful supply'; kitáaakasskunakato 'I am going to shoot you'; káxksowatoo?pa 'that you may eat it';

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káxkuxtokoopsskaaxpixka 'may you make broth with them'; kimáátaaʔwaxkaaxpowaa wa 'you did not walk'; kitsínʔixkatawaaʔwa 'you called him'; kitsipíssowaa(wa)ʔyi 'that, because you entered'; kitámmìiissowaa(wa)ʔyi 'that he invited you'; kooʔpúmmiinoweɛɛniki 'if you are afriad'; ɔttakoíínowɛɛniki 'whenever I offer you a drink'.

713.1 In the imperative mode the subject is always second person, and unmarked. Number, however is marked; as usual, number is indexed by suffixes. In intransitive constructions the suffixes are -t- for the singular, -k- for the plural: nìnʔixkíta 'sing thou!', saaksísta 'go thou out!', aaʔwaxkáátа 'walk thou!'; nìnʔixkíka 'sing ye!', saaksíka 'go ye out!', aaʔwaxkááka 'walk ye!'. With certain (singular) themes the singular suffix has the allomorph -tt-: aapiksístta 'throw, toss thou (something)!', nooxksípaxpàapiksistta 'flap thou, shake thou (something flexible, as fabric)!' No plural examples corresponding to these constructions were collected, so it is unknown whether the same allomorphy occurs there.

In transitive animate constructions with a third person object the singular is marked by -Vs-, the plural by -o:k-; in transitive inanimate constructions the suffixes are singular -it-, plural -ik-.

Examples of transitive animate constructions are:

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isskíi?tsiisa, isskíi?tsiisaa?wa 'scare thou him, them!', isskíi?tsyooka, isskíi?tsyookaa?wa 'scare ye him, them!'; nooxksínaisa, nooxksínaisaa?wa 'do thou please take his, their picture!', nooxksínaɔka, nooxksínaɔkaa?wa 'do ye please take his, their picture!'; kóónoosa, kóónoosaa?wa 'find thou him, them!', kóónooka, kóónookaa?wa 'find ye him, them!'; issámmisa, issámmisaa?wa 'look thou at him, them!', issámmoka, issámmokaa?wa 'look ye at him, them!'.

Examples of transitive inanimate constructions: sìnáíta, sìnáítaa?wa 'draw thou it, them!'; sìnáíka, sìnáíkaa?wa 'draw ye it, them!'; kóónita, kóónitaa?wa 'find thou it, them!'; kóónika, kóónikaa?wa 'find ye it, them!'; axkániita, axkániitaa?wa 'pierce thou it, them!'; axkániika, axkániikaa?wa 'pierce ye it, them'; isskunákatoota, isskunákatootaa?wa 'shoot thou it, them!'; isskunákatooka, isskunákatookaa?wa 'shoot ye it, them!'.

In constructions which a first person singular is object, the suffixes of the imperative are identical with those found in intransitive constructions: nooxksikímmokita, nooxksikímmokika 'pity thou, ye me!'; miin?sskúnakakkita, miin?sskúnakakkika 'do thou, ye not shoot me!'. When the object is first person plural, the number suffix for this person is present, but there is no imperative number suffix; constructions of this kind are therefore ambiguous, and may be understood as having either a singular or a plural subject:

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nooxksikímmokinnaanʔa 'pity thou, ye us!';
miinʔsskúnakakkinnaanʔa 'do thou, ye not shoot us!'.

714. Inclusive first person plural constructions differ totally from corresponding possessed noun constructions. Verbal constructions of this kind have neither personal prefix nor number suffix. Representative examples are: ááʔsiiyooʔpa 'we sneezed'; ámmaxsàʔyi 'that we invited him' kímmapiiyooʔpa 'we are sorry'; míístapòoʔpa 'we went away'; óoʔkaoʔpa 'we slept'; otámmokssyaaʔwa 'that they invited us'. payóoʔsi 'that we entered'.

715. Third and subordinate persons are marked by both prefixes and suffixes. One prefix, in three allomorphs, appears with both. Several suffixes are found, often in addition to a prefix.

The allomorphs of the prefix are identical to those which appear in possessed noun inflection: Ø-, o-, and m-. In those morphotactic environments in which a prefix is required (these environments will be specified presently), the presence of m- is predictable: m- is found with the anaphoric preverb -aanIt- and the related -aanItap- and with certain modal preverbs, all having an initial ||a||. o- is found in all other environments in which a personal prefix is obligatory.

Suffixes which are found with the personal prefixes

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express different combinations of person, number, and gender. Primarily expressing number are -ina- and -yaa-. -ina- marks verbal constructions of certain modes as subordinate singular. -yaa- indicates plural number of both third and subordinate person. Primarily expressing person are third person -a, fourth person (singular) -i and -ayi, (plural) -ikI. -ikI of course references only animate persons. Also expressing gender are -i, found in transitive constructions in which the object is an inanimate third person singular, and -isti, which marks the participation in an action (object) or state (subject) by inanimate (plural) third persons.

The personal suffix -a in singular constructions is often dropped in syntactic environments in which its presence is redundant. The number-person sequence -yaawa (third person plural), and the fourth person singular sequence -inayi- are also both often shortened in syntactic environments in which the (full) forms are redundant. -yaawa is replaced by -i, -inayi by -ini. -yaawa is also generally dropped when the modal signs -waikI-, waiti- (negative indicative mode, respectively animate and inanimate plural) is present. Animate forms in which -yaawa has been deleted then appear superficially to be examples of transitive constructions with a third person singular subject: iʔnitsííwɛiks 'he killed them' vs. máátsiʔniwɛiks(yaaʔwa) 'they did not die'.

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715.1 In the indicative modes, the third person is not marked by a prefix: that is, the Ø- allomorph of the personal prefix is found. The suffix -a (preceded by the plural suffix -yaa- in plural constructions) is always found, unless deleted by a syntactic rule, with all third person constructions except certain inanimate plural stative constructions. These have -isti, preceded of course by -yaa-. In transitive inanimate constructions, the inanimate participant (object) may also be indexed by singular -i, plural -isti. Examples: áá'waxkaa'wa, áá'waxkaayaa'wa 'he, they walked'; máátaa'waxkaawaatsya, máátaa'waxkaawɛiks(yaa'wa) 'he, they did not walk'; siksinám'ma, siksinámmyaa'wa 'he, they are black'; nitsí'nita'wa, nitsí'nitayaa'wa 'I killed him, them'; i'nitsííway, i'nitsííyaaway 'he, they killed him'; i'nitsííwɛiks 'he killed them'; i'nitá'wa, i'nitáyaa'wa 'somebody killed him, them'; nitáá'waxkanii'pa, nitáá'waxkanii'pyaa'wa 'I am piercing, sewing it, them'; áá'waxkàniimay, áá'waxkàniimɛɛsts 'he (3) is piercing it, them'; áá'waxkàniiminayi, áá'waxkàniiminɛɛsts 'he (4) is piercing it, them'; axkánii'pa, axkánii'pyɛɛsts 'it, they are pierced'.

715.2 Subordinate person has o- in the inverse paradigms of the transitive inflections, but no prefix elsewhere. In singular intransitive and stative constructions the number suffix -ina- is found, followed by -i, the gender-person

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suffix. The plural suffixes are -yaa-ikI. In transitive constructions in which the other participant is first or second person, fourth person singular is indicated by -ayi, the plural by -yaa-ikI. When the other participant in a transitive construction is third person animate, fourth person singular is marked by -i, fourth person plural by -ikI. When the other participant in the transitive construction is inanimate, the fourth person singular subject is marked by -ina-; plural examples are not available, but a subordinate person plural subject would probably be marked by -yaa-ikI. The normal inanimate markers -i and -isti may follow these. Examples: áá'waxkɛ̀ɛ̀nay, áá'waxkaayɛɛks 'he, they walked'; máátaa'waxkaawaatsiinay 'he did not walk' (no form is available for negative subordinate plural); siksinámminay, siksinámmyɛɛks 'he, they are black'; nitsí'nitɛ̀ɛ̀nay, nitsí'nitayɛɛks 'I killed him, them (4)'; i'nitsííwa(y), i'nitsííwɛ(iks) 'he (3) killed him, them (4)'; otsí'nikka(y), otsí'nikkɛ(iks) 'he (4) killed him, them (3)'; áá'waxkàniiminaʔyi, áá'waxkàniiminɛists 'he (4) is piercing it, them'. Examples with subordinate plural subject are not available.

715.3 In the imperative modes, a third person object is marked by -a; when the object is plural, -yaa- precedes. Numerous examples are given above in section 713.1. A fourth person singular object has -ayi: i'nítsiisaʔyi 'kill thou him!'.

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No example was collected of an imperative with a subordinate plural object.

715.4 One of the modes of the dependent order, the unreal, appears to have the same allomorphic distributions as in the indicative. By accident, only one unreal form is found in the author's corpus, but Uhlenbeck's paradigms of the unreal mode (Concise Grammar, paragraph 87, page 170) include examples of third and subordinate person; it is on the basis of these that the above statement is made.

715.5 In intransitive constructions of the conjunctive modes, third person has the prefix o-; there is no suffix in the singular, but in the plural, -yaa-wa is found: ó?muxtsaksspi '(hole) which she came out of', otsítokooyiixpi 'where he lives', otsítɛistooxsi 'that he came'; otsíístapaa?passapssyaa?wa 'when they looked around', otáá?waxkaaxsyaa?wa 'because they walked'.

Transitive constructions have o- only when neither participant is first or second person. The singular has no suffix when the other participant is a higher person or another lower person not indexed in the construction; however, if the other lower person is represented in the construction, the third person suffix -a appears. Plural third person is always indicated; the marker, as usual, is -yaa-wa. If the other participant is inanimate third person, this is indicated by the suffixes -i and -isti. Representative examples are:

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otsskíi?tsyaaxsyà?yi, otsskíi?tsyaaxsyaawà?yi 'that he, they scared him (4)'; otsíi?katooxsi, otsíi?katooxsyà?yi otsíi?katooxsyaawà?yi 'that he, they kicked it', otsíi?katooxsyɛists, otsíi?katooxsyaa?wɛists 'that he, they kicked them'. With these compare: kitámmìiissi, kitámmìiissyaa?wa 'that he, they invited you (sg)'; saawám?maxsi 'that we did not invite him'; nitsíi?katooxsinnaan?i 'that we kicked it'; kitsskíi?tsìiissowaayaa?wa 'that they scared you'.

715.6 Subordinate person in the conjunctive modes has the prefix o- in intransitive constructions; in the singular, the suffix -ayi (found also in possessed noun constructions) always appears with the prefix; in the plural appear the suffixes -yaa-ikI: óm?uxtsipiixpyày 'why she came in'. óm?uxto?tatoo?isspyày 'how he was sacred', otáo?tooxsyɛɛks 'when they came'.

In transitive animate constructions subordinate persons have no prefix, but they are marked by the same suffixes as in the indicative modes in (715.2): otsskíi?tsìiisyà?yi 'that he (4) scared him (3)'; kitámmìiissya?yi, kitámmìiissyɛ̀ɛ̀ks 'that he, they invited you (sg)'; saawám?maxsyà?yi, saawám?maxsyɛ̀ɛ̀ks 'that we did not invite him, them'.

Examples are not available for transitive inanimate constructions in which the animate participant is fourth person.

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715.7 The affixes which mark third and subordinate persons in the subjunctive modes are identical to those found in the conjunctive modes, except that personal prefixes never appear in the subjunctive. Only a few examples are given.

For third person intransitive: koo'púsi, koo'púsyaa'wa 'if he, they feared'; payíísi, payíísyaa'wa 'if he, they entered'; nìn'ixkísi, nìn'ixkísyaa'wa 'if he, they sang'; saawaa'wáxkanyaakisi, saawaa'wáxkanyaakisyaa'wa 'if he, they are not sewing'.

For fourth person intransitive: oo'kaasyà'yi, oo'kaasyèèks 'if he, they slept'; nìn'ixkísyà'yi, nìn'ixkísyèèks 'if he, they sing'; payíísyà'yi, payíísyèèks 'if he, they entered'.

For third and subordinate persons transitive: isskíi'tsyɛɛniki, isskíi'tsyɛɛnikyaa'wa 'if I scared him, them (3)'; isskíi'tsyɛɛnikyà'yi, isskíi'tsyɛɛnikyèèks 'if I scared him, them (4)'; isskíi'tsyaasyaawa'yi, isskíi'tsyaasyaawɛiksi 'if they (3) scared him, them (4)'; isskíi'tsyootsiinikyà'yi, isskíi'tsyootsiinikyèèks 'if he, they (4) scared him (3)'.

720. Inflection for order and mode. Each of these categories is marked overtly in some or all of the paradigmatic forms of verbs. Order and mode are everywhere indicated by suffixes.

721. The independent order is marked in some constructions, not in others. The suffix which marks the independent order is

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-a.

In the indicative mode, in intransitive constructions, -a is found only in higher person plural constructions: nitáá'waxkànyaakixpinnaan'a, áá'waxkànyaakyo'pa, kitáá'waxkànyaakixpowaa(wa)'wa 'we (exclusive and inclusive), you (pl) are sewing'. -a appears in transitive constructions in which both participants are higher persons, at least one of which is plural: kitáá'waxkànyoxpowaa'wa 'I am piercing you (pl)'; kitáá'waxkànyookixpinnaan'a 'you (sg and pl) are piercing us'.

In the negative-interrogative mode, -a is found in all intransitive higher person paradigmatic forms: nimáátaa'waxkànyaakixpa 'I am not sewing'; nimáátaa'waxkànyaakixpinnaan'a 'we (incl) are not sewing'; kimáátaa'waxkànyaakixpowaa(wa)'wa 'you (pl) are not sewing'. -a appears in transitive constructions only when both participants are higher persons: kimáátaa'waxkànyoxpa 'we (excl) are not piercing you (sg and pl); kimáátaa'waxkànyoxpowaa(wa)'wa 'I am not piercing you (pl)'.

In the imperative mode -a is found in all intransitive constructions, but in transitive constructions only when both participants are higher persons. Examples are: aa'waxkááta 'walk thou!'; kímmokita 'pity thou me!'; kímmokinnaan'a 'pity thou, ye us!'.

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722. The dependent order is overtly marked in all paradigmatic forms, both intransitive and transitive. The suffix of the dependent order is -i. Several examples from this order (conjunctive, subjunctive) have already been cited in preceding sections. Only a few additional typical examples will be given here:

nitsyóoʔkaaxsinnaani 'because we slept'; kitsyóoʔkaani 'because you (sg) slept'; kitsipíssowaa(wa)ʔyi 'that you (pl) entered'; naanistsámʔmaxpinnaanyaaʔwa 'as we looked after them'; otóttakowaaxsyaʔyi 'because he (3) offered him (4) a drink'; kitámmìiissowaawayiyaaʔwa 'because they (3) invited you (pl)'; nitámmìiissi 'because he invited me'; kitsskíiʔtsyoxsi 'that you (sg) scared me'; sayíiʔkatooxsi 'because we (incl) kicked it'; kayóoʔpoʔki 'if we (incl) feared'; nìnʔixkínnaaniki 'if we (excl) sang'; saayipíímíniki 'if I do not enter'; siinaɔ́kinnaaniki 'if you (sg or pl) drew us, drew our picture'; iʔnítaxki 'if he is killed'; àaʔkyááxkyaaʔwa 'if they get hit'; isskíiʔtsyootsiinowɛɛnikyaaʔwa 'if they scare you (pl)'; sìiʔkatóósyaʔyi 'if he kicks it'.

Examples of the unreal mode are given by Uhlenbeck in paragraph 87 (pages 169-171) of his Concise Grammar of

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Blackfoot. Representative examples of this mode (taken from the referenced section of Uhlenbeck's grammar) are: áxkstaisikstakiuopiau 'they (3) would bite'; káxkstaisiksipauàuopi 'you (pl) would bite him (3); náxkstaisikstsixpinanopiaists 'we (excl) would bite them (inan)'; saiótauopi 'if it had rained'; nikɔ́msimixtopi 'if I might drink!'

723. The suffixes found in modal inflection appear in most cases in several allomorphs, including (very rarely) zero. In all but the subjunctive and unreal modes the modal suffix (or suffixes) follow the theme directly in intransitive and stative constructions; in transitive constructions, again excepting the same modes, the modal suffix is found immediately following the relator suffix, if one is present, following the theme, if a relator suffix is missing. The position of the modal tag in subjunctive and unreal constructions varies depending upon which persons are represented in the construction.

Described first are the modal affixes which appear in constructions belonging to the independent order.

725. The indicative mode has an overt modal tag in intransitive constructions only in the plural higher persons. In transitive constructions the modal suffix is found only when

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both participants are higher persons, one of which is plural. The indicative suffix has three allomorphs. The allomorph -Sp- is found in transitive animate constructions with an indefinite subject, inclusive first person plural object: áaʔkyootsspa 'we got hit, someone hit us'; áakitaototsyootsspa 'we shall be burned up, someone will burn us up';
In inclusive first person plural intransitive constructions the allomorph -oʔp- is found: ááʔwaxkànyaakyoʔpa 'we are sewing'; ááwaaʔwaxkaoʔpa 'we are walking, we are moving on foot'. In all other marked constructions the allomorph -Sp- is found. nitááʔwaxkànyaakixpinnaanʔa 'we (excl) are sewing'; kitááʔwaxkànyaakixpowaaʔwa 'you (pl) are sewing'; kitááʔwaxkànyoxpowaaʔwa 'I am piercing you (pl), kitááʔwaxkànyookixpinnaanʔa 'you (sg and pl) are piercing us'. Otherwise the indicative mode is represented by the absence of a modal suffix: nitááʔwaxkànyaaki 'I am sewing'; áawaaʔwaxkaayaaʔwa 'they are walking, moving on foot'; nitsíʔnitaʔwa 'I killed him (3)'; nitsíʔnitayaaʔwa 'I killed them (3)'; iʔnitsííway 'he (3) killed him (4)'; iʔnitáyaaʔwa 'somebody killed them, they were killed'; kitánikkɛɛks 'they (4) told you (sg)'; kitáaakanistu 'I am going to tell you (sg)'; nitánistannaanʔa 'we told

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him'; kitsíi?katoo?powaayaa?wa 'you (pl) kicked them (inanimate 3)'.

726. The negative-interrogative mode is marked in all paradigmatic forms. With higher persons the suffix appears in allomorphs which are homophonous with those of the indicative mode, vis. -o?p- with intransitive inclusive first person plural, -Sp- elsewhere. With lower persons different allomorphs are found for singular and plural. Singular has -aati-[1], plural has

[1]Several forms were collected in which the modal suffix has the shape -aatikI-. Uhlenbeck mentions this shape of the suffix (Concise Grammar, paragraph 81, page 151), and suggests that the two are possibly not interchangeable. Substitutibility was not specifically tested, but there seems to be no obstacle to considering the two shapes as equivalent.

animate -aikI, inanimate -aisti-. Intransitive examples are:
máátaa?waxkànyaakyo?pa 'we (incl) are not sewing',
nimáátaa?waxkànyaakixpa 'I am not sewing';
máátaa?waxkànyaakiwaatsya 'he is not sewing';
káta?waa?waxkànyaakiwɛiksyaa?wa 'are they sewing?'.
In transitive constructions including at least one lower person the modal suffix is that of the lower person:
nimáátaa?waxkànyaawaatsya, nimáátaa?waxkànyaawɛiksyaa?wa,
nimáátaa?waxkànyaawɛistsyaa?wa 'I am not piercing him, them (an and inan); máátokimmiwaatsiksya?yi 'he (3) was not angry with him (4)', omáátsinnòkaatsya?yi 'he (4) did not catch

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her (3)'. Otherwise in transitive constructions the allomorph -Sp- is found: kimáátaaʔwaxkànyoxpa 'I am not piercing you', kimáátaaʔwaxkànyookixpinnaanʔa 'you (sg. and pl) are not piercing us'.

727. The modal suffix of the historical mode is -iSk-. Representative examples are: ánnayaokixka 'there he (3) was, as the story goes'; mátt:xtaaʔpawaaʔwaxkaayixka 'now they say he (3) was walking all around again'; áóʔtoyixka 'it was going to be spring, they say'; itónootsiyixka 'he (3) was said to be hungry'; ootsipínamʔsixka 'she was purportedly very dirty-looking'; áoʔtomatapuxtaxkooxsiyixkyaaʔwa 'and then it is the tradition that they (3) began to sicken'; stámooʔtoyiiyixkàʔyi 'so they say that she (3) then took him (4)'; itaníyixkinaʔyi 'he (4) is supposed to have said'; otsítanikkixkèèksi 'they (4) are then supposed to have said to him (3)'.

728. The imperative mode has no modal suffix, but its status as a separate mode is clearly defined by its syntax and by its inflection for person and number.

729. There are four modal affixes which appear in constructions belonging to the dependent order. The description of these affixes follows.

730. The suffix which marks the conjunctive mode appears in two allomorphs; -oʔs- is found in intransitive inclusive first person plural constructions, the allomorph -Ss- is found elsewhere. ||S|| in this affix is often represented un-

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predictably by /ʔ/ (355). Examples: payóʔsi 'that we (incl) entered'; kitsipíssi 'that you (sg) entered'; otsikóoʔpoʔsi 'that he fears'; otááʔsiiʔssyaʔyi 'that he (4) sneezed'; nitɛ́ɛ́piksinnaanʔi 'that we (excl) are pounding'; kitɛ́ɛ́piksowaa(wa)ʔyi 'that you are pounding'; otsímmiipitssyaaʔwa 'because they were continually laughing'; otóoʔtooxsyɛ̀ɛ̀ksi 'that they (4) came'; otsskíiʔtsyaaxsàʔyi 'that he (3) scared him (4)'; otámʔmaxsyaawɛ̀ìksi 'that they (3) invited them (4); ámʔmaxsi 'that we (incl) invited him'; kitámʔmaxsowaa(wa)ʔyi 'that you (pl) invited him (3)'; aaʔkyááxsi 'when he was hit'; nitsskíiʔtsìiissyaaʔwa 'that they scared me'; otámmokssyàʔyi 'that he (4) invited us'; nitáaʔkyookooxsi 'when I got hit'; kitɛ́ɛ́sinɔxsi 'that I am drawing your picture'; otsíiʔkatooxsi 'that he kicked it'.

730.1 With intransitive themes in -aa is found an alternative conjunctive suffix. This suffix is -n-. No example is available for the inclusive first person plural, so it is unknown whether such constructions contain a distinct allomorph. Exclusive first person plural constructions (actually only one example was collected) have a zero allomorph of -n-. (It is evident that the morphophonemic sequence /nInnaan/ has been shortened by haplology.) Examples of the -n- conjunctive are: nitsóoʔkaanʔi 'that I was asleep'; máxkuxkoyoomooʔkaanʔi 'that he (3) might copulate' (the reference

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is to a stallion); nitsóoʔkannaanʔi 'that we were asleep'; kitsóoʔkaanowaa(wa)ʔyi 'that you (pl) slept'; máxksipasskaanyaaʔwa 'that they (3) might dance'; otóoʔtakaomʔaxkaanyɛɛks 'that they (4) were running in a circle'.

731. The relative conjunctive is marked by a suffix -Sp-. There is only one allomorph, although || S || sometimes appears as /ʔ/ rather than as a fricative. A few representative examples are: nitsítaopiixpi 'where I am sitting'; maanistsíiʔpoʔyixpi 'how she (3) was talking'; otánʔixpi 'what he (3) says'; otsítapsaamʔixpyàʔyi 'where he (4) went to hunt'; otsítakayìiʔpi 'where there is much of it'; omʔuxtɛ́ɛ́somoʔsspi 'where she (3) goes for water'; kitáaakitaopiixpowaaʔyi 'where you (pl) will live'; ómʔuxtaaʔpawaaʔwaxkaaxpyaaʔwa 'how they (3) travelled around'; maanistápopiixpyɛɛks 'how they (4) were sitting'; naanistssámʔmaxpinnaanʔi 'how we looked after them'; itsíʔnitaxpi 'where he (3) was killed'; kítuxkòtuxpi 'which I give you'; máxksyowatooxpi 'which he (3) might eat'.

732. The suffix which marks the subjunctive has extensive allomorphy. Moreover, the position of the modal suffix in higher person subjunctive constructions is always after the number suffix, if one is present. All other modal suffixes,

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and indeed most of the lower person allomorphs of the subjunctive suffix, appear between the theme and the number suffix (intransitive and stative) or between the relator and the number suffix (transitive).

732.1 Three allomorphs of the subjunctive suffix are found in higher person intransitive constructions. In the singular and second person plural the allomorph -iinik- is found. First person plural inclusive has -oʔk-, first person plural exclusive has -ik-.[1] The subjunctive tag which appears in all

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[1]On the analogy of the other paradigmatic forms, one would expect the exclusive first person plural to have -iinik-. The absence of the portion containing ||n|| is probably to be explained by the phonological environment in this construction, where /n/ is found in each of the two preceding syllables. Recall that the -n- conjunctive (730.1) has a zero allomorph in exclusive first person plural also.

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lower person intransitive constructions is -s-. Before this allomorph many, but not all, long vowels are shortened. This shortening was not investigated with informants, so the rules governing it are unknown.

732.2 The allomorphs found in transitive constructions which include a higher person are the same as in the intransitive, except that in direct paradigms, constructions which include an inclusive first person plural have a subjunctive suffix

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of the shape -Sk-. In the inverse paradigms the same constructions have the suffix -s-, except that in constructions with an indefinite actor, -Sk- is again found.

732.3 Transitive constructions in which both participants are lower persons also have considerable allomorphy of the subjunctive suffix. In the direct paradigms, when the (animate) third person is singular, the allomorph -s- is found. When the (animate) third person is plural, either -s- or -Ss- is found, apparently interchangeably. In the inverse paradigms, when the third person is singular the subjunctive suffix has the shape -iinik-. When the third person is plural, either -s- or -iinik- is found, again apparently interchangeably. In transitive constructions with an indefinite third person subject, the allomorph -Sk- appears.

Examples of intransitive subjunctive constructions are: koo?púmmiiniki, koo?puíníki 'if I, you (sg) fear'; koo?púmmiinowèèniki, koo?puínowèèniki (the ||a:|| which forms part of this contraction is of course not a part of the subjunctive suffix) 'if you (pl) fear'; koo?póo?ki 'if we (incl) fear'; koo?púmminnaaniki, koo?púnnaaniki 'if we (excl) fear'; oo?kasi 'if he (3) sleeps'; payísà?yi 'if he (4) comes in'; koo?púsyaa?wa 'when they (3) are afraid'; nìn?ixkísèèksi 'when they (4) sing'; ɔ́xpotasi 'when it is snowing'; immísi 'when it (water) is deep';

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aakawúsi 'when there is a lot of it'; niipúsi 'when it is summer'.

Examples of transitive subjunctive constructions are: isskíiʔtsyɛɛniki 'if I, you (sg) scare him (3)'; ottakówɛɛnikyàʔyi 'if I, you (sg) give him (4) a drink'; isskíiʔtsyootsiinikyaaʔwa 'if they scare me, you (sg)'; ottakóótsiinowɛɛnikyèèksi 'if they (4) give you (pl) a drink'; ottakóókinnowɛɛniki 'if you (pl) give me a drink'; isskíiʔtsyookinnaaniki 'if you (sg and pl) scare us (excl)'; siináwɛnnaaniki 'if we (excl) draw his picture'; isskíiʔtsyaaxki 'if we (incl) scare him'; àaʔkyóótsski 'if we (incl) get hit'; sìiʔkatóoʔkyèèstsi 'if we (incl) kick them'; ottakóókisi 'if he gives us (incl) a drink'; isskíiʔtsyookisyaaʔwa 'if they (3) scare us (incl)'. sìiʔkatóósyaʔyi 'if he (3) kicks it'; sìiʔkatóósyɛɛsts 'if he (3) kicks them'; isskíiʔtsyasɛiksi 'if he (3) scares them (4)'; isskíiʔtsyasyaawàʔyi, isskíiʔtsyaaxsyaawàʔyi 'if they (3) scare him (4)'; ɔxtóókisattsiinikyèèksi 'if they (4) interpret for him (3); ottakóótsiinikyàʔyi 'if he (4) gives him (3) a drink'; ottakóótsisyaawèèksi 'if they (4) give them (3) a drink'; áumaiistsistotutsìnikiauaiks (from Uhlenbeck) 'when they (4) bother them (3) too much';

733. Forms in the unreal mode virtually do not occur in the author's field materials. The description of the affixes which mark this mode is thus based on Uhlenbeck's paradigms and examples,

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found in paragraph 87 (pages 169-171) of his Concise Blackfoot Grammar.

Intransitive (stative?) constructions appear to have two suffixes in the higher persons; lower persons have only one suffix, identical in shape to the second suffix of higher persons. The first suffix follows the theme directly. The second suffix follows the number suffix (if one is present) in higher person constructions, but comes directly after the theme in lower person constructions. There are three allomorphs of the first suffix. In inclusive first person plural constructions is found an allomorph which is probably -oʔt-. In other plural higher person constructions the allomorph has the shape -Sp-. In the singular an allomorph -St- is found. The exact shape of the second suffix is not certain, but in the author's single unreal form it is recorded as -op-. Uhlenbeck agrees with this recording.

Examples of intransitive forms are taken from the cited pages of Uhlenbeck's grammar:
áxkstaisikstakiotopi 'we (incl) would bite';
náxkstaisikstakixpinanopi 'we (excl) would bite';
kitsiníkixkàspuauopi 'if you (pl) would show fight';
nikámoxkèmixtopi 'if I might but marry'; kikámaxkaiixtopi 'were it but possible that you came home'; ikámaxkaiiuopi

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'were it but possible that he came home';
áxkstaisikstakiuopinai 'he (4) would bite';
áxkstaisikstakiuopiau 'they would bite'.

Transitive constructions are of two types. When both participants are higher persons there are two suffixes, exactly as in intransitive constructions. Examples are again from Uhlenbeck, paragraphs 87 and 100 of the Concise Grammar: káxkstanistotospuauopi 'I would treat you (pl) in that way'; káxkstaisiksipokixtopi 'you would bite me'. Other transitive constructions have only the second suffix. In constructions which include a higher person the suffix follows the number suffix, if one is present; if no number suffix is present, the modal suffix follows the relator. In lower person constructions the modal suffix follows the relator and precedes the personal suffixes: nikaminánatauopi 'if I might but own him'; áxkstaisiksipauopi 'we (incl) would bite him'; náxkstaisiksipokinanopiau 'they would bite us (excl)'; káxkstaisiksipauàuopiau 'you (pl) would bite them'; kikámauatoxtopi 'were it but possible that you might eat it'; áxkstaisiksipiuopi(aie) 'he (3) would bite him (4)'; máxkstaisiksipokopi(aie) 'he (4) would bite him (3)'.

740. Morphology of the relators. With the exception of

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virtually all imperatives, all transitive constructions contain a relator. The relator is necessary because the personal affixes index only the participants in an action, but never define their role with respect to each other, as has already been noted (485).

In numerous ways, Blackfoot grammar formalizes six possible groupings among participants in a verbal action. These were specified in section 485, and the reader is referred to this section for review; these are the major meanings of the relators. Additional (minor) meanings will be specified together with the description of the relator.

741. Allomorphy of the relators. In the following paragraphs the allomorphy of each relator will be described. The sequential order of the relators will be as listed in section 485; where the allomorphs differ according to the mode of their construction, their order will follow the listing of modes in sections 483 and 484. When the allomorphs differ further according to the subject of the construction, they will be discussed in the traditional order of persons, i.e., first before second, second before third, third before fourth.

742. The first relator indexes action by first or second persons on lower persons. The relator also indicates action by an indefinite actor on the same persons. Constructions of the latter kind are often translated by English passive constructions,

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for example "he was seen", "they got burned".

In all paradigms of both orders the relator has the shape -a:-.

Independent examples are the following: nimáátsinnawaatsya 'I did not seize him (3)'; táakuxkoksisawàaatɛ̀ɛ̀nay 'I will visit him (4)'; nitáánistannaanʔa 'we (excl) told him (3)'; iixkóónowaaʔwa 'we (incl) found him (3)'; kikátɛiʔsiksipaxpa 'did you (sg) bite him (3)?'; kitááwʔaxkànyaawaa(wa)ʔyi 'you (pl) are piercing him (4)'; inowááʔwa 'he (3) was seen, somebody saw him'; aanistáíni 'he (4) was called'; iʔsáyɛɛks 'they (4) got burned, somebody burned them'.

Dependent examples are the following: nituxkóónowaaxsi 'when I found him (3)'; nitsáʔissakimmaxsi 'that I did not forget him (3)'; nitámʔmaxsinnaanyɛ̀ɛ̀ksi 'that we (excl) invited them (4)'; amʔmaxsyááʔwa 'that we (incl) invited them (3)'; saawámʔmaxsi 'that we did not invite him (3)'; kitámʔmaxsyàʔyi 'that you (sg) invited him (4)'; káxkuxkanistsiʔnitaxpi 'how you (sg) can kill her (3)'; itsíʔnitaxpi 'where he (3) was killed, where somebody killed him'; aaʔkyááxsyaaʔwa 'that they (3) got hit, that somebody hit them'; isskíiʔtsyɛɛniki 'if, when I, you (sg) scare him (3)'; siináwannaaniki 'if, when we (excl) draw him (3)'; ikkámʔsɛiʔsìnaaxkyɛɛks 'if we (incl) do not draw them (4)';

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siináwainowɛɛnikyaaʔwa 'when you (pl) draw them (3)'; isskunátaxki 'if he (3) was shot at, if somebody shot at him'; áaʔkyaaxkyaaʔwa 'when they (3) get hit, when somebody hits them'; ɛʔíttaxsyàʔyi 'when he (4) is skinned, when somebody skins him'; nítsokaaʔpitsinikowaawopi 'if I told him (3) well'; nikkaminaáánatawopi (normalized from Uhlenbeck) 'if I might but own him (3); náxkstanistotoauopi (from Uhlenbeck) 'I would treat him (3) in that way'; káxkstaisiksipauàuopiau (from Uhlenbeck) 'if you (pl) might but bite them (3)'.

743. The second relator indexes action by third or fourth persons on subordinate persons.

In the paradigms of the independent order and in the unreal mode of the dependent order, this relator has the shape -ii-.

Examples from the independent order:

itsínniiwàʔyi 'he (3) seized him (subordinate)'; itsípsstsàmmiiwɛiks 'he (3) looked in at them (subordinate)'; sootáʔuxpokaxkayiimiiyaawɛiks 'then they (3) went home with them (subordinate)'; máátuxkoonoyiiwɛiksyaawàʔyi 'they (3) did not find him (subordinate)'; mátokimiwatsiksaie (from Uhlenbeck) 'he (3) was not angry with him (subordinate); stámooʔtoyiiyixkàʔyi 'they say that she (3) then took him (subordinate)'; itaníststiiixkɛiksi 'they say that he (3) told them (subordinate); iʔnitsíiyinàʔyi 'he (4) killed him (subordinate)';

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mátoxpátsinaiaiks (from Uhlenbeck) 'he (4) does not carry them (subordinate)'; itánisopskoxtoyiàiksaie (from Uhlenbeck) 'then they (4) would sail down towards him (subordinate)'.

Examples from the unreal mode (all from Uhlenbeck): áxkstaisiksipiuopi(aie) 'if he (3) might but bite him (subordinate)'; áxkstaisiksipiuopiauaiks 'if he (3) might but bite them (subordinate)'; áxkstaisiksipiuopinai 'if he (4) might but bite him (subordinate)'.

In the conjunctive and subjunctive modes the relator has the shape -a:-.

Representative conjunctive examples are the following: otsɛ́iʔsokinʔaxsàʔyi 'that he (3) did not doctor him (subordinate)'; otássamʔmaxpyàʔyi 'where he (3) was looking at him (subordinate)'; aanistsíʔnitaxpyaawɛiks 'how they (3) killed them (subordinate)'; otsskíiʔtɜyaaxsyaawàʔyi 'that they (3) scared him (subordinate)'; máxksinʔixkataxsyɛiks 'that he (3) should call to them (subordinate)'; otámʔmaxsyaawɛ̀iksi 'that they (3) invited them (subordinate)'; máxkitsyòowataxpyaawɛiks (subordinate)'; 'where they (3) could eat them (subordinate)'; otsipásokapiksistaxsaiks (from Uhlenbeck) 'when they (4) threw the robes from them (subordinate).

Subjunctive examples are the following: ikkamíʔnitasyàʔyi 'if he kills her'; saayíʔnitasyaawàʔyi 'if they (3) did not kill him (subordinate)'; aʔisskíiʔtsyaasyaawàʔyi 'when they (3)

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scare him (subordinate)'; ottakówasyaawɛ̀ɛ̀ksi, ottakówaxsyaawɛ̀ɛ̀ksi 'when they (3) offer them (subordinate) a drink'.

744. The third relator indexes action by first persons on second persons. This relator has the shape -o- everywhere.

Representative examples of constructions containing this relator are as follows: kimáátuxkottuxkiimatuxpa 'I cannot marry you (sg)'; kitáánistuxpowaaʔwa 'I told you (pl)'; kitáaaksinʔnuxpinnaanʔa 'we (excl) will seize you (sg, pl)'; kítuxkòtuxpi 'which I give you (sg)'; káxkstaʔuxkòtuxsi 'that I probably did not give to you (sg)'; kitámʔmuxsowaa(wa)ʔyi 'that I invited you (pl)'; kitɛ́ɛ́sinɔxsinnaani 'that we are photographing you (sg, pl)'; aɔ́ttakoiiniki 'when I give you (sg) a drink'; isskíiʔtsyunnaaniki 'if we scared you (sg, pl)'; káxkstaisiksipoxtopi (from Uhlenbeck) 'I would bite (have bitten) you (sg)'; káxkstaisiksipoxpinanopi (from Uhlenbeck) 'we would bite (have bitten) you (sg, pl)'.

745. The fourth relator indexes action by any person on any higher person. Also indexed by this relator is action by an indefinite actor on first and second persons. There are a number of allomorphs of this relator; the distributions of the allomorphs are conditioned by the mode, paradigmatic form, and in some cases, even by the preceding theme-final consonant.

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745.1 Many of the allomorphs have an initial ||o:||. When a transitive theme ends in ||t||, the ||o:|| of an immediately-following relator allomorph is always dropped, leaving the theme-final ||t|| and the first consonant of the relator allomorph in contact. When this consonant is ||k||, the theme-final ||t|| appears as /k/ at the phonemic level. This has already been described (section 355), but it is useful to repeat it here in order to make comprehensible some of the examples cited in the following paragraphs.

Although only one morpheme is involved, description of the allomorphs is most convenient if presented in groups which are the reverse of groups 1, 2, and 3.

745.2 The first subgroup of this category specifies action by third or fourth persons on first or second persons. Also here is action on first or second persons by an indefinite person; the latter is always singular.

In the indicative modes, action on first person plural is indicated by an allomorph of the shape -o:ki-. -o:k- is found with other first and second persons. Examples are: nitsinóókinnaaninà?yi 'he (4) saw us (excl)'; nitsínnokinnaanyaa?wa 'they grabbed us (excl)'; náán?ixkakki?wa 'he called to us (incl)'; náánookiyaa?wa 'they (3) saw us (incl)'; nitánikka 'he (3) told me';

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áaakitsisttsinʔaxkookowaaʔwa 'he (3) will give you (pl) supplies, rations'; kimáttuxkokkowaayaaʔwa 'they (3) also gave you (pl)'. Examples with fourth person subject were not collected.

When action is by an indefinite actor, first person plural constructions have an allomorph of the shape -o:tI-, while elsewhere the allomorph -o:koo- occurs. Examples are rather frequently encountered, and are usually translated by the Indians with an English passive constructions. Examples: nitáótuiʔmotsspinnaanʔa 'we (excl) get blamed, people blame us'; nisóótaminnipyootsspinnaanʔa 'we (excl) were then taken downstairs, then they brought us downstairs'; áaʔkyootsspa 'we (incl) got hit, someone hit us'; áxkanyootsspa 'we (incl) were pierced, they pierced us'; nitáaʔkyookooʔwa 'I got hit, someone hit me'; káxkitsiʔnikkooʔwa 'get yourself (sg) killed, may someone kill you (sg)!'; kítaxkanyookoowaaʔwa 'you (pl) were pierced, someone doctored you by piercing'.

In the conjunctive mode, action by a definite actor has the allomorph -o:kI- when the other participant is inclusive first person plural, -iiYI- elsewhere. No examples of the relative conjunctive were discovered or collected, but the allomorphs of the latter (on the analogy of other subgroups belonging to relator number 4) are probably -o:ki- and -iiyi-.

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When the actor is indefinite, the allomorphs are as in the indicative.

Representative examples are: otámmokssi 'that he (3) invited us (incl)'; otámmoksyàʔyi 'that he (4) invited us (incl)'; otsskíiʔtsyookssyaaʔwa 'that they (3) scared us (incl)'; otsskíiʔtsyookssyɛ̀ɛ̀ksi 'that they (4) scared us (incl)'; otaníkkssyaaʔwa 'that they (3) told us (incl)'; kitámmìiyissi 'that he (3) invited you (sg)'; nitámmìiyissyɛ̀ɛ̀ksi 'that they (4) invited me'; nitaníststsìiyissinnaanyaaʔwa 'that they (3) told us (excl)'; kitsskíiʔtsiiyissowaayàʔyi 'that he (4) scared you (pl)'.

Examples of forms with indefinite actor are: nitáaʔkyootsspinnaanʔa 'that we (excl) got hit, that someone hit us'; áaʔkyootsspa 'that we (incl) got hit, that someone hit us'; nitáaʔkyookooxsi 'that I got hit, that someone hit me'; kitáaʔkyookooxsowaaʔyi 'that you (pl) got hit, that someone hit you'.

In the subjunctive mode, first person plural inclusive constructions with a definite actor have -o:ki-, but other paradigmatic forms have -o:tI-. Allomorphy in constructions with an indefinite actor is as in the indicative modes.

Examples of subjunctive forms with a definite actor are: siináɔkisi 'if he (3) draws us (incl), draws our picture';

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ottakóókisyà?yi 'if he (4) offers us (incl) a drink';
isskíi?tsyookisyaa?wa 'if they (3) scare us (incl)';
sé?i?sìnaɔtsiiniki 'if he (3) does not draw my, your picture';
ottakóótsiinikyà?yi 'if he (4) offers me, you a drink';
isskíi?tsyootsinnaanikyaa?wa 'if they (3) scare us (excl)';
isskíi?tsyootsiinowɛɛnikyɛ̀ɛksi 'if they (4) scare you (pl)'.

Subjunctive forms with indefinite actor:
ikkamáa?kyootsinnaaniki 'if we (excl) get hit, if someone hits us'; ikkamáa?kyootsski 'if we (incl) get hit, if someone hits us'; áa?kyookooyiiniki 'if I get hit, if someone hits me'; ikkamáa?kyookoowɛɛniki 'if you (pl) get hit, if someone hits you'.

In the unreal mode, action by a definite actor is indicated by the same allomorphs as in the indicative modes; no examples of forms with an indefinite actor are available, but the allomorphy should also be as in the indicative.

Examples with a definite actor (all from Uhlenbeck) are: náxkstaisiksipokinanopiau 'they (3) would bite (have bitten) us (excl)'; áxkstaisiksipokiopi 'he (3) would bite (have bitten) us (incl)'; náxkstaisiksipokopi 'he (3) would bite (have bitten) me'; kaxkstaisiksipokoàuopiau 'they would bite (have bitten) you (pl)'.

745.3 The second subgroup of this category specifies action by subordinate persons on third or fourth persons.

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In the indicative modes the relator appears in two allomorphs. When the lower persons involved in the action are singular, the relator has the shape -o:k-. When the same persons are plural, the relator is -o:kowa-.

The following are examples with singular lower person(s): otsítsinooka?yi 'she (subordinate) saw him (3)'; otsí··mataisiksipokixkà?yi 'according to the story he (subordinate) a-l-m-o-s-t bit him (3)'; otsítanikkixkà?yi 'he (subordinate) is said to have told him (3)'; sóótamattsiisookɛiks 'they (subordinate) fed him (3) again'; otsítawaanikkɛ̀iksi 'they (subordinate) are supposed to have told him (3)'; otáipstsikimòkinai (from Uhlenbeck) 'by whom he was suspected' (i.e., 'he (subordinate) suspected him (4)').

Examples with plural lower person(s) are: osótəmsksinokòaiau (from Uhlenbeck) 'they were known by him' (i.e., 'he (subordinate) knew them (3)'); otsítanikkowayixkyaawà?yi 'she (subordinate) supposedly told them (3)'; otsítao?to?tookowayaawɛ̀iksi 'they (subordinate) came to get them (3)'.

In the conjunctive modes there are two relator allomorphs. In the conjunctive mode the relator has the shape -iiYI-. In the relative conjunctive mode the relator appears to have the shape -iiyi-.

Conjunctive examples: otámmìiyissyà?yi 'that he (subor-

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dinate) invited him (3)'; otámmìiyissyɛ̀ìksi 'that they (subordinate) invited him (3); otsskíiʔtsìiyissyaawàʔyi 'that he (subordinate) scared them (3)'; otsskíiʔtsìiyissyaawɛ̀ìksi 'that they (subordinate) scared them (3)'.

Examples of this relator in relative conjunctive constructions are taken from Uhlenbeck. Only forms with singular persons were encountered: móxtakomimìixpiaie 'that he (subordinate) might love her (3)'; otánistutòiixpiai '(which) he (subordinate) does to him (3)'.

In the subjunctive mode the relator has the shape -o:tI- everywhere: ikkámʔsstsimìmmotsiinikyàʔyi 'if she (subordinate) hates him (3)'; ottakóótsiinikyɛ̀ìksi 'if they (subordinate) give him (3) a drink'; isskíiʔtsyootsiinikyɛ̀ìksi 'if they (subordinate) scared him (3)'; isskíiʔtsyootsiinikyaawàʔyi, isskíiʔtsyootsisyaawàʔyi 'if he (subordinate) scared them (3)'; ooxtóókisattsiinikyaawɛ̀ìksi, ooxtóókisattsisyaawɛ̀ìksi 'if they (subordinate) interpret for them (3)'.

The unreal mode is scarcely represented in examples given by Uhlenbeck in his discussion of "centripetal" forms (Concise Grammar of Blackfoot, paragraph 100, page 187). His only example (singular subordinate person acts on singular higher person) has -o:k-: máxkstaisiksipokopiaie 'fourth person would bite (have bitten) third person'. One may assume from this that the allomorphy in the unreal mode parallels that of the in-

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dicative modes.

745.4 The last subgroup of relator number four indexes action by second persons on first persons. There are two allomorphs, -o:ki- and -o:kI-. -o:kI- is found in the conjunctive mode, while -o:ki- occurs elsewhere. Note that the only imperative constructions which include a relator are found in this subgroup.

Conjunctive examples are: kitámmokssi 'that you (sg) invited me'; kitaníkkssi 'that you (sg) said to me'; kitámmokssinnaanʔi 'that you (sg and pl) invited us'; kitsskíiʔtsyookssowaaʔyi 'that you (pl) scared me'.

No examples are available for the relative conjunctive mode; on the analogy of the second subgroup (745.3), it is assumed that the relative conjunctive has the same allomorph as the other modes. Examples from indicative, subjunctive, and unreal modes follow: kitsinóóki 'you (sg) saw me'; kikátaaʔkànyookixpinnaanʔa 'did you (sg and pl) pierce us?'; kitsínʔixkakkixpowaaʔwa 'you (pl) called me'; issámmokita 'look thou at me!'; issámmokika 'look ye at me!'; miinʔaxkányookika 'do ye not pierce me!'; kóónookinnaanʔa 'find thou, ye us!'; miinʔsskúnakkinnaanʔa 'do thou, ye not shoot us!'; isskíiʔtsyookiiniki 'if you (sg) scare me'; sauoxkókinik (from Uhlenbeck) 'if you (sg) do not give

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her to me'; ottakóókinnaaniki 'if you (sg and pl) give us a drink'; isskíiʔtsyookiinowɛɛniki 'if you (pl) scare me'; káxkstaisiksipokixtopi 'you (sg) would bite (have bitten) me'; káxkstaisiksipokixpinanopi 'you (sg and pl) would bite (have bitten) us'; káxkstaisiksipokixpuauopi 'you (pl) would bite (have bitten) me'.

746. The fifth relator indexes action by first or second persons on inanimate third persons. As is the case of the relator in analogous transitive animate constructions, this relator also indicates action on inanimate third persons by indefinite actors. There are several allomorphs of the relator.

In the indicative modes the relator has the shape -iSp-. Examples of constructions containing this relator are: nimáátssksiniiʔpaatsya 'I do not know (it)'; kimáátaxkàniiʔpɛistsyaaʔwa 'you (sg) did not pierce them'; nitáóyooʔsatooʔpinnaanʔa 'we (excl) are cooking it'; áakitsskixsiʔpyaaʔwa 'we (incl) will dry them'; kitsínniʔpowaa(wa)ʔyi 'you (pl) seized it'; kitɛ́ɛ́siksstsiiʔpowaayaaʔwa 'you (pl) are biting them itsápuxtooxpa 'it was put away, somebody put it away'; iʔsíʔpa 'it was cooked, somebody cooked it'; ayíístapaapiksiiʔpyaa wa 'they got thrown away, somebody threw them away'.

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In the conjunctive modes the relator allomorph has the shape -Ø-. Examples:

nitsawáaʔpixkaxtooʔsi 'that I did not sell it';

kitsíiʔkatooʔsi, kitsíiʔkatooxsi 'that you (sg) kicked it';

nitsɛ́iʔsattsiniʔsinnaanʔi 'that we (excl) did not slit it';

sayíiʔkatooxsyaaʔwa 'that we (incl) kicked them';

saaʔisíiʔkatooʔsi 'that we (incl) did not kick it';

In the subjunctive mode the relator has the shape -Ø- when the subject is inclusive first person plural or indefinite, but -m- elsewhere: sìiʔkatóoʔkyaaʔwa 'if we kick them'; iʔsíʔki 'if it is cooked, if somebody cooks it'; aoʔmóóniʔkyaaʔwa 'when they get wrapped up, when somebody wraps them up'; siiʔkatóóminnaaniki 'if we (excl) kick it'; siiʔkatóómiinikyaaʔwa 'if I, you (sg) kick them'; aʔissksínimiinowɛɛniki 'when you (pl) know (it)'.

Two shapes of this relator are found in transitive inanimate constructions belonging to the unreal mode. In the exclusive first person plural and in the second person plural the shape is probably -iSp-, as in indicative modes. (The uncertainty about the proper shape of the allomorph is due to the difficulty in interpreting Uhlenbeck's examples.) Elsewhere the shape is -iSt- (or -St-). Examples are all from Uhlenbeck: náxkstaisikstsixpinanopi 'if we (excl) might

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but bite it'; káxkstaisikstsixpuàuopi 'if you (pl) might but bite it'; káxkstaisikstsixpuàuopiau 'if you (pl) might but bite them'; nitáxsitsixtopi 'if I liked it (had liked it)'; náxkstaisikstsixtopiau 'if I might but bite them'; kikámauatoxtopi 'were it but possible that you (sg) might eat it (but it is not)'; áxkstaisikstsixtopi 'if we (incl) might but bite it'.

747. The sixth and last relator indexes action by third and subordinate persons on inanimate third persons.

In the indicative modes this relator has two allomorphs. With certain themes the shape is -imm-. The other allomorph has the shape -im-. The themes with which -imm- appear almost all end in consonants but they are distinguished in no way from themes of similar shape which take -im-.

Representative indicative examples are the following: payíiʔksimmàʔyi 'he (3) chopped it (wood)'; sayíiʔkatoomàʔyi 'he (3) kicked it'; axkániimɛists 'he (3) pierced them'; siináímyaawàʔyi 'they (3) drew it'; ákainìmmyaawɛists 'they (3) already saw them'; máátssksinimmɛiksyaawàʔyi 'they (3) did not know (it)'; ɛ́ɛ́sikstsimyaawɛists 'they (3) are biting them'; máátsikstsimɛiksyaawɛists 'they (3) did not bite them'; mataxsítsimàtsinai (from Uhlenbeck) 'he (4) did not like it'; stámoʔtsiminɛists 'then he (4) took them'. Examples with sub-

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ordinate plural subject are lacking.

In the conjunctive and subjunctive modes this relator has no overt allomorph.

Conjunctive examples are: otsíʔsisyːʔyi 'that he cooked it'; otsáʔuxkatooxsàʔyi 'that he did not bark at it'; otsɛ́iʔsisiksìniʔsyàʔyi 'that he (3) did not smash it to bits'; otsáʔissinnyɛists 'that he (3) did not break them'; máxksyoowatooxpyaawàʔyi 'which they (3) might eat'; otsíiʔkatooxsyaawɛists 'that they (3) kicked them'. Examples are not available for fourth person subjects.

Subjunctive constructions of this kind are rare. The writer collected only one paradigm, and Uhlenbeck gave no paradigmatic examples in his grammar. Examples from the author's paradigm are: siiʔkatóósyɛists 'that he (3) kicked them'; siiʔkatóósyaawàʔyi 'that they (3) kicked it'.

In the unreal mode the relator has the shape -im-. Whether an allomorph -imm- occurs in this mode (as in the indicative) is unknown, but it seems likely. Examples are taken as usual, from Uhlenbeck's grammar, paragraph 87, page 168:
áxkstaisikstsimopiaie 'if he (3) might but bite it';
áxkstaisikstsimopinai 'if he (4) might but bite it';
áxkstaisikstsimopiauaie 'if they (3) might but bite it';
áxkstaisikstsimopiaists 'if he (3) might but bite them';
áxkstaisikstsimopiauaists 'if they (3) might but bite them'.

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750. As was mentioned above in the grammatical overview, the number of elements which may function as preverbs is rather large. The listing and description of all the elements which may appear as preverbs would be a major undertaking; to do so is not necessary for two reasons. The first reason is that since most of these elements have lexical meaning, a strong case can be made for relegating their description to the dictionary. A second, purely practical, reason is that Uhlenbeck has already compiled an extensive list of these elements, together with textual examples, see paragraphs 89-92 and 113-119 in A Concise Grammar of Blackfoot. As a matter of fact, virtually the only major difference which would be found in a new compilation would be the morphophonemic shape of the preverbs, again more a problem for a dictionary than for a grammar.

For the above reasons, the attention in this section will be directed toward describing those elements whose meaning is clearly grammatical. An important feature of the description of preverbs of this kind is the specification of the kind of personal prefixes (i.e., independent or dependent) which may directly precede them. Unless mention is made to the contrary it is to be understood that the preverb is preceded by personal prefixes in their dependent form, that is, by personal prefixes without intercalated ||t||. To be described are preverbs with aspectual, modal (including negative and interrogative), and anaphoric (concordal)function.

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751. Preverbs with aspectual meaning.

751.1 The preverb -aa- means either that the action of the verb is actually in progress (the commonest meaning), or that the action occurs generally. Uhlenbeck has termed the former the durative aspect, the latter the iterative aspect. The correct meaning for a given construction is apparently to be deduced from the large context of the verbal construction. Personal prefixes with -aa- are always independent. -aa- occurs widely in constructions belonging to the independent order, least often in the imperative mode; in the dependent order, -aa- appears to occur only in the conjunctive mode. Examples are: nitássinʔnixpa 'I am breaking it by hand'; nitéésaamʔi 'I am hunting, I hunt'; nitɔ́oʔyi 'I am eating'; nitáóksstakixpinnaanʔa 'we are counting, we count'; áakitɛɛnʔixkyoʔpa 'we are going to be singing'; ááwaawʔaxkaayaaʔwa 'they are walking'; kitéénʔixkixpa 'are you singing?'; nimáátɛ̀ɛ̀yooʔkaaxpa 'I am not sleeping'; kaakitéépoyita 'just remain thou standing there!'; maanistéé·paxpoyissiyàʔyi 'as she went on shaking it'; otsítɛɛpoʔyixpi 'where she was standing'; otsítɔoʔyixpyaaʔwa 'where they are feeding'.

751.2 The preverb -ayaak- designates an imminent occurrence of the verbal action. -ayaak- is often equated by Blackfoot speakers with the English future. A preverb of identical

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shape also designates a repeated performance of a verbal action. Whether two distinct preverbs are at issue here, or only one, has not yet been determined; solution of this problem should have high priority in future investigation. -ayaak- usually has the phonemic shape /áaak/; the deletion of ||y|| is apparently facultative, although generally found. Before -ayaak- the personal prefixes are independent in form.

This preverb occurs in the author's corpus almost entirely in non-imperative constructions belonging to the independent order. In paragraph 92 of the Concise Grammar of Blackfoot, where Uhlenbeck discusses this preverb, he cites only independent order constructions, but in paragraph 85, and again in paragraph 86, he implies that the same preverb may occur in dependent order constructions belonging respectively to the conjunctive and subjunctive modes. It seems almost certain to this writer that the preverb found in the dependent order constructions is not -ayaak-, but -ak-, which is discussed below in section 462.2. Typical examples are the following (glosses have not been normalized; they are just as supplied by informants):

nimáátayàakuxpokàòpiim͡aatsya 'I will not marry her'; ákaayàakapinakoʔwa 'It is already dawning.'; ákaayàaksskooʔwa 'he is going to go back already'; nitáyàakitsinikatooʔpa 'I am going to recount'; nitáaakuxpɛiʔpi 'I'm going to jump';

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táaakʔtoyisomooʔsi 'I'll go get water'; kitáaakitapìpyu 'I will make you go there'; kitáaakitsyaapsstsiiʔyi 'you'll be blind'; kitáaakɛistamattsyooka 'she will show you'; áaakuxkanɛ̀ìʔpoyoʔpa 'we're all going to talk'; máátàaakattònawaonootsyoʔpa 'we'll never be hungry again'; áaaksskooʔwa 'he is going back'; áaakikannisiʔwa 'he is falling backwards'; máátàaakuxkottsinʔixkiwaatsya 'he won't be able to sing'; áaaksiipoyìxka 'they say it was nearly summer'; máátàaakattitssksapuxpiiwɛ́iksyaaʔwa 'they will not fall back in again'. Examples in which the preverb has repetitive meaning are: itáaakaniʔwa 'he went right on saying'; itáaaksiʔnitsiiwɛɛks 'he kept on killing them'; ixtsitáaaksinnyooxpiiʔyixkyaaʔwa 'they say that they kept jumping down from it'.

751.3 It should also be noted that the absence of an apectual (or modal) preverb in a construction has grammatical meaning. Generally indicated is that the action occurred at an indefinite time (usually understood as past), without repetition. Constructions of this kind are here termed aorist. When this type of construction has no personal prefix, initial change and other phenomena of initial morphophonemics often overtly signal that the construction is aorist. Representative examples are: itsíʔniʔwa 'he died, he dies'; nitáxkànìiʔpa 'I sewed it, I sew it'; kitsipíkssi 'that you (sg) pounded,

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that you pound'; kitsín?ixkixpowaa?wa 'you (pl) sang, you sing'; itsipíímyaa?wa, payíímyaa?wa 'they entered, they enter'; issksinóóki?wa 'he (3) knew, recognized us, he knows, recognizes us'; otsinówaaxsi 'that, when he (3) saw, he sees him (4)';

752. Preverbs with modal meaning.

752.1 Probably the most frequently encountered preverb of this kind appears in two allomorphs: -o:Sk- (or -ooSk-), always with accretive n-, is found only in imperative constructions, and always in absolutely initial position[1]; -a:Sk- (or -aaSk-) is

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[1]Uhlenbeck considered this a separate preverb with "concessive" meaning: 'to be sure, it is true, though, however, at least, somehow, please'. There is a small amount of evidence that Uhlenbeck's analysis--as opposed to that presented here--is correct.

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found elsewhere.

The meaning of the preverb is not easy to define. In imperative constructions it seems to mollify the imperative tone; constructions containing no:Sk- are generally translated by informants with 'please' or 'would you kindly'. In other verbal forms the presence of -a:Sk- seems to convert a construction which is otherwise independent to dependent or virtually dependent status. Constructions of this kind may be imperatives ('let me --, let us --, let him --'), dubitatives ('I suppose, I guess that --'), conditionals ('I may, I might --'),

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purposives ('so that I might, I could —'), resultatives ('so that I —'); or still others difficult to classify. (The problem is probably more in English than in Blackfoot.) Examples are: nooxksínʔixkuxtookika 'please sing ye to me!'; nooxkóoʔtsisaaxkookita 'please give thou me a smoke, give me a cigarette!'; káxkitanìstaʔwa 'do thou ask her!'; káxkoʔtaxkòʔsspowaaʔyi 'do ye go fetch the meat!'; axkítsyowataʔwa 'let us eat him!'; áxkitoʔtotaxkoʔsiyaaʔwa 'let them go fetch the meat!'; káxkanistɛɛksimʔsstaaxpowaaʔwa 'you must be thinking'; áxkamanistsiʔwa 'perhaps it is so'; áxksistɛiʔnakanistɛistotoyiiwaatsya 'so that is how he has been treating him!'; náxkituxpokàòpiima 'that I would marry her'; káxkanistsitooʔtooxpi 'how you (sg) may get there'; máxksiputtaanʔi 'that he could fly'; náxkuxtsissitapiiyixpinnaanʔa 'so we can use it'; náxkuxtaototaxka 'so that I have fuel'; káxkuxkuttsiʔnitaxsi 'so that you can kill him'; kaaxkóoʔksyowatooʔpowaawáʔyi 'so you can eat it raw'; maxkuxkóyinimʔssi 'in order (for him) to find out'; áxkuxtsiistapaaʔpɛ̀sttsiiksiinɛssko 'so there will be snakes from her in the future'; áxkuxtsitokoopsskaaʔwa 'so she can make broth with (them)'.

752.2 A preverb which is similar (if not functionally identical) to the preceding has the shape -ak-. This preverb always follows

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the personal prefix directly. Examples:
nákuxkawaanists ʔéɛ ʔéɛ 'oh just let me do that!';
kákuxkatsitsìʔkowaʔyi 'just let you (sg) join the game!';
áksikakawʔaxkanyaakyoʔpa 'let us sew!'; mákuxkaanisokaaʔsimʔsi 'that he might have a new coat'; mákuxtssimixpyaaʔwa 'so that they can drink through it'; mákuxkitssksinìisi 'so that he can find out, in order to find out'.

What the syntactic differences are, if any, between -ak- and -a:Sk- is unknown. This is an area which should be investigated further, since it is quite possible that the two are syntactic equivalents, but with subtle semantic differences.

752.3 A preverb with pure imperative meaning has the initial shape an-, non-initial -on-. This preverb appears with verbal forms which are structurally already imperative, and in these forms the prefix apparently reinforces the imperative meaning. Forms which are structurally not imperatives have imperative meaning when the preverb is present. Examples are:
anʔsskóota 'go thou back!'; aníxpaxpoyit 'shake thou, shake away!'; aníkaitapiitsinikookita 'tell thou me a traditional tale, an old time story!'; áxkunaxkanyaakyoʔpa 'let us sew!'; kúniikaitapiitsinikyoʔpa 'let us tell traditional tales!'; anʔsákapòoxsi (normalized from Uhlenbeck) 'let him come out!'

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752.4 The preverb -Ikkam- is found in dependent order constructions, most commonly in the subjunctive. It is also found in constructions belonging to the independent order when the latter have been rendered dependent in force by the preverb -a:Sk-. All of the references of -Ikkam- are contrary to fact, roughly 'if': ikkámyoo?kɛ̀ɛ̀niki 'if you go to sleep'; ikkám?axkanyaakisi 'if he sews'; ikkamáxsi?takisà?yi 'if he (4) is pleased'; ikkamáa?kyootsinnaaniki 'if we (excl) get hit'; ikkamóttakuyiiniki 'if I give you (sg) a drink of water'; náxksikkam?axkanyaaki 'I might sew'; náxksikkamaa?waxkànyaa?wa 'I suppose that I am puncturing him'; nikkám?axkaa?yixto͡pi (normalized from Uhlenbeck) 'were it possible that I came home (but it is not)'.

752.5 A preverb of the shape a?- is often found in subjunctive constructions. With a?- the meaning of the subjunctive construction is unambiguously 'when, whenever --'. Examples: ɛ́i?niiniki (||?|| of the stem is elided, see 342.6 above) 'when I die'; ɛ́i?pyò?ki 'when, whenver we come in'; ɛi?sóótasi 'when, whenever it rains'; ao?takúsi 'when it is evening, in the evening'; ɛ?isskíi?tsyaasɛɛksi 'whenever he (3) scares them (4)'; aɔ́ttakuyiiniki (||?|| of the preverb is elided, see 342.6 above) 'when I give you a drink'.

What is apparently the same preverb is sometimes found in independent constructions of indicative type. The preverb

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is always absolutely initial in its construction; this seems to eliminate the possibility of appearance in a construction with a personal prefix. The meaning of aʔ- in this use is unknown, but it must be modal. Examples are: ɛ́iʔsamúyi 'long ago'; ɛ́iʔtamoʔtaaʔpaiyàaksyóʔyixkyaa wa 'they ate whatsoever they could'; áoʔtomatapuxtaxkooxsíʔyixki 'then they began to sicken'; ɛ́iʔtapotsiistapooʔwa 'she went down the slope'; áʔisskɛiʔpiiwòoyixkyaaʔwa 'they went a very long way'; ɛ́iʔtapaoʔksyoyixkyaaʔwa 'they were eating everything raw'.

752.6 There are several negative preverbs; all are in complementary distribution, so apparently only one morpheme is involved.

752.61 The preverbs -a:Sk- and the preverb -ak- share a negative preverb which appears only when one or the other is present. The shape of this preverb is -IStaʔ-. Only one such example occurred in the author's texts, but several Uhlenbeck examples are available for illustration. The author's example is áxkssataʔyɛistokitowʌ̀xsi 'that a bullet should never penetrate his body'. Examples from Uhlenbeck (all from paragraph 85 of the Concise Grammar of Blackfoot) are: káxkstauxkòtoxsi 'that I shall not give you any'; káxkstàtakàatskanʔi (from ||ka:SkIStaʔattakkaatISkaani||) 'that you should never have a partner any more'; áxkstaiàpiua '(may it be) that he does not see';

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àxkstaisámoyi 'let it not be a long time'; mákstaiinitaxsi 'that he should not be killed'.

-ISta - also appears in the affirmative of Uhlenbeck's "non-suppositional potentialis" (paragraph 87, Concise Grammar of Blackfoot). Uhlenbeck wrongly attributes negative meaning to -ISta?- here, since truly negative constructions of this type have the expectable -isa:-. The exact meaning of -ISta?- in these constructions is unclear.

An interrogative use of -ISta?- is mentioned below in 762.73.

The distribution of the remaining negative preverbs depends in part on the order and modal structure of the construction in which they appear, in part on the position (i.e., initial or following a non-affixal element) of the preverb in the construction.

752.62 In the non-imperative modes of the independent order the negative preverb is maat-. maat- may be preceded only by personal prefixes. This negative if regularly found in constructions belonging to the negative-interrogative mode, but it also appears rather often in indicative constructions.

Examples in negative-interrogative constructions: nimáátomòònootssp.a 'I am, was not hungry'; máátsikoo?pùmmaatsya 'he was not afraid'; máátsiiksstoyiiwaats 'it is, was not very cold'; nimáátssimatooxpaatsya 'I did not drink it'; kimáátuxkottuxkiimatuxpa 'I (male) cannot marry you (female)';

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máátuxkoonoyìlwaatsyà?yi 'he (3) did not find him (4)'; máátaaw?axkàniimaatsyay 'she is not sewing it'; nimáátaaw?axkàniii?pinnaanɛistsyaa?wa 'we are not sewing them';

Examples in indicative constructions: nimáátssksiniii?pa 'I do not know (it)'; nimáátattsinowaa?wa 'I did not see him again'; nimáátssksinoannaanyaa?wa 'we do not know them'; máátsituxkottoksskaa?si?wa 'he could not run'; máátɛɛyoo?kaa?wa 'he is not sleeping'; máátoyiiyaawɛiks 'they did not shoot them'.

752.63 The preverb miin- (see above, section 355) is found only in imperatives. miin- appears not only in genuine (i.e., second person) imperative constructions, but also in certain prefixless conjunctive constructions which have imperative force. None of the latter occur in the author's field notes, but many were collected by Uhlenbeck, some of whose examples are cited below.

Examples of miin- in imperative constructions: maanipápisata 'do thou not shout!'; piiníístapoota 'do thou not leave'; miin?síksstakika 'do ye not bite!'; piin?axkániisaáwa 'do thou not pierce, sew them!'; piin?ssámmokita 'do thou not look at me!'; miinákaamoo?sita 'thou shalt not steal!'

Examples of miin- in conjunctive constructions, all from Uhlenbeck: mínatsitstsìs 'let there be no one'; minakáuoxs

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'let (the nights) not be many!'; pinípioxs 'let it not be far!'; pinsíksipaxs 'let him not bite him!'; pinsíksipaxsauaiks 'let them not bite them!'

The preverb kataʔ- is found in unreal constructions when no other preverb is present. Examples are from Uhlenbeck: kátaisotauopi 'if it did not rain'; nikátaisikstakixtopi 'if I should not bite him'.

752.64 The remaining environments have a preverb which appears in two shapes, -saːʔ- and -saː-. -saːʔ- is found when the first consonant of the following morpheme begins with ||s|| or ||S||; -saː- is found elsewhere.

This preverb is the usual negative for the conjunctive and subjunctive modes of the dependent order. It is also the regular negative in the other modes when the negative does not immediately follow the personal prefix.

Examples in conjunctive constructions: otsɛ́iʔsokinʔaxsàʔyi 'that he did not doctor him'; otsáʔissinnyàʔyi 'that he did not break it'; nitsáʔissakimʔmaxsi 'that I did not forget him'; nitsɛ́iʔsiiʔkatooʔsi 'that I did not kick it'; nitsawóoʔtooxsi 'that I did not come'; nitsawámʔmaxsi 'that I did not invite him'; nitsawáaʔpixkaxtooʔsi 'that I did not sell it'; nitsɛyíʔsiʔsi 'that I did not cook it'; otsaikóoʔpuxsi 'that he is not afraid'; otsɛyíssksipiʔsàʔyi 'that he did not tie it'; saawóoʔtaaʔsi 'that we did not come'; saawámʔmaxsi 'that we did not invite him'.

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Examples in subjunctive constructions: sɛiʔsínaɔtsiiniki 'if, when he does not draw my picture'; ikkámʔsɛiʔsìnɛɛniki 'if I do not draw his picture'; ɛiʔsawáttooxpotasi 'when it snows no more'; saayóoʔkɛɛniki 'if you do not sleep'.

Uhlenbeck gives only three relevant examples of -sa:- in his discussion of the unreal mode (Concise Grammar, paragraph 87). These are nikə́msausikstakixtopi 'if I might but not bite'; nikə́msausiksipauopi 'if I might but not bite him'; nikə́msausikstsixtopi 'if I might but not bite it'. Even these examples are somewhat suspicious, since following the negative preverb one would expect /i/ rather than /o/ (u in the Uhlenbeck transcription).

Indicative examples are also rare; none occurred in the author's field notes. The following examples are from Uhlenbeck's texts: itsauxkotsitsipimiau 'they could not go in there'; kimáuksaisksinoàisksiks 'why don't you know where he is?'; kitáitsauaipəsk 'you are the only one that does not dance'; áisauətauàpsspiu 'he had no eyes any more'; katsauáuiau 'the reason they do not eat (meat)'; itsáuotsimiuaie 'then he did not run from him'.

752.7 Preverbs with interrogative meaning.

752.71 A preverb meaning 'why?' with the shape -maok-, occurs in constructions in the (independent) indicative

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mode. Examples: kímaokaaw?axkànyaaki 'why are you sewing?'; kímaokitsspyɛsttam?sskookixpowaawɛssksi 'why do you give me (gut fat) to savor?'; kímaokanissks 'why do you say?'; nímaoksawaanists (normalized from Uhlenbeck) 'why did not I do it thus?'.

752.72 The preverb kata?- has already been met in negative function (522, 762.63). With this preverb in independent order construction with negative-interrogative modal affixes is unambiguously interrogative. Examples: nikatɛi?nixpa 'am I dying?'; kikátɛi?nookixpa 'did you (sg) see me?'; kikáta?issksinowaawɛiksyaa?wa 'do you (pl) know them?'; kikát o?moonootsspowaa?wa 'are you (pl) hungry?'; kátɛi?tstsii?pa 'is there any?'; káta?ɛɛ?ittakiwaatsiks 'is he skinning?' káta?waxkanyaakiwɛiksyaa?wa 'are they sewing?'.

752.73 Also already encountered in negative function is the preverb -ISta?-. One example of this preverb was collected with unambiguous interrogative meaning, not surprising in view of the generally close relationship in this language between negative and interrogative. The example is náxkssta?waxkànyaakisi 'whether I am sewing'.

753. There are six anaphoric preverbs, four of which are statistically very common.

753.1 An anaphoric preverb which is found in almost all independent verbal constructions, especially in narrative style,

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has two allomorphs. The imperative mode of the independent order and the subjunctive mode of the dependent order have -ist- when the preverb is initial in its own construction, but -it-elsewhere. -it-is found in all positions in the other modes.

This preverb is also occasionally encountered with an extension of -ap-, so: istap-, -itap-.

Personal prefixes with this preverb are independent.

In true anaphoric function the semantic reference of this preverb is both spatial and temporal: 'right there, in that place', and 'right then, at that time'. When no antecedent is present the meaning is 'so, in a certain way'.

Examples in anaphoric function:
kookotúyi itáaʔpooxpɛ́iʔpiiyaaʔwa 'they were jumping around on the ice'; ánʔnuxkay kòoʔkúsi áaakitɛɛ••nʔixkyoʔpa 'tonight we will sing and sing'; osíiʔkaani ituxkítopiiʔyixka 'they say he was sitting atop his bed'; kitsítɛɛkiixpa ánno 'what are you (sg) doing there?'; mattsítsapipooʔtookita mii skinítsimaanʔi 'put thou me back in that sack again!'.

Examples without anaphora:
itsitáótoksspiisixkyaaʔwa 'they say they would then stick there'; nitsítooxtsiiʔpa 'then I heard it'; itanístsiiway 'so he (3) told her (4)'; itsíʔnitaxpi 'where he was killed'; táaakitapòo 'I shall go over there'; itsitápikkinaitapuxtaoksskaaʔsiʔyixka 'they say that he then went running quietly thither';

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istsípaxpaapiksikkita 'just shake thou it!';ɛiʔtsipísyaaʔwa 'when they go in'; istáupisi, caiitáupisi (from Uhlenbeck) 'if she is there or if she is not there'.

753.2 An anaphoric preverb of the shape -a:nist-, sometimes with an extension of -ap-, has the meanings 'so, as, how, on account of, accordingly, in that way, just like that, etc.' The preverb is frequently encountered.

Examples in anaphoric function:

ánni istsskááni stámanistsinattsiʔyixka 'it is said to have looked just like dust'; nituxkitopíssini naanistóoʔtotamipooʔtookooʔwa 'on account of my riding skill I was given first place'; ánnya naanistsítsinikʰóoʔyixpi ki ánnya naanistsítsinikataʔwa 'thus I was told it, and thus I have told it';

In non-anaphoric function:

naanistáaaksisamiiʔkoanʔixki 'as long as I want to play';

maanistáttsaaʔpsspi 'crazy as, like he was';

maanístsaummitsitapiiʔyixpi 'so evil was he';

maanistsitsskítooʔtooxpi 'when he got back there';

itanístsiksimʔsstaaʔyixka 'he is supposed to have then thought';

aanistéétsinikookinnaanyaaʔwa 'they recounted to us how - '

aanistsíʔtoosa 'heed thou her!'; maanistápopiixpyɛɛks (normalized from Uhlenbeck) 'as they were sitting';

tsa kanistápapaiàkstsimaxpa (from Uhlenbeck) 'how did you

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steer the ears of the lodge about?'

753.3 Three preverbs occur in a number of predictable allomorphs described in section 354 above. In the following discussion, one shape has been chosen arbitrarily to represent the morpheme for purposes of identification. This allomorph is the non-initial allomorph found following elements other than the personal prefixes.

753.31 The statistically common preverb -o:St- means 'with, from, by means of'. Some examples have already been given in the discussion of the morphophonemics of this group of preverbs. Additional anaphoric examples are: iixtssímiʔwa áámiikoyii 'he drank of west water' (literally this is 'water from upstream, up west'; this is a euphemistic expression meaning that a person is 'crazy as a Flathead'); apámʔuxtsi iixtóoʔtòoʔwa 'he came from across the ocean'; ótstssimaana iixtstssáyaaʔwa '(cattle) branded with his brand'; ánʔnuxka nímʔuxtsipiixpi 'my reason for entering'; ánnistsiyayi nitáaakuxtsstoyimʔi 'those are the ones (berries) I will winter on'. Additional non-anaphoric examples are: iixtéénʔixkyoʔpiks 'tape recorders'; ómʔuxtòoʔtooxpyay 'where he came from'; máttuxtaaʔpawaawʔaxkaaʔyixka 'they say he was strolling around again'.

753.32 The preverb -o:Sp-, also found with an extension of -ok- (-o:Spok-) means 'with, together, in the company of'.

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Additional examples of this preverb in anaphoric function (from Uhlenbeck) are: omistsíksi pokáiks ixpítsaksiu 'he then went out with those children'; páupit eetan 'sit with a saddle!'. Additional non-anaphoric examples are: nímʔuxpɛɛsìnaokoo 'my picture was taken together with (them)'; ómʔuxpatòomʔi 'her lover, her "side husband"'; sootámʔuxpsowòoyinay 'then he waded in'; sootámikakuxpisiimyaaʔpawaawʔaxkaaʔwa 'so he just kept it to himself, so he just went around keeping quiet about it'; iixpókixpiimiiʔwa 'he dances with him'; pókiiʔpuyita (normalized from Uhlenbeck) 'talk repeating!'; áxkattuxpokaxkaayoʔpa 'let us go home again together!'; nítuxpokitaopiimaʔwa 'I stayed with him'.

753.33 The preverb -o:Sk- means 'as much, so much'. The preverb occurs but rarely in the author's corpus, and it is also not frequent in Uhlenbeck's texts. Some examples were given above in section 354, additional examples are given below, most taken from Uhlenbeck. Anaphoric examples: ánnimayi nimʔuxkánʔi 'this is as much as I have to say'; ánnimaie nímoxksìnoau 'that was the last I saw of him' (i.e. 'that is as much as I saw him'); ánnimaie ixksinóyiu 'that was the last he saw of him'; ánnimaie nímoxkitsiniki 'my story is ended' (i.e. 'this is as much as I relate');

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ánnimaie ixkakótsiu 'the boiling is ended' (i.e. 'so much is the boiling'); ánnimaie ixksksínoyiu 'that is the end of what he knows about him' (i.e. 'that is as much as he knows about him'). Non-anaphoric example: mákuxkuxkuissksinìisi 'so he could find out as much as he could'.

753.4 A preverb meaning 'therefore, for this reason' has the shape -kaat- or -kat-. This preverb occurs in the author's corpus only three times, twice with the first transcription, once with the second. Uhlenbeck collected several examples, all of which are listed together in paragraph 88 of the Concise Grammar. Examples: nikáátɛɛn?ixki 'I am singing for that reason'; nikátaaw?axkanyaaki 'that is why I am sewing'; káátaoksskaa?si?wa 'because he is running'. From Uhlenbeck: kátaisàikimii 'that is why they are short-furred'; kátainiopa 'that is why we (incl) die'; katsauáuiau íksisakui 'that is why they do not eat meat'.

760. In order to complete the description of verbal inflection, it is necessary to specify in a formal way the sequential relationships of the inflectional elements which occur in the verbal complex. Following this specification is an alphabetical listing of all the affixes described in section 700. With each affix in the alphabetical listing is given a brief identification and a reference to the section in which the affix is described or discussed. Not included

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in the section citations are general statements made without specific mention of particular affixes.

761. Preceding the theme are two distinct structural positions in which inflectional morphemes appear.

In the position next to the theme are found the preverbs (750).

Preceding the preverbs is a position in which are found the personal prefixes (712-715).

Following the theme are six suffixing positions.

Immediately following the theme, in suffix position number one, are the relator morphemes described in sections 740-747.

In suffix position number 2, immediately following the relators, appear most of the modal suffixes: indicative (725), the negative-interrogative suffix which appears in higher-person constructions (726), historical (727), conjunctive mode (730), relative conjunctive (731), the subjunctive suffix which appears in lower-person constructions, (732.1) and the first suffix of the unreal mode (733).

Suffix position number 3 has number suffixes: the pluralizers for the exclusive first person and the second person (712.1, 713) and the suffixes of the imperative (713.1).

Following these, in position number 4, are again modal suffixes: the subjunctive suffixes which appear in higher-person constructions (732.1), the suffixes of the

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negative-interrogative mode which appear in lower-person constructions (726), and the second suffix of the unreal mode (733).

In suffix position number 5 are number suffixes which appear with lower persons; these are the singular suffix of the subordinate person and the general pluralizing suffix for third and fourth (subordinate) persons (715). Also here are the two suffixes which mark order (720-722).

Position number 6 contains the suffixes which mark lower persons (715). When all participants in a transitive construction are plural lower persons, the pluralizing suffix of position 5 may appear twice in the same construction with two different personal suffixes from position 6.

762. Alphabetical listing

-a	Personal suffix, third person (715, 715.1, 715.3, 715.5).
-a	Order suffix, independent order (721).
-a:-	Relator, higher person(s) on lower animate person(s) (742); indefinite person on lower person(s) (742); lower person(s) on subordinate person(s) (conjunctive, relative conjunctive, subjunctive modes) (743).
-aa-	Aspectual preverb, durative and iterative aspects (751.1).
-aati-, -aatikI-	Modal suffix, negative-interrogative mode, singular lower person (726).
-aikI-	Modal suffix, negative-interrogative mode, plural animate lower persons (726).

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-aisti-	Modal suffix, negative-interrogative mode, plural inanimate lower persons (726).
-ak-	Modal preverb, hortative and subordinative (752.2).
an-	Modal preverb in initial form, hortative (752.3).
-a:nist-, -a:nistap-	Anaphoric preverb 'as, so, how, in a certain way' (753.2).
-a:Sk-	Modal preverb, hortative and subordinative (752.1).
-ayaak-	Aspectual preverb, imminent and repetitive aspects (751.2).
-ayi-	Personal suffix, singular subordinate person in certain dependent modes (715, 715.3, 715.6).
aʔ-	Modal prefix, 'when, whenever' (subjunctive mode) (752.5).
-i-	Personal suffix, singular subordinate person (715, 715.2); singular inanimate person (715, 715.1, 715.2).
-i	Order suffix, dependent order (722).
-ii-	Relator, lower person(s) on subordinate person(s) (indicative and unreal modes) (743).
-iinik-	Modal suffix, subjunctive mode of certain persons (732.1, 732.3).
-iinowaa-	Number suffix, second person plural (subjunctive mode only) (713).
-iiYI-	Relator, lower person(s) on certain higher person(s) (conjunctive mode only) (745.2); subordinate person(s) on lower person(s) (conjunctive mode only) (745.3).
-iiyi-	Relator, subordinate person(s) on lower person(s) (relative conjunctive and subjunctive modes) (745.3).
-ik-	Number suffix, plural actor (imperative mode) (713.1).

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-ik-	Modal suffix, subjunctive mode (first person plural exclusive constructions) (732.1).
-ikI-	Person suffix, plural subordinate person (715, 715.2, 715.6).
-Ikkam-	Modal preverb, 'if' (752.4).
-im-, -imm-	Relator, lower person(s) on inanimate lower person(s) (indicative and unreal modes) (747).
-ina-	Number suffix, subordinate person singular (715).
-iSk-	Modal suffix, historical mode (727).
-i:Sk-	Anaphoric preverb in one initial form, 'as much, so much' (354, 753.33).
-iSp-	Relator, higher person(s) on inanimate person(s); indefinite person on inanimate person(s) (indicative and unreal modes) (746).
-i:Sp-, -i:Spok-	Anaphoric preverb in one initial form, 'with, together, in company of' (354, 753.32).
ist-, -istap-	Anaphoric preverb in one initial form, 'there, then, in that direction (753.1).
-iSt-	Relator, certain higher person(s) on inanimate person(s) (unreal mode) (746). The shape is possibly -St-.
i:St-	Anaphoric preverb in one initial form 'with, from, by means of' (354, 753.31).
-ISta -	Modal preverb, negative and interrogative (752.61, 752.73).
-isti-	Gender-number suffix, inanimate plural (715, 715.1, 715.2).
-it-	Number suffix, singular actor (imperative mode) (713.1).
-it-, -itap-	Anaphoric preverb, same as ist-, istap-, which see.

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k-	Anaphoric preverb in one initial form (unattested); same as i:Sk-, which see.
-k-	Number suffix, plural actor (imperative mode, transitive constructions) (713.1).
-kaat-	Anaphoric preverb, 'therefore, for this reason' (753.4). The shape is possibly -kat-.
-kataʔ-	Modal preverb, negative and interrogative (522, 752.63, 752.72).
ki-	Personal prefix, second person (713).
m-	Personal prefix, third and subordinate persons (certain dependent modes) (715).
-m-	Relator, higher persons on inanimate person(s) (subjunctive mode) (746).
-maat-	Modal preverb, negative (752.62).
-maok-	Modal preverb, interrogative, 'why' (752.71).
-miin-	Modal preverb, prohibitive (355, 752.63).
-mo:Sk-	Anaphoric preverb, same as i:Sk-, which see.
-mo:Sp-	Anaphoric preverb, same as i:Sp-, which see.
-mo:St-	Anaphoric preverb, same as i:St-, which see.
-n-	Modal suffix, (alternative) conjunctive mode in constructions based on intransitive themes in -aa- (730.1).
ni-	Personal prefix, first person (712).
-nnaan-	Number suffix, exclusive first person plural (712.1).
no:Sk-	Modal preverb, hortative (752.1).
o-	Personal prefix, third and subordinate persons (715, 715.2, 715.5, 715.6).

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-o-	Relator, first person(s) on second person(s) (744).
-o:k-	Number suffix, plural actor (imperative mode) in transitive animate constructions (713.1).
-o:k-	Relator, lower person(s) on certain higher person(s) (indicative and unreal modes) (745.2); subordinate person(s) on lower person (indicative and unreal modes) (745.3).
-o:ki-	Relator, lower person(s) on certain higher person(s) (indicative and unreal modes) (745.2); lower person(s) on inclusive first person plural (subjunctive mode) (745.2); second person(s) on first person(s) (indicative, relative conjunctive, subjunctive, unreal modes) (745.4).
-o:kI-	Relator, lower person(s) on inclusive first person plural (conjunctive mode) (745.2); second person(s) on first person(s) (conjunctive mode) (745.4).
-o:koo-	Relator, indefinite person on certain higher person(s) (745.2).
-o:kowa-	Relator, subordinate person(s) on lower persons (indicative and unreal modes) (745.3).
-on-	Modal preverb, medial form of an-, which see.
-op-	Modal suffix (second), unreal mode (733).
-o:Sk-	Anaphoric preverb, same as i:Sk-, which see.
-o:Sp-	Anaphoric preverb, same as i:Sp-, which see.
-o:St-	Anaphoric preverb, same as i:St-, which see.
-o:tI-	Relator, indefinite person on certain higher person(s) (745.2); lower person(s) on certain higher person(s) (subjunctive mode) (745.2); subordinate person on lower person(s) (subjunctive mode) (745.3).
-owaawa-	Number suffix, second person plural (535, 713).

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-o?k-	Modal suffix, subjunctive mode, in inclusive first person plural constructions (732.1).
-o?p-	Modal suffix, indicative and negative-interrogative modes (relative conjunctive mode?) in inclusive first person plural constructions (725, 726).
-o?s-	Modal suffix, conjunctive mode in inclusive first person plural constructions (730).
-o?t-	Modal suffix (first), unreal mode, in inclusive first person plural constructions (733). The shape might be -ot-.
p-, pok-	Anaphoric preverb in one initial shape, same as i:Sp-, which see.
-s-	Modal suffix, subjunctive mode, lower persons (732.1, 732.2, 732.3).
-sa:-, -sa:?-	Modal preverb, negative (752.64).
-Sk-	Modal suffix, subjunctive mode, in transitive animate constructions in which inclusive first person plural is a participant (732.2, 732.3).
-Sp-	Modal suffix, indicative mode (725); negative-interrogative mode (726); relative conjunctive mode (731); unreal mode (first suffix in certain plural persons) (733).
-Ss-	Conjunctive mode (730, 732.3).
-St-	Modal suffix (first), unreal mode (733).
t-	Anaphoric preverb in one initial form, same as i:St-, which see.
-t-, -tt-	Number suffix, singular actor (imperative mode, transitive constructions) (713.1).
-Vs-	Number suffix, singular actor (imperative mode, transitive animate constructions) (713.1).
-waawa-	Number suffix, same was -owaawa-, which see.

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-yaa- Number suffix, plural lower persons (715, 715.1, 715.2, 715.3, 715.5, 715.6).

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