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Morphophonological Analysis of Balti Nominal and Verbal Systems

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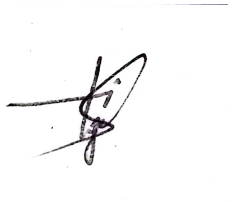

Muhammad Ilyas

Summary

This study provides a comprehensive linguistic analysis of Balti, focusing on its phonology, noun phrase structure, and verbal system. It begins by exploring Balti's historical background, including the arrival of Islam, Dogra administration, and governance under Pakistan, along with an examination of its script and oral and written literary traditions. The study also traces the history of linguistic research on Balti, highlighting key contributions that have shaped its scholarly understanding.

A morphophonological approach is employed to analyze Balti words, drawing on native intuition, recorded data, observations, and existing Balti texts. Phonological analysis is conducted using both Tibetan script representation and IPA transcription to accurately capture phonetic nuances. The study identifies and examines Balti's sound segments—including its 37 consonants and five vowels—through minimal pair analysis. Consonants are categorized by manner and place of articulation, as well as voicing, while vowels are analyzed in terms of frontness, backness, rounding, and height. The syllable structure of Balti is notably complex, allowing up to three consonants in the onset position and two in the coda, with vowels forming the nucleus. Stress and intonation patterns are investigated through acoustic measurements of pitch, intensity, and duration, revealing systematic stress placement: verbs consistently stress the first syllable, nouns stress the second, adjectives exhibit variability in intensity and duration, and adverbs emphasize the second syllable with higher pitch and longer duration. Pitch reliably marks stress placement, whereas intensity and duration show more variability.

Using a diachronic approach, the study compares Balti phonology with Literary Tibetan, tracing historical phonological changes and reconstructing phonological shifts. Balti retains many pre-initials, initials, medials, and finals from Literary Tibetan while introducing new sounds such as retroflex plosives, a uvular plosive, and a palatal flap. Notable changes include the loss of certain pre-initials and finals, as well as the consistent use of the postscript *-s* as a past tense marker. Despite these shifts, Balti preserves all five vowels of Literary Tibetan and maintains features lost in many modern Tibetan dialects. This phonological evolution provides valuable insights into Tibetan language dispersal and dialectal differentiation.

The study also explores Balti noun phrase structure, examining the internal composition of head nouns, noun derivation through suffixation, and com-

pounding. The morphophonemic processes of noun suffixation are analyzed, along with the constituent order surrounding head nouns and pronouns. By systematically investigating their interaction with possessives, demonstratives, numerals, adjectives, quantifiers, plural markers, articles, and case markers, the study establishes patterns that define Balti noun phrase syntax.

The verbal system is another focal point, with an emphasis on the phonological structure of verb roots, suffixation, and the grammatical roles of various verb inflections. The study examines finite and non-finite verbal forms, including the conjunctive participle *-e*/*-se*, converbs, and infinitives, particularly their interaction with motion verbs. Argument structure is analyzed by distinguishing mono-valent, bi-valent, and tri-valent verbs. The morphophonological analysis reveals that Balti possesses causative and non-causative verb pairs, with causatives derived from non-causatives through three primary methods: prefixation with *s-*, devoicing and aspirating the initial consonant, and suffixation with *-ʧuk*. The study further investigates light verbs and their syntactic roles, distinguishing them from main and auxiliary verbs.

A key aspect of Balti verbal morphology is the function of auxiliaries, which carry significant evidential, epistemic, and tense-aspect-related information. Like many Tibetan languages, Balti is rich in evidential morphology, encoding speaker perspective and information source. The study examines these evidential auxiliaries in detail, shedding light on their embedded grammatical functions and their broader role within Balti syntax.

Ultimately, this research offers a comprehensive analysis of Balti morphophonology, noun phrase structure, and verbal morphology, demonstrating both its historical continuity with Tibetan and its unique innovations. By contributing to the understanding of Tibetic languages, Balti phonology, and verbal structure, this study reinforces the significance of Balti within Tibetic linguistic research.

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Contents

Abbreviation

The abbreviations used in this study are listed below:

- ABS: Absolutive
- ABL: Ablative
- ADJ: Adjective
- AG: Agentive
- AUX: Auxiliary
- Bal: Balti
- CARD: Cardinal Number
- C_f: Final Consonant
- C_fp: Post Final Consonant
- C_i: Initial Consonant
- C_m: Medial Consonant
- C_p: Pre-initial Consonant
- COP: Copula
- DAT: Dative
- DEF: Definite
- DEM: Demonstrative
- ERG: Ergative
- EQ: Equative
- EX: Existential
- EXCL: Exclusive
- FUT: Future
- GEN: Genitive
- IMP: Imperative
- INCL: Inclusive
- INE: Innesive
- INDF: Indefinite
- IPA: International Phonetic Alphabet
- LT: Literary Tibetan
- LV: Light Verb
- N: Noun
- NEG: Negative
- ORD: Ordinal Number
- PERF: Perfective
- PLU: Plural
- POS: Possessor
- PRS: Present
- PST: Past
- PERM: Permissive
- RN: Relator Noun
- OT: Old Tibetan
- V: Vowel

Chapter 1

Introduction

The present study examines the phonology, nominal system, and verbal system of the Balti language. This chapter provides a brief introduction to the region §1.1, an overview of the term 'Balti' §1.2, a history of the region §1.3, the historical background of the Balti language §1.4, the script §1.5, and both oral and written Balti literature §1.6, an overview of the previous research on the Balti language §1.7, and an introduction to present study §1.8.

1.1 Geography and Administrative Overview of the Balti-Speaking Region

Balti language is spoken in Baltistan division of Gilgit Baltistan, Pakistan, by an indigenous ethnic group also known as Balti. Gilgit-Baltistan is in the north of Pakistan. It borders Azad Kashmir, Pakistan-held Kashmir, to the south, the province of Khyber Pakhtunkhwa to the west, Afghanistan to the north and China to the east. This region is controlled by Federal Government of Pakistan under the Ministry of Kashmir and Gilgit-Baltistan affairs.

Gilgit-Baltistan obtained partial autonomy in September 2009. The term Gilgit Baltistan was introduced as the official name of the former Northern Areas of Pakistan after getting the partial autonomy in September 2009. The region has not been granted provincial status due to its forceful integration with Kashmir. Pakistan claims that it awaits the UN-sanctioned plebiscite in Kashmir to determine the status of the region. Moreover, due to its disputed status, the political system of Gilgit-Baltistan is different from those of the rest

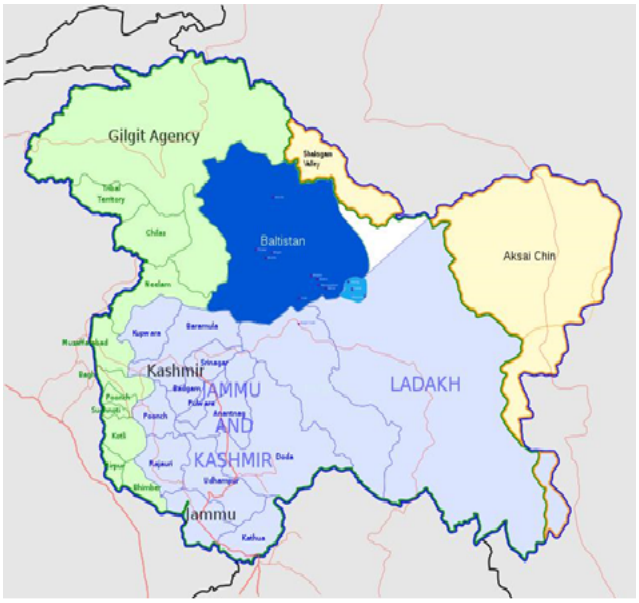

Figure 1.1: Map of Baltistan

of Pakistan. The region has neither representation in the national parliament nor they do have the rights to vote for electing the parliamentarians.

The region covers 72,500 square kilometres area and this region has an estimated two million population. The area is administratively divided into three divisions: Baltistan, Diamer and Gilgit.

Baltistan division consists of four districts; Skardu, Ghanche, Shigar and Kharmang. Skardu is the capital of Baltistan. The area of Baltistan is 10,118 square km and according to the census of 2013 it had an estimated population of 1.249 million. It borders Gilgit to the west, Chinese Turkistan the present-day Xinjian Province to the north, Ladakh and Kargil to the southeast, and Kashmir to the southwest as shown in Map 1.1.

1.2 Introduction to Balti

The term 'Balti' is used for both the ethnic group and the language spoken by the ethnic group in Baltistan. However, it is unclear why the language and the ethnic group are called 'Balti', when the region was populated, and where this ethnic group originated. Most of the local writers including Yousaf (2009, p. 27),

and Abbas (2015, p. 3) opine that the word 'Balti' is the same word 'Baitai' which Beckwith (1993, p. 7) quoted Ptolemaios, who mentioned a people called 'Baitai' or 'Bautai' as the native ethnonym of Tibet. Beckwith (ibid.) further quotes the Greco-Roman writer Ammianus Marcellinus who mentioned the same people as Bout as having lived "On the slopes of the high mountain to the south". Hence from this we cannot draw the conclusion that the same people are the Baltis as Tibet was spreading over a huge region.

1.3 History of Baltistan

The region has a long history. Its history can be divided into three phases: the ancient phase §1.3.1, the medieval phase §1.3.2, and the modern phase §1.3.3.

1.3.1 State of Balǔr and Tibetan Suzerainty

Yousaf (2019, p. 55) mentions that according to the Chinese travelers and other Chinese records, in the beginning of the 5th century there was a state called ***bólǜ*** consisting of the present day Baltistan and its surrounding regions. Petech (1977, p. 9) mentioned Chinese sources according to which the region was known as 勃律 ***bólǜ***.[1] Petech (ibid., p. 9) states that in 696 the king of Great ***bólǜ*** Baltistan sent a messenger to pay homage to the Chinese court. In 717 the king received Chinese brevet, and in 719 the king sent an embassy to Chinese Court. In 720 the successor of the king of Great ***bólǜ*** received imperial investiture. Petech (ibid.) assumed that the state of Great ***bólǜ*** Baltistan had been under the influence of then Chinese government and the ruler of Great ***bólǜ*** changed the sides and came under the influence of the then Tibetan empire between 720 and 721. Petech (ibid.) assumed that the event took place in 720 or 721 and his assumption is based on three arguments. Firstly, no further embassy reached to China after 720. Secondly, in 721 the Tibetan king received envoys from Western Tibetan. Thirdly, Chinese sent help to the king of Little ***bólǜ***, who was threatened by Tibetan, in 722. He assumed that Little ***bólǜ*** having threat from Tibetan means Great ***bólǜ*** already had gone under the influence of Tibetan. Yousaf (2019, p. 60) states that in 721 the king of Tibet conquered the Great ***Palolu*** and the king of Great ***bólǜ*** escaped to Little ***bólǜ*** while the people and

[1] Petech (1977) used the Wade-Giles system, which I have converted to Pinyin with the assistance of my classmate Afsana Firdus and verified by Sun Tianye. Additionally, I provided the corresponding Chinese characters with the help of Afsana Firdus and Sun Tianye.

the region of Great ***bólǜ*** came under the control of Tibet. Petech (1977, p. 9) also equated ***bólǜ*** to ***Bolǔr*** which Beckwith (1993) mentioned many times in his study, 'The Tibetan Empire in the Central Asia'. Actually the word ***Bolǔr*** is the Arabic version of ***bólǜ*** as Jettmar (1990, p. 803) and Petech (1977) quoted Ḥudūl al- Ālam, a geographical treatise written in Persian describes, 'Bolorian Tibet' as a land where 'the people are chiefly merchants and live in tents or felt-huts' (Minorsky et al., 1970, p. 93). Beckwith (1993, p. 30) mentioned "The kingdom of ***Balǔr*** in the east of Takharistan by 663 AD". Beckwith (ibid., p. 87) stated that on 10th July 717, 蘇麟陀逸之 Sulintuoyizhi, the king of ***Balǔr***, was awarded by official decree title '***King of Balǔr***' by the then Chinese 玄宗 ***Xuánzōng*** government. Beckwith (ibid., p. 95) further stated that Tibetan occupied the little Balǔr in 722 AD and the then king of the state escaped to Chinese territory where he pleaded the Military Governor of 北庭 ***Běitíng***, 張孝嵩 Zhang Xiaosong for military help, considering the importance of little ***Balǔr***, 孝嵩 Xiaosong stated ***Balǔr*** is 唐 ***Táng***'s western gate, if ***Balǔr*** is lost all of the Western Region will be Tibetan' and he agreed to help him. He sent combined army of Chinese and Foreigner troops under the command of 張思禮 Zhang Sili, the assistant commissionaire of Kandahar, to join the army of little ***Balǔr*** in a counterattack led by king 沒謹忙 Mojinmang. On 29 October 722, they attacked and sent back the Tibetan army, killing and capturing several thousands of men. Petech (1977, p. 10) states that the Tibetan attacked 布扎 ***Bùzhà*** Gilgit in 737 from their base in the Great ***bólǜ*** and the king of the Little ***bólǜ*** was defeated and compelled to pay homage to Tibet. Studies by Petech (ibid.), Beckwith (1993), and Yousaf (2019) on Chinese and Tibetan sources confirm that between 660 and 722, Baltistan was a state known as Great ***Bolǔr*** or Great ***bólǜ***, with fluctuating influences from neighboring countries, China and Tibet. The Great ***bólǜ*** was eventually captured by the Tibetans sometime between 721 and 722. Petech (1977, p. 11) further states that in 753 Chinese Governor General 封常清 Feng Changqing attacked Great ***bólǜ*** and conquered its capital 賀薩勞 ***Hāsàluó***. Yousaf (2019, p. 62) states that according to some sources of China ***Hāsàluó*** is the Chinese pronunciation of present day Khaplu. Yousaf (ibid., p. 63) further states that according to Tibetan records for sometimes Tibetan lost control over Great ***bólǜ*** as the king of Tibet ***Kri-srong-lde-brtsan*** conquered Great ***bólǜ*** during his reign between 755 to 797. The three studies suggest that since 722 to 753 the region had been under the suzerainty of Tibet and from 753 to somewhere 755 Tibet lost its suzerainty over the region and got the control of the region again somewhere 755. Petech (1977, p. 12) assumed that during second half

of the 8th century and first half of the 9th century Ladakh and Baltistan had been under the loose suzerainty of Tibet. Petech (ibid., pp. 12–13) assumed that after the collapse of Tibetan monarchy in 848 Tibetan suzerainty over the region must have vanished fairly soon.

1.3.2 Local Dynasties

Hussain et al. (2011, p. 32) states that until 1840 Baltis were independent with each valley having its own ruler. Shigar Valley was reined by Bal. ཨ་མ་ཙ *amatʃa*, a Raja family, who may have come from Khotan via Nagar. Khapulu and Keris were ruled by Bal. ཡབ་གོ *japgo* family who originally came from Chinese Turkistan; Takharistan, an area of Balkh Afghanistan. Bal. མཁར་པོན *maqpon* Dynasty governed Skardu, Kharmang and Rondu. The descendants of these families are still there in all the regions. Every region has a central fort and they live in it.

1.3.2.1 Arrival of Islam in Region

Khan (1939, p. 494) states that Islam arrived in the region in the reigns of Ghuta Cho Singay 1437-1464 of Bal. མཁར་པོན *maqpon*, Ghazi Tham 1440-1470 of Bal. ཨ་མ་ཙ *amatʃa* and Shah Azam 1420-1450 of Bal. ཡབ་གོ *japgo* Dynasties. Shah Syed Muhammad Noorbakhsh who was the special disciple of Amir-e-Kabir Syed Ali Hamadani preached Islam there. He came from Kashmir between 1435 to 1445 and converted the people of Baltistan to Islam. Ghazi Tham of Shagar, present day Shigar, and Shah Azam of Khaplu embraced Islam. After embracing Islam Ghazi Tham changed his name and it became Ghazi Mir. During this era, Syed Muhammad Noorbakhsh founded the popular masques; Ambodic in Shigar and Chachan in Khaplu. It is unknown whether Ghuta Cho Singay embraced Islam or not but the preaching of Islam in Skardu was also started by Syed Muhammad Noorbakhsh.

According to Kazimi (1985, p. 10), during the reign of Bhogha 1490-1515, a king of the མཁར་པོན *maqpon* Dynasty, Amir Kabir Syed Ali Hamadani followed by Shah Syed Muhammad Noorbaksh and Shamsudin Iraqi preached Islam in Baltistan. Yousaf (1991, p. 4) states that the well-known Muslim preacher Amir Kabir Syed Ali Hamadani, who visited Baltistan thrice during 1374 to 1383, was the first Muslim preacher in Baltistan. He converted the people of Khaplu and Shigar to Islam. Later on he was followed by Mir Shumsudin who converted the people of Kharmang, Skardu and Rondu to Islam by 1510. Amir Kabir

Syed Ali Hamadani and his followers were not only preachers of religion but they were great constructors and architects. They built number of historical mosques including Chaqchan and Ambodic masques in the region. They were also artisans. They brought an economic revolution in the region. Hence, the whole region converted to Islam. Sprigg (2002, p. 3) has also opined that Amir Kabir Syed Ali Hamadani converted the region from Buddhism to Muslim in 783 AH (After Hijrah) and later on converted to exclusively Baltistani Nur Bakhshi sect by Syed Muhammad Noor Baksh. Kazimi (1985, p. 10) states that after converting to Islam, Ali Shar Khan Anchan one of the rulers of སྐཱཔོན་ *maqpon* Dynasty in 16th century reached on its peak by conquering all the surrounding areas. Ali Shair Khan Anchan had good terms with the Mughul Emperor Akbar.

1.3.2.2 Arrival of Dogra

According to Tariq (2020, p. 14), around 1840, Baltistan and Ladakh were occupied by Dogra forces—an Indo-Aryan ethno-linguistic group from the Indian subcontinent—who ruled Jammu and Kashmir from 1846 to 1947, ultimately incorporating Baltistan and Ladakh into the state of Jammu and Kashmir. Hussain (2016, p. 16) states that the Dogra occupied Gilgit Baltistan in 1840s and they ruled over the region for 108 years. Gulab Singh a prominent general from Panjab established Dogra control over the region of Gilgit Baltistan. He accepted British supremacy and right to control his foreign relations and in return they sold him the former Sikh Province of Kashmir and Gulab Singhs's acquisition of Kashmir Valley marks the foundation of Jammu and Kashmir. In 1846 a treaty between British and Dogra was written entitled 'Amritsar Treaty' and it is also known as the Sale Deed of Kashmir through which the British sold the land of Kashmir to the Dogra for 75 lacs in the then established currency, Nanakashahi rupees. The Dogra ruled over the areas of Ladakh, Poonch, Jammu and Baltistan. In 1909 Baltistan was part of Ladakh Wazarat under the control of Dogras. From 1840s to 1947 the Dogras had been ruling over the region under the supervision of British rule.

1.3.3 Gilgit Baltistan Under Paksitani Administration

The people of Gilgit Baltistan liberated the region from Dogras and joined with Pakistan. But Pakistan did not grant it a provincial status because of its colonial association with Kashmir. Although, the reason of annexing Gilgit Baltistan with the disputed region of Kashmir is not understandable as the peo-

ple of Gilgit Baltistan has its own unique identity and culture and they wanted to be part of Pakistan. In addition, historically, the region had been a separate political unit as Sökefeld (2017, p. 1) states that before partition some parts of present day Gilgit Baltistan were part of the Princely State Jammu and Kashmir, a portion of which formed the British Gilgit Agency. According to Sökefeld (ibid.), Gilgit Baltistan was never fully controlled by Jammu and Kashmir Government. He further states that before the partition of the subcontinent, the British Government returned the Gilgit Agency to the Maharaja. On July 30, 1947, Ghansara Singh as Wazir e Wazarat took the control of Gilgit Agency. He had to rely on the local Gilgit Scouts which was under the control of Maj. Brown and Captain Mathieson. The local junior commission officers refused to take an oath of loyalty to the Maharaja and when they came to know that Maharaja declared to join with India, on 1st November 1947 they revolted against the Maharaja and arrested the Wazir Wazarat Ghansara Singh. In this way they formed a provincial government and invited Pakistan to take the control of the region. Meanwhile, they also started a successful campaign to liberate Bhonji, Astore and Baltistan from Dogra forces. Skardu, the capital of Baltistan, was liberated on 14 August 1948 and became a part of Gilgit Agency. The people of Gilgit Baltistan had no sympathy with the Dogra and they never wished to be part of Jammu and Kashmir. Their wish for the accession with Pakistan was unanimous. But unfortunately Pakistan did not fully accept the unanimous wish of the people and sent a minor official who became the new political agent. Legally still Pakistan has not accepted the accession of the region. Now, Gilgit Baltistan is under the administration of Pakistan but not the de jure part of the country. Tariq (2020, p. 15) states that the people of Gilgit Baltistan carry passport and identity card of Pakistan but cannot vote in the national election.

1.4 Historical Background of Balti Language

Balti Language is directly descended from Old Tibetan, a language spoken in the Tibetan empire during (630s to 840s) Bialek (2018b, p. 24). Bielmeier (1998, p. 584) states that Balti along with its linguistically most related languages: Puriki, and Ladakhi belong to the most archaic Tibetan dialect group. Bielmeier (ibid., p. 585) mentions that most of the complicated initial consonants of Written Tibetan can still be found in Balti, Puriki, and Ladakhi. He also notes that Balti has introduced *q*, which is unfamiliar to Tibetan. Iqbal

(2019) explains in the preface to his Balti Dictionary that Balti retains all the voiced and voiceless distinctions of Old Tibetan. According to Bielmeier (1998, p. 583), the Tibetan-speaking area extends from Baltistan in the West into the Chinese provinces of Sichuan and Yunnan in the Southeast, and the area of Blue Lake in Amdo in the Chinese province of Qinghai in the North. Yousaf (2019, p. 347) notes that different dialects of the language are spoken in Baltistan, Tibet, Ladakh, Bhutan, Kham, in the north of Nepal, in many cities of India, and in the four provinces of China: Shinghai, Yunnan, Sichuan, and Gansu, by a large number of people. Yousaf (ibid.) further observes that despite the huge differences among the variants, the script is common among them.

1.5 Script

Regarding the origin of Tibetan script Tournadre and Suzuki have mentioned

> According to Tibetan tradition, the Tibetan script was created in the seventh century during the reign of King སོང་བཙན་སྒམ་པོ་ Songtsän Gampo by one of his ministers, ཐོན་མི་སམ་བྷོ་ཊ་ Thönmi Sambhoṭa. This minister was sent to India and is purported to have created not only the Tibetan alphabet but also to have written eight grammatical treatises (six of which were subsequently lost) as well as translations of various Buddhist sutras. There is a great deal of uncertainty about the historicity of Thonmi Sambhota and his composition of two grammatical treatises that are still well known to Tibetans today: the SUM.CU.PA (སུམ་ཅུ་པ་) and the RTAGS-KYI 'JUG.PA (རྟགས་ཀྱི་འཇུག་པ་). First, the name of this minister is not mentioned even once in the Dunhuang documents, in which all the important ministers of Songtsän Gampo are listed. Second, there is linguistic evidence suggesting that the 'current' versions of the SUM.CU.PA and the RTAGS-KYI 'JUG.PA treatises were composed not in the seventh century but in the ninth century, or perhaps even later. For example, the grammatical rules of gender agreement explained in the text correspond to the rules of the second orthographic reform which took place during reign of another Tibetan king, ཁྲི་གཙུག་ལྡེ་བཙན་ Thri Tsukdetsän also known as རལ་པ་ཅན་ Rälpačän. What is clear, however, is that the Tibetan script is directly derived from a script used in the Gupta Empire of Northern India (2023, pp. 138–39).

This discussion suggests that the role of ཐོན་མི་སམ་བྷོ་ཊ Thönmi Sambhoṭa in the creation of the Tibetan script remains uncertain and is the subject of debate. However, it is established that the script evolved from the Gupta script of India. The script consists of 30 letters and 4 diacritics. After the fall of the Tibetan Empire in 842, Baltistan lost its political connection with Tibet. Since then, until the arrival of Islam, which script had been in practice and how people communicated via writing are unknown, as there are no specimens of any literary genre except rock inscriptions in the region. Nevertheless, most writers claim that until the arrival of Islam, the Literary Tibetan script was in practice. As Backstrom and Radloff (1992) mention, Balti has two distinct scripts: Old-Tibetan and Perso-Arabic. Mingorio (2019, p. 123) mentions that until the arrival of Islam, the Old Tibetan script was in use. However, all the latest Balti literary genres including lyrics, elegies, eulogies, dramas, poems etc. are available in Perso-Arabic script. Now, the Old-Tibetan script is not in practice at all. According to Hussain (2016, p. 63), in Baltistan, no one knows how to read or write the Old Tibetan script. Yousaf (2019, p. 349) notes that the Persian script cannot accommodate many of the phonemes of Balti, and as a result, texts written in this script cannot be read with full phonetic accuracy. In response to this limitation, Balti literary figures began investigating the original script of the language. During this inquiry, Yousaf (ibid., pp. 350–351) came across an incomplete script containing 31 letters and three diacritics. Yousaf (ibid.) notes that, according to Fateh Ali Khan—a ruler from the Balti Bal. ཡབ་གོ *japgo* dynasty—the script was originally devised by his grandfather, Hatam Khan.

Yousaf (ibid.) further explains that, after several centuries, this original script was rediscovered by him and documented in his 1984 book, ***Baltistan par ik nazar*** 'A Glance at Baltistan'. He asserts that even today, this script is the most suitable for accurately representing Balti phonology. However, the Perso-Arabic script has been in continuous use for centuries, and the entire literary heritage of Balti has been composed in it, making its complete replacement practically impossible.

Despite its limitations, the Persian script was adapted in 1990 with the publication of a booklet titled ***Balti Zuban*** 'Balti Language', which introduced diacritical marks to represent seven distinct Balti sounds. Since then, this adapted script has remained in widespread use, and modern Balti literature is primarily available in this form. Nevertheless, a fully standardized writing system has yet

to be formally established. In the present study, I have adapted the Literary Tibetan script དབུ་ཅན་ *dbu čan* 'having a head' for the phonetic transcription of Balti (§2.1.1).

1.6 Balti Literature

Balti literature exists in both oral and written forms. Most literary pieces are available in oral form, while only a minor portion exists in written form. Both written and oral literature take the forms of prose and poetry. The first section of this portion deals with oral literature, while the second focuses on written literature.

1.6.1 Oral Literature

There is no such evidence as to when oral literature began in Baltistan and who the pioneers in this field were. However, it has been passed down from generation to generation through word of mouth. Oral literature encompasses prose as well as poetry. Prose literature is primarily found in the form of short stories. According to Sagaster (1993, pp. 123–126), the richness of Balti oral literature remained largely unknown for an extended period. Sagaster noted that in 1871, British official Robert Shaw reported that a man from Baltistan had shared with him an episode from Gesar epic, recounting Gesar's campaign against the king of Hor. However, this account remained overlooked in Shaw's travelogue for over a century. Furthermore, Sagaster credits Jettmar with initiating the study of Balti folk literature, particularly with his 1977 publication of a fragment from the Balti version of the Gesar saga, which he had recorded in Baltistan in 1955. This publication demonstrated that the Gesar epic was still a living tradition in the region. Sagaster (ibid., p. 124) has mentioned that Jettmar encouraged further research into the Balti versions of the epic. As a result, the author and his colleague Dr. Renate Söhnen visited Baltistan in 1980. During their field trips to Baltistan in 1980s, the hypothesis that the Gesar epic was widely spread across the region was confirmed. Söhnen and the author were able to document several versions and individual chapters of the epic. Sagaster has mentioned that he visited Baltistan in 1981, 1983, and 1986. During those three field trips, they documented 140 hours of narratives including various versions of Gesar epic from central and eastern Baltistan, stories of other kings and queens, both domestic and foreign. The domestic kings are རྒྱལ་སྲས་ལྷ་བུ་ *rgjalu stralbu* in central Baltistan

and ཙོའེའིཨམ་ *tʃo ɣoriʈʰam*, the ruler of ཕར་ཁ་ *pʰarowa* 'a village in district Khaplu' in eastern Baltistan. The foreign rulers are the kings of Greece, Rome, Egypt, Baghdad, Yemen, Turkey, Kabul, and Iran; also included is the Queen of Salima. There are also supposed stories of the kings of Russia and China. Sagaster (1989, p. 233) notes that he recorded accounts from a storyteller in རྒྱལ་ *rgjajul* 'A village in the central part of district Skardu' and two storytellers from ཨས་ཏ་ན་ *asʈana* 'A village in the central part of district Skardu', who recounted the tale of རྒྱལ་སྟག་ *rgjalu stralbu*. Additionally, he collected variations of this narrative from four other storytellers, who recounted versions identified as the stories of རྒྱལ་ཙོབཟང་ *rgjalu tʃobzaŋ* and རྒྱལ་ལོབཟང་ *rgjalu lobzaŋ*, which ultimately proved to be different versions of the story of རྒྱལ་སྟག་ *rgjalu stralbu*. Furthermore, they also documented the tale of ཙོའེའིཨམ་ *tʃo ɣoriʈʰam*, the king of ཕར་ཁ་ *pʰarowa* 'a village in khaplu'.

Söhnen (2008, pp. 232–241) published one episode of Gesar *Abu Donbu and his Foster-Parents An Episode from the Gesar Epic in Baltistan.*

The longest oral narrative in Balti language is the ཧླེ་བུ་གེ་སར་ *ɬabu kesar* about གེ་སར་ *Gesar* epic Samreen (2013) notes

> Baltistan possessed world's longest and oldest epic named as "HlebuKesar" Kasar Saga. This is the combination of literary, cultural and historical heritage of Baltistan and Ladakh. This epic is divided into twelve parts. The protagonist of the epic is the Hlebu Kesar, who is said to be the omnipotent mythical character came to earth, in order to spread virtue, justice, honesty, and kindness towards fellow human beings (2013, p. 126).

Moreover, in Baltistan, it has been traditional to relate stories during long nights of winter. In winter, it has been customary for people in every village to gather in a house to share and listen to stories. Khan (2018) has published twelve oral short stories recounted by various story tellers in the three volumes of བལ་ཏི་སྐད་ཇི་སྡུད་ *balʈi skaʈi zdruŋ* 'A Story in Balti Language'. The volumes are organized as follows: volume one includes ཤིང་ཁ་ནི་གཞོས་བུ *ʃiŋkʰani xsos bu* 'The Foster Son of the Carpenter', རྨིག་པ་ཉི་སི་སྡུད་ *hrmikpa ɲisi zdruŋ* 'Two Cheaters Story', བེཧ་རམ་གོལ་བ་དི་ཤ་ *behram gol baḍiʃa* 'Behram Gol, The King', and བགཱད་དི་བ་དི་ཤ་ *baqḍaḍi baḍiʃa* 'The King of Bagdad'; volume two contains: ཕུ་ཀུན་ *pʰukun* 'Fire Blower', ཨེ་ར་ནི་བ་དི་ཤ་ *erani badiʃa* 'The King of Iran', གུལ་བེཧ་རམ་བ་དི་ཤ་ *gulbehram badiʃa* 'The King, Gul Behram', རུ་མི་བ་དི་ཤ་ *rumi badiʃa* 'The King of Greece'; and volume three includes ཧ་རི་ན་ཧ་རི་ནོ་ *hari na hari noŋ* 'Weaver and it's fault', ཤི་ལིང་བུ་ཏས་ *ʃiliŋbu ʈas-*

bju 'Shilingbo Tasbyu', ཅིནི་བདི་ཤ་ *tʃini badiʃa* 'The King China', གུལ་བེ་ཁོ་ལི་ *gulbe qoli* 'Gulbe Qoli'.

Other famous oral stories include ཨ་པི་ཚོ་ཕ་ *apitsʰo pʰaʈa* 'Bald Nephew of Grandmother', ལྷམ་ཁན་ *hlamkʰan* 'The Cobbler', ཚོང་པ་ན་ཏོ་ *tsʰoŋpa na ʈoʈa* 'The Trader and Parrot', ཕ་ཏ་ཚོང་པ *pʰaʈatsʰoŋpa* 'The Bald Trader', ཤིང་སྐམ་ *ʃiŋskam* 'Dried Wood' and many more.

In addition to folk tales, Hasrat (2007, p. 90) states that in Baltistan, folk romances are a famous literary genre, which are passed down from generation to generation through oral tradition. In these romances, the traditional characters are lover, beloved, rival, and messenger. The lover calls himself ཟྱིག་པ་ *zdikpa* 'Oppressed', and ཟེ་རྡུག་ *ɖredʒuk* 'Infatuated', while he calls his beloved ཙོན་དོལ་ *tʃʰondol* 'Name of a hilly flower' and མ་འོ་ཉིང་ *maxoʈiŋ* 'Name of a hilly flower'. Hasrat (ibid., pp. 91–94) presents Urdu translation of the folk romances: ཚན་ཐག་རིང་ *tsʰan ʈʰaqriŋ* 'Long Night', ཐོ་ཤལ་པ་ *broʃal pa* 'A Native of Broshal, a village in Gilgit', and ཤེ་ལེ་སུག་ *ʃelesuk* 'Name of a maiden'.

As for the development of Balti poetry, Afridi (1988, p. 174) identifies རྒྱན་གླུ་ *rjaŋ xlu* 'royal song' as the earliest form, a traditional storytelling style in blank verse. Without context, however, the meaning of such songs cannot be fully understood.

Yousaf (2019, p. 365) divides early Balti poetry into རྒྱལ་གླུ་ *rgjaŋ xlu* 'royal song', རྒྱུན་གླུ་ *ruŋ xlu* 'Story Song', and *xlu* 'Song'. Among these རྒྱལ་གླུ་ *rgjaŋ xlu* 'Royal Song' has the most prestige, which is expressed by the prefix རྒྱ་ *rgja-* which is usually used to show grandness. རྒྱུན་གླུ་ *ruŋ xlu* 'Story Song' is a part of a story. In a Balti story usually, an emotional scene is expressed in the form of poetry and such piece of poetry is known as རྒྱུན་གླུ་ *ruŋ xlu* 'Story Song' which is usually a part of the plot. Besides རྒྱལ་གླུ་ *rgjaŋ xlu* 'Royal Song', and རྒྱུན་གླུ་ *ruŋ xlu* 'Story Song' the rest, is known as གླུ་ *xlu* 'Song'.

Hussain (2016, p. 90) states that folk songs are considered part of early Balti classical literature, which is free from the constraints of rhyme and repetition. ཚན་ཐག་རིང་ *tsʰan ʈʰaqriŋ* 'A Long Night', ཧོ་ཇེ་དར་ཁན་ *tʃo heder xan* 'The King Haider Khan' and སྟོ་ཡི་མ་ན་པུ་ *stroɣi manapʰu* are the famous folk songs of Balti (ibid., p. 91). Hasrat (2007, pp. 85–90) has presented the Urdu translation of Balti folklore: བྲག་མ་ཡུར་ཇོ *braqmajur tʃo* 'the King of Braqmayur, an abstract land', ཏེ་སཊེ་མུ་རཊ་ *ʈeste muraʈ*, མ་ན་པུ་ *manapʰu*.

Samreen (2013) has discussed six Balti flock songs: བོང་མ་རྗམ་ *boŋo marjam* 'the daughter, Maryam', ཧི་ལལ་བག་ *hilal baq* 'crescent garden', ལང་དུག་པ་ *laŋdukpa* 'man-

ners', ཁ་ཅི་སུལ་ཏན་ཆོ *kʰari sulṭan tʃo* 'the palace king, Sultan', ཇོ་ཨ་མིར་ཧེ་དར་ *tʃo amir hedar* 'the king, Amir Haider', and ཤཱ་བེ་ཧ་རམ་ཇོ *ʃa behram tʃo* 'the king, Shah Behram'.

Samreen sates

> Folk songs are not mere poems but exhibit the real experiences of people of Baltistan depicting genuine Balti culture, traditions, norms, values and their peculiar lifestyle. These songs are a medium to know the historical, geographical, political, religious and ethnic accounts of Baltistan (2013, p. 1).

Kazimi (1985) published a collection of Balti folklore with the title *Balti Log Gheet*. While oral literature has long been the heart of Balti culture, written literature offers a complementary perspective on its traditions. The following section explores the development of Balti written literature.

1.6.2 Written Literature

In the development of Balti written literature, the role of Christian Preachers cannot be overlooked. Yousaf (2019, p. 352) states that Ghustafson the first Christian Preacher complied a Balti dictionary, and collected some pieces of poetry in the Persian Script but none is available now. Ghustafsan belonged to the Second Newyan Mission. In 1903, Gustafson had Abbas Ali Shah Abbas translate the *Mati Bible* Matthew, and in 1906, he had Abbas Ali Shah Abbas translate the *Yuhana Bible* John. Both translations were published in the Perso-Arabic script. He left Baltistan in 1908. After seven years in 1915 another Christian Mission, Central Asian Mission, arrived in Baltistan. This mission also had made Abbas Ali Shah Abbas translate *Loqa Bible* St.Luke in Balti and published in 1921. In 1930 one member of this mission, F C Read arrived in Khaplu with his wife and published the first Balti Grammar in English in 1934. Read also had published the translation of the Old Testament in Balti in 1937. In 1939 at the beginning of the Second World War, the mission left Baltistan. In 2011 Yunus translated the Old Testament in Balti and Published it.

Yousaf (ibid., p. 354) states that according to the available records, the first local Balti prose is the unpublished མ་ཏ་མི་ཡོག་བུ *maṭami ʃoqbu* 'The Book of Mourning' written by Abbas Ali Shah Abbas.

Hasni (1985) collected and published Balti proverbs, and idiom with the title བལ་ཏི་ཏམ་ལོ *balti ṭamlo* 'Balti proverbs'. Lobsang (1992) published a booklet of Balti proverbs with the title ཨོད *oṭ* 'Light'. In 1995 Hussainabadi translated

Quran in Balti and published it. Rawish (2005) has published the first collection of Balti novel with the title ཕར་ཏྒ་ *pʰarʈax* 'The Gift of a Father'. In addition, Hasrat (2007, p. 123) states that after the establishment of Radio Pakistan Skardu in 1979, local playwrights wrote dozens of social and historical plays and broad-casted from Radio Pakistan. Hasrat mentions the following notable playwrights and their works: Muhammad Ali Khan Wahid wrote ཙེ་སྐྱལ་ལི་བག་སྦྱོན་ *tsʰe skjali baxsʈon* 'Marriage for the Sake of Life' and ལམ་ཐག་ཀུན་ཅ་དེན་ *lam ʈʰaq kun tʃaden* 'Passing Distance'. Raja Hamid Hussain Kaleem wrote ནག་རམ་ *naqram* 'Black Color'. Agha Shakir Hussain Shakir contributed ནང་ནུ་བི་བག་སྦྱོན་ *naŋnubi baxsʈon* 'Consanguineous Marriage' and ད་ཇོང་ *ɖra kʰjoŋ* 'Trouble Maker'.

Muhammad Abbas Khargrong wrote རུ་གང་མེ་གང་ *ʧʰu gaŋ me gaŋ*, གཏུང་མེ་དེ་ན་ཡོ་ *ɣdjaŋmeɖi najo* 'Hopeless Boat', and ཐལ་དུམ་ *ʈʰalɖum* 'Dust'. Ghulam Abbas Sode is known for ཞི་ཇུང་ *xlaɖpʰjuŋ* 'Rest' and རྒྱང་སྐོར་ *rgjaŋskor* 'Enclosure'.

Ghulam Muhammad Bismil's works include རོ་སེག་ *rɖosŋiŋ* 'Heartless'. Muhammad Hassan Hasrat authored ལིང་ཡུལ་ *liŋjul* 'Hunting Village' and རང་མེ་ *raŋ me* 'Whole Fire'. Ghulam Hassan Hasni wrote བཀྱ་ཤར་ *bgja ʃar* 'Long Day', while Wazir Muhammad Fairoz contributed ཟེ་སྟང་ *zesʈaŋ* 'Cheating to Eat'.

Regarding Balti poetry Hasrat states

> It is difficult to ascertain when and under what circumstances formal poetry began in Baltistan. However, prior to 1840, apart from folk songs, there is no credible record of formal poetry or any recognized poet in the Balti language. It is said that e reign of མཁའ་པོན་ *maqpon* Zafar Khan 1765—1772, a fire broke out in the seven-story structure of Skardu's Kharpocho Fort, resulting in the destruction of the royal library. Many literary works were consumed by the flames. The remaining materials were lost in the aftermath of Baltistan's fall and subsequently during Dogra oppression. Thus, the literary tradition of that era came to an end (2007, p. 108). [2]

Hasrat (ibid., pp. 109–122) divides Balti poetry after 1840 into three phases: the preliminary phase, the middle phase, and the modern phase. The poets of the preliminary era include Hussain Ali Khan Muheb, Lutuf Ali Khan Ashiq, Malik Haider Mukhlis, Amir Haider Mahzun, and his son Muhammad Ali Khan Zakir. These poets composed elegies *marsiyas* on the topic of the event of *kar-*

[2] Muhammad Hassan Hasrat, *Baltistan: Tehzeeb o Saqafat*, trans. Muhammad Ilyas Skardu: Baltistan Book Depot, Naya Bazar, 2007, p.108.

bala 'The Incident of Karbala' [3]. The middle phase poets include Syed Abbas Shah, Johar Ali Johar, Akhon Khoda Yar, Syed Sultan Shah, Raja Hatam Ali Khan Hatam, Kacho Asfand Yar Khan, Syed Fazill Shah, Sultan Ali, Syed Mansor Ali Shah, Wazir Rustam, Akhon Muhammad Ali, Muzafar Ali Khan Muzafar, Raja Muhammad Ali Shah Baydal, Kacho Murat Khan, Akhon Hussain, Akhon Ghulam Hussain, Akhon Hassan, and Syed Nasir-u-Din Nasir. The poetry of these poets includes genres such as *hamat* 'Hymn', *naat* 'Poetry in Praise of Prophet Muhammad PBUH', and *manqabat* 'Praise of Saints', and is characterized by long, narrative-style compositions. The modern phase starts with the partition of sub-continent. This era poets include Raja Muhammad Ali Shah Saba Shegri, Fida Hussain Shamim, Ghulam Hussain Sahar, Hashmat Ali Kamal Alhami, Ghulam Hassan Hasni, Akhon Muhammad Hussain Hakim, Ghulam Mehdi Marghub, Ghulam Muhammad Bismil, Ghulam Hassan Talib, Wazir Ahmad, Ghulam Hussain Balghari, Kacho Shujaat Ali Khan Shuja, Akhon Habatullah, Ghulam Mehdi Shahid, Furman Ali Khiyal, Ihsan Ali Danish, Kacho Salamat Ali Salamat, Ghulam Rasool Tamanah, Mehdi Ashraf, Syed Amjad Ali Amjad, Wazir Hussain Rahi, and Yusaf Ali Khasman. These poets have focused on social reform themes in their work. They have written many *ghazals* 'lyric poem'. Their poetry includes patriotic songs, reformist poems, political poems, *ghazals* 'lyric poem', and satirical writings.

1.7 History of Linguistic Research

The history of linguistic research on Balti begins with Godfrey Thomas Vigne's[4] list of Balti vocabulary. In his book *Travels in Kashmir, Ladak, Iskardo*, Vigne (1842, pp. 233–267) briefly noted a concise list of vocabulary of Balti alongside other regional languages such as Dangri, Chitrali, and Kashmiri.

The famous surveyor of the Karakoram Mountains, Austen (1866), made a

[3] The Incident of Karbala took place on 10th Muharram, 61 AH (October 10, 680 CE), in Karbala, present-day Iraq. It was a tragic battle between the small group of Imam Hussain ibn Ali (A.S.)—the grandson of the Prophet Muhammad (PBUH)—and the large army of Yazid ibn Muawiya, an unjust and corrupt ruler.

Imam Hussain (A.S.) refused to pledge allegiance to Yazid, an unjust and corrupt ruler. As a result, Imam Hussain (A.S.) and his companions (around 72 people including family and followers) were surrounded, deprived of water, and brutally killed. Imam Hussain, his family members, including his six-month-old son Ali Asghar, and loyal companions were martyred. The event is commemorated annually by Muslims, during Ashura, symbolizing the fight against oppression, injustice, and tyranny.

[4] A British first-class cricketer and traveller. He extensively travelled from 1835 to 1838 in Kashmir, Ladakh, and Baltistan. He was the first European to visit Baltistan.

more substantial contribution with the publication of *A Vocabulary of English, Balti, and Kashmiri* pp.233-239, which comprises around 2,000 words. Grierson (1919, pp.32-41) included Austen's more detailed notes on the grammar of both Balti and Purki.

Read (1934)[5] published the most extensive grammar of Balti before Bielmeier (1985), along with a vocabulary of well over 2,000 words.

Sprigg[6] extensively studied the Balti language from 1966 to 2002 and produced a phenomenal block of literature on Balti including his *Balti-English English-Balti Dictionary* published in 2002. In the preface of the dictionary, Sprigg states

> What especially drew me to examine this remarkable dialect more closely was its pronunciation. It was both a surprise and a delight to find how closely its pronunciation resembled the pronunciation that seemed to be implied by Classical Tibetan orthography, dating back to eight century A.D. more than a thousand years ago (2002, p. viii)

Sprigg further states

> Indeed the pronunciation to be heard from speakers of Khapalu dialect of Balti seemed to me to be closer to the Classical Tibetan spelling than any other dialect of Tibetan that I had met (2002, p. viii)

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Bielmeier (ibid.)[7] has produced the most extensive grammar of Balti in German langauge. Moreover, Bielmeier (1998) wrote a paper *Balti Tibetan in its*

[5] Read was a christen missionary, who came in Baltistan in 1930 with his wife as part of Central Asian Mission. He also published the Old Testament in Balti in 1937.

[6] Richard Keith Sprigg 1922- 2011 was a British Linguist, educated under J. R. Firth 1890-1960. He was one of the members of the first generation of British professional linguists. He was an advocate of the prosodic phonological method of Firth. He taught for many years at the School of Oriental and African Studies. He specialized in the phonology of Asian languages and worked on several Tibeto-Burman languages including Balti.

[7] Roland Bielmeier 1943-2013, a German Linguist, and an expert in the Balti dialect of Tibetan produced several publications on different aspects of the language. He was born in Munich. He studied General Linguistics, Historical Linguistics, and Oriental Studies from 1965 to 1968. He earned his Ph.D. from Bochum under the supervision of Karl-Horst Schmidt 1929-2012. From 1989 to 2001 Bielmeier served as a full professor of historical linguistics at The University of Bern. One of his focuses in historical linguistic research was the lexicon and grammar of Tibetan, which he investigated with a growing number of students with support from the Swiss National Science Foundation from 1992 to 2000. The project entitled 'Comparative Dictionary of Tibetan Dialects' was started in 1992 and one volume of this study is published in 1995. He worked on a second project entitled 'Foundation of a Historical Grammar of Tibetan' supported by the Swiss National Science Foundation and it was in 1995 and lasted until 2000 (Haller, 2014, p. 135)

Historical linguistic Context aiming to classify Balti Tibetan in its historical linguistic relations with the other dialects. especially with Amdo Tibetan, with respect to Old and Classical Tibetan. Bielmeier states

> Balti Tibetan, as well as its linguistically very closely related dialect varieties of Purik and Ladakh, neighbouring in the East, belong to the most archaic Tibetan dialects. The notions "archaic," and to a lesser extent also "conservative," mean that these dialects have preserved many linguistic features which we find in the same or in a similar way in the Old and Classical Tibetan texts from the eighth century A.D(1998, p. 584)

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Lobsang (1995)[8] the first native speaker of Balti, wrote a book of grammar *A Short Sketch of Balti Grammar* in English. Another Balti writer Hussain (2011) [9] wrote a grammar of Balti in Urdu. A native speaker Hussain et al. (2020) investigated the inflectional markers of the Balti language in English and his study found 24 inflectional morphemes including three plural markers, six case markers, one gender marker, eleven tense markers, and three mood markers. But, the morphological forms, internal structures, and the combination of morphemes in the Balti language are to be investigated.

Caplow (2016) conducted a study on the stress patterns and acoustic correlates of stress in Balti. Caplow states

> Disyllabic non-verbs nouns, adjectives, and numerals are stressed on the second syllable. Fundamental frequency is a robust correlate of this stress pattern; vowel duration is a weak and inconsistent cue for stress, while intensity does not play a role. Verbs, in contrast, are

[8]Hassan Lobsang authored the Balti Grammar 1991, revised 2022 and published an Urdu journal, Mimang Rgyastrit - Baltistan, focusing on Baltistan' s geo-political history, culture, and linguistics. His interests include the Balti language, Tibetan mythology, and the Gesar epic.

[9]He was born in 1943 in Ghasing valley of Kharmang district. He was appointed as a soldier at Karakorum Scout and later on became an educational instructor in the Scout after fourteen years of service in the army he resigned and worked as an assistant in the Gilgit Residency. He was transferred to Degree College Skardu as a superintendent. Later on, he was appointed as an accounts officer in the Gilgit Baltistan Education department. In the acknowledgment of the Book, he mentioned that his father died when he was fourteen years old and at that time Yousaf Hussainabadi gave him a manuscript saying that it was given to him by his late father for proofreading and it was the Balti Grammar in an uncompleted and rough shape. So, he decided to complete and publish it. He worked on it and published it in 1995.

> stressed on the first syllable; F0, intensity, and vowel duration all contribute to conveying syllable prominence (2016, p. 1).

Hence, the discussion can be concluded that Vigne and Austen registered some vocabulary of the language, Read composed an extensive grammar covering different aspects. Sprigg and Bielmeier most extensively studied the language, and Caplow also studied one of the phonological aspects stress patterns in the language. In addition to the foreign linguists, Hassan Labsang, and Fida Hussain each wrote grammars of the language, and Iftikhar discussed the morphology of the language.

1.8 An Introduction to The Present Study

The present study explores the phonology, as well as the nominal and verbal systems, of the Balti language. For this purpose, the researcher has relied on native-speaker intuition, personal observation, and existing texts.

Phonological analysis is conducted using minimal pairs to identify Balti consonants and vowels. Once all consonants are identified, the study examines their place and manner of articulation by analyzing the interaction of passive and active articulators and the airflow characteristics. Following this, a contrastive analysis is carried out to examine distinctions in voicing and aspiration. Finally, the study presents a consonant inventory chart comprising 37 consonants, categorized by voicing, aspiration, place of articulation, and manner of articulation. Additionally, it identifies five vowels, which are classified according to conventional phonetic parameters: height, backness, and lip rounding.

Diachronic linguistic methods are used to compare Balti phonology with Literary Tibetan, tracing historical changes and reconstructing phonological shifts. The analysis reveals that Balti preserves all 30 consonants of Literary Tibetan while developing seven additional sounds. Moreover, Balti retains all five vowels of Literary Tibetan. The study has found that Balti preserves Literary Tibetan sounds in all positions of the syllable. Furthermore, it exhibits a complex syllable structure, allowing up to three consonants in the onset position.

The study employs a morphophonological approach to analyze Balti nominal and verbal system. The analysis of the nominal system exhibits that most of the nouns are either monosyllabic or disyllabic. Nouns are derived through suffixation and compounding. Noun suffixation also exhibits morphophonemic variation. The study also explores that a noun phrase accommodates the follow-

ing constituents: possessives, demonstratives, numerals, adjectives, articles, and quantifiers. The inflectional morphology of the nominal include plural markers, and case markers. The analysis of the verbal system shows that Balti verbs fall into three types: lexical, light, and auxiliary. Lexical verbs and light verbs are inflected for TAM, evidentiality, and epistemic information. Moreover, the morphophonemics of verbs also distinguish between causative and non-causative alternations. The inflectional process also reveals morphophonological alternations. Furthermore, Balti auxiliaries encode three types of information: old factual, new sensory, and new inferential knowledge.

1.8.1 Structure of the study

Chapter Two begins by describing the representation of Balti using both the Tibetan script and IPA §2.1, illustrating how Tibetan characters and IPA symbols are used to depict Balti phonology. It then examines the consonant system §2.2, followed by an analysis of the vowel system §2.3.

The discussion continues with an exploration of the language's syllable structure §2.4 and stress patterns §2.5. Next, it addresses phonological processes §2.6, including assimilation and morphophonological alternations. The chapter then presents an analysis of diachronic phonology §2.7, highlighting Balti's historical connections with Literary Tibetan.

Finally, the chapter concludes with an overview of previous studies on Balti phonology §2.8.

Chapter Three focuses on the noun phrase in Balti. It begins with an analysis of nouns §3.1 and their internal structure, followed by a discussion of pronouns §3.2. The chapter then examines peripheral elements of the noun phrase, including possessives §3.3, demonstratives §3.4, ordinal numerals §3.6, and adjectives §3.5. This is followed by an exploration of key grammatical categories in Balti, such as number (singular and plural) §3.7.2, definiteness (definite and indefinite) §3.7, and case marking §3.8. The chapter further investigates relator nouns §3.9, cardinal numerals §3.10, and quantifiers §3.11, concluding with a summary of the noun phrase analysis §3.12.

Chapter Four presents the Balti verbal system, dividing it into three main subsections. It first explores lexical verbs §4.1, including their internal structure §4.1.1, the morphophonemics of verb suffixation §4.1.1.2, and the functions of verb suffixes §4.1.1.3. The discussion then moves to light verb constructions §4.2 and evidential auxiliaries §4.3. The chapter concludes with a summary of

the verbal system §4.3.5.

Chapter 2

Balti Phonology

This chapter begins by describing the representation of Balti using both Tibetan script and IPA §2.1, illustrating how Tibetan characters and IPA symbols are used to depict Balti phonology. It then covers consonants §2.2, followed by vowels §2.3. Next, it discusses the syllable structure of the language §2.4. Stress patterns §2.5 follows this. Next it examines phonological processes §2.6 exhibiting assimilation, and morphophonological alternations. Finally, it examines the diachronic phonology §2.7 of the language, highlighting its connection to Literary Tibetan.

2.1 Description of Balti Using Tibetan and IPA

This study transcribes Balti, a Tibetic language, using the Tibetan script alongside the International Phonetic Alphabet IPA. Balti shares many phonetic and linguistic similarities with Literary Tibetan, making the Tibetan script well-suited for accurately representing its pronunciation. This study adapts Tibetan script དབུ་ཅན་ *dbu čan* 'having a head' for transcribing Balti. The study also uses Literary Tibetan examples to compare and contrast with Balti. Literary Tibetan examples are denoted by 'LT.' and are presented alongside their corresponding Literary Tibetan script, whereas Balti examples are marked with 'Bal.' and accompanied by their IPA transcriptions. For instance, Bal. སྒོར་ *zgor* 'cut in a circle'. Bialek (2022, p. 20) states that དབུ་ཅན་ is a syllabic script, which means the end of every syllable is clearly marked. On the other hand words are not marked in anyway. Following the script དབུ་ཅན་ the end of the syllable is

marked with ཙྷེག tsʰek <˙>.

This study uses IPA to transcribe Balti as IPA is the most accurate system devised to represent sounds that are part of a spoken lannguage. The description of Balti using IPA is similar to the American Structuralist approach.[1]

2.1.1 Description of Balti using Tibetan Script

For transcribing Balti, it is crucial to understand the syllable structure of the language. A Balti syllable can have up to six elements: three consonants at onset, a nuclear vowel, and two consonants at coda position. $C_pC_iC_m$VC_fC_fp represents the syllable structure, where C_p: pre-initial, C_i: initial, C_m: medial, V: vowel, C_f: final consonants, and C_fp: post final consonants discussed in §2.4. In this syllable structure, different sets of consonants can occupy each of the slots. The following provides details on the consonants and vowels that occur in each slot, along with how they are transcribed using the Tibetan script.

The transcription rules begin with C_i initial slot as Balti has no restriction on syllable initial consonants. Balti has 37 consonant sounds as presented in §2.11, including the 29 consonants from Literary Tibetan, which are represented using standard Tibetan script characters as outlined by Hill (2010, pp. 113–116), in table 2.1. Table 2.1 shows 30 consonants, including the null consonant ཨ, which, as noted by Bialek (2022, p. 19), serves as "a placeholder for a vowel in the initial position of a syllable". In this study, the 30 consonants including the null consonant in the syllable-initial position will be used exactly as presented by Hill (2010, pp. 113–116). Moreover, Literary Tibetan two graphemes ཧ and ཨ together represent the lateral fricative ɬ written as ཧླ.

In addition to the 30 consonants, Balti includes unique phonemes: retroflex plosives ʈ, ʈʰ, ɖ, retroflex fricative ʂ, velar fricative x, uvular plosive q, and palatal flap ɽ. These phonemes need special symbols to represent them when transcribing Balti using Tibetan script.

This study utilizes the Tibetan reversed letters ཪ, ཬ, ཫ, and ཭, originally developed to transliterate Sanskrit words into Tibetan. The letters ཏ, ཐ, ད, and ཀ are modified to derive the letters ཊ, ཋ, ཌ, and ཎ. Here, these reversed letters are adapted for transcribing Balti, representing the retroflex plosives ʈ, ʈʰ, ɖ, and the retroflex fricative ʂ within the Tibetan script.

[1] American Structuralist approach is based on distinctive meaning differentiating features, phonemes are identified by their role in distinguishing meaning within a language (Bloomfield, 1933). This approach considers that if two sounds are in opposition in one context, they are two distinct phonemes, even if they are in complementary distribution in other contexts.

Velars	ཀ *k* [*k*]	ཁ *kh* [k^h]	ག *g* [*g*]	ང *ṅ* [ŋ]
Post-alveolar affricates	ཅ *c* [ʧ]	ཆ *ch* [ʧʰ]	ཇ *j* [ʤ]	ཉ *ñ* [ɲ]
Dentals	ཏ *t* [*t*]	ཐ *th* [$t̪^h$]	ད *d* [*d*]	ན *n* [*n*]
Labials	པ *p* [*p*]	ཕ *ph* [p^h]	བ *b* [*b*]	མ *m* [*m*]
Dental Affricates	ཙ *ts* [*ts*]	ཚ *tsh* [ts^h]	ཛ *dz* [*dz*]	ཝ *w* [*w*]
Voiced Fricatives	ཞ *ź* [ʒ]	ཟ *z* [*z*]	འ *ḥ* [*ɣ*]	
Glides	ཡ *y* [*j*]	ར *r* [*r*]	ལ *l* [*l*]	
Voiceless Fricatives	ཤ *ś* [ʃ]	ས *s* [*s*]	ཧ *h* [*h*]	
Null Consonant	ཨ *q* [∅] or [ʔ]			

Table 2.1: Tibetan Script Hill, 2010, p. 114

The letter ཻ represents the voiceless velar fricative *x*, adapted from the Tibetan voiced velar fricative ཻ. This adaptation relies on the similarity and proximity of the two sounds, as both are produced with friction at the velar position. The diacritic small circle above follows the conventions of Tibetan and Sanskrit writing systems, where diacritical marks modify base letters. In this case, the small circle signifies the shift from a voiced to a voiceless fricative, resulting in the representation of *x*. For example: Bal. ཁོང་ *xoŋ* 'hole', Bal. ཻ་ *xa* 'anger'. Notably, in this context, the circle above ཻ does not indicate nasalization, as it traditionally does in Tibetan script. Instead, it marks the transition from a voiced velar fricative to its voiceless counterpart.

The letter ཻ represents the uvular plosive *q*, this study modifies the Tibetan letter ཨ to ཻ. The change from ཨ to ཻ creates a distinct symbol for *q*.

The letter ཻ represents the retroflex flap *ɽ*. The Balti script modifies the letter ཻ by combining it with the same trill subscript ཻ, creating ཻ to represent *ɽ*. The subscript ཻ indicates the retroflex articulation. This method effectively uses an existing Tibetan character to represent *ɽ*. The Tibetan adapted symbols in Table 2.2 are used to transcribe the Balti additional sounds. Interestingly these sounds are only distinctive in syllable initial position.

The following consonants occur in the pre-initial C_p position: ཻ *r* or *hr*, ཻ *l* or *ɬ*, ཻ *s* or *z*, ཻ *b* or p^h, and ཻ *y* or *x*, as discussed 2.4.2.

Literary Tibetan categorizes these pre-initials as superscripts and prescripts.

Letters	Sounds
ཏ	*t*
ཐ	t^h
ཌ	*ɖ*
ཤ	*ʂ*
ཁྱ	*x*
ཁ	*q*
ཀ	*ʈ*

Table 2.2: Tibetan Adapted Letters for Balti

Bialek (2022, p. 22) mentions, ས *s*, ར *r*, and ལ *l* function as superscripts because these consonants are written above the base letter in Literary Tibetan. Similarly, Bialek (ibid., pp. 25–26) identifies ག *g*, ད *ɖ*, བ *b*, མ *m*, and འ *ɣ* as prescripts, which are written to the left of the base letter in Classical Tibetan. Hill (2022, pp. 2017–29) argues that the positioning of prescripts and superscripts in Literary Tibetan on the left and above the base character, respectively, reflects their functional roles within words. Prescripts appear in compound words at the beginning of a word or following a vowel, but they are omitted if they would follow a consonant. In Literary Tibetan both prescripts and superscripts occur within compound words after vowels, with superscripts appearing after certain consonants: *-n*, *-g*, *-m*, and *-b*. In contrast, both prescripts and superscripts are omitted after consonants, such as *-r*, *-l*, *-n*, and *-s*. Hill (ibid.) proposes that this distribution directly explains why prescripts are positioned to the left of the base character, while superscripts are positioned above it.

In this study, following Tibetan orthographic conventions, in the pre-initial plus initial cluster environment, ས *s*, ར *r*, and ལ *l* are written above the initial consonants, while ག *g* and བ *b* are written to the left. In this position, voiced and voiceless consonants exhibit complementary distribution, as discussed in §2.4.2. Following the Tibetan writing conventions outlined by Hill (2010) the letter ས, which represents the voiceless fricative *s*, is used to transcribe both the voiceless fricative *s* and voiced fricative *z* for instance Bal. སྐོར་ *skor* ‘revolve’ vs. Bal. སྒོར་ *zgor* ‘cut in circle’. For other pre-initial plus initial clusters the letters representing the voiced counterparts are used, the letter ལ, representing the voiced lateral *l*, is employed for both voiceless lateral *ɬ* and voiced lateral *l* for instance Bal. ལྟན་ *ɬʈaŋ* ‘absolute’ vs. Bal. ལྡན་ *lɖaŋ* ‘suspension’. The letter

བ, representing the voiced bilabial *b*, is used to transcribe both the voiceless aspirated bilabial *pʰ* and the voiced unaspirated bilabial *b* for instance Bal. བཟུ *bʒu* 'thread' vs. Bal. བཅུ *pʰʧu* 'ten'. Additionally, the letter ག is used for both the voiced velar *ɣ* and the voiceless velar *x* as pre-initials for instance Bal. གཅུ *xʧu* 'bend' vs Bal. གཟུ *ɣʒu* 'bow'.

Moreover, *hr* and *r* are in complementary distribution in this position as discussed in 2.4.2.1, where the letter ར representing *r* is used for both *r*, and *hr*.

The medial C_m slot allows a limited set of consonants including ྲ *r*, ྱ *l*, ྱ *j*, and ྭ *w* as discussed in 2.4.3, these consonants are written below the base letters in Classical Tibetan. Using Tibetan script for writing Balti, these consonants are written below the initial consonants. Examples Bal. བྲག *braq* 'mountain', Bal. བྲས *bras* 'rice', Bal. བྲན *bran* 'servant', Bal. ཕྲལ *pʰla* 'plait', Bal. ཁྱལ *xlaŋ* 'bull', Bal. བྱོར *bjor* 'suit', Bal. ཕྱུ *pju* 'tower', Bal. ཕྱུང *pʰjuŋ* 'bring out', Bal. ཇྱང *ʤaŋ* 'hit', Bal. ཁྱང *xjaŋ* 'edge', Bal. གྭ *gwa* 'to go', Bal. ཅྭ *ʧwa* 'why', Bal. རྭ *rwa* 'horn', Bal. ཊྭ *ʈwa* 'griddle', Bal. ཕྭ *pʰwa* 'marmot' illustrate this rule.

The vowels *i*, *e*, *o*, *u*, and *a* can occupy the slot V, where following the Tibetan writing convention the diacritic ི representing *i*, ེ representing *e* and ོ representing *o* are written above the consonant letter, while the diacritic ུ representing *u* is written below the consonant letter. Examples include Bal. ཕི *pʰi* 'pluck', Bal. ཕེ *pʰe* 'flour', Bal. ཕོ *pʰo* 'male', and Bal. ཕུ *pʰu* 'blow'. Moreover, in line with Tibetan writing conventions, the vowel *a* is not explicitly represented in the orthography. This aligns with the inherent vowel convention in Tibetan script, where *a* is understood to be present unless another vowel symbol is used. Examples include Bal. ཟ *za* 'eat', ཤ *ʃa* 'meat' and ཆང *ʧʰaŋ* 'beer'.

The C_f slot comprises a limited set of consonants including ཀ *k*, ཁ *q*, ཊ *ʈ*, བ *p*, མ *m*, ན *n*, ང *ŋ*, ལ *l*, ར *r* and ས *s* as discussed in 2.4.4. In this position, there is no phonemic contrast between the voicing of *p* and *b*, *ʈ* and *ɖ*, and *k* and *g*. In the coda position the usual plosive voicing oppositions become neutralized. Similar to Literary Tibetan as presented by Hill (ibid., p. 122) all syllable coda consonants are pronounced as voiceless, as a result, following Tibetan writing convention the Tibetan letters for the voiced counterparts—ད, ྡ, and ག—are used representing syllable finals in the Tibetan script. Examples Bal. ཀབ *kap* 'bury', Bal. ཇྡ *buʈ* 'fall', and Bal. བུག *buk* 'backbite'.

Moreover, in the coda position, replacing the uvular *q* with the velar *k* does not result in a change of meaning. The letter ག representing the voiced counterpart of *k* is used to transcribe both voiceless velar *k*, and voiceless uvular *q*.

These two sounds are variant of the same phoneme in this position. As the sounds *q* and *k* are in complementary distribution: *q* follows the vowel *a* and *o*, while *k* follows the vowels *i*, *e*, and *u*. So following Tibetan writing convention, the letter ག is used to represent both *k* and *q*. Examples of this include words like Bal. སྤྲོག་ *broq* 'hilly meadows', Bal. ཁོག་ *kʰoq* 'cough', Bal. བྲག་ *braq* 'mountain', Bal. ཨཏྶག་ *ɬtʃaq* 'iron', Bal. རྗིག་ *ʤik* 'fear', Bal. རྩིག་ *dzik* 'trouble', Bal. ཟུག་ *zuk* 'prick', Bal. རྫུག་ *dzuk* 'mourning', Bal. ཙུག་ *tsuk* 'prick transitive', and Bal. ཟེག་ *zek* 'will eat'.

Finally, the consonant ས *s* occupies the C_fp position as discussed in 2.4.5, where the ས is written to the right of the C_f consonants. Examples Bal. ཀབས་ *kaps* 'buried', Bal. ཀུགས་ *kuks* 'bent', Bal. སྦྲིས་ *bris* 'decreased'.

2.1.2 Description of Balti using IPA

Unlike the transcription of Balti in Tibetan script, where in the position of C_p an archiphoneme represents both voiced and voiceless sounds, the IPA transcription, distinguishes them based on their phonetic realization such as Bal. སྐུ་ *sku* 'apply like an ointment' and Bal. སྒུ་ *zgu* 'bow', where the voiceless *s* and voiced *z* are transcribed distinctly.

The voicing oppositions of *x*, and *ɣ* are in complementary distribution in the place of pre-initial. Unlike the transcription of Balti in Tibetan script, where an archiphoneme ག *g* represents both *x*, and *ɣ* the IPA transcription transcribes *x*, and *ɣ* distinctly such as Bal. གཡུལ་ *ɣbul* 'snake', Bal. གམུལ་ *xmul* 'money'.

Moreover, the pre-initial *r* and *hr* in pre-consonantal position are in complementary distribution, as discussed in 2.4.2.1. The IPA transcription transcribes both *r* and *hr* distinctly in this position based on their phonetic realization, such as Bal. ཧྲ་ *hrʈa* 'horse' versus Bal. ར་ *rɖa* 'signal'.

In the position of C_i, the IPA transcription transcribes all the consonants based on their phonetic realization.

In the final C_f position, all the plosive consonants are pronounced as voiceless, based on the phonetic realization; thus, the IPA transcription transcribes all coda plosive consonants voiceless. Examples Bal. ཀབ་ *kap* 'bury', Bal. བུད་ *buʈ* 'fall', and Bal. བུག་ *buk* 'backbite'.

The IPA transcription represents other C_f consonants including the nasal *m*, *n*, *ŋ*, the trill *r*, the lateral *l*, and the fricative *s* based on their phonetic realization. Examples Bal. སྐོམ་ *skom* 'thirst', Bal. ཀན་ *kan* 'lean', Bal. ཕུར་ *pʰur* 'fly', Bal. ཀོལ་ *kol* 'use', and Bal. ཀས་ *kas* 'crack'.

The IPA transcription distinctly represents the uvular *q* and velar *k* despite being in complementary distribution in coda position, based on their phonetic realization. Examples include: Bal. པོག་ *poq* 'dune', Bal. ཙག་ *ʧaq* 'break', Bal. ཛིག་ *dzik* 'fear', Bal. བེག་ *bek* 'will open', and Bal. ཞུག་ *ʒuk* 'enter'.

2.2 Consonants

This section deals with consonant system in Balti. Through minimal pairs, the study identifies each consonant sound. Once all the sounds are identified, the study determines the place and manner of each sound by investigating the constriction of passive and active articulators and the airflow, respectively. After determining the place and manner of articulation, the study carries out a contrastive analysis by incorporating the contrasts of voicing and aspiration. Finally, the study displays each consonant on the consonant inventory chart based on its voicing, aspiration, place of articulation, and manner of articulation.

2.2.1 Minimal Pairs

Minimal Pairs for Balti consonants phonemes are presented here:
p : *pʰ*: *b*

- པོ་ *po* 'part/share' : ཕོ་ *pʰo* 'male': བོ་ *bo* 'pour'
- པོག་ *poq* 'dune': ཕོག་ *pʰoq* 'strike': བོག་ *boq* 'plentiful'

k: *kʰ*: *g*

- ཀོ་ *ko* 'listen': ཁོ་ *kʰo* 'he': གོ་ *go* 'head'
- ཀོག་ *koq* 'snatch': ཁོག་ *kʰoq* 'cough': གོག་ *goq* 'pay off'
- ཀང་ *kaŋ* LT.ཀིང་ 'foot': ཁང་ *kʰaŋ* 'house': གང་ *gaŋ* LT. གངས་ 'ice'

ʈ: *ʈʰ*: *ɖ*

- ཏོང་ *ʈoŋ* 'leave': ཐོང་ *ʈʰoŋ* LT. མཐོང་ 'see': དོང་ *ɖoŋ* 'go'
- ཏམ་ *ʈam* LT. གཏམ་ 'word': ཐམ་ *ʈʰam* 'fight': དམ་ *ɖam* 'gather'

ʧ: *ʧʰ*: *ʤ*

- རོག་ *ʈoq* 'bump': ཐོག་ *ʈʰoq* 'strike': ཀོག་ *ɖoq* 'mole-hill'
- རོང་ *ʈoŋ* 'bucket': ཐོང་ *ʈʰoŋ* 'up right': ཀོང་ *ɖoŋ* 'height':

m: *ŋ*

- མོ་ *mo* 'she': ངོ་ *ŋo* 'loyalty'

n: *m*

- ནམ་ཇུང་ *natʃuŋ* 'virgin' མཚུང་ *matʃuŋ* 'aunt'
- ནུར་ *nur* 'move' མུར་ *mur* 'chew'

ŋ : *ɲ*

- ང་ *ŋa* 'I': ཉ་ *ɲa* 'fish'
- ངར་ *ŋar* LT. མངར་ 'proud': ཉར་ *ɲar* 'a small thin strip'

s: *z*

- ས་ *sa* 'soil': ཟ་ *za* 'eat'
- སག་ *saq* 'all': ཟག་ *zaq* 'straight'

ʃ: *ʒ*: *ʂ*

- ཤིང་ *ʃiŋ* 'wood': ཞིང་ *ʒiŋ* 'field': ཤིན་ *ʂiŋ* 'cold'

dʒ: *dz*

- ཇིག་ *dʒik* LT. འཇིགས་ 'fear': རྫིག་ *dzik* trouble'
- ཇུར་ *dʒur* 'compulsion': རྫུར་ *dzur* 'compare'

dʒ: *ʂ*

- ཇག་ *dʒaq* LT. ཉག་ 'day': ཤག་ *ʂaq* 'slippery'

x : *ɣ*

- ཁུར་ *xur* LT. སྐྱུར་ 'snore': ཁྱུར་ *ɣur* 'pride'
- ཁོ་ *xo* 'bitter': འོ་ *ɣo* 'cry'
- ཁ་ *xa* 'anger': འ་ *ɣa* LT. ལྔ 'five'

q: *χ*

- ཆ་ *qa* 'cry' ཁ་ *xa* 'anger':

h: *χ*

- ཧ་ *ha* 'pardon': ཨཱ་ *xa* anger

ts: *ts*^{h}

- ཙོང་ *tsoŋ* LT. བཙོང་ 'onion': ཚོང་ *ts*^{h}*oŋ* 'trade'
- ཙོན་ *tson* 'maid': ཚོན་ *ts*^{h}*on* 'wound'
- ཙོ་ *tso* 'bake': ཚོ་ *ts*^{h}*o* LT. མཚོ་ 'lake'
- ཙམ་ *tsam* 'how many': ཚམ་ *ts*^{h}*am* 'root'

tʃ:*tʃ*^{h}

- ཅག་ *tʃaq* LT. གཅག་ 'break': ཆག་ *tʃ*^{h}*aq* LT. ཆག་ 'broken'
- ཅ་ *tʃa* LT. ཇ་ 'tea': ཆ་ *tʃ*^{h}*a* 'buckwheat'

r : *l*

- རས་ *ras* 'cloth': ལས་ *las* 'work'
- ར་ *ra* 'goat': ལ་ *la* 'mountain pass'

l : *ɬ*

- ལམ་ *lam* 'way': ཕྱམ་ *ɬam* 'shoe'

ɽ : *r*

- རྟག་ *ɽap* LT. རྟེག་ 'kill': རག་ LT. བརྟགས་ *rap* 'wade'
- རྟུང་ *ɽuŋ* LT. རྡུང་ 'beat': རུང་ *ruŋ* 'story'

w : *j*

- ཝ་ *wa* 'fox': ཡ་ *ja* 'okay':
- ཝང་ *waŋ* 'boasting' ཡང་ *jaŋ* 'else':

The minimal pairs show that Balti has a total of 37 consonant sounds. The following section discusses Balti consonants based on their place and manner of articulation.

2.2.2 Place and Manner of Articulations

Based on the manner of articulation, the study groups Balti consonants into plosives §2.2.2.1, nasals §2.2.2.2, fricatives §2.2.2.3, affricates §2.2.2.4, trill and flap §2.2.2.5, laterals §2.2.2.6, and glides §2.2.2.7. While, based on the place of articulation it groups Balti consonants into bilabial, dento-alveolar, alveolar, plato-alveolar, retroflex, palatal, velar, uvular, and gloltal.

2.2.2.1 Plosives

The Balti plosive inventory with 13 phonemically distinct elements forms a consonantal subsystem of bilabial voiceless unaspirated *p*, voiced unaspirated *b*, voiceless aspirated p^h , dento-alveolar voiceless unaspirated *t̪*, voiceless aspirated $t̪^h$, voiced unaspirated *d̪*, retroflex voiceless unaspirated *ʈ*, voiceless aspirated $ʈ^h$, voiced unaspirated *ɖ*, velar voiceless unaspirated *k*, voiceless aspirated k^h, voiced unaspirated *g*, and uvular unaspirated *q*.

The present study reveals that Balti has three stop series; unaspirated voiceless *p*, *t̪*, *ʈ*, *k*, and *q*, aspirated voiceless p^h, $t̪^h$, $ʈ^h$, and k^h, and unaspirated voiced *b*, *d̪*, *ɖ*, and *g*.

The analysis further shows that the voicing series voiceless, or voiced, and aspiration series aspirated or unaspirated are defective at the uvular place of articulation where Balti has only one stop series voiceless, unaspirated *q*. The voicing contrast, and the aspiration contrast are presented in tables 2.3, and 2.4 respectively.

Place of Articulation	Voicing	Minimal Pair	
Bilabial	*p* vs *b*	པོ་ *po* share	བོ་ *bo* drip
Dento-Alveolar	*t̪* vs *d̪*	ཏམ་ *t̪am* word	དམ་ *d̪am* gather
Retroflex	*ʈ* vs *ɖ*	ཊོན་ *ʈoŋ* can	ཌོང་ *ɖoŋ* high
Velar	*k* vs *g*	ཀོག་ *koq* snatch	གོག་ *goq* fell off

Table 2.3: Plosives Voicing Contrast

Place of Articulation	Aspiration	Minimal Pair	
Bilabial	*p* vs p^h	པོག་ *poq* heap	ཕོག་ p^h*oq* fell
Dento-Alveolar	*t̪* vs $t̪^h$	ཏམ་ *t̪am* word	ཐམ་ $t̪^h$*am* fought
Retroflex	*ʈ* vs $ʈ^h$	ཊོག་ *ʈoq* a little dunes	ཆོག་ $ʈ^h$*oq* a strike
Velar	*k* vs k^h	ཀོག་*koq* snatch	ཁོག་ k^h*oq* cough

Table 2.4: Plosives Aspiration Contrast

2.2.2.2 Nasals

Balti has four nasal sounds: bilabial *m*, dento-alveolar *n*, palatal *ɲ*, and velar *ŋ*. All the nasals are voiced and there is no contrast of aspiration. Table 2.5 presents examples of Balti nasal sounds.

Place of Articulation		Minimal Pair	
Bilabial vs Alveolar	*m* vs *n*	མ་ *ma* negation	ན *na* LT.མནའ་ oath
Velar vs Palatal	*ŋ* vs *ɲ*	ང་ *ŋa* I	ཉ་ *ɲ* fish

Table 2.5: Balti Nasal Consonants

2.2.2.3 Fricatives

Balti has eight fricatives: alveolar *s* and *z*, palato-alveolar *ʃ* and *ʒ*, retroflex *ʂ*, velar *x* and *ɣ*, and glottal *h*. Fricatives have voicing contrast at alveolar, palato-alveolar, and velar positions. Table 2.6 illustrates voicing contrast between fricatives. The voicing contrast is absent at the retroflex and glottal places of

Place of Articulation	Voicing	Minimal Pair			
Alveolar	*s* vs *z*	ས་ *sa*	soil	ཟ་ *za*	eat
Palato-Alveolar	*ʃ* vs *ʒ*	ཤར་བ་ *ʃarba*	gather	ཞར་བ་ *ʒarba*	blind
Velar	*x* vs *ɣ*	ཁོ་ *xo*	bitter	འོ་ LT. ཡོ *ɣo*	cry

Table 2.6: Fricatives Voicing Contrast

articulation, as the fricatives at these places lack voiceless counterparts.

2.2.2.4 Affricate

In the places of dento-alveolar and palato-alveolar Balti has six affricates: dento-alveolar *ʦ*, *ʦʰ*, *ʣ* and palato-alveolar *ʧ*, *ʧʰ*, and *ʤ*.

Both Balti dento-alveolar and palato-alveolar affricates have both voicing and aspiration contrasts table 2.7 presents.

Place of Articulation	Voicing	Minimal Pair			
Palato-Alveolar	*ʧ* vs *ʤ*	ཅིན་ *ʧin*	what	ཇིན་ *ʤin*	jinn
Dento-Alveolar	*ʦ* vs *ʣ*	ཙུག་ *ʦuk*	prick	ཛུག་ *ʣuk*	mourning
Place of Articulation	Aspiration	Minimal Pair			
Dento-alveolar	*ʦ* vs *ʦʰ*	ཙོས་ *ʦos*	bake (TR)	ཚོས་ *ʦʰos*	bake (Non.TR)
Palato-alveolar	*ʧ* vs *ʧʰ*	ཅད་ *ʧaṭ* (TR)	tear	ཆད་ *ʧʰaṭ*	torn (Non.TR)

Table 2.7: Affricates Voicing and Aspiration Contrast

2.2.2.5 Trill and Flap

In the places of palato-alveolar and palatal Balti has a trill ɾ and flap ɽ respectively as presented in Table 2.8

Place of Articulation	Voicing	Minimal Pair	
Palato-Alveolar ɾ vs Palatal Flap ɽ	ɾ vs ɽ	རབ་ ɾap wade	རྡབ་ ɽap kill

Table 2.8: Trill and Flap Voicing Contrast

2.2.2.6 Lateral

In the place of alveolar Balti has two laterals: lateral voiceless unaspirated fricative and lateral unaspirated voiced approximant as presented in Table 2.9.

Place of Articulation	Voicing	Minimal Pair		
Alveolar	l vs ɬ	ལམ་ lam way	ཞྭམ་ ɬam	shoe

Table 2.9: Voiceless and Voiced Lateral Fricatives l and ɬ

2.2.2.7 Glide

In the places of bilabial and palatal Balti has two glides w, and j as presented in Table 2.10.

Place of Articulation	Voicing	Minimal Pair	
Bilabial w vs Palatal j	w vs j	ཝ་ wa fox	ཡ་ ja okay/alright

Table 2.10: Bilabial and Palatal Glides: w and j

2.2.2.8 Phonemic Inventory of Balti Consonant Phonemes

After identifying the minimal pairs, the analysis proceeds to determine the place and manner of articulation for each Balti consonant phoneme. This includes conducting contrastive analysis to highlight distinctions in voicing, aspiration, and other features. The resulting Balti consonant phonemes are then presented in the consonant chart 2.11, where the columns represent places of articulations and rows represent manner of articulation. Balti consonant sounds are produced

at the bilabial, dento-alveolar, alveolar, palato-alveolar, retroflex, palatal, velar, uvular, and glottal places of articulation, while plosives, nasals, fricatives, affricates, trills/flaps, laterals, and glides are used as manners of articulation.

Manner of Articulation	Place of Articulation								
	Bilabial	Dento-Alv	Alveolar	Pal-Alv	Retroflex	Palatal	Velar	Uvular	Glottal
Plosive	p b	t̪ d̪			ʈ ɖ		k g	ɢ	
	pʰ	t̪ʰ			ʈʰ		kʰ		
Nasal	m	n				ɲ	ŋ		
Fricative			s z	ʃ ʒ	ʂ		x ɣ		h
Affricate		ʦ ʣ		ʧ ʤ					
		ʦʰ		ʧʰ					
Trill				r					
Flap tap						ɽ			
Lateral Fricative			ɬ						
Lateral Approximant			l						
Glide	w					j			

Table 2.11: Balti Consonant Phonemes

2.3 Vowels

This section describes the Balti vowel system. Vowel length is not a phonological feature in Balti. The section commences with description of vowels by identifying each vowel through minimal pairs, illustrated in table 2.12.

The minimal pairs in table 2.12 show that Balti has five vowels.

Maddieson (1984, p. 123) states that height, backness, and lip-rounding are the three conventional parameters for vowel description. He further states that vowels are classified as having one of the five different heights; high, high mid, mid, low mid or low, three different back front positions; front, central or back, and two rounding positions; rounded, or unrounded. In terms of the conventional parameters Balti vowels are presented in the table 2.13

2.4 Syllable Structure

This section deals with Balti syllable structure, with special focus on consonant clusters in the language. Balti allows 12 syllable types as mentioned in the table

Constrastive Vowels	Minimal Pair			
i vs *e*	མི་ *mi*	man	མེ་ *me*	fire
	ཤེས་ *ʃes*	knowledge	ཤིས་ *ʃis*	died
i vs *a*	ཅི་ *tʃi*	what	ཅ་ *tʃa*	why
i vs *u*	ཞུག་ *ʒuk*	enter	ཞིག་ *ʒik*	fear
i vs *o*	ཅི་ *tʃi*	what	ཅོ་ *tʃo*	king
e vs *i*	རེ་ *re*	goat	རི་ *ri*	highland pasture
e vs *a*	ལེ་ *le*	hey	ལ་ *la*	mountain pass
e vs *u*	ཕེ་ *pʰe*	flour	ཕུ་ *pʰu*	blow
e vs *o*	ཚེ་ *tsʰe*	life	ཚོ་ *tsʰo*	lake
a vs *u*	བ་ *ba*	cow	བུ་ *bu*	offspring
a vs *o*	ཚ་ *tsʰa*	pain	ཚོ་ *tsʰo*	lake
u vs *o*	ཕུ་ *pʰu*	blow	ཕོ་ *pʰo*	male

Table 2.12: Balti vowels

Vowels	Height	Backness	Rounding
ི *i*	high	front	unrounded
ེ *e*	high mid	front	unrounded
ཨ *a*	high mid	central	unrounded
ུ *u*	high	back	rounded
ོ *o*	high mid	back	rounded

Table 2.13: Features of Balti Vowels

2.14.

Syllable Type	Examples	IPA	English Meaning
V	ཨཇོ་	*aŋo*	mother
VC	ཨིབ་	*ip*	hide
VCC	ཨིབས་	*ips*	hid
CV	མོ་	*mo*	she
CVC	ཀན་	*kan*	lean
CVCC	ཀནས་	*kans*	leaned
CCV	བྲི་	*bri*	decrease
CCVC	གླང་	*xlaŋ*	ox
CCVCC	བྲགས་	*braqs*	pealed
CCCV	རྒྱུ་	*rgju*	string of thread
CCCVC	སྤྲིང་མོ་	*st̪riŋmo*	sister
CCCVCC	སྟྲགས་	*st̪raqs*	burnt

Table 2.14: Balti Syllable Inventory

The syllable inventory 2.14 displays that a Balti syllable can have up to six elements, three consonants at onset, and two consonants at coda positions. Balti syllable structure resembles to Gashiza discussed by Honkasalo (2019, p. 165)[2].

Therefore, I have adopted initial consonant Ci, pre-initial consonant Cp, medial consonant Cm, and final consonant Cf employed by Honkasalo (ibid.) for analyzing consonants in a Balti syllable. The onset consonants can be a single consonant henceforth C_i, a double consonant henceforth C_pC_i or C_iC_m, and a triple consonant $C_pC_iC_m$, where C_i initial consonant, C_p pre-initial, and C_m medial consonant. Moreover, the syllable type V cannot occur as an independent morpheme. Furthermore, at coda position a Balti syllable may have a consonant cluster consisting of a final consonant C_f, and an additional post final consonant C_fp. The second consonant in this cluster refers to post final consonant.

The consonants and vowels that occur in each slot within a Balti syllable are discussed below.

[2]A Gashiza syllable allows six elements to co-occur in a single syllable CCCVVC, which Honkasalo (2019, p. 165) terms as $C_pC_iC_m$VVC_f: pre-initial C_p, initial C_i, medial C_m, V vowel, and final C_f.

2.4.1 Initial Consonant

Balti has no restriction on syllable initial consonants. All of the 37 consonants can appear as a single non-cluster initial consonant. Examples of single non-cluster initial consonants are presented in the itemized list given below.

- པོ་ *po* 'part'
- བོ་ *bo* 'fall'
- ཕོ་ *pʰo* 'male'
- ཏམ་ *ʈam* 'word'
- ཐམ་ *ʈʰam* 'fight'
- དམ་ *ɖam* 'gather'
- ཏོག་ *ʈoq* 'mole hill'
- ཌོག་ *ɖoŋ* 'straight'
- ཐོག་ *ʈʰoŋ* 'strike'
- ཀོ་ *ko* 'hear'
- ཁོ་ *kʰo* 'he'
- གོ་ *go* 'head'
- ཀ་ *qa* 'cry'
- མོ་ *mo* 'she'
- ན་ *na* 'swear'
- ང་ *ŋa* 'I'
- ཉ་ *ɲa* 'fish'
- ས་ *sa* 'soil'
- ཟ་ *za* 'swear'
- ཤ་ *ʃa* 'meat'
- ཞིང་ *ʒiŋ* 'field'
- ཅིང་ *ʂiŋ* 'cold'
- ཧཱ་ *xa* 'anger'
- ཡ་ *ɣa* 'five'
- ཧལ་ *hal* 'strength'
- ཙལ་ *tsal* 'search'
- ཚེ་ *tsʰe* 'life'
- དྲུག་ *dzuk* 'mourning'
- ཅ་ *tʃa* 'tea'
- ཆ་ *tʃʰa* 'buckwheat'
- རྫིན་ *dʒin* 'devil'
- རྒྱུད་ *ruŋ* 'story'
- རྟག་ *ʈap* 'kill'
- ལྷམ་ *ɬam* 'shoe'
- ལམ་ *lam* 'way'
- ཡལ་ *jal* 'bankrupt'
- ཝ་ *wa* 'fox'

2.4.2 Pre-initial Initial C_pC_i Clusters

This section deals with pre-initial plus initial C_pC_i focusing on pre-initial C_p; a set of consonants including ར *r* or *hr* , ལ *l* or ɬ, ས *s* or *z* , བ *b* or p^h, ག *ɣ* or *x*.

In this position ལ *l* and ɬ, ས *s* and *z*, བ *b* and p^h, ག *ɣ* and *x* are in complementary distribution, where the voicing and aspiration of these pre-initial consonants are determined by the voicing of the following initial consonant.

Each of the pre-initial pairing with various possible initials are discussed here.

2.4.2.1 Pre-initial *r*C_p

The pre-initial *r* occurs with initial *b*, *d̲*, *g*, *z*, and *j* as can be seen in the itemized list.

- *rb-*: Bal. རྦན་ *rban* 'to knit', Bal. རྦག་ *rbaq* 'to pile up'
- *rd-*: Bal. རྡུམ་མ་ *rduŋma* 'beam', Bal. རྡུག་ *rduk* 'to burn'
- *rg-*: Bal. རྒས་ *rgas* 'to become old', Bal. རྒལ་ *rgal* 'to pass', Bal. རྒུད་ *rgut̲* 'to grow weak', Bal. རྒན་པོ་ *rgan po* 'old man'
- *rdz-*: Bal. རྗེ་ *rdzi* 'to step over again and again on something', Bal. རྗེས་ *rdzes* 'trace'

Moreover, in Balti *h* sound precedes *r*, when it clusters ཀ *k*, ང *ŋ*, ཏ *t̲*, and ཙ *ts* as the following itemized list presents:

- *hrk-*: Bal. ཀུ་ *hrku* 'steal' , Bal. ཀོ་ *hrko* 'dig'
- *hrŋ-*: Bal. ང་ *hrŋa* 'to reap'
- *hrt̲-*: Bal. ཏ་ *hrt̲a* 'hrose'
- *hrts-*: Bal. ཙེས་ *hrtses* 'to play', Bal. ཙིག་ *hrtsik* 'to pile up'

The clusters indicate that the approximant *r* can be prefixed to voiced bilabial plosive *b*, voiced dento-alveolar plosive *d̲*, voiced alveolar fricative *z*, and palatal gilde *j*. Moreover, approximant *r* also precedes voiceless velar plosive *k*, velar nasal *ŋ*, voiceless dento-alveolar plosive *t̲*, and dento-alveolar africate *ts*, where *h* precedes *r*. This pattern indicates that the choice of *hr* or *r* depends on the phonological environment, where *r* precedes voiced plosives, fricatives, africates, and the glide *j*, while *hr* precedes voiceless plosives, fricatives, and affricates. The *hr* occurs in this phonological environment constituting an allophone of *r*.

2.4.2.2 Pre-initial *l*C_p

The pre-initial *l* occurs with initials *d̲*, *dz*, and *z* as can be seen in the itemized list.

- *ld̲-*: Bal. ལྡང་ *ld̲aŋ* 'suspension', Bal. ལྡིང་ *ld̲iŋ* 'to float', Bal. ལྡག་ *ld̲aq* 'to lick'
- *ldz-*: Bal. ལྗིད་ *ldzit̲* 'weight', Bal. ལྗོང་ *ldzoŋ* 'site'

- *lz-*: Bal. ལྗང་ 'to learn'

The lateral *l* also precedes the voiceless plosive *ʈ*, voiceless palato-alveolar africate *tʃ*, and voiceless dento-alveolar africate *ts* where the *l* de-voiced to *ɬ* as can be seen in the itemized list:

- *ɬtʃ-*: Bal. ལྕགས་ *ɬtʃag* 'iron'
- *ɬʈ-*: Bal. ལྟ་ *ɬʈa* 'to see/look', Bal. ལྟིང་མ་ *ɬʈiŋma* 'heel', Bal. ལྟིམ་ *ɬʈima* 'abdomen'
- *ɬts-*: Bal. ལྩབ་ *ɬtsap* 'to teach'

This pattern indicates that the choice of pre-initial *ɬ* or *l* depends on the phonological environment, where *l* precedes voiced initials plosives, fricatives, and africates, while *ɬ* precedes voiceless initials plosives and fricatives.

2.4.2.3 Pre-initial *sC*$_p$

The pre-initial ས *s* occurs with initials ཀ *k*, ཏ *ʈ*, ན *ŋ*, ཉ *ɲ*, ན *n*, པ *p*, and མ *m* as shown in the itemized list.

- *sk-*: Bal. སྐད་ *skaʈ* 'voice', Bal. སྐིན་ *skin* 'ibex', Bal. སྐོལ་ *skol* 'boil' Bal. སྐོམ་ *skom* 'to be thirsty', Bal. སྐོར་ *skor* 'to encircle'
- *sʈ-*: Bal. སྟོར་ *sʈor* 'to get lost', Bal. སྟོན་ *sʈon* 'autumn', Bal. སྟན་ *sʈan* 'mat', Bal. སྟོང་ *sʈoŋ* 'thousand', Bal. སྟོད་ *sʈoʈ* 'praise'
- *sɲ-*: Bal. སྙལ་ *sɲal* 'to lay down'
- *sŋ-*: Bal. སྔོན་པོ་ *sŋonpo* 'green'
- *sn-*: Bal. སྣམ་ *snam* 'sky', Bal. སྣག་ *snaq* 'pus'
- *sm-*: Bal. སྨན་ *sman* 'medicine', Bal. སྨིན་ *smin* 'ripe'
- *sp-*: Bal. སྤལ་བ་ *spalba* 'forehead', Bal. སྤང་ *spaŋ* 'grassy land', Bal. སྤུ་ *spu* 'body hair'

The voiceless pre-initial *s* becomes voiced *z* before voiced initial plosives, fricatives, and affricates as the itemized list displays:

- *zg-*: Bal. སྒོ་ *zgo* 'door'
- *zɖ-*: Bal. སྡོར་ *zɖor* 'nutrition'

- *zb-*: Bal. སྨིད་ *zbeṯ* ‘hide’

This pattern indicates that the choice of the voiceless *s* or voiced *z* depends on the phonological environment: pre-initial voiceless *s* precedes voiceless plosives, fricatives, africates, and nasals, while pre-initial *z* precedes voiced plosives.

2.4.2.4 Pre-initial *b*C_p

The pre-initial བ *b* occurs with initials ད *d̪*, ག *g*, ཟ *z*, and ཛ *ʒ* as can be seen in the itemized list.

- *bd̪-*: Bal. བདའ་ *bd̪a* ‘to chase’ Bal. བདུན་ *bd̪un* ‘seven’
- *bg-*: Bal. བགོ་ *bgo* ‘to divide’
- *bz-*: Bal. བཟོ་ *bzo* ‘style’
- *bʒ-*: Bal. བཞི་ *bʒi* ‘four’, Bal. བཞོག་ *bʒoq* ‘to sharpen/to trim’

The clusters indicate that the voiced bilabial stop བ *b* can be prefixed to dento-alveolar voiced ད *d̪*, velar voiced ག *g*, alveolar voiced fricative ཟ *z*, and palato-alveolar voiced fricative ཛ *ʒ*. This pattern indicates that the pre-initial voiced bilabial stop always accompanies a voiced initial consonant.

Moreover, ཕ p^h occurs before initials: ཙ *ʧ*, ཤ *ʃ*, and ས *s* as illustrated in the itemized list.

- p^h*ʧ-*: Bal. བཙོ་ p^h*ʧo* ‘make’, Bal. བཅུ་ p^h*ʧu* ‘ten’ Bal. བཙོལ་ p^h*ʧol* ‘worship’
- p^h*ʃ-*: Bal. བཤིག་ p^h*ʃik* ‘erase’, Bal. བཤད་ p^h*ʃaṯ* ‘comb’
- p^h*s-*: Bal. བསལ་ p^h*sal* ‘to select’, Bal. བསེད་ p^h*seṯ* ‘to cut into pieces’

2.4.2.5 Pre-initial *x*C_p

The pre-initial ག *x* occurs with initial ཏ *ṯ*, ཙ *ʧ*, མ *m*,ན *n*, and ས *s* as shown in the itemized list.

- *xṯ-*: Bal. གཏུབ་ *xṯup* ‘to cut’, Bal. གཏར་ *xṯar* ‘to sharpen‘
- *xʧ-*: Bal. གཅུ་ *xʧu* ‘to twist’, Bal. གཅེས་ *xʧes* ‘love’
- *xm-*: Bal. གམོལ་ *xmol* ‘money’, Bal. གམིད་ *xmit* ‘swallow’
- *xn-*: Bal. གནོད་ *xnoṯ* ‘become harmful‘

- *xs-*: Bal. གསལ་ *xsal* 'become visible', Bal. གསང་ *xsaŋ* 'conceal'

The clusters indicate that voiceless velar fricative ག *x* can be prefixed to voiceless dento-alveolar plosive ཏ *t̪*, voiceless palato-alveolar africate ཙ *tʃ*, bilabial nasal མ *m*, dento-alveolar nasal ན *n*, and voiceless alveolar fricative ས *s*. This pattern shows that pre-initial voiceless velar ག *x* always accompanies initial voiceless plosives, affricates, fricatives, and nasals.

2.4.2.6 Pre-initial *ɣ*C_p

The pre-initial voiced velar ག *ɣ* occurs with initials ཇ *dʒ*,བ *b*, ད *d̪*, and ཟ *z* as can be seen in the itemized list.

- *ɣdʒ-*: Bal. གཇུ་ *ɣdʒu* 'bow'
- *ɣb-*: Bal. གབུལ་ *ɣbul* 'snake', Bal. གབོས་ *ɣbos* 'to get inflated/to swell'
- *ɣd̪-*: Bal. གདོང་ *ɣd̪oŋ* 'face', Bal. གཇང་ *ɣd̪jaŋ* 'hope', Bal. གདམ *ɣd̪am* 'to choose'
- *ɣz-*: Bal. གཟོན་ *ɣzon* 'lie', Bal. གཟུར་ *ɣzur* 'edge'

The clusters indicate that voiced velar fricative ག *ɣ* can be prefixed to voiced bilabial stop བ *b*, voiced dento-alveolar stop ད *d*, and voiced alveolar fricative ཟ *z*. This pattern shows that voiced velar ག *ɣ* always accompanies voiced initials.

2.4.2.7 Pre-initials Initials C_pC_i Clusters

The pre-initial and initial clusters are summarized in table 2.15, where the first column displays pre-initial consonants, while the second column shows pre-initials plus initials C_pC_i attested clusters.

Pre-initials C_p	Pre-initials plus Initials C_pC_i Attested Clusters
ར- *r or hr-*	ཧྲ- *hrk-*, ཧྒ- *rg-*, རྔ- *hrŋ-*, རྟ- *hrt̪-*, རྡ- *rd̪-*, རྩ- *rts-*, རབ- *rb-*, རྗ- *rj-*
ལ- *l or ɬ-*	-ལྡ *ld-*, ལྟ- *ltʃ-*, ལྗ- *ldʒ-*, ལྦ- *lz-*, ལྷ- *lh-*
ས- *s or z-*	སྟ- *st̪-*, སྐ- *sk-*, སྣ- *sn-*, སྩ- *sŋ-*, སྷ- *-sɲ*, སྨ- *sm-*, སྤ- *sp-*, སྦ- *zb-*, སྡ- *zd̪-*, སྒ- *zg-*
བ- *b or pʰ-*	བདེ- *bd̪-*, བག- *bg-*, བཟ- *bz-*, བཞ- *bʒ-*, བཅ- *pʰtʃ-* བཀ- *pʰʃ-*, བས- *pʰs-*
ག- *ɣ or x-*	གབ- *ɣb-*, གད- *ɣd-*, གཟ- *ɣz-*, གཏ- *xt̪-*, གཅ- *xtʃ-*, གམ- *xm-*, གན- *xn-*

Table 2.15: Pre-initial Initial Clusters

2.4.3 Initials Medial C_iC_m Clusters

This section deals with Balti C_iC_m with focusing on medial consonants. Balti allows a set of medial consonants including ཿ *-r-*, ླ *-l-*, ྱ *-j-*, and ྭ *-w-*.

These consonants occur with specific initial consonants, forming particular initial-medial clusters. The following sections provide a detailed analysis of these clusters, illustrating how each medial consonant pairs with various initial consonants.

2.4.3.1 Medial *r*C_m

The medial ཿ *r* occurs with initial bilabial plosives བ *b*, པ *p*, ཕ p^h, dento-alveolar plosives ཏ *t*, ཐ t^h, ད *d*, retroflex plosives ཊ *ʈ*, and velar ཀ *k*, ཁ k^h, ག *g* as can be seen in the itemized list.

- *br-*: Bal. བྲག་ *braq* ‘rock’, Bal. བྲས་ *bras* ‘rice’, Bal. བྲན་ *bran* ‘servant’, Bal. བྲོད་ *broʈ* ‘taste’, Bal. བྲོ *bro* ‘buckwheat’
- *pr-*: Bal. པྲེད་ *preʈ* ‘pressed’
- p^hr-: Bal. ཕྲོ p^hro ‘companion’, Bal. ཕྲིས་ p^hris ‘to reduce’, Bal. ཕྲག་པ་ $p^hraq\ pa$ ‘shoulder’, Bal. ཕྲིན་ p^hrin ‘message’
- *ʈr-*: Bal. ཀྲུབ་ *ʈrup* ‘stitch’, Bal. ཏྲང་ *ʈraŋ* ‘right site’
- *ɖr-*: Bal. ཌྲིལ་ *ɖril* ‘to gather’, Bal. ཌྲིས་ *dris* ‘to be mixed with’
- *kr-*: Bal. ཀྲོ *kro* ‘wheat’, Bal. ཀྲམ་ *kram* ‘to level’
- k^hr-: Bal. ཁྲ k^hra ‘falcon’ , Bal. ཁྲིམ་ LT.ཁྲིམས་ k^hrim ‘custom’, Bal. ཁྲག་ k^hraq ‘blood’
- *gr-*: Bal. གྲི *gri* ‘knife’, Bal. གྲིམ་ *grim* ‘to get mix’, Bal. གྲོང་ *groŋ* ‘village’
- *sr-*: Bal. སྲན་མ *sran ma* ‘bean’

2.4.3.2 Medial *l*C_m

The medial ླ *-l-* occurs with initials ཕ p^h, and ཧ *x* as can be seen in the itemized list.

- p^hl-: Bal. ཕླས་ p^hlas ‘plait’
- *xl-*: Bal. ཧླང་ *xlaŋ* ‘ox’, Bal. ཧླད་ *xlaʈ* ‘to get tired’

2.4.3.3 Medial *j*C_m

The Medial ྱ *-j-* occurs with initials བ *b*, ཕ p^h, ཏ *ʈ*, ད *ɖ*, ཉ *ɲ*, ཀ *k*, ཁ k^h, ག *g* and ཧ *x* as can be seen in the itemized list.

- *bj-*: Bal. བྱང་ *bjaŋ* 'stretch', Bal. བྱོར་ *bjor* 'to suit', Bal. བྱ་མོ་ *bja mo* 'hen', Bal. བྱེད་ *bjeʈ* 'to do'
- *pj-*: Bal. པྱུ་ *pju* 'tower
- p^hj-: Bal. ཕྱུང་ $p^hjuŋ$ 'bring out', Bal. ཕྱོག་ p^hjog 'relative', Bal. ཕྱོགས་ p^hjoqs 'direction', Bal. ཕྱིར་ p^hjir 'outside', Bal. ཕྱུག་པོ་ $p^hjuk\ po$ 'rich'
- *ʈj-*: Bal. ཇང་ *ʈjaŋ* 'hit'
- $ʈ^hj$-: Bal. ཆྱང་ $t^hjaŋ$ 'limb'
- *dj-*: Bal. ཇང་ *djaŋ* 'solid'
- *kj-*: Bal. ཀྱལ་བུ་ *kjalbu* 'small beg'
- *gj-*: Bal. གྱལ་ *gjal* 'pass away', Bal. གྱུར་ *gjur* 'to change'
- k^hj-: Bal. ཁྱིམ་ k^hjim 'bottom', Bal. ཁྱོང་ $k^hjoŋ$ 'bring'
- *xj-*: Bal. ཧྱོང་ *xjaŋ* 'brink', Bal. ཧྱོག་ *xjoq* 'cover'

2.4.3.4 Medial *w*C_m

The medial ྭ *-w-* occurs with initials ཀ *k*, ཁ k^h,ག *g*, ཅ *ʧ*, ཉ *ɲ*, ཏ *ʈ*, ཐ $ʈ^h$, ད *ɖ* , ཙ *ʦ*, ཚ $ʦ^h$, ཞ *ʒ*, ཟ *z*, ར *r*, ལ *l* , ཤ *ʃ*, ས *s* and ཧ *h* as can be seen in the itemized list.

- *kw-*: Bal. ཀྭ LT.ཀོ་བ *kwa* 'to listen'
- k^hw-: Bal. ཁྭང་ $k^hwaŋ$ 'himself'
- *gw-*: Bal. གྭ *gwa* 'to go'
- *ʧw-*: Bal. ཅྭ *ʧwa* 'why'
- *ŋw-*: Bal. ངྭ LT.ངོ་བ *ŋwa* 'to weep'
- *ʈw-*: Bal. ཊྭ *ʈwa* 'griddle'
- $ʈ^hw$-: Bal. ཐྭ t^hwa 'to pick up '
- *ɖw-*: Bal. ཌྭར་ *ɖwar* 'scissor'

- *tsw*: Bal. ཙྭ *tswa* ‘to cook’
- *ts^{h}w-*: Bal. ཚྭ་ *ts^{h}wa* ‘grazing’
- *ʒw-*: Bal. ཞྭ་ LT.ཞྭོང་ *ʒwa* ‘to melt/ to digest’
- *zw-*: Bal. ཟྭལ་རྔ་ *zwal hrŋa* ‘swiftly harvest’
- *rw-*: Bal. རྭ་ *rwa* ‘horn’
- *sw-*: Bal. སྭ *swa* ‘a type of buckwheat’

2.4.3.5 Initial Medial C_iC_m Clusters

The initial plus medial clusters can be summarized in the table 2.16 , where the first column shows the medial consonants while second columns displays attested initial medial clusters.

Medial C_m	Initials Medial C_iC_m Attested Clusters
ྲ -*r-*	བ- *br-*, པ- *pr-*, ཕ- *p^{h}r-*, ཏ- *ʈr-*, ད- *ɖr-*, ཀ- *kr-*, ཁ- *k^{h}r-*, གྲ- *gr-*, ས- *sr-*
ླ -*l-*	ཟླ -, ཧླ-
ྱ *j*	ཐ- *bj-*, ཕ- *pj-*, ཕ- *p^{h}j-*, ཏ- *ʈj-*, ཐ- *ʈ^{h}j-*, ད- *ɖj-*, ཀ- *kj-*, ཁ- *k^{h}j-*, ག- *gj-*, ཤ- *xj-*, ས- *sj-*
ྭ -*w-*	ཀ- *kw-*, ཁ- *k^{h}w-*, ག- *gw-*, ཇ- *ʧw-*, ཞ- *ʒw-* ཏ- *ʈw-*, ད- *ɖw-*, ཐ *ʈ^{h}w-*, ཙ *tsw-*, ཚ *ts^{h}w-*, ཞ *ʒw-*, ཟ *zw-*, ར *rw-*, ས *sw-*

Table 2.16: Initial Medial Clusters

2.4.3.6 Pre-initial Initial and Medial $C_pC_iC_m$ Clusters

A set of pre-initial, and initial clusters C_pC_i including བག *bg*, བཛ *bʒ*, བཟ *sɲ*, ཟབ *zb*, ཟག *zg*, རག *rg*, ལྡ *lɖ* can co-occur with the medial ྱ *jC$_m$* , which constitutes the maximal onset consonant cluster in Balti. The examples are presented in the table 2.17.

The medial consonant ྱ, which occupies the third position in a maximal onset cluster, tripartite cluster, is the most commonly occurring consonant in this position. However, the medial ྲ appears with the pre-initial ས, and initial ཏ forming the specific tripartite cluster སྟྲ *sʈr-* as in the word Bal. སྟྲག་པ་ *sʈraqpa* ‘partridge’, Bal. སྟྲངས་མོ་ *sʈriŋmo* ‘sister’, Bal. སྟྲོག་ *sʈroq* ‘life’, and Bal. སྟྲང་ *sʈraŋ* ‘straight’.

2.4.4 Syllable final consonants C_f

Balti allows a limited set of syllable final consonants including the voiceless velar ག *k*, velar nasal ང *ŋ*, voiceless bilabial བ *p*, voiceless dento-alveolar ད *ʈ*,

Pre-initials	Initial	Medial	Examples	English
བ *b*	ག *g*	ཡ *j*	བགྱལ་ *bgjal*	astonished
བ *b*	ཟ *z*	ཡ *j*	བཟྱེད་ *bzjeṭ*	forget
ས *s*	ཉ *ɲ*	ཡ *j*	སྙལ་*sɲjal*	lay down
ས *s*	ཀ *k*	ཡ *j*	སྐྱེས་ *skjes*	to be born
ཟ *z*	བ *b*	ཡ *j*	ཟྦྱངས་བུ་ *zbjaŋ bu*	flies
ཟ *z*	ག *g*	ཡ *j*	ཟྒྱུར་ *zgjur*	turn
ར *r*	ག *g*	ཡ *j*	རྒྱལ་པོ་ *rgjal po*	king
ལ *l*	ད *d*	ཡ *j*	ལྡྱག་ *ldjaq*	a plan place to sit on a cliff

Table 2.17: Pre-Initial, Initial with middle j clusters

dento-alveolar nasal *n*, bilabial nasal མ *m*, voiceless alveolar fricative ས *s*, trill ར *r*, and lateral ལ *l* occur in the syllable final position after syllable nucleus vowel as illustrated in the itemized list.

- *-p*: Bal. ཀཔ་ *kap* 'bury', Bal. རྡིབ་ *rḍip* 'collapse', Bal. གྲུབ་ *grup* 'accomplished'
- *-ṭ*: Bal. བུཊ་ *buṭ* 'fall', Bal. ཇོཊ་ *joṭ* 'exists' Bal. སྐཊ་ *skaṭ* 'voice'
- *-k*: Bal. ཛིག་ *ʤik* 'fear', Bal. ཀུག་ *kuk* 'bend', Bal. ཁྲག་ *kʰraq* 'blood'
- *-m*: Bal. ཁུམ་ *kʰum* 'shrink', Bal. ལམ་ *lam* 'way'
- *-n*: Bal. ཀན་ *kan* 'lean'
- *-ŋ*: Bal. ཇྱངཔ་ *ʧjaŋ* 'hit' Bal. ཤིང་ *ʃiŋ* 'wood'
- *-l*: Bal. ཕུལ་ *pʰul* 'push' , Bal. རྒྱལ་པོ་ *rgjal po* 'king'
- *-r*: Bal. ཕུར་ *pʰur* 'fly', Bal. ཕྱིར་ *pʰjir* 'outside'
- *-s*: Bal. ཀས་ *kas* 'crack', Bal. ཤེས་ *ʃes* 'knowledge'

2.4.5 Syllable Post Finial consonants C_fp

Balti allows post final ས *s*. Syllable post final ས *s* can follow all the syllable final consonants: ག *k*, ང *ŋ*, བ *p*, ད *ṭ*, ན *n*, མ *m*, ར *r*, and ལ *l*. Instances of syllable post final ས *s* are given in the itemized list.

- Bal. ཀུགས་ *kuks* 'bent'

- Bal. ཐུངས་ *tʰuŋs* ‘drank’
- Bal. ཀབས་ *kaps* ‘buried’
- Bal. བུངས་ *buŋs* ‘fell’
- Bal. རོན་ས་ *rons* ‘rode’
- Bal. ཁུམས་ *kʰums* ‘shrank’
- Bal. ཕུར་ *pʰurs* ‘flew’

2.5 Accent

Characterizing the stress pattern in Balti Tibetan, Read mentions

> The Tibetan language, and consequently all its dialects, is really a collection of independent short syllables. However, many syllables the word may contain, each one must be given equal emphasis and never be cut short. The word “polo” a ball is nor “poll-o”, but “polo” likewise in the word “gor-gyal-chan” disobedient equal emphasis must be placed on each syllable. (1934, p. 3).

While discussing stress pattern in Balti Caplow notes

> Disyllabic non-verbs nouns, adjectives, and numerals are stressed on the second syllable. Fundamental frequency is a robust correlate of this stress pattern; vowel duration is a weak and inconsistent cue for stress, while intensity does not play a role. Verbs, in contrast, are stressed on the first syllable; F0, intensity, and vowel duration all contribute to conveying syllable prominence (2016, p. 1).

In the present section, a brief analysis is conducted to examine accent patterns at both the lexical and sentence levels.

2.5.1 Data Collection

For the lexical level analysis, a comprehensive list of disyllabic words has been prepared, including verbs, nouns, adjectives, and adverbs. For the sentence-level analysis, three distinct lists have been prepared: interrogative, declarative, and imperative sentences. These words and sentences were recorded from a native

Balti speaker—a man over fifty years old, also fluent in Urdu. The recordings were made in a quiet room in Lucan, Dublin, using a Huawei P40 Lite mobile phone and high-quality headphones.

2.5.2 Measurement of Stress Acoustic Cues: Pitch, Intensity and Duration

Recorded data are analyzed using Praat software, employing TextGrids with five tiers for both lexical and sentence-level analysis. For lexical analysis, the tiers are: full words, syllables, F0 pitch, intensity, and duration. Words are identified and boundaries set in the first tier. Syllables are segmented and marked in the second tier. Pitch, intensity, and duration are measured and recorded in the third, fourth, and fifth tiers, respectively. For sentence-level analysis, the TextGrid tiers are: sentences, words, pitch, intensity, and duration. Sentences are identified and boundaries set in the first tier, with words segmented and recorded in the second tier. Pitch, intensity, and duration are then measured and recorded in the third, fourth, and fifth tiers. Results are tabulated, and images displaying the acoustic cues are provided.

2.5.3 Analysis

Regarding the acoustic cues of stress Roach states

> Prominence, then, is produced by four main factors: i loudness, ii length, iii pitch and iv quality. Generally these four factors work together in combination, although syllables may sometimes be made prominent by means of only one or two of them. Experimental work has shown that these factors are not equally important; the strongest effect is produced by pitch, and length is also a powerful factor. Loudness and quality have much less effect. (2009, p. 74)

In this section of the study, we focus on measuring the acoustic cues of pitch, duration, and intensity. Vowel quality, while noted as a factor by Roach, is not addressed here to maintain brevity and clarity.

This section is divided into two subsections: stress patterns at the lexical level §2.5.3.1 and stress patterns at the sentence level §2.5.3.2.

2.5.3.1 Stress Pattern at Lexical Level

This section investigates stress pattern in disyllabic verbs, nouns, adjectives, and adverbs.

2.5.3.1.1 Stress Patterns in Verbs Balti disyllabic verbs have been analyzed with respect to pitch, intensity, and duration. The analysis reveals that the first syllable consistently exhibits a higher pitch, ranging from 99.65 Hz to 144.5 Hz, and greater intensity, ranging from 76.64 dB to 82.86 dB. This suggests that the first syllable is generally more prominent or stressed. In contrast, the second syllable shows a lower pitch, ranging from 75 Hz to 82.9 Hz, and a weaker intensity, ranging from 67.28 dB to 74.04 dB. Despite these consistent patterns in pitch and intensity, the duration of the syllables varies inconsistently across the data. See Table 2.18 for details.

	1st Syllable			2nd Syllable		
Instances	Pitch	Intensity	Duration	Pitch	Intensity	Duration
ཁེར་བ་ *kʰerba*	108.5 Hz	80.63 dB	0.253	81.89 Hz	73.87 dB	0.452
ཀོལ་བ་ *kolba*	108.9 Hz	79.91 dB	0.322	75 Hz	70.94dB	0.395
ལྷག་པ་ *ɬaqpa*	106.6 Hz	76.64 dB	0.505	75 Hz	73.03dB	0.386
ཕུལ་བ་ *pʰulba*	113.9 Hz	80.46 dB	0.292	81.22Hz	74.58dB	0.42
ཕྱག་པ་ *pʰjaqpa*	115.1 Hz	79.84 dB	0.270	75 Hz	71.91dB	0.329
ཕྱུང་མ་ *pʰjuŋma*	122.2 Hz	80.48 dB	0.265	82.9 Hz	67.28 dB	0.382
རུལ་བ་ *rulba*	144.5 Hz	82.86 dB	0.339	81.86 Hz	75.04dB	0.377
སྐལ་བ་ *skalba*	99.65 Hz	75.25 dB	0.517	81.28 Hz	67.33 dB	0.384
ཐུལ་བ་ *t̪ʰulba*	112.2 Hz	81.7 dB	0.263	78.57 Hz	73.98 dB	0.348

Table 2.18: Stress Patterns in Verbs

Figure 2.1 displays the acoustic cues of stress: pitch, intensity, and duration. In the disyllabic verb Bal. ལྷག་པ་ *ɬaqpa* 'to remain,' the first syllable Bal. ལྷག་ *ɬaq* exhibits prominence with a pitch of 106.6 Hz, significantly higher than the pitch of the second syllable པ *pa*, which is 75 Hz. The intensity of the first syllable is 76.64 dB, surpassing the intensity of the second syllable at 73.03 dB. Additionally, the first syllable has a duration of 0.505 ms, which is longer than the duration of the second syllable, which is 0.386 ms. All the three stress acoustic cues: pitch, intensity and duration of this disyllabic verb Bal. ལྷག་པ་ *ɬaqpa* 'to remain' clearly manifest the stress pattern, with first syllable more

prominent.

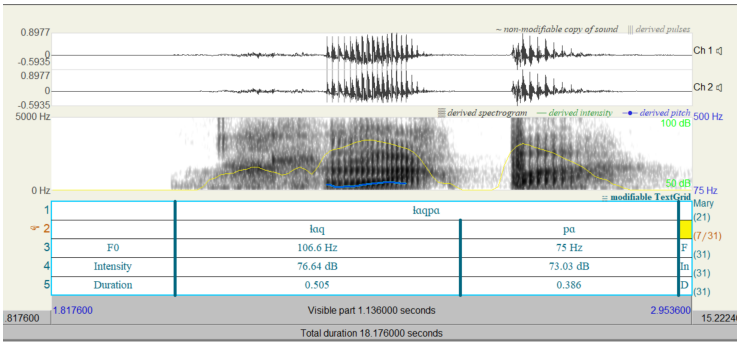

Figure 2.1: Spectogram Displaying Acoustic Cues of the Verb *ɬaqpa*

2.5.3.1.2 Minimal Pairs Minimal pairs of Balti nouns and verbs have been analyzed for stress acoustic cues: pitch, intensity, and duration. Pitch is consistently higher in the first syllable of verbs and the second syllable of nouns. Intensity is greater in the first syllable of verbs, though three nouns show exceptions: Bal. རྩྭཉ་མ *rʣuŋˈma* 'beam', Bal. བྲག་པ *braqˈpa* 'climber', and Bal. ཕབ་མ *pʰaŋˈma* 'lab', with first syllable intensities of 79.24 dB, 88.82 dB, and 77.81 dB, and second syllable intensities of 77.44 dB, 75.7 dB, and 77.34 dB, respectively.

Duration shows variability in both nouns and verbs. Table 2.19 illustrates that pitch indicates first syllable prominence in verbs and second syllable prominence in nouns. Intensity predominantly shows first syllable prominence in verbs and most nouns, except for the aforementioned three nouns. Duration does not consistently mark prominence in either syllable.

The figure 2.2 illustrates the differences in pitch, intensity, and duration between disyllabic nouns and verbs. For the noun Bal. ཁྷུར་བ *kʰurˈba* 'bread', the second syllable has a higher pitch and intensity compared to the first syllable, with a pitch of 118.8 Hz and an intensity of 81.16 dB, versus 88.17 Hz and 74.87 dB for the first syllable. Additionally, the duration of the second syllable is longer at 0.322 ms, compared to 0.266 ms for the first syllable.

In contrast, the figure shows that in the verb Bal. ཁྷུར་བ *ˈkʰurba* 'to carry/ to lift', the first syllable is more prominent, with a pitch of 101.3 Hz, an intensity of 79.87 dB, and a duration of 0.348 ms, while the second syllable has a pitch of 75.35 Hz, an intensity of 68.85 dB, and a duration of 0.350 ms. The stress acoustic cues: pitch, intensity, and duration show that nouns are stressed on

		1st Syllable			2nd Syllable		
Word Category	Minimal Pairs	Pitch	Intensity	Duration	Pitch	Intensity	Duration
Noun	རྡུངས་ *rd̪uŋ'ma*	73.76 Hz	79.24 dB	0.373	125.4 Hz	77.44 dB	0.408
Verb	རྡུངས་ *'rd̪uŋma*	95.33 Hz	79.73 dB	0.389	81.82 Hz	69.06 dB	0.373
Noun	ཐག་པ་ *t^{h}aq'pa*	87.86 Hz	75.67 dB	0.340	133.5 Hz	78.47 dB	0.321
Verb	ཐག་པ་ *'t^{h}aqpa*	110.3 Hz	75.83 dB	0.324	78.24 Hz	72.53 dB	0.351
Noun	སྟག་པ་ *st̪raq'pa*	90 Hz	75.1 dB	0.332	135.5 Hz	78.74 dB	0.378
Verb	སྟག་པ་ *'st̪raqpa*	102 Hz	75.82 dB	0.411	80.09 Hz	71.1 dB	0.378
Noun	སྨིན་མ་ *smin'ma*	105.1 Hz	78.26 dB	0.452	129.8 Hz	78.93 dB	0.393
Verb	སྨིན་མ་ *'sminma*	92.88 Hz	77.75 dB	0.462	75 Hz	69.55 dB	0.371
Noun	ཐལ་བ་ *t̪^{h}al'ba*	101.6 Hz	77.7 dB	0.313	126.7 Hz	79.56 d	0.405
Verb	ཐལ་བ་ *'t̪^{h}alba*	94.36 Hz	76.98 dB	0.293	76.36 Hz	71.35 dB	0.381
Noun	བྲག་པ་ *braq'pa*	73.76 Hz	88.82 dB	0.38	121 Hz	75.7 dB	0.51
Verb	བྲག་པ་ *'braqpa*	101 Hz	73.73 dB	0.45	77 Hz	68.56 dB	0.36
Noun	ཡག་པ་ *jaq'pa*	126.6 Hz	78.19 dB	0.410	132 Hz	80.1 dB	0.303
Verb	ཡག་པ་ *'jaqpa*	84.05 Hz	76.59 dB	0.440	75 Hz	72.74 dB	0.365
Noun	ཁུར་བ་ *k^{h}ur'ba*	88.17 Hz	74.87 dB	0.266	118.8 Hz	81.16 dB	0.322
Verb	ཁུར་བ་ *'k^{h}urba*	101.3 Hz	79.87 dB	0.348	75.35 Hz	68.85 dB	0.350
Noun	ཕངས་མ་ *p^{h}aŋ'ma*	87.61 Hz	77.81 dB	0.261	130 Hz	77.34 dB	0.397
Verb	ཕངས་མ་ *'p^{h}aŋma*	94.12 Hz	76.65 dB	0.273	75 Hz	64.98 dB	0.300

Table 2.19: Comparative Stress Patterns in Balti Disyllabic Nouns and Verbs

the second syllable while verbs are stressed on the first syllable.

2.5.3.1.3 Stress Pattern in Noun Acoustic cues of stress—pitch, intensity, and duration—have been analyzed for Balti disyllabic nouns to determine their stress patterns. The analysis reveals that pitch is consistently higher in the second syllable ranging from 87.43 Hz to 119 Hz, and intensity is also greater in the second syllable ranging from 74.1 dB to 84.29 dB. In contrast the first syllable shows lower pitch ranging from 82.62 Hz to 92.53 Hz and weaker intensity ranging from 73.06 dB to 76.65 dB. However, there is an exception of the disyllabic noun Bal. ལག་པ་ *laqpa* 'hand' where the first syllable has greater intensity 75.51 dB as compare to second syllable 71.1 dB. Duration, however, shows no consistent pattern. These findings are summarized in Table 2.20.

The figure 2.3 illustrates the stress pattern in the disyllabic noun Bal. གཱརྦ་ *garba* 'blacksmith'. In this noun, the second syllable exhibits a higher pitch and intensity compared to the first syllable, with a pitch of 109.7 Hz and an

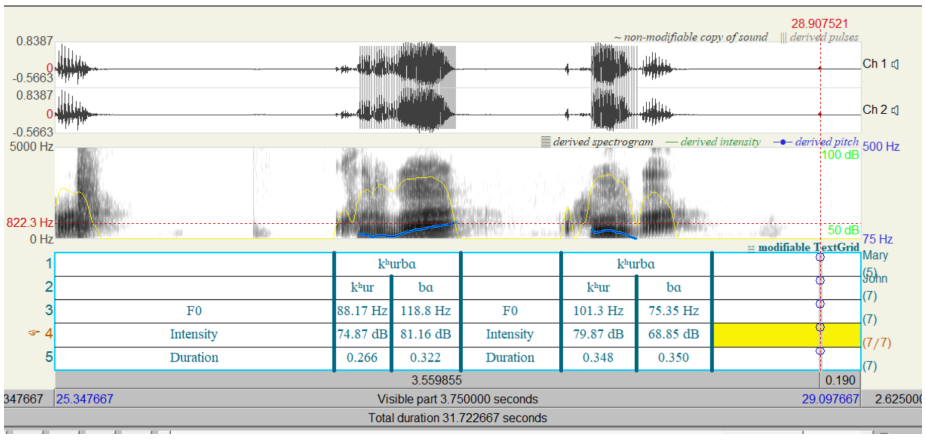

Figure 2.2: Stress Pattern in Disyllabic Noun and Verb ***kʰurba***

	1st Syllable			2nd Syllable		
Instances	Pitch	Intensity	Duration	Pitch	Intensity	Duration
བུཁ་མ་ *bukʰma*	82.63 Hz	74.79 dB	0.255	89.9Hz	76.89 dB	0.430
གར་བ་ *garba*	91.8 Hz	76.65 dB	0.547	109.7 Hz	80.29dB	0.343
ལག་པ་ *laqpa*	80.11Hz	75.51 dB	0.32	87.43Hz	74.1 dB	0.406
ཕུལ་པ་ *pʰulpa*	80.61 Hz	73.06 dB	0.302	87.53 Hz	73.68 dB	0.408
རྡུག་པ་ *rɖuqpa*	85.24 Hz	75.29 dB	0.396	125 Hz	80.19 dB	0.371
ཤར་བ་ *ʃarba*	84.25 Hz	76.59 dB	0.392	111.8 Hz	79.9 dB	0.343
སྤལ་བ་ *spalba*	92.53 Hz	74.79 dB	0.390	119 Hz	80.15 dB	0.44

Table 2.20: Stress Patterns in Nouns

intensity of 80.29 dB, compared to 91.8 Hz and 76.65 dB for the first syllable. Additionally, the duration of the second syllable is longer, measuring 0.547 ms, versus 0.343 ms for the first syllable. All the stress acoustic cues: pitch, intensity and duration manifest second syllable prominence in the disyllabic noun Bal. གར་བ་ *garba* 'blacksmith'.

2.5.3.1.4 Stress Pattern in Adjective Acoustic cues of stress—pitch, intensity, and duration—have been analyzed for Balti disyllabic adjectives to determine their stress patterns. The analysis reveals that the second syllable generally exhibits a higher pitch, ranging from 92.19 Hz to 106.1 Hz, and greater intensity, ranging from 71.46 dB to 79.1 dB. In contrast, the first syllable shows

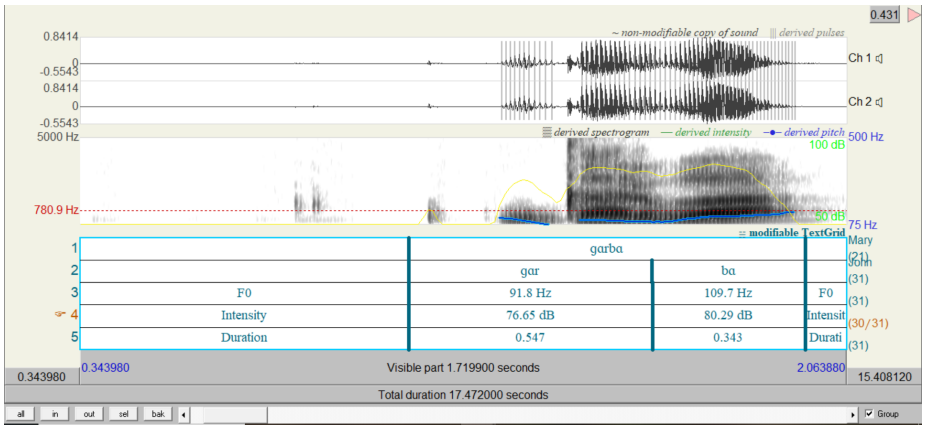

Figure 2.3: Stress Pattern in Disyllabic Noun *garba*

a lower pitch, ranging from 80.06 Hz to 98.47 Hz, and weaker intensity, ranging from 73.62 dB to 79.62 dB. However, there are exceptions to this general pattern. For the disyllabic adjectives Bal. རིན་པོ་ *rinpo* 'long' and Bal. དྲོན་མོ་ *ʈronmo* 'warm' , the first syllable exhibits greater intensity compared to the second syllable. Specifically, Bal. རིན་པོ་ *rinpo* 'long' has a first syllable intensity of 79.62 dB compared to the second syllable's 78.54 dB, and Bal. དྲོན་མོ་ *ʈronmo* 'warm' has a first syllable intensity of 79.09 dB compared to 76.9 dB in the second syllable. Moreover, the duration is generally longer in the second syllable but not consistently across all adjectives. These findings are summarized in Table 2.21.

Figure 2.4 illustrates the pitch, intensity, and duration of syllables in the disyllabic adjectives Bal. བབ་མོ་ *bapmo* 'low' and Bal. ཐོན་མོ་ *ʈʰonmo* 'high'.

In both adjectives, the pitch of the second syllable, མོ་ *mo*, is higher than that of the first syllable. Specifically, the pitch of མོ་ *mo* is 99.39 Hz for Bal. བབ་མོ་ *bapmo* 'low' and 100.4 Hz for Bal. ཐོན་མོ་ *ʈʰonmo* 'high', compared to 77.28 Hz and 75.42 Hz for the first syllables Bal. བབ་ *bap* and Bal. ཐོན་ *ʈʰon*, respectively.

Similarly, the intensity of the second syllable is greater in both adjectives. The second syllable མོ་ *mo* measures 77.42 dB for Bal. བབ་མོ་ 'low' *bapmo* and 77.33 dB for Bal. ཐོན་མོ་ *ʈʰonmo* 'high', while the first syllables have intensities of 77.28 dB and 75.42 dB.

Regarding duration, the first syllable of Bal. བབ་མོ་ *bapmo* 'low' lasts 0.370 ms, and the second syllable lasts 0.365 ms. For Bal. ཐོན་མོ་ *ʈʰonmo*,'high' the first syllable lasts 0.381 ms, and the second syllable lasts 0.376 ms.

	1st Syllable			2nd Syllable		
Instances	Pitch	Intensity	Duration	Pitch	Intensity	Duration
བབ་མོ་ *bapmo*	93.73 Hz	77.28 dB	0.270	99.39 Hz	77.42 dB	0.365
ཐོན་མོ་ *ʈʰonmo*	93.62 Hz	75.42 dB	0.381	100.4 Hz	77.33 dB	0.376
བག་ཅན་ *baxtʃan*	80.06 Hz	76.25 dB	0.323	95.19 Hz	75.38 dB	0.354
ཕལ་ཅན་ *pʰaltʃan*	85.02 Hz	75.22 dB	0.260	92.71 Hz	71.46 dB	0.376
བྲོད་ཅན་ *broʈtʃan*	91.72 Hz	78.23 dB	0.302	93.08 Hz	75.58 dB	0.381
རྒལ་པེ་ *rgaʃe*	86.28 Hz	77.09 dB	0.297	92.19 Hz	77.22 dB	0.428
རིང་བོ་ *riŋbo*	98.47 Hz	79.62 dB	0.360	101.5 Hz	78.54 dB	0.302
ཐོན་མོ་ *ʈʰonmo*	93.84 Hz	79.09 dB	0.227	94.85 Hz	76.9 dB	0.214
ཆ་ཏུ་ *tʃʰaʈu*	89.88 Hz	73.62 dB	0.217	97.45 Hz	79.1 dB	0.302
ཚ་གུ་ *tsʰaku*	91.38 Hz	76.57 dB	0.195	106.1 Hz	78.69 dB	0.386

Table 2.21: Stress Patterns in Adjectives

2.5.3.1.5 Stress Pattern in Adverbs The acoustic cues of stress in Balti disyllabic adverbs have been analyzed, focusing on pitch, intensity, and duration. Generally, the pitch is higher in the second syllable, ranging from 78.96 Hz to 155 Hz. However, in the adverb Bal. དེ་རིང་ *ɖiriŋ* 'today', the pitch of the second syllable is slightly lower at 78.96 Hz compared to the first syllable's 80.18 Hz. The intensity is weaker in the second syllable, ranging from 74.03 dB to 79.26 dB, while the first syllable's intensity ranges from 77.81 dB to 97.97 dB. The duration of the second syllable is longer, ranging from 0.258 ms to 0.366 ms, whereas the first syllable ranges from 0.21 ms to 0.315 ms. See 2.22 for details. The pitch and duration suggest that the first syllable is prominent in Balti disyllabic adverbs.

	1st Syllable			2nd Syllable		
Instances	Pitch	Intensity	Duration	Pitch	Intensity	Duration
བེར་ལ་ *berla*	90.77 Hz	79.97 dB	0.315	155 Hz	79.27 dB	0.355
དེ་རིང་ *ɖiriŋ*	80.18 Hz	78.19 dB	0.235	78.96 Hz	75.75 dB	0.258
ན་ནིང་ *naniŋ*	80.44 Hz	77.81 dB	0.21	95.19 Hz	75.38 dB	0.355
རོ་ནིང་ *roniŋ*	81.66 Hz	77.87 dB	0.309	84.51 Hz	74.03 dB	0.366

Table 2.22: Stress Patterns in Adverbs

Figure 2.5 illustrates the stress pattern in the disyllabic adverb Bal. བེར་ལ་

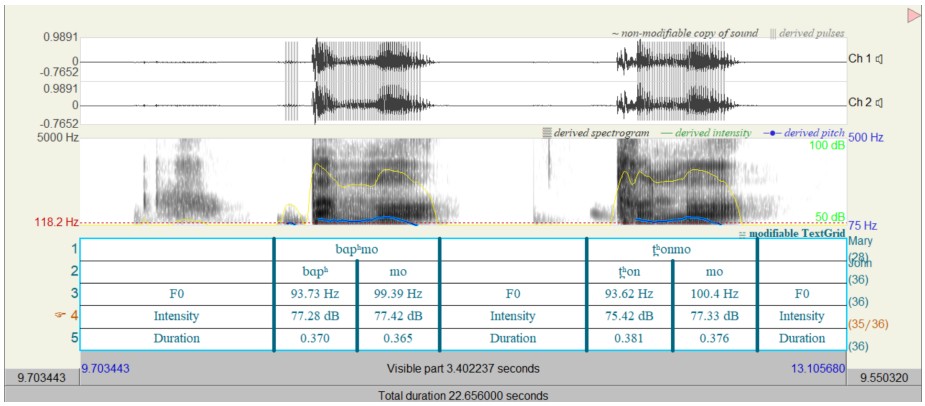

Figure 2.4: Stress Pattern in Disyllabic Adjectives: *bapmo and t̪ʰonmo*

berla 'tomorrow'. The figure shows that the pitch is higher in the second syllable 155 Hz compared to the first syllable 90.77 Hz. Although the intensity is slightly greater in the first syllable 79.97 dB than in the second syllable 79.27 dB. The second syllable has a longer duration, measuring 0.355 ms, compared to the first syllable's duration of 0.315 ms. The higher pitch and longer duration suggest that the second syllable is more prominent than the first syllable in the Balti disyllabic adverb Bal. བཙལ་ *berla* 'tomorrow'.

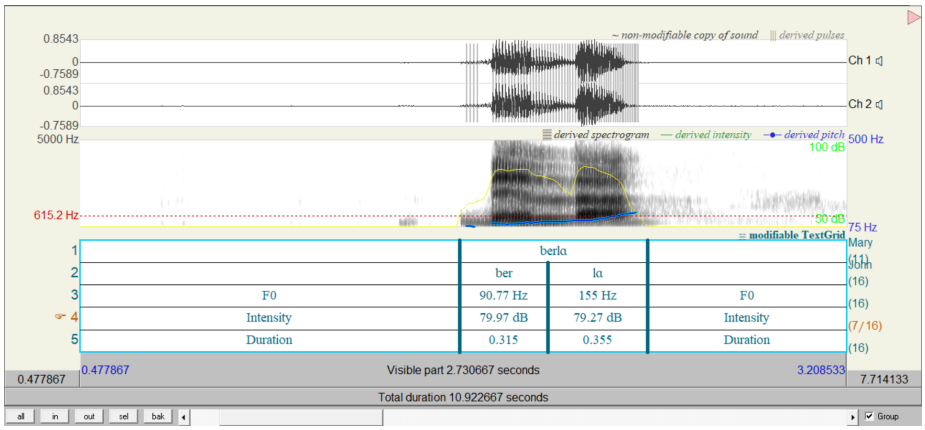

Figure 2.5: Stress Pattern in Disyllabic Adverb: *berla*

In summary, stress patterns in Balti disyllabic words differ by part of speech. Verbs consistently stress the first syllable with higher pitch and intensity. Nouns stress the second syllable, with higher pitch and intensity. Adjectives often have

higher pitch in the second syllable, but their intensity and duration are less consistent. Adverbs stress second syllable with higher pitch and longer duration but their intensity is greater in the first syllable. Pitch reliably indicates stress placement, while intensity and duration are more variable.

Common patterns include verbs having stress on the first syllable, while nouns, adjectives and adverbs stress the second syllable. The main difference is that adjectives show variability in intensity and duration, and adverbs show greater intensity in the first whereas nouns have more consistent stress on the second syllable.

This short analysis aligns Caplow (2016) exhibiting second syllable prominence in non-verbs and first syllable prominence in verbs. She has extensively investigated lexical stress pattern. While she has not considered sentence stress pattern, the present study extends with a short analysis of stress patterns at the sentence level.

2.5.3.2 Stress Pattern at Sentence Level

This section investigates stress patterns in different types of sentences: declarative, interrogative, and imperative. Acoustic cues—pitch, intensity, and duration—are measured to identify these patterns.

2.5.3.2.1 Declarative Sentence Stress Pattern The analysis of declarative sentences shows that stress is typically placed on the final element. Pitch is consistently highest in this part of the sentence, while intensity is greater in most cases. However, duration varies inconsistently across tokens.

Figure 2.6 shows the stress pattern in the declarative sentence Bal. ཡ་ངར་བར་ན་ཨིན་ཛུ་ཡ་ *ja ŋa bara na in dʒu ja* 'I am from Bara'. The final word, Bal. ཛུ་ཡ་*dʒu ja*, has the highest pitch at 172.5 Hz. It also has the second highest intensity at 79.38 dB, which is 0.91 dB lower than Bal. བར་ *bara* at 80.31 dB. Additionally, it has the longest duration of 0.480 seconds.

2.5.3.2.2 Stress Pattern in Interrogative Sentences Stress acoustic cues—pitch, intensity, and duration—are analyzed for some interrogative sentences. The analysis reveals that the stress pattern in interrogatives is quite unpredictable, as the acoustic cues for stress are not consistently prominent. However, interrogatives with disyllabic nouns often show prominence as the sentence Bal. ཡང་བཞាས་སྦྱོན་བྱ་སེད་ཏ་མེད་ *jaŋ baxston bjaseʈa meʈ* 'Are you married?' in.

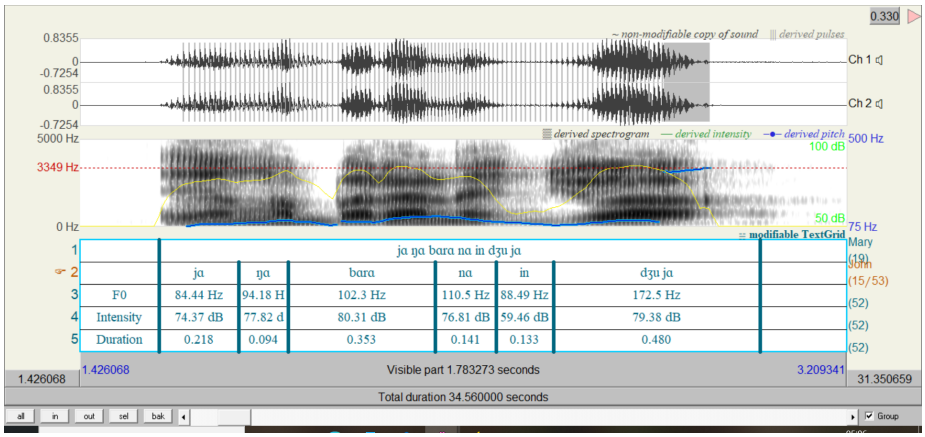

Figure 2.6: Stress Pattern in Declarative Sentence

Figure 2.7 illustrates the prominence of the disyllabic noun Bal. བག་སྡོན་ *baxston* 'marriage' . In this example, the disyllabic noun is the most prominent element, with the highest pitch at 106.3 Hz, the greatest intensity at 79.61 dB, and the longest duration at 0.462 ms.

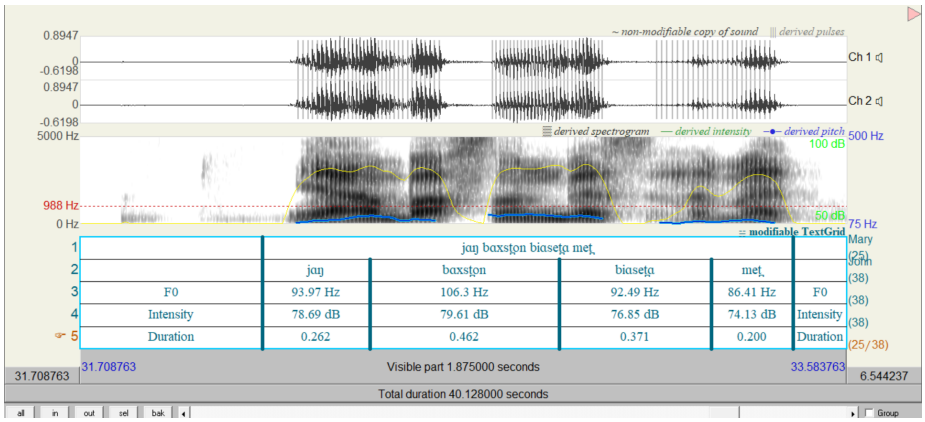

Figure 2.7: Stress Pattern in Interrogative Sentence

2.5.3.2.3 Stress Pattern in Imperative Stress pattern in imperatives is unpredictable. However, same as the interrogatives, in most cases the disyllabic nouns are stressed as the sentence Bal. ཡང་ཏ་མག་མ་ཐུང་ *jaŋ ʈamaq maʈʰuŋ* 'Do not smoke' in. Figure 2.8 illustrates the noun Bal. ཏ་མག་ *ʈamaq* 'secret' is the most prominent word in the sentence having the highest pitch 91.81 Hz, and the

greatest intensity 78.19 dB.

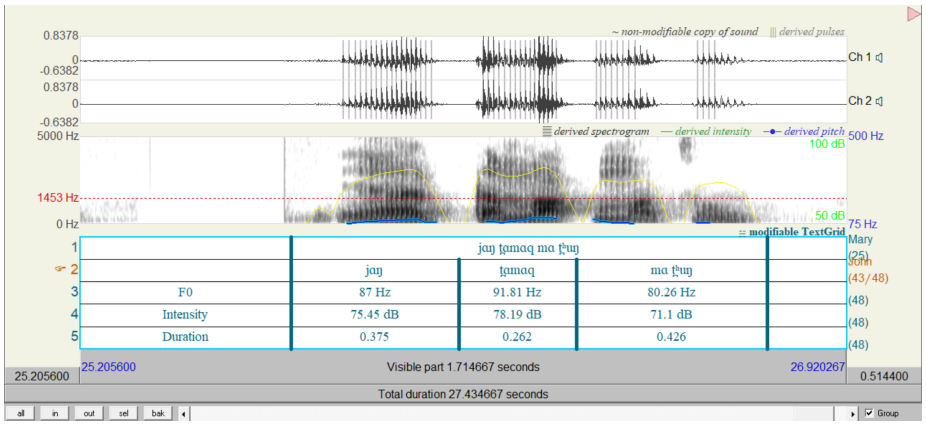

Figure 2.8: Stress Pattern in Imperative Sentence

In summary, the stress pattern in Balti sentences varies by sentence type. Declarative sentences tend to place stress on the last element. In contrast, the stress pattern in interrogatives and imperatives is unpredictable. However, disyllabic nouns are often the most stressed in these sentences.

2.6 Phonological Processes

Balti shows assimilation §2.6.1 both regressive and progressive, and morphophonemic alternation §2.6.2.

2.6.1 Assimilation

Assimilation is the process where a sound changes its features under the influence of a neighbouring sound getting closer to it. Assimilation can be regressive, where the preceding sound changes under the influence of the following sound or it can be progressive, where the following sound changes under the influence of the preceding sound. The assimilation can be assimilation of voicing, assimilation of place, and assimilation of manner (Roach, 2009, pp. 110–113).

In Balti, regressive assimilation of voicing occurs in the intervocalic position, where voiceless plosives become voiced under the influence of the surrounding intervocalic environment. For instance, *p* becomes *b*, *ʈ* becomes *ɖ*, and *k* becomes *g*. This phenomenon is observed in words such as Bal. ཀབཏ་ *kabeʈ* ‘bury’, Bal.

བུད་དེད་ *buḍeṭ* ‘fall’, and Bal. ཕྱིགེད་ *pʰʃigeṭ* ‘erase’, where the consonants *p*, *ṭ*, and *k* assimilate to their voiced counterparts *b*, *ḍ*, and *g*, respectively, due to the influence of the following vowel *e*. Here, the present tense suffix *-eṭ* added to the verb stems: གབ་ *kap* ‘bury’, Bal. བུད་ *buṭ* ‘fall’, and Bal. ཕྱིག་ *pʰʃik*.

Additionally, this process involves resyllabification, wherein the coda consonants *-p*, *-t*, and *-k* in the words Bal. གབ་ *kap* ‘bury’, Bal. བུད་ *buṭ* ‘fall’, and Bal. ཕྱིག་ *pʰʃik* ‘erase’ shift to the onset position of the following syllable in the present form of these words: Bal. གབེད་ *kabeṭ* ‘bury’, Bal. བུདེད་ *buḍeṭ* ‘fall’, and Bal. ཕྱིགེད་ *pʰʃigeṭ* ‘erase’.

The voiceless uvular *q* assimilates to voiced velar *ɣ* when it occurs between two vowels. *q* > *ɣ* in the words Bal. ཕྱོའི་ *pʰjoɣi* ‘of the relative’, Bal. ཐྲོའི་ *ʈʰoɣi* ‘of the roof’ and Bal. ཡ་འཛད་ *jaɣeṭ* ‘keep’. Here, we observe assimilation of voicing as the voiceless *q* > voiced *ɣ*. The features of *q* change under the influence of the following genitive *-i*, and *-i* in the words Bal. ཕྱོའི་ *pʰjoɣi* ‘of the relative’, and Bal. ཐྲོའི་ *ʈʰoɣi* ‘of the roof’ and *e* of the present tense suffix *-eṭ* in the word Bal. ཡ་འཛད་ *jaɣeṭ* ‘keep’. Additionally, this process also involves lenition as the plosive *q* changes to fricative *ɣ*.

The intervocalic velar nasal *ŋ* changes to the palatal nasal *ɲ*, as in the word Bal. ཕ་ཉེད་ *pʰaɲeṭ* ‘leave’, where the velar nasal *ŋ* becomes the palatal nasal *ɲ* with the addition of the present tense suffix -ཨེད་ *-eṭ* to the verb stem Bal. ཕང་ *pʰaŋ*

In this case the velar nasal *ŋ* palatalizes and becomes *ɲ* before the vowel *e* as it is a front vowel. This is an instance of the assimilation of place and regressive assimilation. The intervocalic bilabial nasal *m* changes to velar nasal *ŋ* for instances Bal. ཇྱ་ *bja* ‘bird’ plus ཨོ་ *mo* ‘feminine suffix’ becomes Bal. ཇྱང་ *biaŋo* ‘hen’, the word Bal. ཛོ་ *dzo* ‘the hybrid animal between yak and cow’ plus ཨོ་ *mo* ‘feminine suffix’ becomes Bal. ཛོང་ *dzoŋo* ‘the female hybrid animal between yak and cow’, Bal. བུ་ *bu* ‘offspring’ plus *mo* ‘feminine suffix’ becomes Bal. བོང་ *boŋo* ‘girl’, the word Bal. ཁྱི་ *kʰi* ‘dog’ plus *mo* ‘feminine suffix’ becomes Bal. ཁྱིང་ *kʰiŋo* ‘bitch’, and the word Bal. ལྷ་ *ɬa* ‘god’ plus *mo* ‘feminine suffix’ becomes Bal. ལྷང་ *ɬaŋo* ‘goddess’.

Balti also shows vowel assimilation. The final high front vowel *i* changes to mid front vowel *e* when it follows the mid back rounded vowel *o* and the vowel *o* changes to the bilabial glide *w*, the genitive particle *i* > *e* when it follows *o* as seen in:

- Bal. ཨོ་ *mo* ‘she’ + genitive *-i* > Bal. མྭེ་ *mwe* ‘her’
- Bal. ཁོ་ *kʰo* ‘she’ + genitive *-i* > Bal. ཁྭེ་ *kʰwe* ‘his’

Here, we observe both progressive and regressive assimilation as the following *i* changes under the influence of preceding sound *o*, indicating progressive assimilation.

2.6.2 Morphophonemic Alternation

The language also shows morphophonemic alternation. For instance the definite article *po* and its variants depent on their phonological context. The definite article *po* is used with a noun ending with a consonant for instance Bal. ཁཐའོ་ *kʰappo* 'the needle', Bal. ལག་པོ་ *laqpo* 'the hand', Bal. ཀུར་པོ་ *kʰurpo* 'the burden', Bal. བྲོད་པོ་ *broʈpo* 'the taste' while its allomorph *o* is used with a noun ending with *o* or *a*: if the noun ends with *o* it does not change for instances Bal. སྡོ་ *zɖo* 'the branch', if the noun ends with *a* the *a* > *o* for instance Bal. བི་ལ་ *bila* 'cat' becomes Bal. བི་ལོ་ *bilo* 'the cat' , and if the noun ends with *e*, it takes *o* and the *e* changes to the glide *j* for instance *pʰe* 'powder' becomes *pʰjo* 'the powder'. Noun ending with *i* takes the allomorph *u* and the *i* changes to the glide *j* for instance Bal. ཁི་ *kʰi* 'dog' becomes Bal. ཁྱུ་ *kʰju* 'the dog', and noun ending with *u* does not change for instance Bal. ཆུ་ *tʃʰu* 'water' remains Bal. ཆུ་ *tʃʰu* 'the water'.

The plural marker ཀུན་ *kun* and its variants ཨོན་ *on*, and ཨུན་ *un* also depend on its phonological environment. The plural marker ཀུན་ *kun* follows nouns ending with consonants for instances Bal. ཕྱོག་ *pʰjoq* 'relative' becomes Bal. ཕྱོག་ཀུན་ *pʰjoqkun* 'relatives', Bal. ནང་ *naŋ* 'house' becomes Bal. ནང་ཀུན་ *naŋkun* 'houses'. The allomorph ཨོན་ *on* follows nouns ending with *a* and *o*, where *a* > *o* for instance Bal. བི་ལ་ *bila* 'cat' becomes Bal. བི་ལོན་ *bilon* 'cats', while *o* remains the same having final *n* for instance Bal. སྡོ་ *zɖo* 'branch' becomes Bal. སྡོན་ *zɖon* 'branches'. The allomorph *un* follows the vowel *i* where the vowel *i* changes to the glide *j* for instance Bal. ཁི་ *kʰi* 'dog' becomes Bal. ཁྱུན་ *kʰjun* 'dogs'.

The infinitive suffix པ *-pa* and its variants བ *-ba*, ཕ *-pʰa*, མ *-ma* and ཨ *-a* are phonological context dependent as the suffix པ *-pa* follows *-k*, *-q*, *-ʈ*, and *-s* for instances Bal. ཀོག་པ་ *koqpa* 'to snatch', Bal. དུག་པ་ *ɖukpa* 'to stay', Bal. ཐིད་པ་ *pʰiʈpa* 'to pluck', Bal. ཀས་པ་ *kaspa* 'to crack'. The suffix བ *-ba* follows *-l*, and *-r* for instances Bal. ཁོར་བ་ *kʰorba* 'to revolve', and Bal. ཀོལ་བ་ *kolba* 'to use'. The suffix ཕ *-pʰa* follows *-p* for instance Bal. བབ་ཕ་ *bapʰa* 'to come down'. The suffix མ *-ma* follows the nasals *-n*, and *-ŋ* for instances Bal. ཀན་མ་ *kanma* 'to lean', Bal. ཕྱུང་མ་ *pʰjuŋma* 'to bring out'. The infinitive suffix *-a* follows all vowels.

The adjectival suffix *mo* triggers the aspiration of the voiceless bilabial plosive *p* in the word Bal. བབ་མོ་ *bapmo* 'short', derived from the verb Bal. བབ་ *bap* 'come

down'. This transformation results in the adjective Bal. བཐམོ་ *bapmo* 'short', where the final voiceless bilabial plosive *p* becomes aspirated, yielding p^h.

2.7 Diachronic Phonology

This section addresses diachronic phonology of Balti. As one of the most archaic dialects of Tibetan, (Bielmeier, 1998, p. 584), Balti preserves Literary Tibetan sounds in every position of a syllable. This section begins by examining the phonological evolution of each syllabic position in Balti in sequence: starting with pre-initials, followed by initials, medials, finals, post-finals, and concluding with vowels. Each position is analyzed in terms of maintenance, modification, emergence, or loss of a sound over time.

In the pre-initial position, Balti has preserved Literary Tibetan superscripts §2.1.1 ར *r-*, ས *s-*, and ལ *l-*. Additionally, in the pre-initial position, Balti retains reflexes of the Literary Tibetan prescripts §2.1.1 བ *b-*, and ག *g-*. The Literary Tibetan prescript ད *d-* underwent various changes in Balti. Balti has lost the Literary Tibetan prescripts མ *m-*, and འ *ɣ-* §2.7.1.

In the initial position, Balti largely preserves all Literary Tibetan base consonants corresponding to Balti initials. However, this study finds some voicing mismatches between Literary Tibetan and Balti in this position. Additionally, certain new sounds in the initial position have emerged §2.7.2, whose origin need to be explored in future research.

In the medial position , Balti also preserves Literary Tibetan subscripts §2.7.3 ྗ *-j-*, ྙ *-r-*, ླ *-l-*, and ྭ *-w-* corresponding to Balti medial ྗ *-j-*, ྙ *-r-*, ླ *-l-*, and ྭ *-w-*.

In the final position, Balti preserves the Literary Tibetan postscript §2.7.4 *-*ག *-g*, *-*ང *-ṅ*, *-*ད *-d̲*, *-*ན *-n*, *-*བ *-b*, *-*མ *-m*, *-*ར *-r*, *-*ལ *-l*, and *-*ས corresponding to Balti finals *-*ག *-k*, *-*ང *-ŋ*, *-*ད *-t̲*, *-*ན *-n*, *-*བ *-p*, *-*མ *-m*,*-*འ *-ɣ*, *-*ར *-r*, *-*ལ *-l*, and *-*ས *-s*.

In the post-final position, Balti preserves the Literary Tibetan second postscript §2.7.5 *-*ས *-s* corresponding to Balti post final *-*ས *-s* , while it has lost the second postscript *-*ད *-d*. In the nucleur position, Balti preserves all Literary Tibetan vowels: ི *-i*, ེ *-e*, ོ *-o*, ུ *-u*, and - *-a* §2.7.6.

2.7.1 Pre-initials Corresponding to Literary Tibetan Superscripts and Prescripts

. Bialek (2022, pp. 22–23) mentions that Literary Tibetan ར *r-* as superscript occurs in the following combinations: རྐ- *rk-*, རྒ- *rg-*, རྙ- *rṅ-*, རྫ- *rǰ*, རྩ- *rñ-* , རྟ- *rt-*, རྡ- *rd-*, རྣ- *rn-*, རྦ- *rb-*, རྨ- *rm-*, རྩ- *rc-*, རྫ- *rɟ-*, Literary Tibetan ས *s-* as superscript occurs in the following combinations: སྐ *sk-*, སྒ- *sg-*, སྔ- *sñ-*, སྙ- *sṅ-*, སྟ- *st-*, སྡ- *sd-*, སྣ- *sn-*, སྤ- *sp-*, སྦ- *sb-*, སྨ- *sm-*, and སྩ- *sc-*, and Literary Tibetan ལ as superscript occurs in the following combinations: ལྐ- *lk-*, ལྒ- *lg-*, ལྔ- *lṅ-*, ལྕ- *lč-*, ལྗ- *lǰ-*, ལྟ- *lt-*, ལྡ- *ld-*, ལྤ- *lp-*, ལྦ- *lb-*, and ལྷ- *lh-*. Bialek (ibid., p. 26) states that the Tibetan prescript བ- occurs in the following combinations: བཀ- *bk-*, བག- *bg-*, བཏ- *bt-*, བད- *bd-*, བཅ- *bč*, བཙ- *bc*, བཛ- *bź-*, བཟ- *bz*, བཤ- *bś* , and བས- *bs*, the Literary Tibetan prescript ག occurs in the following combinations: གཅ- *gč-*, གཉ- *gñ-*, གཏ- *gt-*, གད- *gd-*, གན- *gn-*, གཙ- *gc-*, གཛ- *gź-*, གཟ- *gz-*, གཡ- *g.y-*, གཤ- *gś-*, and གས- *gs-*, the Literary Tibetan prescript ད- occurs in the following combinations: དཀ- *dk-*, དག- *dg-*, དང- *dṅ-*, དབ- *dp-*, དབ- *db-*, and དམ- *dm-*, the Literary Tibetan prescript མ *m* occurs in the following combination: མཁ- *mkh-*, མག- *mg-*, མང- *mṅ-*, མཆ- *mč-*, མཐ- *mth-*, མད- *md-*, མཅ- *mc-*, and མཇ- *mɟ-*, and the Literary Tibetan prescript *y* occurs in the following combinations: འཁ- *ykh-*, འག- *yg-*, འཆ- *yč-*, འཇ- *yǰ-*, འཐ- *yth-*, འད- *yd-*, འཕ- *yph-*, འབ- *yb-*, འཚ- *yc-*, and འཛ- *yz-*. The following subsections reveal the preservation, change, and loss of Literary Tibetan superscripts and prescripts in Balti.

2.7.1.1 Pre-initial r Corresponding to Literary Tibetan Superscript r

The Literary Tibetan superscript ར *r-* corresponds to the Balti pre-initials: ར *r-* and *hr*. The Balti pre-initial ར *r-* occurs before voiced initials: velar plosive ག *g-*, palato-alveolar africate ཇ *ʤ-*, dento-alveolar plosive ད *d-*, bilabial plosive བ *b-*, alveolar africate ཛ *dz-*. In contrast, the Balti pre-initial ར *hr-* occurs before voiceless initials: velar plosive ཀ *k-*, dento-alveolar plosive ཏ *t-*, dento-alveolar affricate ཙ *c-*, and velar nasal ང *ŋ-*, palatal nasal ཉ *ɲ-*, and bilabial nasal མ *m-*. This is illustrated in the following itemized list:

- རྐ- *rk-*: LT.རྐུ *rku* = Bal. རྐུ *hrku* ‘steal’
- རྒ- *rg-*:LT.རྒན་པོ *rgan-po* = Bal. རྒན་པོ *rganpo* ‘old man’
- རྙ- *rṅ-*: LT.རྙ *rṅa* = Bal. རྙ *hrŋa* ‘to reap’
- རྗ- *rǰ-*: LT.རྗེད་ *rǰed-* = Bal. རྗེད *rʤed* ‘forget’

- ཉྙ- *rñ*-: LT.ཉྙིད་ *rñid*- = Bal. ཉྙིད་ *hrɲiṭ* ‘wither’
- ཏྲ- *rt*-: LT.ཏྲ་ *rta* = Bal. ཏྲ་ *hrṭa* ‘horse’
- དྲ- *rd*-: LT.དྲོ་ *rdo* = Bal. དྲོ་ *rḍo* ‘the stone’
- བྲ- *rb*-: LT.བྲན་ *rban* = Bal. བྲན་ *rban* ‘weave’
- མྲ- *rm*-: LT.མྲ་ *rma* = Bal. མྲ་ཁ་ *hrmak*^{h}*a* ‘wound’
- ཙྲ- *rc*-: LT.ཙྲིས་ *rcis* = Bal. ཙྲིས་ *hrtsis* ‘counting’
- ཛྲ-*rɟ*-: LT.ཛྲིད་ *rɟiṅ* = Bal. ཛྲིད་ *rdziŋ* ‘pond’

The itemized list shows that Balti retains Literary Tibetan clusters: ཀྲ- *rk*-, གྲ- *rg*-, ཉྲ- *rṅ*-, ཇྲ- *rǰ*-, ཉྙ- *rñ*-, ཏྲ- *rt*-, དྲ- *rd*-, བྲ- *rb*-, ཙྲ- *rc*-, མྲ- *rm*-, and ཛྲ- *rɟ*-. However, the Literary Tibetan cluster ནྲ- *rn*- changes to སྣ- *sn*- as seen in following list:

- LT.ནྲ་ *rna* > Bal. སྣ་ *sna* ‘ear’
- LT.ནྲག་ *rnag* > Bal. སྣག་ *snaq* ‘pus’
- LT.ནྲུབ་པ་ *rnurba* > Bal. སྣུབ་པ་ *snurba* ‘to pull out of the way’

These examples illustrate the shift from the cluster ནྲ- *rn*- to སྣ- *sn*-. Moreover, this study also finds Tibetan cluster ཇྲ- *rǰ*- changes to ཛྲ- *rɟ*- in the two words:

- LT.ཇྲེས་ *rǰes* > Bal. ཛྲེས་ *rdzes* ‘trace’
- LT.ཇྲེན་པ་ *rǰenpa* > Bal. ཛྲེན་ *rdzen* ‘naked/bare’

2.7.1.2 Pre-initial l Corresponding to Literary Tibetan Superscript l

The Literary Tibetan superscript ལ corresponds to the Balti pre-initials ལ *l* and ལྷ *ɬ*. The pre-initial ལ *l* precedes voiced initials: palato-alveolar affricate ཇ *ʤ*, dento-alveolar plosive ད *d̪*. In contrast, the voiceless counterpart ལྷ *ɬ* precedes voiceless initials: dento-alveolar plosive ཏ *t̪*, and palato-alveolar affricate ཅ *ʧ*. This is illustrated in the following list:

- ལྕ- *lč*-: LT.ལྕགས་ *lčags* = Bal. ལྷཙག་ *ɬʦaq* ‘iron’
- ལྗ- *lǰ*-: LT.ལྗིད་ *lǰid* = Bal. ལྗིད་ *ldʒiṭ* ‘weight’
- ལྩ- *ɬʦ*-: LT.སྩོབ་ *ltsob* = Bal. ལྷཙབ་ *ɬʦap* ‘to teach’

- ལྡ- *ld-*: LT.ལྡག་ *ldag* = Bal. ལྡག་ *l̪daq* ‘lick’
- ལྟ- *lt-*: LT.ལྟ་ *lta* = Bal. ལྟ་ *l̪ta* ‘to see/look’

The itemized list displays that Balti retains Literary Tibetan ལྕ- *lč-*, ལྗ- *lǰ-*, ལྡ- *ld-* and ལྟ- *lt-*.

However, the limited examples available suggest that *lk-* ལྐ- may evolve into ཀྲ- *hrk-*, *lg-* ལྒ- to *zg-* ཟྒ-, *lŋ-* ལྔ- to *ɣ-* འ-, *lp-* ལྤ- to *b-* བ- as seen in the following list:
LT. ལྐ- *lk-* > Bal. ཀྲ- *hrk-*

- LT. ལྐོག་མ་ *lkog-ma* > Bal. ཀྲོག་མ་ *hrkoxma* ‘throat’
- LT. ལྐུ་ *lku* > Bal. ཀྲུན་མ་ *hrkunma* ‘thief’

LT. ལྒ- *lg-* > Bal. ཟྒ- *zg-*

- LT. ལྒ་ *lga* > Bal. ཟྒ་ *zga* ‘saddle’
- LT. ལྒང་བུ་ *lgaṅ-bu* > Bal. ཟྒངྦུ་ *zgaŋbu* ‘shell’

LT. ལྔ *lṅ* > Bal. འ *ɣ*

- LT. ལྔ་ *lṅ* > Bal. འ་ *ɣ* ‘five’

LT.ལྤ- *lp-* > Bal. བ- *b-*

- LT. ལྤགས་པ་ *lpags-pa* > Bal. བགས་པ་ *bagspa* ‘skin’

Moreover, the study finds no clear traces of the loss, merger with other sounds, or transformation into distinct phonetic form for the cluster ལྦ- lb in Balti. Future research may investigate whether this cluster has been entirely lost, merged with other sounds, or transformed into a distinct phonetic form over time.

2.7.1.3 Pre-initial s- Corresponding to Literary Tibetan Superscript s-

The Literary Tibetan superscript ས- *s-* corresponds to Balti pre-initial *s-* and *z-*. The superscript *s-* occurs before voiceless and nasal initials: velar plosive *k*, dento-alveolar plosive *t̪*, palatal nasal *ɲ*, and velar nasal *ŋ*, dento-alveolar nasal *n*, bilabial nasal *m*, bilabial plosive *p*. While voiced *z-* precedes voiced initials: velar plosive *g*, dento-alveolar plosive *d̪*, bilabial plosive *b*. This is illustrated in the itemized list:

- སྐ- *sk-:* LT.སྐད་ *skat* = Bal. སྐད་ *skaṯ* ‘voice’
- སྒ *sg-:* LT.སྒོ་ *sgo* = Bal. སྒོ་ *zgo* ‘door’
- སྔ *sṅ-:* LT.སྔོན་པོ་ *sṅon-po-:* = Bal. སྔོན་པོ་ *sŋonpo* ‘green’
- སྙ- *sñ-:* LT.སྙིང་ *sñiṅ* = Bal. སྙིང་ *sŋiŋ* ‘heart’
- སྟ- *st-:* LT.སྟན་ *stan* = Bal. སྟན་ *ʂṯan* ‘mat’
- སྡ *sd-:* LT. སྡིག་ *sdig* = Bal. སྡིག་ *zḏik* ‘misery’
- སྣ-*sn-:* LT. སྣབས་ *snabs* = Bal. སྣབ་ *snap* ‘mucus’
- སྨ- *sm-:* LT.སྨན་ *sman* = Bal. སྨན་ *sman* ‘medicine’
- སྤ- *sp-:* LT.སྤྱད་ *spyad* = Bal. སྤྱིད་ *spjeṯ* ‘practice’
- སྦ-*sb-:* LT.སྦེད་ *sbed* = Bal. སྦེད་ *zbeṯ* ‘hide or conceal’

The data indicates that Balti has preserved the Literary Tibetan pre-initial ས- *s-* in the following consonant clusters: སྐ- *sk-*, སྒ- *sg-*, སྔ- *s n-*, སྙ- *s.n-*, སྟ- *st-*, སྡ- *sd-*, སྣ- *sn-*, སྤ- *sp-*, སྦ- *sb-*, and སྨ- *sm-*. In these clusters, the voicing of the pre-initial *s-* corresponds to the voicing of the following consonant. However, this study found no evidence of the Literary Tibetan cluster སྩ- *sc-* in Balti.

2.7.1.4 Pre-initial b Corresponding to Literary Tibetan Prescript b

The Literary Tibetan prescript ད *b* corresponds to the Balti pre-initials: voiced bilabial plosive ད *b* and voiceless aspirated bilabial plosive ཕ p^h. The voiced plosive ད *b* precedes voiced initials: velar plosive *g* ག, dento-alveolar plosive *ḏ* ད, palato-alveolar affricate *ʒ* ཛ, and dento-alveolar fricative *z* ཟ. In contrast, the voiceless aspirated plosive ཕ p^h precedes voiceless initials: dento-alveolar plosive *ṯ* ཏ, palato-alveolar affricate *ʧ* ཙ,alveolar fricative ཤ *ʃ* and dento-alveolar fricative ས *s*. This is illustrated in the itemized list:

- བག- *bg-:* LT.བགོ་ *bgo* = Bal. བགོ་ *bgo* ‘to divide’
- བད- *bd-:* LT.བདུན་ *bdun* = Bal. བདུན་ *bḏun* ‘seven’
- བཞ- *bź-:* LT.བཞི་ *bźi*= Bal. བཞི་ *bʒi* ‘four’
- བཟ- *bz-:* LT.བཟང་ *bzaṅ* = Bal. བཟང་ *bzaŋ* ‘good’
- བཅ- *bč-:* LT.བཅུ་ *bču* = Bal. བཅུ་ $p^hʧu$ ‘ten’

- བཏ- *bt-:* LT.བཏུལ་ *btul* = Bal. བཏུལ་ *pʰʈul* ‘tamed’
- བཤ- *bś-:* LT.བཤིག་ *bśig* = Bal. བཤིག་ *pʰʃik* ‘destroy’
- བས- *bs-:* LT.བསལ་ *bsal* = Bal. བསལ་ *pʰsal* ‘clear away’

The itemized list shows that Balti retains the Literary Tibetan clusters བག- *bg-*, བཅ- *bč-*, བཏ- *bt-*, བད- *bd-*, བཛ- *b'z-*, བཟ- *bz-*, བཤ- *b's-*, and བས- *bs-*. In these cases, the Literary Tibetan pre-initial བ- *b-* undergoes aspiration before certain obstruents, including the dento-alveolar plosive ཏ *ʈ*, the palato-alveolar affricate ཅ *tʃ*, the alveolar fricative ཤ *ʃ*, and the dento-alveolar fricative ས *s*.

The Literary Tibetan prescript བ before the base ཀ, and ཅ is lost as seen in the itemized list:

བཀ- *bk-* > Bal. ཀ- *k-*

- LT.བཀལ་ *bkal*> ཀལ་ *kal* ‘load’
- LT.བཀབ་ *bkab* > ཀབ་ *kap* ‘cover’
- LT.བཀོལ་ *bkol* > ཀོལ་ *kol* ‘use’

བཅ *bc-* > Bal. ཅ *ts-*

- LT.བཅལ་ *bcal* > ཅལ་ *tsal* ‘search’,
- LT.བཅོ་ *bco* > ཅོ་ *tso* ‘cook’,
- LT.བཅོང་ *bcoṅ* > ཅོང་ *tsoŋ* ‘onion’
- LT.བཅོན་ *bcon* > ཅོན་ *tson* ‘captive’

2.7.1.5 Pre-initial *g-* Corresponding to Literary Tibetan Prescript *g-*

The Literary Tibetan prescript ག *g* corresponds to Balti གྷ *x* and གྱ *ɣ*, where གྷ *x* precedes voiceless initials: palato-alveolar affricate *tʃ*, dento-alveolar plosive *ʈ*, alveolar fricative *s*, voiced palatal glide ཡ *j* and voiced nasal ན *n*, while གྱ *ɣ* precedes voiced initials: dento-alveolar plosive *ɖ* and alveolar fricative *z*. The pre-initials གྷ *x* and གྱ *ɣ* are illustrated in the following list:

- གྷཅ- *xč-:* LT.གྷིན་ *gčin* = Bal. གྷིན་ *xtʃin* ‘urine’
- གྷཏ- *gt-:* LT.གྷོལ་ *gtol* = Bal. གྷོལ་ *xʈol* ‘pierce’
- གྷཡ- *g.y-:* LT.གྷཡག་ *g.yag* = Bal. ཇྱག་ *xjaq* ‘yak’ , LT.ཀྱ་ *g.ya* = ཇྱ་ *xja* ‘rust’

- གཅ- *gc-:* LT.གཅར་ *gcar* = Bal. གཙར་ *xtsar* ‘to finish’
- གན- *gn-:* LT.གནམ་ *gnam* = Bal. གནམ་ *xnam* ‘sky’
- གས- *gs-:* LT.གསལ་ *gsal* = Bal. གསལ་ *xsal* ‘to be clear’
- གད- *gd-:* LT.གདངས་ *gdaṅ* =Bal. གདངས་ *ɣḍaŋ* ‘to open wide’
- གཟ- *gz-:* LT.གཟེར་ *gzer* = Bal. གཟེར་ *ɣzer* ‘nail’

The itemized list shows that in Balti, clusters such as གཅ- *xtʃ-*, གཏ- *xt-*, གད- *ɣd-*, གན- *xn-*, གཟ- *ɣz-*, གཇ- *xj-*, གཙ- *xts-*, and གས- *xs-* correspond to the following Literary Tibetan clusters: གཅ- *gč-*, གཏ- *g n-*, གཏ- *gt-*, གད- *gd-*, གན- *gn-*, གཙ- *gc-*, གཟ- *g'z-*, གཟ- *gz-*, གཇ- *g.y-*, གཤ- *g's-*, and གས- *gs-*.

However, the Literary Tibetan prescript ག- *g-* has been lost before initials ཉ- *ɲ-*, ཙ- *ts-*, and ཤ- *ʃ-* as presented in the itemized list:

LT.གཉ- *gñ-* > Bal. ཉ- *ɲ-*

- LT.གཉན་པ་ *gñan-pa* > Bal. ཉན་པ་ *ɲanpa* ‘cruel’
- LT.གཉིད་ *gñid* > Bal. ཉིད་ *ɲiḍ* ‘sleep’
- LT.གཉིས་ *gñis* > Bal. ཉིས་ *ɲis* ‘two’

LT.གཤ- *gś-* > Bal. གཤ- *ʃ-*

- LT.གཤགས་ *gśags* > Bal. ཤགས་ *ʃaqs* ‘justice’
- LT.གཤད་ *gśad* > Bal. ཤད་ *ʃaṭ* ‘comb’
- LT.གཤེགས་ *gśegs* > Bal. ཤོགས་ *ʃoqs* ‘respt. go/come’

2.7.1.6 Pre-initial *ḍ* Corresponding to Literary Tibetan Prescript *d*

The Literary Tibetan prescript ད- develops into *hr* before the initial voiceless velar plosive ཀ *k* and Literary Tibetan ད- *d* becomes ར- *r* before -*g* ག- as shown in the itemized lists:

LT.དཀ- *dk-* > Bal. ཧྲཀ- *hrk-*

- LT.དཀན་ *dkan* > Bal. ཧྲཀན་ *hrkan* ‘palate’
- LT.དཀའ་ *dka* > Bal. ཧྲཀ་ *hrka* ‘difficult’
- LT.དཀོན་ *dkon* > Bal. ཧྲཀོན་ *hrkon* ‘rare’

- LT.དཀོན་བུ *dkoṅ-bu* > Bal. ཧྐོང་བུ *hrkoŋbu* ‘the butter lamp vessel’

LT.དག- *dg-* > Bal. ཀ- *rg-*

- LT.དགུ *dgu* > Bal. ཀུ *rgu* ‘nine’
- LT.དགུན *dgun* > Bal. ཀུན *rgun* ‘winter’
- LT.དགོད *dgod* > Bal. ཀྷོད *rgoṭ* ‘laugh’
- LT.དགོས *dgos* > Bal. ཀོས *rgos* ‘need’

The Literary Tibetan དཔ- *dp-* evolves to སྤ- *sp-* as shown in the itemized list: LT.དཔ- *dp-* > Bal. སྤ- *sp-*

- LT.དཔྱ *dpya* > Bal. སྤྱ *spja* ‘tax’
- LT.དཔུང *dpuṅ* > Bal. སྤུངཔ *spuŋ-pa* ‘great number’
- LT.དཔྱོདཔ *dpyod-pa* > Bal. སྤྱོཏྤ *spjoṭpa* ‘to try’

However, one finds also an exception, where the Literary Tibetan དཔ- *dp-* changes to ཧྤ- *hrp-* in the word

- LT.དཔེ *dpe* > Bal. ཧྤེ *hrpe* ‘imitate’

This study finds the cluster དན- *dṅ-* changes to སྣ- *sŋ*-in one word:

- LT.དནན *dṅaṅ* > Bal. སྣང *sŋaŋ* ‘panic’

The cluster དན- *dṅ-* changes to ཧྨ- in one word:

- LT.དངུལ *dṅul* > Bal. ཧྨུལ *xmul* ‘money’

The Literary Tibetan LT.དབ- *db-* has changed to སྦ- *zb-* in one word:

- LT.དབུགས *dbugs* > Bal. སྦུག *zbug* ‘breath’

The Literary Tibetan LT.དབ- *db-* has evolved to གབ- *ɣb-* as illustrated in the itemized list:

- LT.དབུས *dbus* > Bal. གབུས *ɣbus* ‘center’
- LT.དབྱར *dbjar* > Bal. གབྱར *ɣbjar* ‘summer’
- LT.དབྱརཔ *dbjar-pa* > Bal. གབྱརཔ *ɣbjarpa* ‘poplar’

2.7.1.7 Literary Tibetan Prescript *m*

The itemized list shows that Balti has lost the Literary Tibetan prescript མ *m* in the pre-initial position.

- *mkh-:* LT.མཁོས་ *mkhos* > Bal. ཁོས་ *kʰos* ‘to be useful’
- *mg-:* LT.མགོ་ *mgo* > Bal. གོ་ *go* ‘head’
- *mṅ-:* LT.མངོན་ *mṅon* > Bal. ངོན་ *ŋon* ‘to become visible’
- *mč-:* LT.མཆིམ་ *mčhima* > Bal. ཆིམ་ *tʃʰima* ‘tear’
- *mth-:* LT.མཐོང་ *mthoṅ* > Bal. ཐོང་ *ʈʰoŋ* ‘to be visible’
- *md-:* LT.མདུན་ *mdun* > Bal. དུན་ *ɖun* ‘front’
- *mch-:* LT.མཆོ་ *mcho* > Bal. ཆོ་ *tsʰo* ‘lake’
- *mdz-:* LT.མཛོ་ *mȷo* > Bal. ཛོ་ *dzo* ‘a hybrid between yak and cow’

2.7.1.8 Literary Tibetan Prescript *y*

The following itemized list shows that Balti has lost the Literary Tibetan prescript *y-* in the pre-initial position.

- *ɣkh-:* LT.འཁོར་ *ɣkhor* > Bal. ཁོར་ *kʰor* ‘to roam’
- *ɣg-:* LT.འགྱུར་ *ɣgjur* > Bal. ཇུར་ *gjur* ‘to change’
- *ɣč-:* LT.འཆག་ *ɣčag* > Bal. ཆག་ *tʃʰaq* ‘to break’,
- *ɣǰ-:* LT.འཇིགས་ *ɣǰigs* > Bal. ཇིག་ *dʒig* ‘to fear’
- *ɣth-:* LT.འཐུང་ *ɣthuṅ* > Bal. ཐུང་ *ʈʰuŋ* ‘drink’
- *ɣd-:* LT.འདར་ *ɣdar* > Bal. དར་ *ɖar* ‘tremble’
- *ɣph-:* LT.འཕུར་ *ɣphur* > Bal. ཕུར་ *pʰur* ‘fly’
- *ɣb-:* LT.འབྲུ་ *ɣbru* > Bal. བྲུ་ *bru* ‘grain’
- *ɣtsʰ-:* LT.འཚུགས་ *ɣchugs* > Bal. ཙུགས་ *tsʰugs* ‘to be settled’

2.7.2 Initials Corresponding to Literary Tibetan Base

In the initial position, Balti has largely preserved Literary Tibetan base as illustrated in the itemized list:

- ཀ- *k-:* LT.ཀ་ལག་ *kalag* = Bal. ཀ་ལག་ *kalaq* 'mad'
- ཁ- *kʰ-:* LT.ཁང་ *khaṅ* = Bal. ཁང་ *kʰaŋ* 'house'
- ག- *g-:* LT.གོས་ *gos* = Bal. གོས་ *gos* 'clothes'
- ང- *ṅ-:* LT.ངུ་ *ṅu* = Bal. ངུ *ŋu* 'weep'
- ཅ- *č-:* LT.ཅི་ *či* = Bal. ཅི *ʧi* 'what'
- ཆ- *čh-:* LT.ཆང་ *čhaṅ* = Bal. ཆང་ *ʧʰaŋ* 'beer'
- ཇ- *ǰ-:* LT.མཇུག་ *ǰug* = Bal. ཇུག་ *ʤuk* 'back -side'
- ཉ- *ñ-:* LT.ཉ་ *ña* = Bal. ཉ་ *ɲa* 'fish'
- ཏ- *t-:* LT.ཏ་བག་ *tabag* = Bal. ཏ་བག་ *ṭabaq* 'a plate'
- ཐ- *th-:* LT.ཐབ་ *thab* = Bal. ཐབ་ *ṭʰap* 'hearth/fireplace'
- ད- *d-:* LT.དེ་ *de* = Bal. དེ་ *ḍe* 'that'
- ན- *n-:* LT.ནད་ *nad* = Bal. ནད་ *naṭ* 'disease'
- པ- *p-:* LT.པུ་རྩེ་ *puche* = Bal. པུ་ཙེ *putse* 'husk of barley'
- ཕ- *ph-:* LT.ཕག་ *phag* = Bal. ཕག་ *pʰaq* 'pig/swine'
- བ- *b-:* LT.བང་ *baṅ* = Bal. བང་ *baŋ* 'foot race'
- མ- *m-:* LT.མག་པ་ *magpa* = Bal. མག་པ་ *maqpa* 'son in law'
- ཙ- *c-:* LT.ཙམ་ *cam* = Bal. ཙམ་ *tsam* 'how much'
- ཚ- *ch-:* LT.ཚང་ *chaṅ* = Bal. ཚང་ *tsʰaŋ* 'nest'
- ཛ- *j-:* LT.མཛེ་ *mdzo* = Bal. ཛེ *dzo* 'the male hybrid animal between yak and cow'
- ཝ- *w-:* LT.ཝ་ *wa* = Bal. ཝ་ *wa* 'fox'
- ཞ- *ź-:* LT.ཞར་བ་ *źar-ba* = Bal. ཞར་བ་ *ʒarba* 'blind'

- ཟ- *z-:* LT.ཟངས་ *zaṅs* = Bal. ཟངས་ *zaŋs* ‘copper’
- ཡ- *y-:* LT.ཡུར་ *yur* = Bal. ཡུར་ *yur* ‘roar’
- ཡ- *y-:* LT.ཡང་ *yaṅ* = Bal. ཡང་ *jaŋ* ‘again/once more’
- ཤ- *ś-:* LT.ཤ *śa* = Bal. ཤ *ʃa* ‘meat’
- ས- *s-:* LT.ས་ *sa* = Bal. ས་ *sa* ‘earth’
- ཧ- *h-:* LT.ཧ་ *ha* = Bal. ཧ་ *ha* ‘yawn/breath’
- ཨ- *a-:* LT.ཨ་གུ་ *agu* = Bal. ཨ་ཀུ་ *aku* ‘father’s brother’

However, some mismatches occur in the voicing of certain initials, where the Tibetan voiced initials correspond to voiceless counterparts in Balti as illustrated in the itemized list:

- LT.ད་ *da* > Bal. ཏ་ *ʈa* ‘now’
- LT.དུས་ *dus* > Bal. ཏུས་ *ʈus* ‘time’
- LT.དྲུག་ *drug* > Bal. ཏྲུག་ *ʈruk* ‘six’
- LT.དྲོད་ *drod* > Bal. ཏྲོད་ *ʈroʈ* ‘warm’
- LT.དྲི་མ་ *dri-ma* > Bal. ཏྲི་མ་ *ʈrima* ‘dirt’
- LT.གར་ *gar* > Bal. ཀར་ *kar* ‘dancing’
- LT.གས་ *gas* > Bal. ཀས་ *kas* ‘crack’
- LT.ཇ་ *ʤa* > Bal. ཙ་ *ʧa* ‘tea’

The study finds an exception, where Literary Tibetan voiceless *s-* corresponds to Balti voiced *z-*.

- LT.སག་ *sag* > Bal. ཟག་ *zaq* ‘straight’

In Balti, several new sounds have emerged in the initial position, including retroflex plosives such as ཊ *ʈ*, ཋ *ʈʰ*, and ཌ *ɖ*, a retroflex fricative ཥ *ʂ*, a uvular plosive ཁ *q*, a velar fricative ཧྥ *x*, and a palatal flap ཟྥ *ɾ*. These sounds appear in a limited set of words in initial positions, as listed below: Words with an initial restroflex voiceless plosive ཊ- *ʈ-*:

- ཏག་ཏག་ *ʈaq ʈaq* ‘hard’
- ཊོང་ *ʈoŋ* ‘bucket’
- ཏག་ཏེག་ *ʈaq ʈik* ‘spotted’
- ཏུག་ཏུག་ *ʈuk ʈuk* ‘fat’
- ཏ་ཀ་ལོ་ *ʈakalo* ‘balance’
- ཇ་ཀུ་ *ʈjaku* ‘indigenous stick made from a branch of tree’
- ཏང་ཏང་ *ʈaŋʈaŋ* ‘clean’
- ཏར་ *ʈar* ‘sharp cut’
- ཏག་ *ʈaq* ‘hard’
- ཏེག་ *ʈik* ‘spot/stain’
- ཏུ་ཏུ་ *ʈuʈu* ‘throat’
- ཏུག་ཏུག་ *ʈaqʈaq* ‘very hard’
- ཏུམ་ *ʈum* ‘tight dress’
- ཏེག་ *ʈek* ‘button’
- ཏེང་གུས་ *ʈeŋgus* ‘dried bottle ground’
- ཊོང་ *ʈoŋ* ‘empty tin’
- ཊོག་ *ʈoq* ‘hill/height/bump’

Words with an initial retroplex voiceless aspirated plosive ཐ *ʈʰ*:

- ཐག་སྐམ་ *ʈʰaqskam* ‘slim/too thin’
- ཆང་ *ʈʰjaŋ* ‘to limp’
- ཐེག་ཆེག་ *ʈʰekʈʰek* ‘strong’
- ཆུབ་ *ʈʰup* ‘dark’
- ཐབ་ཆུབ་ *ʈʰapʈʰup* ‘early morning’
- ཐ་ཐ་ *ʈʰaʈʰa* ‘joke’
- ཐ་ལང་ *ʈʰalaŋ* ‘dry uncultivated land’
- ཐམ་ཐམ་ *ʈʰamʈʰam* ‘sullen/habitually silent’
- ཐག་ཙུམ་ *ʈʰaqtsum* ‘to wink constantly’
- ཆུང་ *ʈʰuŋ* ‘push’
- ཐེམ་ཐེམ་ *ʈʰesʈʰes* ‘short in height’
- ཇོ་ཇོ་ *ʈʰjoʈʰjo* ‘thump’

Words with an initial voiced retroflex plosive ད *ɖ*:

- ཌག་ *ɖaq* ‘post’
- ཌམ་བུ་ *ɖambu* ‘dambu’
- ཌང་ *ɖaŋ* ‘dram’
- ཌག་པ་ *ɖaqpa* ‘postman’
- ཌིམ་ *ɖim* ‘trunk’
- ཌིམ་ཙག་ *ɖimtʃaq* ‘woodpecker’
- ཌུག་ *ɖuk* ‘thickness’
- ཌེན་ *ɖen* ‘rag’
- ཌེན་ཌེན་ *ɖenɖen* ‘lazy’
- ཌོང་ *ɖoŋ* ‘height’

- ཅོག་ *ɖoq* 'a humpy place'
- ཅ་ལག་ *ɖalaq* 'stiff'
- ཅང་གང་ *ɖaŋgaŋ* 'for a moment'

Words with an initial retroflex fricative ཤ *ʂ*:

- ཤིང་ *ʂiŋ* 'cold'
- ཤུང་ *ʂuŋ* 'breath'
- ཤག་ *ʂaq* 'skating'
- ཤངས་ཤངས་ *ʂaŋʂaŋ* 'abuse'
- ཤག་ཤག་ *ʂaqʂaq* 'slippery'

Words with an initial voiceless velar fricative ཧ- *x*-:

- ཧ་ *xa* 'anger'
- ཧ་ཅན་ *xatʃan* 'touchy'
- ཧ་མེད་ *xameʈ* 'calm'
- ཧ་ཤོ་ *xaʃo* 'roasted fat'
- ཧར་ཧར་ *xarxar* 'rough'
- ཧལ་ *xal* 'mole'
- ཧུལ་ *xul* 'bud'
- ཧཱ་ལ་ *xal* 'sweet'
- ཧོང་བུ་ *xoŋ bu* 'deep'

Words with an initial palatal flap ཇ *ɽ*:

- ཇུང་ *ɽuŋ* 'beat'
- ཇུབ་ *ɽap* 'kill'
- ཇུབ་ *ɽup* 'numerous'
- ཇུམ་ *ɽum* 'big'

Words with an initial uvular plosive ཨ *q*:

- ཨི་ *qi* 'cry'
- ཨར་ *qar* 'woolen shawl'
- ཨ་རལ་ *qaral* 'wellbeing'

The origin of these sounds in Balti could be due to borrowing from one of the contact languages: Urdu, English, Persian, Arabic, Shina, Burushaski, Pashto, Punjabi, Ladakhi, and Puriki. They may also have evolved from other sounds or sound clusters. Future research could trace the specific origins and development of these new sounds in Balti.

2.7.3 Medial Corresponding to Literary Tibetan Subscript

In the medial position Balti retains Literary Tibetan ྱ *-y-*, ྲ *-r-*, ླ *-l-*, and ྭ *-w-* which Bialek (2022, p. 24) names subscripts as these consonants are written below the base letters in Literary Tibetan. Bialek (ibid.) states subscript ྱ occurs in the following combination: ཀྱ- *ky-*, ཁྱ- *khy-* , གྱ- *gy-*, པྱ- *py-*, ཕྱ- *phy-*, བྱ- *by-*, and མྱ- *my-*, Literary Tibetan ྲ occurs in the following combinations: ཀྲ- *kr-*, ཁྲ- *khr-*, གྲ- *gr-*, ཏྲ- *tr-*, དྲ- *dr-*, ཐྲ- *thr-*, ནྲ- *nr-*, པྲ- *pr-*, ཕྲ- *phr-*, བྲ- *br-*, མྲ- *mr-*, ཤྲ- *śr-*, སྲ- *sr-*, and ཧྲ- *hr-*, Literary Tibetan ླ occurs in the following combinations: ཀླ- *kl-*, གླ- *gr-*, བླ- *br-*, ཟླ- *zl-*, རླ- *rl-*, and སླ- *sl-*, and Literary Tibetan ྭ occurs in the following combinations: ཀྭ- *kw-*, ཁྭ- *khw-*, གྭ- *gw-*, ཅྭ- *čw-*, ཉྭ- *ñw-*, ཏྭ- *tw-*, དྭ- *dw-*, ཙྭ- *cw-*, ཚྭ- *chw-*, ཟྭ- *źw-*, ཟྭ- *zw-*, རྭ- *rw-*, ལྭ- *lw-*, ཤྭ- *św-*, སྭ- *sw-*, and ཧྭ- *hw-*. The following subsections discuss the Literary Tibetan subscripts corresponding to Balti medials.

2.7.3.1 Medial -j- Corresponding to Literary Tibetan Subscript -y-

Balti retains Literary Tibetan subscript ྱ as illustrated in the following itemized list:

- ཀྱ- *ky-:* LT.ཀྱག་ཀྱག་ *kyagkyag* = Bal. ཇྱག་ཇྱག་ *kjaqkjaq* ‘crooked’
- ཁྱ- *khy-:* LT.ཁྱེར་ *khyer* = Bal. ཁྱེར་ *kʰjer* ‘carry’
- གྱ- *gy-:* LT.གྱེན་ *gyen* = Bal. ཇྱེན་ *gjen* ‘upward’
- པྱ- *py-:* LT.དཔྱེ་ *spye.*= Bal. སྤྱེ་ *spye* ‘tax’
- ཕྱ- *phy-:* LT.ཕྱག་ *phyag* ‘hand’ = Bal. ཕྱག་ *pʰjaq* ‘prostrate’
- བྱ- *by-:* LT.བྱས་ *byas* = Bal. བྱས་ *bjas* ‘perform’
- མྱ- *my-:* LT.མྱིན་ *myiṅ* = Bal. མྱིང་ *mjiŋ* ‘name’

The itemized list shows that Balti retains Literary Tibetan ཀྱ- *ky-*, ཁྱ- *khy-*, གྱ- *gy-*, པྱ- *py-*, ཕྱ- *phy-*, བྱ- *by-*, and མྱ- *my-*.

2.7.3.2 Medial -r- Corresponding to Literary Tibetan Subscript -r-

Balti has preserved Literary Tibetan ྲ as illustrated in the following itemized list:

- ཀྲ- *kr-:* LT.བཀྲལ་བ་ *bkral-ba* = Bal. ཀྲལ་བ་ *kralba* ‘to spread out’

- ཁ- *kʰr-:* LT.ཁྲ་ *khra* = Bal. ཁ་ *kʰra* ‘eagle’
- ག- *gr-:* LT.གྲི་ *gri* = Bal. གྲི་ *gri* ‘knife’
- ཏ- *ṭr-:* LT.ཏྲིམ་ *ṭrima* = Bal. ཏྲིམོག་ *ṭrimoq* ‘kind of bee’
- ད- *ḍr-:* LT.དྲིལ་ *dril* = Bal. དྲིལ་ *ḍril* ‘wrap’
- *pʰr-:* LT.ཕྲིན་ *phrin* = ཕྲིན་ *pʰrin* ‘message’
- བ- *br-:* LT.བྲག་ *brag* = Bal. བྲག་ *braq* ‘boulder/cliff’

The itemized list shows that Balti preserves Literary Tibetan ཀ- *kr-*, ཁ- *khr-*, ག- *gr-*, ཏ- *tr-*, ད- *dr-*, ཕ, བ *phr-*, བ *br-*. Moreover the Literary Tibetan ས *sr-* changes to ཐྲ་ *ṭr-* as shown the words:

- ས- *sr-:* LT.སྲིན་བུ་ *srin-bu* > Bal. ཐྲིན་བུ *ṭrinbu* ‘vermin’
- LT.སྲིང་མོ- *sriṅ-mo* > Bal. ཐྲིང་མོ་ *ṭriŋmo* ‘sister’
- LT.སྲན་མ *sranma* > Bal. ཐྲིན་མ་ *ṭranma* ‘lentils’

2.7.3.3 Medial -l- Corresponding to Literary Tibetan Subscript -l-

The Literary Tibetan ཧ -*l-* is preserved after voiced velar plosive *g*, however the initial *g* changes to velar voiceless fricative *x* as illustrated in the itemized list:

LT.གླ- *gl-* > Bal. ཧླ- *xl-*

- LT.གླང་ *glaṅ* > Bal. ཧླང་ *xlaŋ* ‘ox’
- LT.གླད་པ *glad-pa* > Bal. ཧླཏ་པ *xlaṭpa* ‘brain’
- LT.གླུ *glu* > Bal. ཧླུ་ *xlu* ‘song’
- LT.གློ་བ *globa* > Bal. ཧློ་ *xlo* ‘lung’
- LT.གློག *glog* > Bal. ཧློག *xloq* ‘lightening’

The Literary Tibetan *l* following the initial *r* is preserved in Balti, where the initial *r* changes to *x*, as illustrated in the itemized list:

LT.རླ- *rl-* > Bal. ཧླ- *xl-*

- LT.རླངས་པ *rlaṅspa* > Bal. ཧླངས་པ *xlaŋspa* ‘steam/vapour’
- LT.རླེན་ *rlen* > Bal. ཧླེན་ *xlen* ‘moisture’

- LT.རླུང་ *rluǹ* > Bal. ཁླུཾ་ *xluŋ* ‘wind’

Bialek (2018b, p. 05) opines that all modern Tibetan dialects that preserved the complex onset *s-* plus lateral *l-* underwent metathesis *sl-* > *ls-* where she quotes the following examples from Balti:

- LT.ཟླ་བ་ *zlaba* > Bal. ལཟེ་ *lza* ‘month’
- LT.ཟློག་ *zlog* > Bal. ལཟོག་ *lzog* ‘to return’

The following examples support Bialek’s view. The voiceless dento-alveolar fricative *s* undergoes metathesis, moving to the initial position. Meanwhile, the base dento-alveolar fricative *s* changes to a dento-alveolar affricate *ʦ*, as illustrated in the itemized list:

LT.སྙ- *sl-* > Bal. ལ- *ʦ-*

- LT.སློན་ *slon* > Bal. ལྩོན་ *ʦon* ‘vomit’
- LT.སློབ་ *slob* > Bal. ལྩབ་ *ʦab* ‘teach’
- LT.སློང་ *sloǹ* > Bal. ལྩུང་ *ʦaŋ* ‘wake up’

2.7.3.4 Medial -w- Corresponding to Literary Tibetan Subscript -w-

Bialek (2022, p. 25) states that combinations with the subscript ◌ྭ are not very frequent: they are used only in loanwords and ambiguous words, with ◌ྭ being mainly graphical rather than pronounced.

Jacques (2009b, p. 141) references Laufer’s law, which says that Proto-Tibetan *-wa-* monophthongized to Old Tibetan *-o-*. However, Hill (2006, p. 83) has presented direct evidence of medial *-w-* in Old Tibetan words such as *rtswa* ‘grass’, *ɣwa* ‘fox’, *źwa* ‘hat’, and *rwa* ‘horn’. These examples contradict Laufer’s law unless the *-wa-* in these cases originates from something other than Proto-Tibetan *-wa-*.

To address Hill’s counterargument, Jacques (2009b, pp. 141–143) proposes a solution: the medial *-wa-* in these examples results from the fusion of two syllables. For instance, *ru* + *ba* becomes *rua*, which then transforms into *rwa*. This hypothesis is supported by the presence of doublets with *-u* and *-w-* variants sharing the same meaning such as <*rwa* or *ru* ‘horn’>, <*grwa* or *gru* ‘angle’>, and <*zhwa* or *zhu* ‘hat’>.

Building on this discussion of medial *-w-* in Old Tibetan, it is noteworthy that the same words cited by Hill (2006)—such as Bal. རྩྭ་ *rtswa* ‘grass’, *ɣwa* ‘fox’,

ʒwa 'hat', and *rwa* 'horn'—also appear in Balti. Additionally, Balti provides further insight into the function of medial *-w-* and *-u-* through its morphological alternation: the *-u-* form typically marks the imperative form of verbs, whereas the *-w-* form signals the optative.

- LT.ཉུ *ɲu* = Bal. ཉུས *ŋus* or Bal. ཉྭ *ŋwa* 'to weep'
- LT.ཐུ *thu* = Bal. ཐུས *ʈʰus* or Bal. ཐྭ *ʈʰwa* 'pick up'
- LT.ཕུ *pʰu* = Bal. ཕུས *pʰus* or ཕྭ *pʰwa* 'fuel burning'
- LT.དགུ *dgu* = Bal. སྒུས *zgus* Bal. སྒྭ *zgwa* 'bow down'

Moreover, Balti also has medial *-w-* in the following combinations:

- *kw-:* LT.ཀོར *kor* = Bal. ཀྭར *kwar* 'round'
- *khw-:* LT.ཁོང *khoŋ* = Bal. ཁྭང *kʰwaŋ* 'himself'
- *tw-:* LT.ཏྭ *ʈwa* 'iron pan'
- *cw-:* LT.རྩྭ *rtswa* = Bal. རྩྭ *hrtswa* 'grass'
- *rw-:* LT.རྭ *rwa* = Bal. རྭ *rwa* 'horn'

2.7.4 Finals Corresponding to Literary Tibetan Postscript

Bialek (2022, p. 21) states that only ten letters may take the place of a postscript: *-*ག *g*, *-*ང *ŋ*, *-*ད *-d*, *-*ན *-n*, *-*བ *-b*, *-*མ *-m*,*-*འ *-ɣ*, *-*ར *-r*, *-*ལ *-l*, and *-s* *-*ས. Hill (2010, p. 122) mentions that Literary Tibetan coda consonants are pronounced voiceless, and hence, pro pausa, the Literary Tibetan postscripts correspond to Balti finals: *-*ག *-k*, *-*ང *-ŋ*, *-*ད *-ʈ*, *-*ན *-n*, *-*བ *-p*, *-*མ *-m*,*-*འ *-ɣ*, *-*ར *-r*, *-*ལ *-l*, and *-*ས *-s*. Balti retains all the finals as shown in the itemized list:

- *-k* LT.ཁྲག *khrag* = Bal. ཁྲག *kʰraq* 'blood'
- *-d* LT.བྱེད *byed* = Bal. བྱེད *bjeʈ* 'do'
- *-ŋ* LT.མིང *miŋ* = Bal. མིང *miŋ* 'name'
- *-n* LT.ལེན *len* = Bal. ལེན *len* 'obtain'
- *-m* LT.འཐུམ *ɣthum* = Bal. ཐུམ *ʈʰum* 'wrap'
- *-s* LT.རྩིས *rcis* = Bal. རྩིས *hrtsis* 'counting'

- *-l* LT.རྒྱལ་ *rgyal* = Bal. རྒྱལ་ *rgjal* ‘victory’
- *-r* LT.ཕུར་ *phur* = Bal. ཕུར་ *pʰur* ‘fly’

The Literary Tibetan velar plosive *-g* splits into *-k* and *-q*, where these two sounds are in complementary distribution, as discussed in §2.1.1. Additionally, the study finds a single instance *xaʃ* ‘love’ where the alveolar voiceless fricative *-ʃ* occurs in the final position.

Furthermore, the Literary Tibetan final velar voiced plosive *-g* changes to *-x* when it occurs between the post-final *-s* and the vowel *a* or *o*. The cluster is written as *-གས* while using Tibetan for Bati , as illustrated in the itemized list:

LT.*-གས -gs* > Bal. *-གས -xs*

- LT.ཁོག་ *khogs* > Bal. ཁོགས་ *kʰoxs* ‘cough’
- LT.མྱོག་ *mgyogs* > Bal. ཇོགས་ *gjoxs* ‘to be fast’
- LT.རྒྱགས་ *rgyags* > Bal. རྒྱགས་ *rgjaxs* ‘to sprout’

2.7.5 Post Finals Corresponding to Literary Tibetan Second Postscript

Bialek (2022, p. 21) states that only two letters are allowed to take the position of the second postscript: *-d* *-ད*, and *-s* *-ས*. In Literary Tibetan *-s* *-ས* as second postscript occurs with *-g*, *-ŋ*, *-b*, and *-m*. Balti retains the Literary Tibetan *-ས* *-s* postscript after *-g*, *-ŋ*, *-b*, and *-m* as illustrated in the itemized list:

- LT.རྒྱགས་ *rgyags* > Bal. རྒྱགས་ *rgjaxs* ‘to sprout’
- LT.སྐམས་ *skams* = Bal. སྐམས་ *skams* ‘dry’
- LT.འཕངས་ *ɣphaṅs* = Bal. འཕངས་ *pʰaŋs* ‘threw’
- LT.ཁེབས་ *khebs* = Bal. ཁེབས་ *kʰeps* ‘spread’

Moreover, in Literary Tibetan, the second postscript consonant *-ས* *-s* does not occur after all final consonants and does not specifically mark the past tense. In contrast, in Balti, the post final *-ས* *-s* follows all final consonants and functions explicitly as a past tense marker as illustrated in the itemized list:

- *-k* བཆགས་ *pʰʃaqs* ‘cut’
- *-d* བཟེངས་ *pʰseʦs* ‘cut into pieces’

- *-ŋ* སྡུངས་ *stṛuŋs* ‘guarded’
- *-n* སྐོན་ *skons* ‘dressed’
- *-m* སྐོམས་ *skoms* ‘became thirsty’
- *-l* ཧྲྀལ་ *hrkjals* ‘swam’
- *-r* སྐར་ *skars* ‘weighed’
- *-p* རྟིབས་ *rṭips* ‘destroyed’

According to Zhang (1986, pp. 47–49), the Tibetan second postscript *-d* -ད་ had largely disappeared from pronunciation by the ninth century. Zhang observes that, after this period, the post-final letter *-d* no longer appears in written documents or dictionaries, nor it is found as a post-final consonant in modern Tibetan pronunciation. However, she notes a tonal distinction in words that historically ended with a post-final-*d* compared to those that did not. Zhang speculates that prior to its disappearance, the post-final *-d* may have first shifted to a glottal stop in specific contexts, a change that may have influenced the tone development in these words. Zhang's analysis further suggests that *da-drag* appears most frequently in past tense verb forms, leading her to hypothesize a possible semantic function related to tense in these contexts. Zhang states that *da-drag* occurs with postscripts: *-n*, *-r*, and *-l*. Balti has lost the Old Tibetan post final *-d* -ད་ after *-n*, *-r*, and *-l* as presented in the itemized list:

- *-nd:* OT.གོན་ད་ *gond* > གོན་ *gon* ‘wear’
- *-rd:* OT.ཁེར་ད་ *kherd* > ཁེར་ *kʰer* ‘take away’
- *-ld:* OT.བསྐོལ་ད་ *bskold* > སྐོལ་ *skol* ‘boil’

2.7.6 Vowels Corresponding to Literary Tibetan Vowels

In the position of nucleus V, Balti retains all the five vowels as shown in the itemized list.

- *i-:* LT.རི་ *ri* = Bal. རི *ri* ‘hill’
- *a-:* LT.བལ་ *bal* = Bal. བལ་ *bal* ‘wool’
- *o-:* LT.སྐོམ་ *skom* = Bal. སྐོམ *skom* ‘thirsty’
- *u-:* LT.སྣུར་ *snur* = Bal. སྣུར་ *snur* ‘shift’

- *e-:* LT.ཕྱེ *phye* = Bal. ཕེ *pʰe* 'powder'

Moreover, Zemp (2006) states that Written Tibetan *e* corresponds to *ja* in Purik. Similarly, in Balti, Written Tibetan *e* aligns with Balti *ja*, as demonstrated in the following list:

- LT.ཐེན་ *theṅ* > Bal. ཇྱང་ *ʈʰjaŋ* 'limb'
- LT.གདེང་ *ɣdeṅ* > Bal. གཇང་ *ɣdjaŋ* 'hope'
- LT.ཐེག་ *theg* > Bal. ཇྱག་ *ʈʰjaq* 'be able to lift'
- LT.ཁེངས་ *kheṅs* > Bal. ཁྱངས *kʰjaŋs* 'get stiff'

Later Jacques (2009a, pp. 2–4) notes that all the corresponding Literary Tibetan forms are closed syllables ending with velar, which Zemp overlooked. This pattern indicates that the *e* > *ja* correspondence occurs specifically before velar consonants, in closed syllables. While *e* remains *e* in open syllables or followed by non-velar as illustrated in the itemized list:

- LT.མེ་ = Bal. མེ *me* 'fire'
- LT.ཤེས་ = Bal. ཤེས *ʃes* 'knowledge'
- LT.ལེན་ = Bal. ལེན *len* 'obtain'
- LT.འདྲེས་ = Bal. དྲེས *dres* 'mixture'
- LT.མེད་ = Bal. མེད *meʈ* 'not'

2.8 Background of Balti Phonological Studies

Balti language was studied by various linguists. Vigne (1842), Austen (1866), Read (1934), and Lobsang (1995) employed romanized versions of the Balti sound system for various purposes. They neither studied the sound system of the language nor gave any detail about how they identified the elements of sound system.

Sprigg (1967), and Bielmeier (1985) have studied the language's sound system. Sprigg (1967) elaborated the articulatory features of the Balti sounds, Bielmeier (1985) employed minimal pairs for identifying sound segments in the langauge. This study discusses each of the studies by associating the symbols they employed with possible IPA symbols. In the available recorded history,

Vigne (1842) used a Roman letters to register words from the Balti language in compiling his vocabulary of Balti language. Although, he gives no details about his Romanisation system. The Balti vocabulary consists of 88 words including food stuff: <*khurba*> 'bread', <*karha*> 'sugar' and <*chuli*> 'apricots' ; natural objects: <*myh*> 'fire', <*hish*> 'air', <tchuch> 'water', <*snum*> 'sky' and <*sah*> 'earth' ; verbs: <*astris*> 'ask', <*min*>'give', <*songh*> 'go' and <*ongh*> 'come' ; mankind: <*bussa*> 'a man', <*pruh*> 'a boy' and <*bunuh*> 'a girl' ; animals: <*hyak*> 'grunting ox' and <*khipo*> 'dog' ; colors: <*marfo*> 'red', <*serfo*> 'yellow' and <*hunpo*> 'green' ; positions: <*yer*> 'above' and <*turu*> 'beneath' ; adjectives: <*kurker*> 'strong', <*jewan*> 'young' ; numerals from one <*chich*> to twenty <*nishu*> consecutively then from twenty to hundred <*bygah*> having every 10th number and finally including thousand <*stong*>. The Balti words in their Romanized form suggest that Vigne does not elaborate his Romanisation system which is as for as we know unique to him. However, this study has integrated his romanized consonant system with possible IPA symbols in table 2.23. The first column shows the symbol employed by Vigne, the second column displays the words mentioned by him, the third column exhibits the English equivalents mentioned by him and the last column shows a possible IPA symbol.

Table 2.23 shows that Vigne employs 23 consonants for registering the 88 Balti words. The analysis reveals that he uses eight plosive consonants, possibly articulated from three places of articulations: bilabial *p*, *pʰ* and *b*, dento-alveolar *t̪ʰ* and d, and velar *k*, *kʰ* and *g*; three nasals consonants, possibly articulated from three places of articulations: bilabial *m*, alveolar *n* and velar *ŋ*; five fricatives, possibly articulated from three places of articulation: alveolar *s* and *z*, palato-alveolar *ʃ* and glottal *h*; three affricates, possibly articulated from two places of articulation: palato-alveolar *ʧ*, *ʧʰ* and *ʒ* and dent-alveolar *ʦ*; two laterals, possibly articulated from one place of articulation: alveolar *ɬ* and *l*; one trill, articulated from one place of articulation: palatal retroflex *r*; and one glide, articulated from one place of articulation: palatal *j*.

His main aim was to register a list of Balti words. Hence for registering a very small number of words he used the above-mentioned limited set of consonants. However, this study finds a little inconsistency in the use of some of these consonants, as he did not notice the unaspirated *k*, aspirated *kʰ*, and plosive *q* and randomly used the three as in the word <*kahra*> *kʰahra* 'sugar' instead of using the aspirated *kʰ* he used its unaspirated counterpart *k*, in the same way, he employed the unaspirated *k* in the word <*kar*> *qar* 'blanket' instead

Symbol used Vigne	Balti Words	English Equivalent	IPA
p	<*appo*>	Old	*p*
f	<*marfo*>	Red	p^h
b	<*brok*>	Hill	*b*
d	<*dring*>	Today	*d*
th	<*thung*>	Plain	$\underset{\cdot}{t}^h$
k	<*karha*>	Sugar	*k*
kh	<*khur*>	Castle	k^h
g	<*gund*>	Land Paying No Rent	*g*
m	<*myh*>	Fire	*m*
n	<*snum*>	Heaven	*n*
ng	<*thung*>	Plain	*ŋ*
s	<*sah*>	Earth	*s*
z	<*zes*>	Day Before Yesterday	*z*
sh	<*sheshik*>	Bad	*ʃ*
h	<*hish*>	Air	*h*
ch	<*chuli*>	Apricot	*tʃ*
tch	<*tchuch*>	Water	$tʃ^h$
j	<*starsji*>	Tree	*j*
ts	<*tsuh*>	Lake	*ts*
l	<*lum*>	Way	*l*
hl	<*hla-mo*>	Fairies	*ɬ*
r	<*urgon*>	Grapes	*r*
y	<*yakpah*>	Kernel	*j*

Table 2.23: Integration of Vigne's Romanized Balti Consonants with Possible IPA Symbols

of using *q*, as it is pronounced as *qar*. He also did not adequately distinguish between the unaspirated *p* and its aspirated counterpart p^h. For example, in the word <*khipo*> k^hiph^ho 'male dog', he used the unaspirated *p* in place of the aspirated p^h. Furthermore, for the aspirated, plato-alveolar $tʃ^h$ he used <*tch*> as in the word <*tchuch*> $tʃ^hu$ 'water'. I think, he used the symbol *t* with <*ch*> for aspiration as he used <*ch*> for its unaspirated counterpart in the word <*chuli*> *tʃuli* 'apricot'.

In addition to the consonant sounds, he also used five vowel sounds <*a*>, <*u*>, <*i*>, <*o*>, <*e*>. This study has associated the vowel sounds with possible IPA symbols in the table 2.24.

Symbols	Balti Words	English Equivalent	IPA
a	<*sah*>	Earth	*a*
i	<*min*>	Air	*i*
e	<*yer*>	Above	*e*
u	<*chuli*>	Apricot	*u*
o	<*cho*>	King	*o*
A	<*Appo*>	Old	*a*

Table 2.24: Integration of Vigne's Balti Vowels with IPA

The table 2.24 illustrates that the vowel *a* in the word <*sah*> is probably the short, front, unrounded, half open vowel *a*, the vowel *i* in the word <*min*> is the short, front, unrounded, close vowel *i*, the vowel *e* used only once in the word <*yer*> *jar*, now it is pronounced as *jar*, it might be typo error or it might be used *e* in the past. Although *e* does exit in the language as in the word *ʃe̱t* 'die' but he does not use it. It might be the front, half close, unrounded, and short vowel *e*. The vowel *u* is probably the short, back, rounded, close vowel *u*, and *o* is probably the short, back, rounded, half open vowel *o* and the upper case <*A*> might be typo error as mentioned in the word <*Appo*> *apo*.

Moreover, in the use of vowel, this study finds him more inconsistent as compare to consonants, as he uses the vowel *u* in the words; <*chuli*> *tʃuli* 'apricot', <*khur*> k^hur, and <*thung*> $t̪^haŋ$ 'plain'. In the word <*chuli*> *tʃuli* the *u* sound is quite in accordance with the present-day pronunciation of the word <*chuli*> *tʃuli* 'apricot' but the word <*khur*> k^har, 'castle' is pronounced with *a* instead of *u* and it is k^har 'castle' with *u* the word k^hur, instead means burden. As Vigne is an English speaker, probably, he treats *u* as *a* just like the English *u* letter as in the word 'bus'.

Austen (1866) also used a Romanised system for registering words from the Balti language in his compilation of 2,000 Balti words.

Austen (ibid.) also did not provide any details about the Romanization system he used. The list include names of the body parts: <*Ḱami Gŭt*> 'wrist', <*Thóah*> 'belly', <*Ŕuspa*> 'bone' and <*kosko*> 'chin' ; food and drinks: <*ḱurba*> 'bread', <*karpo marh*> 'butter', <*biepjhun*> 'egg' and <*shă*> 'meat' ; trades: <*Garba*> 'blacksmith', <*Shingkŭn*> 'carpenter', <*Lukzi*> 'Shephard' and <*Heelŭm*> 'Tailor' ; mankind: <*Bḧu*> 'boy', <*Bḧumo*> 'girl', <*Me*> 'man' and <*Ḃustring*> 'woman' ; animals: <*Snango*> 'camel', <*Drengmo*> 'bear', <*Billa*> 'cat' and <*Khi*> 'dog'; fruits and grains: <*Cḧuli*> 'apricot', <*Ḱusḧu*> 'apple', <*nŭs*> 'barley', and <*kro*> 'wheat' ; natural objects and phenomena: <*rhi*> 'Hill or Mountain', <*tso*> 'lake', <*cḧumik*> 'spring' and <*bosut*> 'thunder' ; metals: <*Bremaŕus*> 'Brass', <*ser*> 'gold' and <*zangz*> 'copper' ; diseases: <*mendok*> 'apscess', <*makha*> 'wound' and <*shipiri*> 'leprosy' ; tools: <*Ťseŕe*> 'axe', <*Tẃa*> 'anvil', <*arah*> 'saw' and <*kŭp*> 'needle' ; days of the week: <*Adi*> 'Sunday', <*Tsundral*> 'Monday', <*anǵaru*> 'Tuesday' and <*Boḑu*> 'Wednesday' ; miscellaneous adjectives: <*sṅingmah*> 'aged', <*shishik*> 'bad', <*chogo*> 'big' and <*ghŭt*> 'deaf' ; verbs: <*ong*> 'come', <*tsong*> 'go', <*khiong*> 'bring' and <*kerh*> 'take away' ; numeral: <*chick*> 'one', <*nis*> 'two', <*jsŭm*> 'three' and <*bijhi*> 'four' ; and relationships: <*Mingmo*> 'brother', <*Stringmo*> 'sister', <*Apo*> 'grandfather', <*Ango*> 'mother' and <*Atah*> 'father' .

This study has associated the consonant sounds used by Austen with the possible IPA symbols in table 2.25. Table 2.25 has four columns; column I displays the symbols used by Austen. In this column, most of the symbols are in upper case and some are in lower case as per, used by Austen; he usually used the initial consonant in a syllable in upper case as mentioned in column I and the rest in lower case, column II shows Balti words taken from the list compiled by Austen, column III exhibits their English counterpart and column IV shows the possible IPA symbols.

Austen (ibid.) employs 26 consonants to register 2,000 Balti vocabulary. Just like Vigne (1842), Austen (1866) uses seven plosives, possibly articulated from three places of articulation: bilabial *p* and *b*, dento-alveolar *t̪ʰ* and *d* and velar *k*, *kʰ* and *g*; three nasals, possibly articulated from three places of articulation: bilabial *m*, alveolar *n*, and velar *ŋ*; six fricatives, possibly articulated from four places of articulation; labio-dental *f*, alveolar *s* and *z*, palato-alveolar *ʃ* and glottal *h*; three affricates, possibly articulated from two places of articu-

Symbols	Balti Words	English Equivalent	IPA
P	<*Bŭkhphe*>	flour	p^h
P	<*Prŭkhpa*>	Arm	p
B	<*Bŭkhmo*>	Knee	b
T	<*Tūk*>	Poison	$\underset{.}{t}$
Th	<*Thŭkpa*>	Meet	$\underset{.}{t}^h$
D	<*Dundul*>	Sieve	d
K	<*Kosko*>	chin	k
Kh	<*khŭlpŭkh*>	Lip	k^h
G	<*Go*>	Head	g
M	<*Mŭngŭl*>,	Cheek	m
N	<*Nŭng*>	House	n
Ng	<*Nŭng*>	House	$ŋ$
S	<*sminma*>	brow	s
Z	<*Zermu´ns*>	nail	z
Sh	<*She`*>	Flesh	$ʃ$
Jh	<*Bajho*>	Water Jar	$ʒ$
H	<*Heelum*>	Tailor	h
Ch	<*Chu chu*>	Breast	$tʃ$
Zg	<*Zgema*>	Neck	$dʒ$
Ts	<*Tsa*>,	Vein	$\underset{.}{ʦ}$
tS	<*tSongpa*>	Merchant	$\underset{.}{ʦ}^h$
Th	<*Thoa'h*>	Belly	$ɬ$
L	<*Lukpa*>	Hand	l
Y	<*yung*>	Haldi	j
R	<*Ruspa*>	Bone	r
W	<*Phrawŭn*>	Spoon	w
sT	<*sTah*>	Horse	hr
ṛY	<*rYamtso*>	River	rg
rD	<*rDoah*>	Stone	rd

Table 2.25: Integration of Austen's Balti Consonants with IPA Symbols

lation: palato-alveolar *ʧ*, *ʧʰ*, and *ʒ*, and dento-alveolar *ʦ*; two laterals, possibly articulated from one place of articulation: alveolar *ɬ* and *l*; one trill, possibly articulated from one place of articulation: palatal retroflex *r*; and one glide, possibly articulated from one place of articulation: palatal *j*. In addition, he also uses the bilabial voiceless aspirated plosvie *pʰ*, dento-alveolar voiceless plosive *t̪*, and labio-dental voiceless fricative *f*. Moreover, he also used the symbols <*sT*>, <*rY*> and <*rD*> for the consonant clusters *hr*, *rg* and *rd* respectively.

In addition to consonant sounds, he used the following symbols to present the vowels. This study has associated the vowel' symbols used by Austen with possible IPA symbols in table 2.26 .

Symbols	Balti Words	English Equivalent	IPA
a	<*Ka´mi Gŭt*>	Ankle	*a*
i	<*Sminma*>	Brow	*i*
ŭ	<*Prukpa*>	Arm	*a*
u	<*Ru´spa*>	bone	*u*
u	<*Chu chu*>	Breast	*u:*
o	<*Kosko*>	Chin	*o*
a	<*ru´spa*>	Bone	*a*
‘e	<*sh`e*>	Meat	*a*
e	<*zermu´ns*>,	Nail	*e*

Table 2.26: Integration of Austen's Balti Vowels with IPA

Table 2.26 shows that Austen used <*a*>, <*e*>, <*i*>, <*o*> and <*u*> like Vigne. In addition to the five vowels he also used <*a´*>, <*ŭ*>, <*u´*>, and <*`e*>. The vowels with the superscript might represent some prosodic features.

Read (1934) developed a Romanized systematic Version of Balti sound system including 39 consonant sounds and 7 vowel sounds. Read (ibid., pp. 1–2) gave the list of the sounds with English examples and some articulatory features of some sounds. Read also did not give any detailed account of how he identified the sounds. He introduced this system to cope with the disappearance of the Tibetan script from the region as Read mentions

> The script is no longer in use, the only course open to us is to produce a system of roman phonetics, representing as near as possible the colloquial pronunciation (1934, p. 1).

In table 2.27 this study has associated Read's Romanized system with the possible IPA symbols by employing two sources; the features of some of the sounds given by him and the Balti words from the vocabulary section given at the end of the book. In the table, some of the features' column cells are filled while some are blanked according to the features given by him.

Table 2.27 reveals that Read (ibid.) finds 40 consonants. Read uses thirteen plosives, possible articulated from four places of articulation: bilabials <*p*> *p*, <*ph*> p^h, <*b*> *b* and <*ḅ*> *b*, dental <*t*> *t̪*, <*th*> $t̪^h$ and ,<*d*> *d̪*, palatal <*ṭ*> *ʈ* and <*ḍ*> *ɖ*, velar <*k*> *k*, <*kh*> k^h, <*g*> *g*, and uvular <*q*> *q*; three nasals, possibly articulated from three places of articulation: bilabial <*m*> *m*, alveolar <*n*> *n*, and velar <*n͡g*> *ŋ*, nine fricatives possibly articulated from six places of articulation: labiodental <*f*> *f*, alveolar <*s*> *s* and <*z*> *z*, palate-alveolar <*sh*> *ʃ*, and <*j*>, <*J̄*> *dʒ*, velar <*kh*> *x* and <*g̣*> *ɣ*, glottal <*h*> *h* and palatal <*sh*> *ʂ*; six affricates, possibly articulated from two places of articulation: palate-alveolar <*ch*> *tʃ*, <*chh*> $tʃ^h$, <*J̄*> *ʒ* and <*dz*> *dz* and dento-alveolar <*ts*> *ts* and <*tsh*> ts^h; two lateral possibly articulated from one place of articulation: palatal fricative <*hl*> *ɬ* and palatal approximant <*l*> *l*; two glides, possibly articulated from two places of articulation: bilabial <*w*> *w* and palatal <*y*> *j*; one flap articulated from one place of articulation: palatal <*ṛ*> *ɽ*; and two trills, possibly articulated from one place of articulation: palato-alveolar <*r*> *r*, and its aspirated counterpart <*hr*>. In addition, he also uses the unreleased <*ḅ*> *b* as a distinct phoneme in the words <*thoḅ thoḅ ran ran*> 'absurd', <*las theb*> 'extra work', but he is inconsistent in the use of <*ḅ*> *b* as in the borrowed words from Urdu, and *b* on the coda position in multi-syllabic words, Read (ibid.) uses the usual *b* as in the borrowed word <*hisab*> 'count' and multi-syllabic words <*rgyabla*> 'afterward'. Read (ibid.) also mentions two symbols for the same palate-alveolar voiced fricative <*j*>, and <*J̄*> *dʒ*; as <*J̄*> is mentioned only in the list he gives at the onset of the book but in the rest of the book he uses only <*j*> *dʒ*. Bielmeier (1985, p. 52) discussing Read "double consonant" <*dz*> states that <*dz*> can be found only in a few documents. Furthermore, he states that the palate-alveolar affricate *dz* shows a strong tendency to change with *z* in the Tibetan etyma of Balti.

This study associates Read's Romanized version of the vowel sounds with possible IPA symbols, following the English words mentioned with each vowel sound and the Balti words containing the relevant sounds, as provided in the vocabulary section at the end of the book. Read found seven vowel including

Symbols	Features	Words	English Meaning	IPA
p	labial	<*limik po*>	The key	*p*
b	Labial	<*bu*>	Son	*b*
ḅ	hardly distinguishable from p	<*thaḅ thoḅ ran ran*>	Illogical	*b*
ph	labial strongly aspirated	<*byaphu*>	Bird	p^h
t	Dental	<*tam*>	Word	*t*
th		<*thil*>	Bottom	t^h
d	Dental	<*dā*>	Arrow	*d*
ṭ	Palatal	<*ṭek*>	Button	*ʈ*
ḍ	tip of tongue touching palate	<*danda*>	Stick	ɖ
k		<*kule*>	Slow	*k*
kh		<*khutbya*>	Cut short	k^h
g		<*gar*>	Where	ɡ
q	Guttural	<*qar*>	blanket	*q*
m	like English 'm'	<*malsa*>	Place	*m*
n	Dental	<*nas*>	Barley	n
ng	nasal as in si'ng' ing	<*hiliṅg*>	Noise	*ŋ*
f	Labial	<*frishta*>	Angel	*f*
s		<*skyurba*>,	Leave	*s*
z		<*zamba*>	Bridge	*z*
sh		<*hish*>	Breath	*ʃ*
$\overline{J}$		<*jing*>	Field	*ʒ*
kh	Guttural	<*khnam*>	Sky	*x*
g̲	Guttural	<*doga*>	Manner	*ɣ*
h	strong aspirate	<*hiling haling*>	Making noise	*h*
ch	like in '<*chin'*>	<*chik*>	One	*tʃ*
chh	aspirated 'ch'	<*chhibji*>	Evidence	$tʃ^h$
j	without breathing as judge	<*jukla*>	After	dʒ
$\overline{\overline{J}}$	heavy like z tip of the tongue up high on the plate	<*j̄ūs pi mar*>	Melted butter	*dʒ*
ts		<*tsalba*>	Search	*ts*
tsh		<*tshoq*>	Thorn	ts^h
dz	like ds in the word 'ends'			dz
sh	tongue against the palate	<*shaq shaq*>	Slippery	ʂ
hl		<*hltwa*>	Abdomen	ɬ
l	like english 'l'	<*lyakhmo*>	Good	*l*
w	like English 'w'	<*walaphro*>	Carrot	w
y	like in 'young'	<*yadpa*>	Existed	*j*
r		<*ras*>	Cloth	*r*
ṛ		<*phaṛa*>	Bald	*ɽ*
hr		<*hrtsya*>	Dance	*r̥*

Table 2.27: Integration of Read's Balti Consonants with IPA Symbols

five short vowels: <a>, <e>, <i>, <o>, <u> and two long vowels: <ā>, and <ī>.

Symbols	Balti Words	English Words	English Example	IPA
a	<*rampa*> <*thaqpa*>	root rope	<Mud>	*a*
ā	<*gā phang*>	refile	<Father>	*a:*
e	<*kyelbu*> <*zer*>	sack speak	<Men>	*e*
i	<*itu*>	remember	<In>	*i*
ī	<*n͡gīs*>	two	<Beet>	*i:*
o	<*chhos*>	religion	<Top>	*o*
u	<*luspo*>	remainder	<Pull>	*u*

Table 2.28: Integration of Read's Balti Vowels with IPA

Table 2.28 shows that same like Vigne and Austen, Read also uses five vowels probably having the same features. In addition, he also finds phonemic vowel length for the vowels *i* and *a* as mentioned in the words; <*n͡gīs*> 'two' and <*gā phang*> 'gun'. I think, if the words are pronounced with the short vowels *i* and *a*, they do not change the meanings. He also uses English words to explain Balti vowels as for illustrating the vowel *a* in the word <*rampa*> 'root', he uses English word <*mud*> the vowel uses in the word 'mud' *mʌd* is the central, half open, unrounded short vowel ʌ, while I think the vowel uses in the word *rampa* is the front, half close, unrounded, short vowel *a*.

Bielmeier (1985, p. 51) states that Read distinguishes the five vowel from written Tibetan. Furthermore, Bielmeier finds Read very inconsistent in the use of the long vowels. Bielmeier quotes the examples <*kwā* > 'to hear' p.78 and <*kwa*> p.97, <*hrtā*> 'horse' p.77 and <*hrta*> p. 98. Bielmeier (ibid.) also states that Read (1934) also consistently uses the loanwords from the Arabic, Persian or Urdu with long <ā> *a:* written, if such presents in the loan language, e.g. <*hisāb*> 'account', <*kb.udā* > 'god', <*ālu*> 'potato' etc.

Sprigg (2002, pp. 4–13) has used a Romanized system in his Balti-English English Balti-Dictionary for the Balti sounds. Sprigg mentions

> The spelling, I have used in this dictionary is phonological rather than phonetics; so, it is necessary to give an account of the pronunciation appropriate to the various letters: their phonetic values may depend on the position they occupy in the word (2002, p. 4).

Sprigg used letters for phonemes as he assigned phonetic values, and artic-

ulatory features, to the letters. Furthermore, he mentioned that the phonetic values of the phoneme letter depend on their occurrence in the position of the word or lexical item. Here, I think he used words and lexical items for syllables. He used various symbols for Balti phonemes which have been explained in the preliminary pages 4 to 13. For the first time, he elaborated the sound system of the language by assigning articulatory features: place of articulation, manner of articulation, voicing, and aspiration to each of the consonant sounds. He categorized the sound system into plosive, fricative, affricate, nasal, lateral, roll, and vowel in terms of the manner of articulation and bilabial, dental, labiodental, alveolar, labio-alveolar, post alveolar, post dental, and velar in terms of the place of articulation. The phonetic values given by him to different phonemes letter at syllable initial position have been associated with IPA symbols in the table below. The table has five columns; column one indicates the symbols used by him, column two displays the features of the each sound given by him, column three displays the words registered by him in the dictionary along with my IPA transcription, column four shows English translation, and column five specifies the possible IPA symbols.

The table 2.29 reveals that Sprigg uses 30 consonants. He finds nine plosives, possibly articulated from three places of articulation: bilabial <*p*> *p*, <*ph*> *pʰ* and <*b*> *b*, dental <*t*> *t̪*, <*th*> *t̪ʰ* and <*d*> *d̪*, and velar <*k*> *k*, <*kh*> *kʰ*, <*g*> *g*; three nasals possibly articulated from three places of articulation: bilabial <*m*> *m*, alveolar <*n*> *n* and velar <*ng*> *ŋ*; eight fricatives possibly articulated from five places of articulation: alveolar <*s*> *s* and <*z*> *z*, palate-alveolar <*sh*> *ʃ* and <*zh*> *ʒ*, palatal <*yh*> *ç*, velar <*kh*> *x* and <*gh*> *ɣ* and glottal <*h*> *h*; three affricates possibly articulated from two places of articulation: alveolar <*c*> *ʧ* and <*ch*> *ʧʰ* and dento-alveolar <*ts*> *ʦ* and <*tsh*> *ʦʰ*; two lateral articulated from one place of articulation: alveolar <*hl*> *ɬ* and <*l*> *l*; two rolls articulated from one place palato-alveolar: <*r*> *r* and <*rh*> *ɾ̥*; and three glides articulated from two places of articulation: palatal <*y*> *j* and <*yh*> and bilabial <*w*> *w*. In addition to the above-mentioned consonants, he used palatal voiced affricate <*j*>, post dental voiceless plosive <*T*>, post-dental voiced plosive <*D*>, velar plosive <*gh*>, and glottal plosive <*aa*> in the borrowed words from Arabic, Persian, and Urdu.

In addition to the consonant sounds Sprigg (2002) also discusses the vowels which are elaborated in the table 2.30.

According to Sprigg (ibid.), the context determines the features of a vowel e.g. *a* is open, spread, front after the consonants; <*c*>, <*ch*>, <*j*>, <*sh*>,

Symbols	Features	Words	English	IPA
p	Bilabial, plosive, voiceless	<*pyangpyang*>	Thin	*p*
b	Bilabial, plosive voiced	<*ba*>	cow	*b*
ph	Bilabial, plosive, voiceless, aspirated Khapalu Labial, non-aspirated Skardu	<*phul*>	Push	p^h
t	Dental, plosive, voiceles	<*tam-lo*>	Saying	t̪
th	Dental, plosive, voiceless, aspirated	<*thok*>	Roof	$t̪^h$
d	Dental, plosive, voiced	<*dak mo*>	Housekeeper	d̪
k	Velar, plosive, voiceless	<*kral*>	Divide	*k*
kh	Velar, plosive, voiceless, aspirated	<*khon*>	Jealousy Ashamed	k^h
g	Velar, plosive, voiced	<*garba*>	Blacksmith	*g*
m	Bilabial, nasal, voiced	<*mar*>	Butter	*m*
n	Dental, nasal, voiced	<*nam langs*>	Becoming morning	*n*
ng	Velar, nasal, voiced	<*nga*>	I pronoun	*ŋ*
s	Alveolar, fricative, voiceless	<*sak*>	All	*s*
z	Alveolar, fricative, voiced	<*zak*>	Leak	*z*
sh	Plato alveolar, fricative, voiceless	<*shes*>	Know	*ʃ*
zh	Plato alveolar, fricative, voiced	<*zhim bo*>	Tasty	*ʒ*
x	Velar, fricative, voiceless	<*xash*>	Kindness	*x*
gh	Velar, fricative, voiced	<*ghul*>	Rotting wood	*ɣ*
h	Labio-velar, vowel, Voiceless	<*hamba*>	Slow, weak Courage	*h*
c	Palate-Alveolar, affricate, voiceless	<*cak*>	Break	*ʧ*
ch	Palate-Alveolar, affricate, voiceless, aspirated	<*chot*>	Accomplish	$ʧ^h$
ts	Alveolar, affricate, voiceless	<*tsam-tse*>	How much	*ts*
tsh	Alveolar, affricate,voiceless, aspirated	<*tshok*>	Thorn	ts^h
l	Alveolar, lateral, voiced	<*ldak*>	Lick	*l*
lh	Alveolar, lateral, voiceless	<*lha*>	idol	*ɬ*
r	Alveolar, roll, voiced	<*rbul*>	Snake	*r*
rh	Alveolar, roll, voiceless	<*rhak*>	Skating place	r̥
y	Plato-alveolar, vowel, Voiced	<*ya*>	Put, place	j
yh	Plato-alveolar, vowel, voiceless	<*yhok*>	Cover	*ç*
w	Labio-velar, vowel, Voiced	<*wa*>	Fox	*w*

Table 2.29: Integration of Sprigg's Balti Consonants with IPA

Vowels	Voicing	Syllabic	Openness	Roundness
a	Voiced	syllabic	open	
i	Voiced	syllabic	close	spread
u	Voiced	syllabic	close	round
e	Voiced	syllabic	half close	spread
o	Voiced	syllabic	half close	round

Table 2.30: Features of Sprigg's Balti Vowels

<zh>, <y>, and <ah> and otherwise the same vowel a is open, spread, and back.

Bielmeier (1985, pp. 49–71) discusses the sound system and the syllable structure of the Balti language. Bielmeier (ibid., pp. 57–58) first ever used minimal pairs for identifying different consonant and vowel sounds in Balti. As for as consonants are concerned, he first discusses the individual sounds with articulatory features and later on provided minimal pairs.

This study has integrated the consonant sounds with the possible IPA symbols in the table 2.31. The table 2.31 has three columns; column I displays the symbols used by Bielmeier, column II features the sounds given by him and column III shows the possible IPA symbols.

The table 2.31 shows that he finds 35 consonants. His study explores 12 plosives articulated from four places of articulation: bilabial <p> p, <ph> p^h and <b>, dentio-alveolar <t> t̪, <th> $t̪^h$ and <d> d̪, velar <k> k, <kh> k^h and <g>g and retroflex <ṭ> ʈ, <ṭh>$ʈ^h$ <ḍ> ɖ; three nasals articulated from three places of articulation: bilabial <m> m , alveolar <n> n and velar <ṅ> ŋ; seven fricatives, articulated from four places of articulation: alveolar <s> s and <z> z, palate-alveolar <š > ʃ and <ž> ʒ, velar <x> x and <ɣ> ɣ, glottal <h> h; eight affricates articulated from three places of articulation: dento-alveolar <ts> ʦ and <tsh> $ʦ^h$, palate-alveolar <č> ʧ, <čh> $ʧ^h$ and <dž> ʤ, retroflex <ṭr> ʦ̣, <ṭrh> $ʦ̣^h$ and <ḍr> ʤ̣; two laterals articulated from one place of articulation: alveolar fricative <ɬ> ɬ and approximant <l> l; one trill articulated from one place of articulation: palato-alveolar <r> and two glides articulated from two places of articulation: palatal <j> j and bilabial <w> w.

Bielmeier (ibid., p. 51) identified five vowel a, e, i, o, and u in the text.

Table 2.31 displays that the symbols used by Bielmeier is in aligned with IPA. Bielmeier (ibid.) for the first-time carries out phonemic analysis by us-

Symbols	Features	IPA
p	bilabial voiceless closure	p
ph	bilabial aspirated closure	p^h
b	bilabial voiced closure	b
t	dentoalveolar voiceless closure	t̪
th	dentoalveolar aspirated closure	$t̪^h$
d	dentoalveolar voiced closure	d̪
k	velar voiceless closure	k
5kh	velar aspirated closure	k^h
g	velar voiced closure	g
ṭ	retroflex closure voiceless	ʈ
ḍ	retroflex voiced closure	ɖ
ṭh	retroflex aspirated closure	$ʈ^h$
ts	dentoalveolar affricate	ts
tsh	dentoalveolar affricate	ts^h
č	palatoalveolar affricate	ʧ
čh	palatoalveolar affricate	$ʧ^h$
dž	palatoalveolar affricate	ʤ
ṭr	retroflex affricate voiceless	ʈʂ
ṭrh	retroflex aspirated affricate	$ʈʂ^h$
ḍr	retroflex voiced affricate	ɖʐ
s	dentoalveolar voiceless fricative	s
z	dentoalveolar fricative voiced	z
š	palatoalveolar voiceless fricative	ʃ
ž	palatoalveolar voiced fricative	ʒ
x	post velar voiceless fricative	x
ɣ	post velar voiced fricative	ɣ
h	glottaler voiceless fricative	h
ł	Lateral	ɬ
l	Lateral	l
r		r
m	nasal plosive	m
n	nasal plosive	n
ṅ	nasal plosive	ŋ
j	Glide	j
w	Glide	w

Table 2.31: Integration of Bielmier's Balti Consonant Phonemes with IPA

ing minimal pairs and finds the aforementioned vowels. Although, he does not discuss the features of the vowels. They might have the features: *i* front, unrounded, close; *a* front, unrounded, half open; *e* front, unrounded, and half open *u* back, rounded close; *o* back, rounded, half close.

Lobsang (1995, p. 1) employed a Romanized system. Lobsang (ibid.) claims that his Romanized system is phonemic and Lobsang (ibid., pp. 17–19) also mentions IPA symbols along with the symbols he has used.

Lobsang (ibid.) uses 34 consonants. He for the first time uses the IPA symbols along with the consonant symbols employed by him. He uses ten plosives, articulated from four places of articulation: bilabial <*p*> *p*, <*ph*> p^h and <*b*> *b* dentio-alveolar <*t*> *t̪*, <*th*> $t̪^h$ and <*d*> *d̪* velar <*k*> *k*, <*kh*> k^h and <*g*> *g* and uvular <*q*> *q*; three nasals, articulated from three places of articulation: bilabial <*m*> *m*, alveolar <*n*> *n*, and velar <*ng*> *ŋ*; six affricates articulated from two places of articulation: dento-alveolar <*ts*> *ts*, <*tsh*> ts^h, <*dz*> *dz* and palate-alveolar <*ch*> *tʃ*, <*chh*> $tʃ^h$, <*dj*> *dʒ*; seven fricatives articulated from four places of articulation: alveolar <*s*> and <*z*>, palate-alveolar <*š*> *ʃ* and <*ž*> *ʒ*, and velar <*x*> *x* and <*ɣ*> *ɣ* and glottal <*h*>; two laterals <*ɬ*> *ɬ* and approximant <*l*> *l*; two trills articulated one place of articulation: dento-alveolar voiceless <*hr*> and voiced *r*> and two glides articulated from two places of articulation: palatal <*j*> *j* and bilabial <*w*> *w*.

Lobsang (ibid.) uses five vowel sounds *a*, *e*, *i*, *o*, and *u*, and like Bielmeier he thinks that the vowel length is non-phonemic.

2.8.1 Conclusion

The analysis of the previous studies reveals that Vigne (1842), Austen (1866), Read (1934), Lobsang (1995), Sprigg (2002), and Bielmeier (1985) each uses or studies the sound segments of Balti language. The review of these studies indicates that Vigne and Austen each just uses a set of Romanized symbols for registering Balti words. They did not discuss anything about the Romanization system employed by them.

Read (1934) for the first-time studies the sound system of the language, he uses a Romanised set of symbols, for writing a Balti Grammar and along with these symbols, he mentions the articulatory features of some of the symbols, and he also adds an English word with each sound to elaborate the features of each sound. About half century later, Bielmeier (1985) studies the sound

system for writing a Balti Grammar. He uses minimal pairs and identifies the consonants and vowels. Once, he explores the set of consonants, he also adds the articulatory features of the consonant sounds. His study is the most extensive and elaborated one till now. Later on, Lobsang (1995) also uses a Romanized system of Balti sounds; he mentions a list of Romanized symbols along with the IPA counterparts of each symbol employed by him for writing Balti Grammar. It seems that he has taken these symbols from Read' s and Bielmeier' s studies. Sprigg (2002) also discusses the sound system of Balti language for writing his Balti-English English-Balti Dictionary. His study shows that the features of the sounds depend on its linguistic context. He opines that the context determines the features of a sound. He classifies the consonants occur in onset position into different types on the bases of the manner of articulation and place of articulation. This study reviews all these studies and finds some agreements and some controversies which are dealt with here. In terms of bilabial plosives all of the previous studies are in agreement that there are three series of bilabial plosives plain voiceless p, voiceless aspirated p^h and voiced b. There is disagreement among them about the dental, dento-alveolar, and palatal retroflex plosives; Read (1934) and Sprigg (2002) each mentions three series of dental plosives; plain voiceless t, voiceless aspirated t^h, and voiced d, while Bielmeier (1985) and Lobsang (1995) each mentions three series of dento-alveolar plosives; plain voiceless $\underset{\sim}{t}$, voiceless aspirated $\underset{\sim}{t}^h$ and voiced $\underset{\sim}{d}$, Read (1934) finds two series of palatal plosives; plain voiceless $\underset{\sim}{t}$, and its voiced counterpart $\underset{\sim}{d}$, Bielmeier (1985) employs three series of palatal retroflex plosives; plain voiceless $\underset{\sim}{t}$, voiceless aspirated $\underset{\sim}{t}^h$, and voiced $\underset{\sim}{d}$ while Sprigg (2002) and Lobsang (1995) do not find any palatal retroflex plosives. In terms of the velar plosives there is no disagreement among the previous researchers. Each of they uses three series of velar; plain voiceless k, voiceless aspirated k^h, and voiced g. Read (1934) and Lobsang (1995) each finds one series of uvular; plain voiceless q, while Sprigg (2002) and Bielmeier, 1985 do not find a uvular. In terms of the nasals and fricatives they are quite in agreement except the labio-dental fricative f and retroflex fricative $\underset{\sim}{s}$. Each of they employs three nasals; bilabial m, alveolar n, and velar ŋ, and seven fricatives; voiceless alveolar s, voiced alveolar z, voiceless palate-alveolar ʃ, voiced palate-alveolar ʒ, voiceless velar x, voiced velar ɣ and glottal h. In addition, Read (1934) also finds a bilabial fricative f and a retroflex fricative $\underset{\sim}{s}$ and Sprigg (2002) finds a palatal fricative ç. As for as affricates are concerned, they have some controversies; as for as alveolar affricates are concerned, they are quite in agreement that each finds three series of alveolar affricates; voiceless tʃ,

voiceless aspirated *ʧʰ*, and voiced *ʤ*, while in terms of dento-alveolar affricates Read finds two series of dento-alveolar; voiceless *ʦ* and its voiced counterpart *ʦʰ*, Sprigg, Bielmeier and Lobsang find three series of dento-alveolar; voiceless *ʦ*, voiceless aspirated *ʦh* and voiced *ʤ*. In addition to the alveolar and dento-alveolar affricates, Beilmeier finds another set of affricates; the palatal retroflex affricates; voiceless *ʈʂ*, *ʈʂʰ*, and *ɖʐ*. In terms of lateral, the analysis of previous studies indicates that there is no disagreement among them as each of the previous studies comes up with two lateral the fricative *ɬ*, and approximant *l*. The analysis of the glide shows that they are in agreement; each of the previous studies finds two glides; *j* and *w*. The analysis of the variants of trill indicates that Read, Sprigg and Lobsang each finds two variants of trill *r*, and *rʰ* while Bielmeier finds one *r*.

In addition to the above mentioned controversies, the most extensive and elaborative study of Bielmeier considers the consonant cluster *ʈr*; voiceless retroflex closure *ʈ* and plato-alveolar trill *r* as a single consonant voiceless retroflex affricate <*ṭr*>, the consonant cluster *ʈhr* voiceless aspirated palatal retroflex *ʈʰ* and palate-alveolar trill *r* as a single consonant voiceless retroflex aspirated affricate <*ṭrh*>, the consonant cluster *ɖr* voiced palatal retroflex *ɖ* and the palate-alveolar trill *r* as a single consonant voiced retroflex affricate <*ḍri*>. He used in the minimal pair <*ṭri*> 'smell' and <*ḍri*> 'knife' where the <*tr*> is a clear cluster of voiceless retroflex closure *ʈ* and palato-alveolar trill *r* and <*ḍri*> is clear cluster of voiced palatal retroflex *ɖ* and the palate-alveolar trill *r*. Moreover, he missed the palatal nasal voiced sound *ɲ*, and voiceless uvular plosive *q*. Furthermore, he categorized the bilabial nasal *m*, alveolar nasal *n*, and velar nasal *ŋ* as plosives but I think the three sounds are not plosives. Just like the consonant sounds, there are some agreements and some controversies in the use and identification of vowels. All of they use five vowels probably having the following features;

Vowels	Fronting	Rounding	Opening
i	front	unrounded	close
a	front	unrounded	half open
e	front	unrounded	half open
u	back	rounded	close
o	back	rounded	half close

In addition to the aforementioned vowels, Read and Sprigg think that vowel length is phonemic, while Bielmeier and Lobsang think that vowel length is non-phonemic. Although, there is controversy between Read, and Sprigg, Read considers vowel length partially phonemic as he finds phonemic difference among *i* and *iː* and *a* and *aː* while Sprigg thinks that the phonemic difference is not partial as he mentions the long counterparts of each short vowel. Hence, the controversies among the previous studies lead to go in depth of the sound system of the language: by investigating the consonants and vowel systems. The consonants system is studied by incorporating minimal pairs, contrastive, acoustic, and articulatory analysis and vowel system by looking into the forntness, openness, and length of the vowels in the previous sections.

Chapter 3

Description of The Noun Phrase

In Balti a noun phrase in its simplest form consists of a noun as its head, such as Bal. བངཿ *baŋ* 'cow'. Alternatively, a pronoun can serve as the head of a noun phrase, as in Bal. ཁོ *kʰo* 'he'. A noun phrase consists of at least a noun or pronoun as its head. However, it may also include possessives, demonstratives, ordinal numerals, adjectives, plural markers, articles, cardinal numerals, and case markers. In Balti all the modifiers precede head nouns. The possible modifiers in a noun phrase include:

- Possessor [POS]
- Demonstrative [DEM]
- Ordinal Number [ORD]
- Adjective [ADJ]
- Noun [N]

Modifiers can combine with nouns to form more complex noun phrases. For instance, a demonstrative [DEM] may precede a noun, as shown in example 1.

(1) དེ་བངཿཡོ

de baŋ-po
DEM COW-DEF

That cow

Similarly, a genitive marker [GEN] may introduce possession, as presented in examples 2, and 3.

(2) ངའི་བང་པོ་

ŋi baŋ-po
I-GEN COW-DEF

My cow

(3) བང་ཨི་རྩྭན་དོ་

baŋ-ŋi dʒunɖo
cow-GEN tail

The tail of a cow.

Both [GEN] and [DEM] can co-occur as illustrated in example 4.

(4) ངའི་དེ་བང་པོ་

ŋi de baŋ-po
I-GEN DEM COW-DEF

That cow of mine

Ordinal numerals [ORD] can also combine with nouns, as shown in example 5.

(5) གོ་པི་བང་པོ་

gopi baŋ-po
ORD COW-DEF

The first cow

Demonstratives and possessives can modify such phrases, leading to combinations as illustrated in examples 6 and 7.

(6) དེ་གོ་པི་བང་པོ་

de gopi baŋ-po
DEM ORD COW-DEF

That first cow

or

(7) ངའི་གོཡི་བང་པོ་

ŋi gopi baŋ-po
I-GEN ORD COW-DEF

My first cow

A fully expanded structure, including [POS], [DEM], [ORD], and the noun, is illustrated in example 8.

(8) ངའ་དེ་གོཡི་བང་པོ་

ŋi de gopi baŋ-po
I-GEN DEM ORD COW-DEF

That first cow of mine

An adjective [ADJ] also serves as a modifier and generally precedes the noun, as exemplified in 9.

(9) རྒ་ཤ་བང་པོ་

rgaʃa baŋ-po
beautiful COW-DEF

The beautiful cow

The adjective can be combined with possessives or demonstratives, resulting in structures such as 10, and 11.

(10) Bal. ངའ་རྒ་ཤ་བང་པོ་

ŋi rgaʃa baŋ-po
I-GEN beautiful COW-DEF

My beautiful cow

or

(11) དེ་རྒ་ཤ་བང་པོ་

de rgaʃa baŋ-po
DEM beautiful COW-DEF

That beautiful cow

The elaborated form includes [POS], [DEM], [ADJ], and the noun, as illustrated in the example 12.

(12) ངི་དེ་རྒ་ཤ་བང་པོ་

ŋi de rgaʃa baŋ-po
I-GEN DEM beautiful cow-DEF

That beautiful cow of mine

The fully expanded noun phrase includes [POS], [DEM], [ADJ], [ORD] and [N] as shown in example 13.

(13) ངི་དེ་རྒ་ཤ་གོ་པི་བང་པོ་

ŋi de rgaʃa gopi baŋ-po
I-GEN DEM beautiful first cow-DEF

That beautiful first cow of mine

In Balti all modifiers including [GEN] [DEM] [ORD] and [ADJ] precede head nouns. While, the grammatical categories including plural marker, definite marker, and case marker follow the head noun as shown in examples 14, 15, and 16.

(14) བང་ཀུན་

baŋ-kun
cow-PLU

The cows

(15) བང་པོ་

baŋ-po
cow-DEF

The cow

(16) བང་པོ་སི་རྩྭ་ཟོས་

baŋ-po-si hrstwa zos
cow-DEF-ERG grass eat-PST

The cow ate grass.

Moreover, cardinal numbers and quantifiers follow head nouns, where the article and case marker come after the cardinal number and quantifiers as illustrated in example 17.

(17) བང་ཧིས་པོ་སི་རྩྭ་ཟོས་

baŋ ɲis-po-si hrstwa zos
cow CARD.DEF.ERG grass eat-PST

The two cows ate grass.

The description of the noun phrase begins with an analysis of nouns §3.1 and their internal structure, following with a discussion of pronouns §3.2. Next, the chapter explores the peripheral elements of the noun phrase, such as possessives §3.3, demonstratives §3.4, ordinal numerals §3.6, and adjectives §3.5. This chapter then investigates the grammatical categories of Balti nouns including number (singular and plural) §3.7.2, definiteness (definite and indefinite) §3.7, and cases §3.8. It then proceeds to relator noun §3.9 followed by an exploration of cardinal numerals §3.10, and quantifiers §3.11, and finally it concludes 3.12 this section.

3.1 Noun

A noun is the only essential element of a noun phrase in Balti and can function as the subject or the object in a clause. A noun can also function as an adjunct. Balti nouns exhibit a variety of internal structures including monosyllabic nouns §3.1.1, disyllabic nouns §3.1.2 and compound nouns §3.1.3 which may consist of more than two syllables.

3.1.1 Monosyllabic Nouns

A substantial number of Balti nouns are monosyllabic and encompass a wide range of semantic categories, including body parts, people, animals, grains, places, and time periods. Body parts are represented by nouns such as Bal. མིག་ *mig* 'eye', Bal. སྣ་ *sna* 'ear', Bal. ཁ་ *kʰa* 'mouth', Bal. སོ་ *so* 'tooth', Bal. གོ་ *go* 'head', Bal. རལ་ *ral* 'hair', Bal. སྙིང་ *ʂniŋ* 'heart', Bal. གདོང་ *ɣdoŋ* 'face', and Bal. བྲང་ *braŋ* 'chest'. Monosyllabic nouns for people include Bal. བུ་ *bu* 'child', Bal. ཕྲུ་ *pʰru* 'boy', and Bal. མི་ *mi* 'man'. Monosyllabic nouns for animals names include Bal. གླང་ *xlaŋ* 'ox', Bal. ཝ་ *wa* 'fox', Bal. ར་ *ra* 'goat', Bal. གཟན་ *xʧan* 'leopard', Bal. སྐིན་ *skin* 'ibex', Bal. བང་ *baŋ* 'cow', and Bal. ལུ་ *lu* 'sheep'. Monosyllabic nouns for grains include Bal. ནས་ *nas* 'barley', Bal. ཀྲོ་ *kro* 'wheat', Bal. བྲོ་ *bro* 'buckwheat', and Bal. བྲས་ *bras* 'rice'. Monosyllabic nouns for places include Bal. ཞིང་ *ʒiŋ* 'field', Bal. ལ་ *la* 'mountain pass', Bal. ཡུལ་ *jul* 'village', Bal. ཐང་ *tʰaŋ* 'plain', Bal. བྲག་

braq 'mountain' and Bal. རི་ *ri* 'hill'. Monosyllabic nouns for time periods include Bal. ཉིན་ *ɲin* 'day', Bal. ཚན་ *tsʰan*, 'night', Bal. ཞག་ *ʒaq* 'day' Bal. ལྷ་ *lza* 'month', and Bal. ལོ་ *lo* 'year'.

3.1.2 Disyllabic Nouns

The majority of Balti nouns are disyllabic. A significant number of disyllabic nouns are unanalyzable and belong to specific semantic domains. These include names for body parts such as Bal. ཀོསཀོ *kosko* 'chin', Bal. སྣམ་སུལ་ *snamsul* 'nose', Bal. མིག་ཤོག་ *migʃoq* 'eyebrow', Bal. རོས་ཏོད་ *rostoʈ* 'shoulder', Bal. ཀྲིམོད་ *krimoɲ* 'elbow', Bal. སེན་རོ་ *senmo* 'finger', Bal. ཁམ་ཇུ་ *kʰamtʃu* 'lips'; clothing items like Bal. ཙེ་ནུ་ *tsenu* 'trousers', Bal. ན་ཊིད་ *naʈiɲ* 'hat', Bal. དཱ་ཁོན་ *daxon* 'veil'; fruits such as Bal. ཨོ་སེ་ *ose* 'berry', Bal. ཆུ་ལི་ *tʃuli* 'apricot', Bal. སྟ་རྒ་ *ʂtarga* 'walnut', Bal. ཀུ་ཤུ *kuʃu* 'apple', Bal. ཕ་ཊིད་ *pʰaʈiɲ* 'dried fruit', Bal. ཡཱ་པ་ *jaqpa* 'seed', and Bal. ཇུ་ཌི་ *ɲuɖi* 'pear'; plants and vegetables like Bal. པ་འན་ *paɣan* 'tomato', Bal. ཛ་ག་ *tʃazga* 'ginger', Bal. སྒོ་གཔ་པ་ *zgogpa* 'garlic', Bal. སྟག་ཛི་ *ʂtaqʒi* 'tree'; and social relations, including Bal. བོ་ཉོ་ *boɲo* 'girl', Bal. ཨ་ཞེ་ *aʃe* 'elder sister', Bal. ཨ་ཕི་ *api* 'grandmother', Bal. ཨ་ཊ་ *aʈa* 'father', Bal. ཨ་ཉོ་ *aɲo* 'mother', Bal. ཕོ་ནོ་ *pʰono* 'younger brother', Bal. ཀ་ཀ་ *kaka* 'elder brother', Bal. མ་ཇུང་ *matʃuŋ* 'maternal aunt', and Bal. ནེ་ནེ་ *nene* 'paternal aunt'.

A notable subset of Balti disyllabic nouns end with -བ་ *-ba*, as an integral part of their structure. These include nouns such as Bal. ཟམ་བ་ *zamba* 'bridge', Bal. ཤར་བ་ *ʃarba* 'people of a village', Bal. ཁུར་བ་ *kʰurba* 'bread', Bal. ཁྱོར་བ་ *kʰjorba* 'two handfuls', Bal. གར་བ་ *garba* 'blacksmith', Bal. གསོལ་བ་ *xsolba* 'coal', Bal. སྤལ་བ་ *spalba* 'forehead', and Bal. གཟེར་བ་ *ɣzorba* 'sickle'. In these words, -བ་ *-ba* is an integral part of the stem, and the word does not carry a coherent meaning without -བ་ *-ba*.

Another significant number of disyllabic Balti nouns end with -མ་ *-ma* such as Bal. ལོ་མ་ *loma* 'leaf', Bal. ཨོ་མ་ *oma* 'milk', Bal. ཉི་མ་ *ɲima* 'day', Bal. ཐྲིམ་ *ʈʈima* 'sides of the abdomen', Bal. ཐྲིང་མ་ *ʈʈiŋma* 'heel', Bal. བྱ་མ་ *bjama* 'sand', Bal. ཇུར་མ་ *jurma* 'weeding', Bal. ཁོ་རམ་ *xorma* 'date palm', Bal. ཆི་མ་ *tʃʰima* 'tear', Bal. ཞན་མ་ *ʒanma* 'stranger', Bal. རེ་མ་ *rema* 'thorn', Bal. ཆིན་མ་ *tʃʰinma* 'liver', Bal. རྒྱུ་མ་ *rgjuma* 'intestine', Bal. སྨིན་མ་ *sminma* 'eyebrow', Bal. ཤོ་མ་ *ʃoma* 'mushroom', Bal. ཐ་མ་ *ʈʰama* 'brink', Bal. རྡུང་མ་ *rduŋma* 'beam of wood', Bal. ཕྱག་མ་ *pʰjaxma* 'broom', Bal. ན་མ་ *nama* 'wife', Bal. སྐྱིང་མ་ *skjiŋma* 'ear of corn', Bal. ཚོན་མ་ *tsʰonma* 'spinach', Bal. ཏྲི་མ་ *ʈrima* 'dirt', Bal. ཕང་མ་ *pʰaŋma* 'lab', Bal. སྐྱེར་མ་ *skjerma* 'hot chilli', and Bal. ཞིང་མ་ *ʒiŋma* 'neck'. In these words, -མ་ *-ma* is an integral part of the stems,

and the words do not carry coherent meanings without -ས་ *-ma*.

A significant number of disyllabic nouns are bimorphemic. These disyllabic nouns are typically formed by adding a suffix to an existing noun or a verb stem. Subsection 3.1.2.1 explores the combination of noun stems with noun suffixes, while subsection 3.1.2.2 focuses on the combination of verb stems with noun suffixes.

3.1.2.1 Derivation of Nouns from Noun Stems

A significant number of Balti disyllabic nouns end with the following suffixes:

- -པ་ *-pa*
- -མོ་ *-mo*
- -ཕོ་ *-pʰo*
- -བུ་ *-bu*
- -ཙེ་ *-tse*

These suffixes are used to derive new nouns and to mark the stem as a noun. The following discussion presents each of these suffixes, arranged from the most productive to the least productive.

3.1.2.1.1 -པ་ *-pa* The suffix -པ་ *-pa* attaches to certain noun stems to form new nouns, where the suffix -པ་ *-pa* plays various functions: -པ་ *-pa* indicates a person who has something to do with the abstract notion indicated by the noun stems. For examples Bal. ཆོས་པ་ *tʃʰospa* 'follower of a religion' from Bal. ཆོས་ *tʃʰos* 'religion', Bal. ཚོང་པ་ *tsʰoŋpa* 'trader' from Bal. ཚོང་ *tsʰoŋ* 'trade', Bal. དགག་པ་ *braqpa* 'climber' from Bal. དགག་ *braq* 'mountain', Bal. ཁང་ཐིད་པ་ *kʰaŋʃiṭpa* 'neighbour' from Bal. ཁང་ཐིད་ *kʰaŋʃiṭ* 'next house', Bal. གྲོན་པ་ *gronpa* 'guest' from Bal. གྲོན་ *gron* 'feast', Bal. ནད་པ་ *naṭpa* 'ill person' from Bal. ནད་ *naṭ* 'disease', Bal. ལས་པ་ *laspa* 'worker' from Bal. ལས་ *las* 'work', Bal. བེས་པ་ *bespa* 'foreigner' from Bal. བེས་ *bes* 'away from one's homeland', Bal. ཕྱོགས་པ་ *pʰropa* 'companion' from Bal. ཕྱོགས་ *pʰro* 'company', Bal. སྣོན་པ་ *ʂnopa* 'people in the groom's procession party' from Bal. སྣོན་ *ʂno* 'groom's procession party', Bal. ལིངས་པ་ *liŋspa* 'hunter' from Bal. ལིངས་ *liŋs* 'hunt', Bal. སྐྱེད་པ་ *sagjeṭpa* 'farmer' from Bal. སྐྱེད་ *sagjeṭ* 'farming agriculture'.

In each of these instances -པ་ *-pa* suffix indicates a person who has something to do with the abstract notions indicated by the stems.

The suffix -པ *-pa* also follows a place name indicating a person belonging to that place. Here, if the place name ends with a consonant, it regularly takes -པ *-pa* such as Bal. ཁར་མང་པ *kʰarmaŋpa* 'a man from ཁར་མང་ *kʰarmaŋ*', Bal. བྱེ་སིལ་པ *bresilpa* 'a man from བྱེ་སིལ *bresil*', and Bal. ས་ལིང་པ *saliŋpa* 'a man from ས་ལིང་ *saliŋ*' etc. and if the place name ends with a vowel, it can either take *-pa* or *-wa*. e.g., Bal. སྐར་དོ་པ *skardopa* or Bal. སྐར་དོ་ཝ *skardowa* 'a man from སྐར་དོ *skardo*', Bal. རོན་དུ་པ *rondupa* or Bal. རོན་དུ་ཝ *ronduwa* 'a man from རོན་དུ *rondu*', Bal. ཞ་པུ་ལུ་པ *xapulupa* or Bal. ཞ་པུ་ལུ་ཝ *xapuluwa* 'a man from ཞབ་ལུ *xaplu*', Bal. ཧེ་པི་པ *hepipa* or Bal. ཧེ་པི་ཝ *hepiwa* 'a man from ཧེ་པི *hepi*'. In these examples Bal. -པ *-pa* or Bal. -ཝ *--wa* indicates male gender. Moreover, the morpheme Bal. -པ་རྗོ *-paŋo* or Bal. -ཝ་རྗོ *-waŋo* indicates female gender such as Bal. སྐར་དོ་པ་རྗོ *skardopaŋo* or Bal. སྐར་དོ་ཝ་རྗོ *skardowaŋo* 'a woman from སྐར་དོ *skardo*', and Bal. རོན་དུ་པ་རྗོ *rondupaŋo* or Bal. རོན་དུ་ཝ་རྗོ *ronduwaŋo* 'a woman from རོན་དུ *rondu*'. Read (1934, p. 4) confirms that the suffix Bal. -པ *-pa* is used to denote a male native of a district or village, while Bal. -པ་རྗོ *-paŋo* marks a female native. Furthermore, the suffix Bal. -པ *-pa* also performs the same function with some adverbs as Bal. ཨི་ནར་པ *inarpa* 'a man from there' from Bal. ཨི་ནར *inar* 'there', Bal. དི་ནར་པ *dinarpa* 'a man from here' from Bal. དི་ནར *dinar* 'here'. It also performs the same function with some abstract notions such as Bal. ཡུལ་པ *julpa* 'a man from the same village'. In addition, Bal. -པ *-pa* is also used with numerals as Bal. ཅིག་པ *ʧikpa* 'of one', Bal. ཉིས་པ *ɲispa* 'of two' where -པ *-pa* indicates price or age. The suffix -པ *-pa* also takes part in some adjectives Bal. གཅེས་པ *xtʃespa* 'beloved' from Bal. གཅེས *xtʃes* 'love', Bal. སྡིག་པ *zdikpa* 'helpless' from Bal. སྡིག *zdik* 'trouble', Bal. སྣ་པ *snapa* 'earlier' from Bal. སྣ *sna* 'early'.

Furthermore, Bal. -པ *-pa* functions as a bound morpheme in many nouns, where it does not carry a distinct semantic contribution but serves to mark a word as a noun. Examples include: the names of the body parts or organs such as Bal. ཕྲག་པ *pʰraqpa* 'shoulder', Bal. ལག་པ *laqpa* 'hand', Bal. ཁྲོ་ཏྲ་པ *krotra* 'stomach', Bal. ཤ་ཐྲ་པ *xlatra* 'brain', Bal. བག་ས་པ *baqspa* 'skin', Bal. རུ་ས་པ *ruspa* 'bone', and Bal. སྐྱེ་ཏྲ་པ *skjetra* 'waist'. The remaining of such words with Bal. -པ *-pa* merely denote things such as Bal. ཡག་པ *jaqpa* 'a pit of apricot', Bal. ཚ་ལངས་པ *ʧtsaŋspa* 'lizard', Bal. ཤོག་པ *ʃoqpa* 'wing', Bal. དུད་པ *ʈuʈpa* 'smoke', Bal. ཚ་གཏ་པ *ʧʰagpa* 'bunch', Bal. ཆར་པ *ʧʰarpa* 'rain', Bal. ཤ་ལངས་པ *xlaŋspa* 'fog', Bal. ཐག་པ *ʈʰagpa* 'rope', and Bal. རྫིལ་པ *ʤilpa* 'dew'.

3.1.2.1.2 -ཕོ *-pʰo* and -མོ *-mo* The suffixes -ཕོ *-pʰo* and -མོ *-mo* indicate the gender of the preceding stem. The suffix -ཕོ *-pʰo* indicates masculine noun such

as Bal. བྱཔྷོ *bjapʰo* 'cock', Bal. ཁྱཔྷོ *kʰipʰo* 'dog', Bal. ཧྲཏཔྷོ *hrṭapʰo* 'male horse', and Bal. ཝཔྷོ *wapʰo* 'male fox'. In these instances Bal. -པྷོ *-pʰo* indicates the noun stems Bal. བྱ *bja* 'bird', Bal. ཁྱི *kʰi* 'dog', Bal. ཧྲཏ *hrṭa* 'horse' and Bal. ཝ *wa* 'fox' are masculine.

Bialek (2022, p. 101) states that in Literary Tibetan the nominal particle -མོ *-mo* indicates feminine gender. Same as Literay Tibetan, in Balti the nominal suffix Bal. -མོ *-mo* or Bal. -ཉོ *-ŋo* indicates feminine such as Bal. བྱམོ *bjamo* or Bal. བྱཉོ *bjaŋo* 'hen', Bal. ཁྱིམོ *kʰimo* or Bal. ཁྱིཉོ *kʰiŋo* 'bitch', Bal. ཧྲཏམོ *hrṭamo* or Bal. ཧྲཏཉོ *hrṭaŋo* 'mare', and Bal. ཝམོ *wamo* 'vixen' or Bal. ཝཉོ *waŋo* 'vixen' . These suffixes are allomorphs but are not in complementary distribution. Specifically, the variant Bal. -ཉོ *-ŋo* is characteristic of the Bal. ཁ་པུལུ *xapulu* 'Khaplu' dialect, while Bal. -མོ *-mo* is specific to the Bal. ཁརྨང་ *kʰarmaŋ* 'Kharmang' dialect. The suffix -མོ *-mo* is also used to form the feminine of a base which usually indicates the male gender such as Bal. ཧྱཱཀ་མོ *hjaqmo* 'female grunting ox' from the base Bal. ཧྱཱཀ *hjaq* 'grunting ox', Bal. ཙོན་མོ *tsonmo* 'maid servant', from the base Bal. ཙོན *tson* 'maid', Bal. ཅོམོ *ʧomo* 'queen' from Bal. ཅོ *ʧo* 'prince', Bal. བོཏ་མོ *boṭmo* 'female Buddhist' from Bal. བོཏ *boṭ* 'male Buddhist', Bal. སིཁ་མོ *sikmo* 'female *sik* religion follower' from Bal. སིཁ *sik* 'male Sikh religion follower'. The suffix Bal. -མོ *-mo* is also used with certain nouns as an integral part of the stems where it does not indicate the sex such as Bal. གོཉ་མོ *goŋmo* 'partridge', Bal. མིཉ་མོ *miŋmo* 'brother', Bal. མོམོ *momo* 'maternal uncle', Bal. སེན་མོ *senmo* 'finger',Bal. སིཉ་མོ *siŋmo* 'thin and clear liquid', In these examples without Bal. -མོ *-mo* the first parts are not analyzable. Furthermore, Bal. -མོ *-mo* also is used as an integral part of the stems as well as indicates the feminine of the nouns such as Bal. ཇུམོ *ʧʰumo* 'wife', Bal. བོམོ *bomo* or Bal. བོཉོ *boŋo* 'girl', Bal. ནོམོ *nomo* or Bal. ནོཉོ *noŋo* 'younger sister to sister', Bal. ཚམོ *tsʰamo* or Bal. ཚཉོ *tsʰaŋo* 'granddaughter'. In this instances the suffix -Bal. -མོ *-mo* indicates the female gender. Jäschke (1881, p. 18) notes that in Literary Tibetan, མོ marks feminine nouns, while པོ marks masculine nouns. Similarly, Read (1934, p. 4) attests that Balti uses: Bal. -པོ *-po* or Bal. -པྷོ *-pʰo* for masculine nouns Bal. -མོ *-mo* or Bal. -ཉོ *-ŋo* for feminine nouns.

3.1.2.1.3 -བུ *-bu* According to Uray (1952, p. 203) in Classical Tibetan the diminutive suffix -བུ *-bu* originates from the word -བུ *-bu* 'son, child'. Uray (ibid., pp. 185–87) states that variants of the Classical Tibetan -བུ *-bu* suffix exist, influenced by the final consonant of the stem to which it is attached. For instance, Classical Tibetan -ནུ *-nu* appears after stems ending in ན *n*, while

Classical Tibetan -རུ *-ru*, -ལུ *-lu*, and -གུ *-gu* are found after stems ending in ར *r*, ལ *l*, and ག *g*, respectively.

In Balti the diminutive suffix -བུ *-bu* appears after all consonants except མ *m*, and ར *r*, while the variant -ཕུ *-pʰu* occurs after vowels and the consonants *m*, and ར *r*.

In Balti the diminutive suffix -བུ *-bu* is highly productive such as Bal. ཡུལ་བུ *julbu* 'small village' from Bal. ཡུལ *jul* 'village', Bal. རྫིང་བུ *rdziŋbu* 'small water reservoir' from Bal. རྫིང *rdziŋ* 'still water body', Bal. ཞིང་བུ *ʒiŋbu* 'small field' from Bal. ཞིང *ʒiŋ* 'field', Bal. བྲག་བུ *braqbu* 'rock', from Bal. བྲག *braq* 'mountain' Bal. ཨོལ་བུ *olbu* 'small grassy land' from Bal. ཨོལ *ol* 'grassy land', Bal. ཤིང་བུ *ʃiŋbu* 'small piece of wood' from Bal. ཤིང *ʃiŋ* 'wood', Bal. ཟང་བུ *zaŋbu* 'small pot' from Bal. ཟང *zaŋ* 'pot', Bal. གླང་བུ *xlaŋbu* 'calf' from Bal. གླང *xlaŋ* 'ox', Bal. ཚར་བུ *tsʰarbu* 'small garden' from Bal. ཚར *tsʰar* 'garden'.

The suffix -ཕུ *-pʰu* is a variant of the suffix -བུ *-bu*. This suffix appears where the noun stems end with *u*, *m*, and *r*. Examples include Bal. རྗུབ་ཕུ *rjupʰu* 'young goat' from Bal. ར *ra* 'goat', Bal. ལུག་ཕུ *lupʰu* 'young lamb' from Bal. ལུ *lu* 'sheep' , Bal. རྒོམ་ཕུ *rgompʰu* 'small wooden box' from Bal. རྒོམ *rgom* 'box', Bal. ཁུར་ཕུ *kʰurpʰu* 'small load on the back' from Bal. ཁུར *kʰur* 'load', Bal. ཝ་ཕུ *wapʰu* 'young fox' from Bal. ཝ *wa* 'fox', Bal. ཐོག་ཕུ *ʈʰopʰu* 'small stomach' from Bal. ཐོ *ʈʰo* 'stomach', suggest the suffix -བུ *-bu* is sandhi. As these instances end with *u*, *m*, and *r*. Moreover, the suffixes -བུ *-bu* and -ཕུ *-pʰu* are alternately used with certain noun stems ending with ཨོ *-o* such as Bal. རྫོབུ *zobu* or Bal. རྫོབ་ཕུ *zopʰu* 'young རྫོ *zo*. [1]

In addition, the suffix -བུ *-bu* is also used to derive nouns where it does not indicate diminutive such as Bal. སྐྱིར་བུ *zgirbu* 'a round thing' from Bal. སྐྱིར *zgir* 'circle', Bal. སྡང་བུ *ldaŋbu* 'step of stairs' from Bal. སྡང *ldaŋ* 'suspension', Bal. རིལ་བུ *rilbu* 'round' from Bal. རིལ *ril* 'roll', Bal. སྐྱུར་བུ *skjurbu* 'a plant with sour taste, usually grows on the side of clean stream' from Bal. སྐྱུར *skjur* 'sour', and Bal. དོང་བུ *doŋbu* 'grave' from Bal. དོང *doŋ* 'big hole in the ground'. The suffix -བུ *-bu* also forms an integral part of certain nouns where to some extent it gives the meaning of smallness of the stems, such as Bal. གླིང་བུ *xliŋbu* 'flute', Bal. ཟར་བུ *zarbu* 'wooden spoon', Bal. བག་བུ *baqbu* 'brick', Bal. ཐུམ་བུ *ʈʰumbu* 'remaining of cut wheat after harvesting', Bal. ཁ་བུ *kʰabu* 'blooming flower', Bal. ཧྲིག་བུ *hrkoŋbu* 'lantern', བྱ་བུ *bjabu* 'bird'. The last word Bal. བྱ *bja* 'hen' lexicalized diminutive Bal. བྱ་ཏུ *bjaʈu* 'chick'. Moreover, in the words Bal. ཀྲལ་བུ *kralbu* 'wooden beam',

[1] Bal. རྫོ *zo* is the hybrid form of an animal from yak, and cow'

Bal. ཞོག་བུ *ʃoqbu* 'book', and Bal. བོང་བུ *boŋbu* 'donkey' the Bal. -བུ *-bu* suffix is unanalysable.

3.1.2.1.4 -ཙེ *-tse* The suffix -ཙེ *-tse* functions as diminutive such as Bal. ཨམ་ཙེ *amtse* 'younger sister of mother', Bal. ཨ་ཙེ *atse* 'younger brother of father', Bal. བ་ཙེ *batse* 'a young calf', Bal. རམ་ཙེ *ramtse* 'little branches of root', Bal. མོ་ཙེ *motse* 'young female', Bal. པོ་ཙེ *pʰotse* 'young male', Bal. ཉ་ཙེ *ɲatse* 'small fish'. These examples indicate that for adding Bal. -ཙེ *-tse* first the disyllabic words are reduced to monosyllabic and then Bal. -ཙེ *-tse* is added such as from Bal. ཨ་མ *ama* 'mother' to Bal. ཨམ་ཙེ *amtse*, Bal. ཨ་ཏ *aṭa* 'father' to Bal. ཨ་ཙེ *atse*, Bal. རམ་པ *rampa* 'root' to Bal. རམ་ཙེ *ramtse*. The suffix -ཙེ *-tse* is also used to indicate size relative to the stem such as Bal. ནང་ཙེ *naŋtse* 'as large as a house' from Bal. ནང *naŋ* 'house', Bal. སྒོ་ཙེ *zgotse* 'as large as a door' from Bal. སྒོ *zgo* 'door', Bal. ལག་པོ་ཙེ *laqpotse* 'as large as the hand' from Bal. ལག *laq* 'hand', Bal. གོ་ཙེ *gotse* 'as large as the head' from Bal. གོ *go* 'head'. In this case, the definite article Bal. པོ *po* or its variants precede the suffix -ཙེ *-tse* for example Bal. ཀང་མོ་ཙེ *kaŋ-mo-tse* 'as large as the foot' from Bal. ཀང *kaŋ* 'foot', Bal. མོ *mo* definite article and *-tse* the suffix -ཙེ. The suffix -ཙེ *-tse* is also used with clothing such as Bal. ཀང་ཙེ *kaŋtse* 'sock', and Bal. ལག་ཙེ *laqtse* 'gloves'. Here, same as the diminutive usage, first the disyllabic stems are shortened to monosyllabic such as Bal. ཀང་མ *kaŋma* 'foot', and Bal. ལག་པ *laqpa* 'hand' are shortened to Bal. ཀང *kaŋ*, and Bal. ལག *laq* and Bal. -ཙེ *-tse* is added. The suffix -ཙེ *-tse* also functions as an integral part of certain stems such as Bal. ཏོ་ཙེ *ʈotse* 'orphan', Bal. བུར་ཙེ *burtse* 'a herbal plant', Bal. ལབ་ཙེ *laptse* 'bail', and Bal. ཁོ་ཙེ *kotse* 'a small dog'. Here -ཙེ *-tse* cannot be detached form the stems.

3.1.2.1.5 -ཁ *-kʰa* The suffix -ཁ *-kʰa* indicates nearby the preceding noun stems such as Bal. བྲག་ཁ *braqkʰa* 'nearby the mountain' from Bal. བྲག *braq* 'mountain', Bal. ཞིང་ཁ *ʒiŋkʰa* 'in the field', Bal. ལུང་ཁ *luŋkʰa* 'nearby the stream'. This suffix is also used with human body parts Bal. ལག *laq* 'hand', Bal. ཀང *kaŋ* 'foot', and Bal. མིག *mig* 'eye' where it indicates the preceding noun as an instrument as demonstrated in examples 18, 19, and 20.

(18) ཁེ་ཀང་ཁ་རྡྭ་ཅག་རི་ལེ་ཁེར་ས་

kʰwe kaŋ kʰa rdwa-tʃik rile-kʰers
he-GEN foot AG stone-INDF roll-down-PST

A stone rolled down by his foot.

(19) ཡ་དྲི་ཕྲུ་ལ་དེ་བུ་སྟྲིན་ཀྱི་མིག་ཀ་སོན་ཕིན་

jaṭi p^{h}ru-la de bustriŋ-pwe mig k^{h}a soŋ-p^{h}in
you-GEN son-DAT that woman-GEN eye AG happen-PST

Your son is under the evil eye spell of that woman.

(20) དི་ལས་པོ་ཡ་རི་ལག་ཀ་སོངས་

di las-po jari laq k^{h}a soŋs
This work-DEF you-GEN hand AG happen-PST

This work is done by your hand.

Moreover, -ཀ *-k^{h}a* is also used as relator noun following genitive as discussed in §3.9.

3.1.2.2 Derivation of Nouns from Verb Stems

Tournadre and Suzuki (2023, p. 378) mention -པ *-pa*, -མཁན *-mk^{h}an* 'agent', -རྒྱུ *-rgju* 'thing' -ས *-sa* 'place, goal and locative nominalizer' -སྟངས *-staŋs* 'manner nominalizer' are nominalizers in Classical Tibetan and modern Tibetic languages. These nominalizers are used to turn verbs into nouns and are placed after the verbs. In Balti, the derivation of nouns from verb stems involves adding specific suffixes to the verb stems. These deverbal suffixes include:

- -ཁན *-k^{h}an*
- -ས *-sa*
- -ཅས *-tʃas*

The derivational suffixes -ཁན *-k^{h}an* and -ས *-sa* retain, from Classical Tibetan, where they are used to form nominals. Specifically: -ཁན *-k^{h}an* derives nouns with the meaning of 'an agent' and -ས *-sa* derives nouns with the meaning of 'a place'.

3.1.2.2.1 -ཁན *-k^{h}an* In Balti the suffix -ཁན *-k^{h}an* is used to derive nouns from verb stems, where the derived nouns function as agents. This process typically denotes the performer of the action indicated by the verb stems such as Bal. ཨོང་ཁན *oŋk^{h}an* 'a person to come' from the verb stem Bal. ཨོང་ *oŋ* 'come', Bal. ཟ་ཁན *zak^{h}an* 'eater' from the verb stem Bal. ཟ *za* 'eat' and -ཁན *-k^{h}an*, Bal. ཝ་ཁན *wak^{h}an* 'a person to go' from the verb stem Bal. ཝ *wa* 'go, Bal. ཕྱག་ཁན *p^{h}jaqk^{h}an*'

'sweeper' from the verb stem Bal. ཕྱག་ *pʰjaq* 'sweep', Bal. ཟེར་བཁན་ *zerkʰan* 'speaker' from the verb stem Bal. ཟེར་ *zer* 'speak' and the suffix Bal. -བཁན་ *-kʰan*, Bal. དུག་བཁན་ *dukkʰan* 'a person who stays' from the verb stem Bal. དུག་ *duk* 'stay' and the suffix Bal. -བཁན་ *-kʰan*, Bal. ཤེས་བཁན་ *ʃeskʰan* 'knowledgeable' from the verb stem Bal. ཤེས་ *ʃes* 'know' and the suffix Bal. -བཁན་ *-kʰan*, Bal. རྗེས་བཁན་ *dreskʰan* 'a person who is familiar' from the verb stem Bal. རྗེས་ *dres* 'familiarize' and the suffix Bal. -བཁན་ *-kʰan*, and གོར་བཁན་ *gorkʰan* 'a person who is getting late' from the verb stem གོར་ *gor* 'delay' and the suffix -བཁན་ *-kʰan* . This derivational pattern in Balti bears resemblance to the Classical Tibetan suffix -མཁན་ *-mkhan*, which denotes someone skilled in a particular activity. As noted by Beyer (1992, p. 120), this suffix appears in various collocations, such as: སྐམ་མཁན་ *samkhan* 'guide', ཤིང་མཁན་ *ʃiŋkhan* 'carpenter', གར་མཁན་ *garmkhan* 'dancer'.

3.1.2.2.2 -ས་ *-sa* The suffix -ས་ *-sa* in Balti is used to derive nouns from verb stems, indicating locations associated with the action expressed by the verb. Examples include: Bal. ཟ་ས་ *zasa* 'place of eating' from the verb stem Bal. ཟ་ *za* 'eat', Bal. དུག་ས་ *duksa* 'place of staying' from the verb stem Bal. དུག་ *duk* 'stay', Bal. ཉལ་ས་ *ɬuŋsa* 'place of sleeping' form the verb stem Bal. ཉལ་ *ɬuŋ* 'sleep' and the suffix -ས་ *-sa*, Bal. རྩེ་ས་ *hrtsesa* 'place of dancing' from the verb stem Bal. རྩེ་ *hrtse* 'dance' and the suffix -ས་ *-sa*, Bal. ཡག་ས་ *jaqsa* 'place of keeping' from the verb stem Bal. ཡག་ *jaq* 'keep' and the suffix -ས་ *-sa*, Bal. སྦ་ས་ *zbasa* 'place of hiding' from the verb stem Bal. སྦ་ *zba* 'hide' and the suffix -ས་ *-sa*, Bal. བཙོས་ *pʰtʃosa* from verb stem Bal. བཙོས་ *pʰtʃo* 'make' and the suffix -ས་ *-sa*. According to DeLancey (1999, p. 238), the nominalizing suffix -ས་ *-sa* is etymologically identical to the noun ས་ *sa* 'earth, place' and this holds true for Balti as well.

3.1.2.2.3 -ཅས་ *-tʃas* In Balti the suffix -ཅས་ *-tʃas* changes verbal stems into nouns such as Bal. གོན་ཅས་ *gontʃas* 'clothes' form the verb Bal. གོན་ *gon* 'wear', Bal. ཐུང་ཅས་ *tʰuŋtʃas* 'drink' from the verb Bal. ཐུང་ *tʰuŋ* 'drink' and the suffix Bal. -ཅས་ *-tʃas*, Bal. རོན་ཅས་ *rontʃas* 'vehicle' from the verb Bal. རོན་ *ron* 'ride' and the suffix Bal. -ཅས་ *tʃas*, Bal. ཐིང་ཅས་ *tʰiŋtʃas* 'carpet' from the verb Bal. ཐིང་ *tʰiŋ* 'laying out' and the suffix Bal. -ཅས་ *tʃas*. In each case, the derived nouns are object nouns, denoting the items used to perform the actions expressed by the corresponding verbs. In addition to object nouns, the suffix -Bal. -ཅས་ *-tʃas* is also used with Bal. བེ་ *be* 'do' to indicate way of doing as Bal. བེ་ཅས་ *betʃas* 'manner' from the verb stem Bal. བེ་ *be* 'do' and Bal. -ཅས་ *-tʃas*. According to Tournadre and Suzuki (2023, p. 378), the nominalizer -ཅས་ *-tʃas* is also found

in Ladakhi Tibetan, Spiti-Khunu-Garzha Tibetan, To-Ngari, Tsang, Dbus, and Lhoke, where it serves a similar function of deriving nouns from verbs.

3.1.3 Compounding

Compounding is one of the common sources of word formation where two free morphemes are joined together to form a new word. Fábregas and Scalise (2012, p. 111) state that compounding is a word formation process where two or more roots are combined inside the same word. Bialek (2018a, p. 252) mentions, in Old Tibetan, a compound is a complex lexical and morphological unit composed of at least two historically independent words or morphemes that together express a single, coherent concept.

Fábregas and Scalise (2012, pp. 111–113) divide compounding into two main types: endocentric, and exocentric compounding. Endocentric compound is the compound in which 'one of the constituents can claim to be the head', while in exocentric compounding 'none of their internal constituents seems responsible for the grammatical category or the semantics of the whole compound'.

This study focuses endocentric 3.1.3.1, and exocentric 3.1.3.2 compounding in Balti. These categories align with the typological framework proposed by Bialek (2018a, p. 166), who notes that Tibetan compounds can display diverse headedness structures, including headless, right-headed, left-headed, two-headed, hybrid, and esocentric types.

3.1.3.1 Endocentric Compounding

According to Bialek (ibid., p. 167), endocentric compounds are those in which the syntactic head also serves as the semantic head, meaning that the compound's overall meaning is expressed by one or more of its constituents. This category includes both copulative coordinate compounds 3.1.3.1.1, in which both elements contribute equally to the compound's meaning, and determinative compounds 3.1.3.1.2, where one constituent functions as a modifier of the head constituent.

3.1.3.1.1 Coordinate Compounding In this type of compound, both participating words are nouns, and there is typically a natural coordination between them. In some cases, the two nouns may even be understood as antonyms. Examples include: Bal. རྫུ་ལུ་ ***rjulu*** 'young goats and sheep', Bal. ཕྱུ་བལ་ཞིས་ ***dax-pʰotʃʰumu*** 'husband and wife', and Bal. སྲིང་མོ་མིང་མོ་ ***st̪riŋmomiŋmo*** 'brother and

sister'. , Bal. ཟན་ཆུ་ *zantʃʰu* 'food and water', Bal. ཙེན་ཉིན་ *tsʰaŋnin* 'day and night', Bal. ཨ་ཏ་ཨཱ་ངོ་ *ataaŋo* 'father and mother', Bal. ཀཱ་ཀ་ཁོ་ནོ་ *kakapʰono* 'elder brother and younger brother', Bal. ཨ་ཞེ་ནོ་ངོ་ *aʃenoŋo* 'elder sister and younger sister', Bal. མོ་མོ་ནེ་ནེ་ *momonene* 'uncle and aunt'.

3.1.3.1.2 Determinative Compound In Balti, determinative compounding is very common and highly productive. In this type of compound, both constituents are nouns, with one noun modifying the other, which functions as the head. The following examples illustrate compounds where the first noun modifies the second, which is commonly used as the head.

Bal. -ཁང་ *-kʰaŋ*

The noun Bal. -ཁང་ *-kʰaŋ* typically follows another noun, which determines its meaning. For example, Bal. ཆོས་ཁང་ *tʃʰoskʰaŋ* means 'place of worship', derived from Bal. ཆོས་ *tʃʰos* 'religion' and Bal. -ཁང་ *kʰaŋ* 'large building'. Similarly, Bal. ཕུང་ཁང་ *pʰuŋkʰaŋ* 'a large room for storing straw', from Bal. -ཕུང་མ་ *pʰuŋma* 'straw', where *pʰuŋma* is clipped to Bal. ཕུང་ *pʰuŋ* and the noun Bal. -ཁང་ *-kʰaŋ* is added. Other examples include Bal. རྩྭ་ཁང་ *hrtsokʰaŋ* 'a large room for storing grass', and Bal. ལྷ་ཁང་ *ɬakʰaŋ* 'a large building housing idols'.

Bal. -ཐང་ *-ʈʰaŋ*

The noun Bal. -ཐང་ *-ʈʰaŋ* means wilderness or desert or a huge plain area and the word Bal. -ཐང *-ʈʰaŋ* is also used for clear weather. This noun is used to derive number of compounds, where it follows another noun, and the first noun determines it such as Bal. གནམ་ཐང་ *xnamʈʰaŋ* 'clear weather' from Bal. གནམ་ *xnam* 'sky' and Bal. -ཐང་ *-ʈʰaŋ* here 'clear weather' and the first noun Bal. གནམ་ *xnam* 'sky' determines the second noun, Bal. ཇ་མ་ཐང་ *bjamaʈʰaŋ* 'a large sandy area', Bal. ལང་གར་ཐང་ *laŋgarʈʰaŋ* 'graveyard' from Bal. ལང་གར་ *laŋgar* 'grave' and Bal. -ཐང་ *-ʈʰaŋ*, Bal. ཏོག་ཐང་ *ʈoqʈʰaŋ* 'a huge area with number of dunes', Bal. ཤག་ཐང་ *ʃaqʈʰaŋ* 'a huge area of grains', Bal. བྲག་ཐང་ *braqʈʰaŋ* 'a huge area of stone', Bal. ཙོག་ཐང་ *tsʰoqʈʰaŋ* 'a huge area with throne'.

Bal. -དོང་ *-ɖoŋ*

The lexical nominal Bal. -དོང་ *-ɖoŋ* means a big hole in the ground. Bal. དོང་ *ɖoŋ* is used to derive number of compound nouns, where the first noun usually defines it, such as Bal. མི་དོང་ *midoŋ* 'grave', Bal. ས་དོང་ *sadoŋ* 'a big hole in the

soil', Bal. ཆུ་དོང་ *tʃʰudoŋ* 'water well', Bal. ཅ་དོང་ *tʃadoŋ* 'a tool used to shake salty tea'.

Bal. -ལམ *-lam*

The noun Bal. -ལམ *-lam* meaning 'a way' or 'a route' is used to form several compounds, where the second noun of the compound, Bal. -ལམ *-lam*, indicates a type of way or route, with the first noun determining or defining the specific type of Bal. -ལམ *-lam* such as Bal. བྲག་ལམ *braqlam* 'mountain path' from Bal. བྲག *braq* 'mountain', Bal. ཡྱག་ལམ *xjaqlam* 'yak trail' from Bal. ཡྱག *xjaq* 'yak', Bal. མི་ལམ *milam* 'footpath' from Bal. མི *mi* 'man', Bal. ནོར་ལམ *norlam* 'sheep track' from Bal. ནོར *nor* 'sheep', Bal. བ་ལམ *balam* 'cow path' from Bal. བ *ba* 'cow'.

Bal. -ལས *-las*

The noun Bal. -ལས *-las* 'work' as second noun is defined by the preceding nouns such as Bal. ཞིང་ལས *ʒiŋlas* 'field work' from Bal. ཞིང *ʒiŋ* 'field', Bal. ཤིང་ལས *ʃiŋlas* 'carpentry' from Bal. ཤིང *ʃiŋ* 'wood', Bal. ངན་ལས *ŋanlas* 'bad deed' from Bal. ངན *ŋan* 'bad', Bal. རྨག་ལས *hrmaqlas* 'folk moot' from Bal. རྨག *hrmaq* 'collective people of a village', Bal. ཕྲུ་ལས *pʰrulas* 'childish work' from Bal. ཕྲུ *pʰru* 'young boy', Bal. ཕོ་ལས *pʰolas* 'male work' from Bal. ཕོ *pʰo* 'male', Bal. མོ་ལས *molas* 'female work' from Bal. མོ *mo* 'female', and Bal. ནང་ལས *naŋlas* 'housework' from Bal. ནང *naŋ* 'house'.

Similarly, the following nouns are also highly productive in compounding. However, unlike the previously discussed second nouns, these function as the first component in compounds, modifying or determining the meaning of the second noun. Below are examples of commonly used first nouns in Balti compounding:

Bal. མེ- *me-*

The noun Bal. མེ- *me-* 'fire' is used to derive number of compound nouns, where it determines the following nouns such as Bal. མེ་ཕང་ *mepʰaŋ* 'throwing fire' from Bal. -ཕང་ *-pʰaŋ* 'throw', Bal. མེ་དོང་ *medoŋ* 'pit fire' from Bal. -དོང་ *-doŋ* 'pit', and Bal. མེ་རྩོད་ *meʈroʈ* 'heat of fire' from Bal. -རྩོད་ *-ʈroʈ* 'heat'.

Bal. ཆུ- *tʃʰu-*

The noun Bal. ཆུ- *tʃʰu-* is used as first noun determining the second noun. Examples of the first nouns in the compounds are: Bal. ཆུ་ཤྲག་ *tʃʰuʂraq* 'duck', Bal. ཆུ་ཕུར་ *tʃʰupʰjar* 'waterfall', Bal. ཆུ་མིག་ *tʃʰumig* 'spring', Bal. ཆུ་ཤྲིན་ *tʃʰuʂrin*

'earthworm', Bal. ཆུབྱ *tʃʰubja* 'wild duck', Bal. ཆུདོན *tʃʰudoŋ* 'well', Bal. ཆུསྒོ *tʃʰuzgo* 'water gate', and Bal. ཆུསྣོཊ *tʃʰusnoʈ* 'jar'.

The noun ཆུ *tʃʰu* 'water' is also used as second noun in compounds where the first noun determines it. Examples of ཆུ *tʃʰu* 'water' as the second noun are: Bal. དར་ཆུ *ɖartʃʰu* 'yogurt-based beverage', Bal. ཀཀ་ཆུ *hrkatʃʰu* 'stream water', Bal. སྨན་ཆུ *smantʃʰu* 'syrup', Bal. ཁ་ཆུ *kʰatʃʰu* 'saliva', Bal. སྣ་ཆུ *snatʃʰu* 'mucus', Bal. མིག་ཆུ *migtʃʰu* 'tear', Bal. གསུལ་ཆུ *xmultʃʰu* 'sweat', and Bal. ཅར་ཆུ *tʃʰartʃʰu* 'dripping'.

3.1.3.2 Exocentric Compounding

Unlike endocentric compounds, exocentric compounds lack a clear semantic head. These compounds are interpreted exocentrically, meaning their overall meaning is not derived from any of their individual constituents. Such Bal. ཀྲུབཞི *krubʒi* 'square' from Bal. ཀྲུ *kru* 'corner' and Bal. བཞི *bʒi* 'four' here the word does not denote the corner but the area, Bal. ཟན་ཧྐོན *zanhrkon* 'famine', from Bal. ཟན *zan* 'food' and ཧྐོན *hrkon* 'rare' here the word Bal. ཟན་ཧྐོན *zanhrkon* does not indicates food but the absence of food. In the same way the word Bal. གཟོན་དོན *ɣzondoŋ* 'liar' derived from Bal. གཟོན *ɣzon* 'lie' and Bal. དོང *doŋ* 'pit', Bal. གོབྱ *gobja* 'early morning' from Bal. གོ *go* 'first' and Bal. ཐྱ *bja* 'cock'. The word Bal. མིཡིདོན *miɣdoŋ* 'courage' from Bal. མི *mi* 'man' and Bal. གཡིད *ɣdoŋ* 'face', and Bal. བངནོར *baŋnor* 'livestock' from Bal. བང *baŋ* 'cow' and Bal. ནོར *nor* 'goat or sheep' are examples of exocentric compounding. In the same way the compound

3.2 Pronouns

This section examines pronouns, which are words used to replace nouns. Pronouns can serve various functions: they can refer to a person 3.2.1, indicate through pointing 3.2.2, refer back to the subject 3.2.3, or be used to form questions 3.2.4.

3.2.1 Personal Pronouns

This section examines personal pronouns in Balti. The personal pronouns in Balti indicate persons: the first person 3.2.1.1 refers to the speaker, the second person 3.2.1.2 refers to the listener, and the third person 3.2.1.3 refers to others.

3.2.1.1 The First Person Pronoun

A first-person pronoun refers to the speaker and can be singular or plural. The plural first-person pronoun has two forms: inclusive and exclusive. The inclusive form includes the addressee, whereas the exclusive form excludes the addressee. Table 3.1 illustrates first person pronouns.

Cases	Singular		Plural	
ABS	ང་	*ŋa*	ང་ཏང་ *ŋaʈaŋ* (Inclusive)	ང་ཡང་ *ŋajaŋ* (Exclusive)
ERG	ངས་	*ŋasi*	ང་ཏང་ཡི་ *ŋaʈaŋi* (Inclusive)	ང་ཡང་ཡི་ *ŋajaŋi* (Exclusive)
GEN	ཡི་	*ŋi*	ང་ཡི་ *ŋaʈi* (Inclusive)	ང་ཡི་ *ŋaji* (Exclusive)
DAT	ང་ལ་	*ŋala*	ང་ཏང་ལ་ *ŋaʈaŋla* (Inclusive)	ང་ཡང་ལ་ *ŋajaŋla* (Exclusive)
INE	ཡིན་གྱི་	*ŋiŋnu*	ང་ཡིན་གྱི་ *ŋaʈiŋnu* (Inclusive)	ང་ཡིན་གྱི་ *ŋajiŋnu* (Exclusive)
ABL	ང་ན་	*ŋana*	ང་ཏང་ན་ *ŋaʈaŋna* (Inclusive)	ང་ཡང་ན་ *ŋajaŋna* (Exclusive)

Table 3.1: First Person Pronoun

Table 3.1 illustrates that the plural of first person is formed by adding -ཏང་ *ʈaŋ* to the addressee inclusive form of the corresponding first person absolutive, ergative, dative, and ablative cases while adding -ཏི་ *-ʈi* to addressee inclusive forms of corresponding first person genitive, locative and inessive cases. The exclusive form exists with corresponding inclusive -ཏ *ʈ* changing into -ཡ *j*.

The distinction between inclusive and exclusive first person plural pronominal can be illustrated via the examples 21 and 22 below. In example 21, there are three persons: the speaker, his brother and his friend, and addressing to them the speaker uses first person plural inclusive pronoun Bal. ང་ཏང་ *ŋaʈaŋ* 'we', which explicitly includes all the three individuals.

(21) ང་ཏང་ནང་ནུ་ཝེད་

ŋaʈaŋ naŋ-nu weʈ
we-INCLU house-INS go-PRS

We will go to house.

In contrast, in example 22, the speaker uses the first-person plural exclusive pronoun Bal. ང་ཡང་ *ŋajaŋ* 'we' while addressing his friend using second person pronoun Bal. ཁྱཡང་ *kʰjaŋ* 'you'. This form explicitly excludes the friend from the group.

(22) ཁྱེད་ཡེ་ཀ་དུག་ང་ཡ་ཡང་ཝེད་

kʰjaŋ jeka duk, ŋajaŋ weṭ
You here stay we-EXCL go-PRS

You stay here, we go.

3.2.1.2 The Second Person Pronoun

The second-person pronoun refers to the addressee. In Balti, the second-person pronoun has an honorific counterpart, which is formed by altering the onset consonant *kʰ* to *j*.

Cases	Non-Honirific				Honorific			
	Singular		Plural		Singular		Plural	
ABS	ཁྱོད་	*kʰjaŋ*	ཁེད་དང་	*kʰiḍaŋ*	ཡང་	*jaŋ*	ཡིད་དང་	*jidaŋ*
ERG	ཁྱེད་	*kʰjaŋi*	ཁེད་དེ་	*kʰiḍaŋi*	ཡང་དེ་	*jaŋŋi*	ཡིད་དེ་	*jiḍaŋi*
GEN	ཁེའི་	*kʰiri*	ཁེའི་	*kʰiḍi*	ཡ་རི	*jiri*	ཡིའི་	*jiḍi*
DAT	ཁྱོད་ལ་	*kʰjaŋ la*	ཁེད་དང་ལ	*kʰiḍaŋ la*	ཡང་ལ	*jaŋ la*	ཡིད་དང་ལ་	*jidaŋ la*
INS	ཁེའིང་ནུ	*kʰiriŋ nu*	ཁེའིང་	*kʰiḍiŋ*	ཡིའིང་ནུ	*jiriŋ nu*	ཡིའིང་ནུ	*jidiŋ nu*
ABL	ཁྱོད་ན་	*kʰjaŋ na*	ཁེད་དང་ན་	*kʰiḍaŋ na*	ཡང་ན་	*jaŋ na*	ཡིད་དང་ན་	*jiḍaŋ na*

Table 3.2: The Second Person Pronoun

Table 3.2 illustrates that the plural form of the second-person pronoun is formed by inserting *-ḍ-* between the glide *-j-* and the vowel *-a-* in the corresponding singular absolutive, ergative, dative, and ablative cases. In contrast, for the genitive, locative, and inessive cases, *-ḍ-* is replaced with *-r-*, derived from the corresponding singular forms.

The honorific form is used when addressing individuals who hold a position of respect, either due to familial hierarchy or social standing such as Bal. ཨ་ཏ་ *aṭa* 'father', Bal. ཨང་ *aŋo* 'mother', Bal. ཨ་ཞེ་ *aʃe* 'elder sister', Bal. ཀ་ཀ་ *kaka* 'elder brohter', Bal. ཨ་པོ་ *apo* 'grandfather', Bal. ཨ་པི་ *api* 'grandmother', Bal. ཏྲན་པ་ *ṭraŋpa* 'chief of village', and Bal. བྭ་ *bwa* 'clergy' etc. In contrast, the non-honorific form is used when addressing individuals of lower social standing, younger family members, or peers with whom a less formal relationship is maintained such as Bal. བུ་ *bu* 'son', Bal. བོན་ *boŋo* 'daughter', Bal. ཙྷོ་ *tsʰo* 'grand-son', Bal. ཙྷང་ *tsʰaŋo* 'grand-daughter', Bal. ཕོན་ *pʰono* 'younger brother', Bal. ནོན་ *noŋo* 'younger sister' etc.

The honorific and non-honorific second-person pronoun can be illustrated via the example 23. In this example, there are three individuals: the speaker,

his father and his son. The speaker uses the honorific pronominal form Bal. ཡ་རི་ *jaŋ-i* addressing to *aṭa* 'father', while the non-honorific pronominal form Bal. ཁྱེ་རི་ *kʰjaŋ-i* addressing to *bu* 'son'. In this context, the father holds a tin of butter and intends to carry it into another room. The speaker, addressing his father with respect, says: Bal. ཡ་རི་ཨོ་ག་ཨ་ཏ་ *jaŋ-i joq aṭa* 'please leave it, father', and addressing to his son, using the non-honorific second person pronoun he says: Bal. ཁྱེ་རི་ཁེ་ར་བུ་ *kʰjaŋ-i kʰer bu* 'you take it away, son'.

(23) ཡ་རི་ཨོ་ག་ཨ་ཏ་ཁྱེ་རི་ཁེ་ར་བུ་

jaŋ-i joq aṭa kʰjaŋ-i kʰer bu
you-ERG leave father you-ERG take-way son

Speaker: Father! you leave it. Son! you take it away.

3.2.1.3 The Third Person Pronoun

Third-person pronouns refer to individuals other than the speaker and the addressee, and they exhibit distinctions in both gender and number. The singular third person pronouns have gender distinction, such as Bal. ཁོ་ *kʰo* 'he' for masculine and Bal. མོ་ *mo* 'she' for feminine. The plural form of third-person pronouns is derived by adding the suffix -ང་ *-ŋ* to the singular masculine pronoun Bal. ཁོ་ *kʰo*, yielding Bal. ཁོང་ *kʰoŋ* 'they' as illustrated in table 3.3. Moreover, the plural third person Bal. ཁོང་ *kʰoŋ* 'they' refers to both masculine and faminine.

Cases	Singular				Plural	
	Masculine		Feminine		Plural	
ABS	ཁོ་	*kʰo*	མོ་	*mo*	ཁོང་	*kʰoŋ*
ERG	ཁོ་སི་	*kʰosi*	མོ་སི	*mosi*	ཁོ་རི་	*kʰoŋi*
GEN	ཁྭེ་	*kʰwe*	མྭེ་	*mwe*	ཁོང་ཨི་	*kʰoŋi*
DAT	ཁོ་ལ་	*kʰo la*	མོ་ལ་	*mo la*	ཁོང་ལ་	*kʰoŋla*
INS	ཁྭེང་ནུ	*kʰweŋ nu*	མྭེང་ནུ་	*mweŋ nu*	ཁོང་ཨིང་ནུ་	*kʰoŋiŋ nu*
ABL	ཁོ་ན་	*kʰo na*	མོ་ན་	*mo na*	ཁོང་ན་	*kʰoŋ na*

Table 3.3: The Third Person Pronoun

3.2.2 Demonstrative Pronoun

Demonstrative pronouns differentiate proximal and distal references based on the relative distance from the speaker. The demonstrative pronoun Bal. ཨུ་

dju ‘this one’ denotes proximity. In contrast, the distal demonstrative pronoun Bal. ཏོ་ ***do*** ‘that one’ denotes distance. In example 24, the use of proximal and distal pronouns illustrates spatial reference within a conversation between a shopkeeper and two customers. One customer points to a packet of biscuits right in front of him and says Bal. རྗུ་ཁོ་ལ་མིན་ ***dju kʰo-la min*** ‘give this to him’. Here, the use of Bal. རྗུ་ ***dju*** ‘this’ reflects the packet of biscuits being close to the speaker. When the same customer points to another packet farther away on the shelf and says Bal. དོ་ང་ལ་ཡོག་ ***do ŋa-la joq*** ‘keep that for me’. Here, the use of Bal. དོ་ ***do*** ‘that’ reflects the packet of biscuits is at a distance from the speaker.

(24) རྗུ་ཁོ་ལ་མིན་དོ་ང་ལ་ཡོག་

dju kʰo-la min do ŋa-la joq
this he-DAT give-IMP that I-DAT keep-IMP

Give this to him, keep that for me.

In Balti, demonstrative pronouns are also used anaphorically to refer back to a previously mentioned noun in the discourse as illustrated in example 25, where, the demonstrative pronoun Bal. དོ་ ***do*** ‘that one’ refers anaphorically to Bal. ཞོག་བུ་ཏིག་ ***ʃoqbu-tʃik*** ‘a book’, which has been previously mentioned.

(25) ཁོ་སི་ང་ལ་ཞོག་བུ་ཏིག་མིན་ས་དོ་ལེ་གི་རྒ་ཤེ་ཡོད་

kʰo-si ŋa-la soqbu-tʃik mins do legi rgaʃe joṭ
he-ERG I-DAT book-CARD give-PST that very good be-PRS

He gave me a book that is very good.

The plural of proximal and distal demonstratives are formed by adding -ན་ ***-n*** to proximal demonstrative Bal. རྗུ་ ***dju*** ‘this one’ and distal demonstrative Bal. དོ་ ***do*** ‘that one’ yielding Bal. རྗུན་ ***djun*** ‘these’ and Bal. དོན་ ***don*** ‘those’. Furthermore, the demonstrative is also used to determine a head noun as discussed in section 3.4.

3.2.3 Reflexive Pronouns

Reflexive pronouns in Balti refer back to the subject of the sentence.

The first-person singular pronoun Bal. ང་ ***ŋa*** ‘I’ forms the reflexive pronoun Bal. ངངཀ་ ***ŋaŋ*** ‘myself’ by adding the suffix Bal. -ང་ ***-ŋ***. The third-person singular pronouns Bal. ཁོ་ ***kʰo*** ‘he’ and Bal. མོ་ ***mo*** ‘she’ form their reflexive counterparts by changing the vowel Bal. ཨོ་ ***o*** to Bal. ཝ་ ***w*** and adding the reflexive suffix Bal.

-ང་ *-aŋ*, resulting in Bal. ཁྱང་ *kʰwaŋ* 'himself' and Bal. སྨོང་ *mwaŋ* 'herself.' For pronouns ending with a consonant or having more than two syllables, Bal. ཁྱང་ *kʰwaŋ* is used as the reflexive marker. Examples include:

- Bal. ངཡ་ *ŋaja* 'we' → Bal. ངཡ་ཁྱང་ *ŋaja kʰwaŋ* 'we ourselves'
- Bal. ཡང་ *jaŋ* 'you' → Bal. ཡང་ཁྱང་ *jaŋ kʰwaŋ* you yourself.'
- Bal. ཁོང་ *kʰoŋ* 'they' → Bal. ཁོང་ཁྱང་ *kʰoŋ kʰwaŋ* 'they themselves.'

Examples include: 26, 27, and 28.

(26) ངའང་ཇན་ཟོས་

ŋa ŋaŋ-i zan zos
I myself-ERG food eat-PST

I myself ate food.

(27) ཁོ་ཁྱང་ཨི་ཟེར་ས་

kʰo kʰwaŋ-i zers
he himself-ERG tell-PST

He himself told.

(28) མོ་སྨོང་སང་

mo mwaŋ soŋ
she herself go-PST

She herself went.

3.2.4 Interrogative Pronouns

This section discusses the interrogative pronouns Bal. སུ *su* 'who' Bal. ཇི་ *ʧi* 'what' and Bal. གོ *go* 'which'.

The pronoun Bal. སུ *su* 'who' is used to inquire about the identity of a person. The pronoun Bal. ཇི་ *ʧi* 'what' is employed to ask about objects, concepts, or abstract notions. The pronoun Bal. གོ *go* 'which' is used to denote a selection or choice from a specific set of alternatives.

Examples include 29, 30, and 31.

(29) སུ་ཞི་ཟེར་ས་

su-si *zers*
who-ERG speak-PST

Who did speak?

(30) ཡང་ཨི་ཅི་ཟེ་

jaŋ-i *ʧi* *ze*
you-ERG what eat-FUT

What will you eat?

(31) མོ་སི་གོ་ཟོས་

mo-si *go* *zos*
she-ERG which eat-PST

Which one did she eat?

Having explored pronouns, the study now turns to the periphery of noun phrases in the following sections, starting with possessives 3.3, demonstratives 3.4, adjectives 3.5 and numerals 3.6.

3.3 Possessives + Nouns

In Balti, possessive relationships are expressed through a genitive construction, where the genitive marker Bal.ཨི *i* or its variant Bal.ཨེ *e* is suffixed to possessor nouns. The suffix Bal.ཨི *i* is added to nouns ending in a consonant. For nouns ending in the vowels Bal. ཨ *a* or Bal. ཨུ *u*, the genitive marker Bal. ཨི *i* is replaced with Bal. ཨ *a* or Bal. ཨུ *u*, respectively. For example, Bal.ཨ་མི་ནི་པུ *amini pʰru* 'Amina's son' is derived from Bal.ཨ་མི་ན *amina* 'Amina' and Bal.མུ་ལི་ཁ་ལོ *muli kʰalo* 'branches of turnip' is derived from Bal.མུ་ལུ *mulu* 'turnip.'

When nouns end in Bal.ཨོ *o*, the final vowel changes to Bal.ཝ *w*, and the genitive marker Bal.ཨེ *e* is added. For instance, Bal.ཨ་ཇྭེ་བུ *aŋwebu* 'mother's son' is derived from Bal.ཨ་ཇོ *aŋo* 'mother'. In contrast, nouns ending in Bal.ཨི *i* or Bal.ཨེ *e* do not change in their genitive forms, as seen in examples like Bal.ཨ་ལི་བུ *alibu* 'Ali's son' and Bal.ལྕེ་གོ *ɬʧego* 'edge of tongue' from Bal.ལྕེ *ɬʧe* 'tongue'. In a genitive phrase, the possessor always precedes the head noun, as illustrated in examples 32, and 33.

(32) ཁི་རི་ཚོག་བུ་གར་ཡོ་

kʰiri ʃoqbu gar jo
You-GEN book where be-PRS

Where is your book?

(33) སྟག་ཞི་ལོ་དོན་བྱད་སེད་

sʈaqʒ-i loŋon buɖ-seʈ
tree-GEN leaves fall-PERF

The leaves have fallen from the trees.

3.4 Demonstrative + Nouns

This section examines demonstrative determiners in Balti, which serve to qualify nouns. The demonstrative Bal. དི་ *di* 'this' indicates proximity, while Bal. དེ་ *de* 'that' indicates distance. In example 34, a teacher holds a book in his hand, while handing it to his student, he says: Bal. དི་ཡོག་བུ་ཨ་ལི་ལ་མིན་ *di ʃokbu Ali-la min* 'give this book to Ali'. Here, actually, Ali, another student, has forgotten his book in the class, and the teacher instructs the student to return it to him. In this example the teacher uses the proximal demonstrative Bal. དི་ *di* 'this' to determine Bal. ཡོག་བུ་ *ʃokbu* 'the book', where the demonstrative precedes the head noun.

(34) དི་ཡོག་བུ་ཨ་ལི་ལ་མིན་

di ʃokbu Ali-la min
this book Ali-DAT give-IMP

Give this book to Ali!

In example 35, a man from Baltistan is visited by his friend in Islamabad. While they are in his room, the man points to a parcel lying in the corner and says the example sentence 34. In this context, the friend's mother has sent the dried apricot to him. Here, the speaker uses the distal demonstrative Bal. དེ་ *de* 'that' to refer to the parcel Bal. ཐ་ཧེར་པོ་ *pʰaʈiŋ-po* 'the dried apricot' indicating its relative distance from both of them.

(35) དེ་ཐ་ཧེར་པོ་ཁྱེར་ལ་ཀལ་ཕིན་

de pʰaʈiŋ-po kʰjaŋ-la kalpʰin
that dried.apricot-DEF you-DAT send-PRS-PERF

That dried apricot has been sent to you.

These demonstratives are also used to indicate temporal proximity or distance. In example 36, two friends are discussing the approaching winter season in the month of October. They speculate that the upcoming Bal. རྒུན་པོ་ *rgun-po* 'the winter' will be cold. To refer to the near future the speaker uses the proximal demonstrative Bal. དི་ *di* 'this'.

(36) དི་རྒུན་པོ་ལེ་ཁི་དྲག་མོ་ཨིད་

di rgun-po lekʰi draxmo weʈ
this winter-DEF very cold be-PRS

This winter will be very cold.

In example 37, the same speaker refers to the previous winter, using *de* 'that' to indicate temporal distance.

(37) དེ་རྒུན་པོ་དོ་ཙེ་དྲག་མོ་མེད་སུག

de rgun-po do-tse draxmo meʈ suk
That winter-DEF that-much cold NEG.AUX be-PST

That winter was not that-much cold.

Moreover, unlike, demonstrative pronouns (where the plural marker is marked on the demonstrative), the demonstrative adjectives are same for both (singular and plural) number, and the number is indicated by the following noun as in example 38, the plural marker Bal. -ན་ *-n* is marked on the noun Bal. རྫུ་ *rju* 'the young goat' resulting in Bal. རྫུན་ *rjun* 'young goats'.

(38) དེ་རྫུན་ལ་རྩྭ་ཏོང་

de rju-n-la hrtswa ʈoŋ
That young-goat-PLU-DAT grass give

Give grass to those young goats!

3.5 Adjectives + Nouns

An adjective is a word which modifies a noun or noun phrase. The adjectives precede the head nouns in the noun phrase as illustrated in examples 39, 40, and 41.

(39) ཁོ་སི་རྒ་ཡ་ནང་ཅིག་ལེན་སེད་

kʰo-si rgaʃa naŋ-tʃik len-seʈ
he-ERG beautiful house-INDF buy-PST

He bought a beautiful house.

(40) ཆོ་ཡོ་རི་ལ་ཀེ་ཏུ་སང་ཟེ་རེད་

tʃʰoyo ri-la K.2 saŋ zereʈ
great peak-DAT K.2 also call-PRS

The great peak is also known as K2.

(41) ཡ་ཐོན་མོ་སྟག་ཁུ་ཙུ་ཡི་ཨིན་

ja ʈʰonmo sʈaqʒu tʃuli in
this tall tree-DEF apricot be-PRS

This tall tree is apricot.

In Balti, adjectives have three degrees: positive, comparative, and superlative. The bare form functions as positive degree as illustrated in example 42. The comparative degree is formed by adding the prefix Bal. དོ་པ་ཅོ་ *dopatse* to the adjective as shown in example 43 and the superlative degree is formed by adding the prefix སིང་པ་ཅོ་ *siŋpatse* to the adjective as illustrated in example 44.

(42) ཡ་ཐོན་མོ་སྟག་ཁུ་ཙུ་ཡི་ཨིན་

ja ʈʰonmo sʈaqʒu tʃuli in
this tall tree-DEF apricot be-PRS

This tall tree is an apricot.

(43) དེ་དོ་པ་ཅོ་ཐོན་མོ་སྟག་ཁུ་ལྷང་མ་ཨིན་

de dopatse ʈʰonmo sʈaqʒu ɬtʃaŋma in
this more tall tree-DEF willow be-PRS

That taller tree is a willow.

(44) དི་སང་པ་ཅོ་ཐོན་མོ་སྟག་ཁུ་སྦྱར་པ་ཨིན་

di siŋpatse ʈʰonmo sʈaqʒu zbjarpa in
this most tall tree-DEF poplar be-PRS

This tallest tree is a white poplar.

In Balti adjectives usually end with *-mo*, *-po*, *-bo*, such as Bal. ལྕགས་མོ་ *ljaxmo* ‘good’, Bal. གྲགས་མོ་ *graxmo* ‘cold’, Bal. སྟྲམ་མོ་ *st̪ramo* ‘thin’, Bal. ཡང་མོ་ *jaŋmo* ‘light’, Bal. ཕྲ་མོ་ *pʰramo* ‘small’, Bal. ཐོན་མོ་ *tʰonmo* ‘high’, Bal. ཕྱུག་པོ་ *pʰjogpo* ‘rich’, Bal. ཤེར་པོ་ *ʃaŋpo* ‘sensible’, Bal. གསལ་པོ་ *xsalpo* ‘clear’, Bal. ཚེ་པོ་ *tʃʰepo* ‘reliable’, Bal. རིང་པོ་ *riŋbo* ‘long’.

Adjectives are also derived from noun stems by adding certain suffixes as discussed in the following section 3.5.1 .

3.5.1 Derivation of Adjectives from Noun Stems

Adjectives are derived by adding the following suffixes to noun stems.

- Bal. -ཙན་ *-tʃan*
- Bal. -མེད་ *-met*
- Bal. -གང་ *-gaŋ*

3.5.1.1 Bal. -ཙན་ *-tʃan*

The suffix Bal. -ཙན་ *-tʃan* is attached to a noun stem to derive an adjective such as Bal. ཨན་ཙན་ *antʃan* ‘powerful’ from Bal. ཨན་ *an* ‘power’, Bal. བྲོད་ཙན་ *bro̱ttʃan* ‘tasty’ from Bal. བྲོད་ *bro̱t* ‘taste’, Bal. ཕལ་ཙན་ *pʰaltʃan* ‘wide’ from Bal. ཕལ་ *pʰal* ‘width’, Bal. རིན་ཙན་ *rintʃan* ‘precious’ from Bal. རིན་ *rin* ‘price’, and Bal. སེན་ཙན་ *sentʃan* ‘envious’, from Bal. སེན་ *sen* ‘envy’. This suffix is highly productive. This suffix contrasts with the suffix Bal. -མེད་ *-me̱t* that negates the property. The suffix Bal. -ཙན་ *-tʃan* is equivalent to the English suffix -full of.

3.5.1.2 Bal. -མེད་ *-me̱t*

The suffix Bal. -མེད་ *-me̱t* is equivalent to English suffix -less. The suffix -Bal. -མེད་ *-me̱t* can be attached in place of the suffix Bal. -ཙན་ *-tʃan* to negate the property such as Bal. ཨན་མེད་ *anme̱t* ‘weak’ from Bal. ཨན་ *an* ‘power’, Bal. བྲོད་མེད་ *bro̱tme̱t* ‘tasteless’ from Bal. བྲོད་ *bro̱t* ‘taste’, Bal. ཕལ་མེད་ *pʰalme̱t* ‘narrow’ from Bal. ཕལ་ *pʰal* ‘width’, and Bal. རིན་མེད་ *rinme̱t* ‘cheap’ from Bal. རིན་ *rin* ‘price’ etc.

3.5.1.3 Bal. -གང་ *-gaŋ*

The adjectival suffix Bal. -གང་ *-gaŋ* is equivalent to English ‘full of’ such as Bal. ཀོ་རེ་གང་ *koregaŋ* ‘cupful’, Bal. ཟང་གང་ *zaŋgaŋ* ‘potful’, Bal. ཐ་ལི་གང་ *t̪ʰaligaŋ* ‘plateful’.

This suffix not only indicates quantity but also shows distance such as Bal. མིགག་གང་ *miggaŋ* 'as far as eyesight reaches', Bal. དག་གང་ *dagaŋ* 'as far as an arrow reaches'. The suffix Bal. གང་ *gaŋ* is also used to indicate unit in some measurement such as Bal. ཐོག་གང་ *ʈʰogaŋ* 'one span' Bal. ཐོ་དོ་ *ʈʰodo* 'two span' Bal. གོམ་བ་གང་ *gombagaŋ* 'one step', and Bal. གོམ་བ་དོ་ *gombado* 'two steps'. Here, it is very interesting to note that for measuring something the unit value is always comes with the suffix Bal. གང་ *gaŋ* and the second value is with Bal. དོ་ *ɖo* 'two' and from third value onward the numeric Bal. གསུམ་ *xsum* 'three Bal. བཞི་ *bʒi* 'four' Bal. ལ་ *ɣa* 'five' etc. are used.

3.6 Ordinal Numeral + Nouns

Ordinal numbers are used to indicate sequence or order and always precede the head nouns in noun phrases. The first ordinal number is lexicalized as Bal. གོ་པི་ *gopi* 'first', while all other ordinal numerals are formed by adding the suffix Bal. རེ་སི་ *resi* to the cardinal numbers, such as Bal. ཉི་སི་རེ་སི་ *ŋisi resi* 'second' from Bal. ཉིས་ *ŋis* 'two' Bal. བཞི་རེ་སི་ *bʒi resi* 'fourth' from བཞི་ *bʒi* 'four' , and Bal. ཡེ་རེ་སི་ *ɣe resi* from Bal. ལ་ *ɣa* 'five' etc. These ordinal numerals precede the head nouns as illustrated in examples 45, and 46.

(45) ཁྭེ་གོ་པི་ན་མོ་ཤིས་

kʰwe gopi namo ʃis
he-GEN first wife-DEF die-PST

His first wife died.

(46) ཁྭེ་ཉི་སི་རེ་སི་ཕྲུ་སི་བཟའ་སྦྱོན་བྱ་སིད་

kʰwe ŋisi-resi pʰru-si baxsʈon bjaseʈ
His second child-ERG marriage LV-PERF

His second child got married.

In addition to ordinal numbers cardinal numbers also precede the head nouns in noun phrases, when it is used to tell age or price, such as Bal. ཉིས་པ་རྗུ་ *ŋisparju* 'two years old kid', Bal. བཟའ་པ་བྲས་ *bgjapabras* 'rice priced at a hundred', where the suffix Bal. པ- *pa-* indicates price or age. In these examples, the numeral Bal. ཉིས་པ་ *ŋispa* is used to tell the age of the noun Bal. རྗུ་ *rju*, and Bal. བཟའ་པ་ *bgjapa* is used to tell the price of the Bal. བྲས་ *bras* 'rice'. Otherwise the cardinal numbers follow head nouns in noun phrases as discussed in §3.10.

3.7 Articles

This section examines the use of articles in Balti. Jäschke (1881, pp. 17–19) argues that what have been called articles in Tibetan are actually suffixes e.g. པ་, བ་, མ་, པོ་, བོ་, མོ་, primarily functioning as denominators to form nouns and adjectives rather than definite articles like in English. He asserts that these affixes are not essential to all nouns, are often dropped, and rarely serve a syntactical role akin to the English definite article. Similarly, Read (1934, p. 4) states that Balti lacks a definite article. However, the present study identifies that in Balti, a noun can be marked with a definite article §3.7.1, which functions the same role as English definite article, an indefinite article §3.7.3, or a plural marker §3.7.2. In addition to these markers, a noun may also occur in its bare form §3.7.4, indicating a generic or non-specific reference.

3.7.1 Definite Article

According to Schwarz (2022, p. 3), definiteness is commonly characterized in terms of uniqueness and familiarity, where some expressions encode reference to a unique entity and others signal anaphoricity or discourse familiarity. The present study identifies Bal. པོ་ ***po***, and its allomorphs Bal. ཨོ་ ***o***, and Bal. ཨུ་ ***u*** as definite articles that typically marks anaphoricity and uniqueness in Balti.

The anaphoric referents in the short story in example 47 best explains the definiteness of the article Bal. པོ་ ***po***, and its allomorphs Bal. ཨོ་ ***o***, and Bal. ཨུ་ ***u***. The article Bal. པོ་ ***po*** follows consonants, the variant ཨོ་ ***o*** follows nouns ending with ཨོ་ ***o*** or ཨ་ ***a***, and the variant ཨུ་ ***u*** follows nouns ending with ཨུ་ ***u***, and ཨི་ ***i***.

(47) ཚར་ཅིག།ཨིང་བི་ལ་ཅིག།ཁི་ཅིག།བང་ཅིག།ར་ཅིག།བྱ་ཏུ་ཅིག།ཡོད་སུག།བི་ལོ་སི་ཨོ་མ་ཐུངས་ཁྱུ་སི་ཤ་ཟོས་བང་པོ་སི་རྩྭ་ཟོས་རོ་སི་ཆུ་ཐུངས

tsʰar-tʃig-iŋ *bila-tʃik* *kʰi-tʃik* *baŋ-tʃik* *ra-tʃik*
garden-INDEF-INE cat-INDEF dog-INDEF cow-INDEF goat-INDEF
bjaʈu-tʃik *joʈ-suk* *bilo-si* *oma* *t̪ʰuŋs* *kʰju-si*
kitten-INDEF AUX-SEN-PST cat-DEF-ERG milk drink-PST dog-DEF-ERG
ʃa *zos* *baŋ-po-si* *hrtswa* *zos* *ro-si* *tʃʰu*
eat--PST meat cow-DEF-ERG eat-PST grass goat-DEF-ERG drink-PST
t̪ʰuŋs *bjaʈu-si* *zanma* *zos*
water kitten-DEF-ERG grain eat-PST

There were a cat, a dog, a cow, a goat, and a kitten in a garden. The cat drank milk, the dog ate meat, the cow ate grass, the goat drank water and the kitten ate grain.

In example 48, a woman asks her daughter to give grass to their cow, which is known to both the speaker (the mother) and the listener (the daughter). The use of the definite marker indicates that the referent is specific and identifiable to both participants. The mother refers to a particular cow, their cow, and not just any cow. The choice of the allomorph Bal. པོ *-po* is conditioned by the final consonant Bal. ང་ *-ŋ* of the noun Bal. བང་ *baŋ* 'cow'.

(48) བང་པོ་ལ་རྩྭ་ཏོང་

baŋ-po-la hrtswa ʈoŋ
cow-DEF-DAT grass give

Give grass to the cow.

In Balti, the definite article Bal. པོ *po* serves as a clitic rather a suffix and this clitic is essential to all nouns indicating definiteness. This is illustrated in example 49, where cardinal numbers: ཅིག་ *ʧig* 'one', ཉིས་ 'two' *ɲis*, and ཉིས་ *ɲis* 'two' intervene between the noun བུ་ *bu* 'boy' and the definite article པོ *po*. If པོ *po* were a suffix, it would attach directly to the noun stem. However, its placement after the numerals indicates that it attaches to the entire noun phrase.

(49) ཁོ་ལ་བུ་ལ་ཡོད་ཀྱི་བུ་ཅིག་པོ་ཞིང་ཟན་ཨིན་བུ་ཉིས་པོ་གཅང་བ་ཨིན་བུ་ཉིས་པོ་སྒམ་ཟན་ཨིན་

kʰo-la bu ya joʈ kʰwe bu ʧig-po
he-DAT boy five.CAR.NUM COP.EX his boy one.CAR.NUM-DEF
ʃiŋkʰan in bu ɲis-po garba in bu
carpenter COP.EQ boy two.CAR.NUM-DEF blacksmith COP.EQ boy
ɲis-po ɬamkʰan in
two.CAR.NUM-DEF cobbler COP.EQ

He has five sons, his one son is carpentar, two sons are blacksmiths, and two sons are cobblers.

Unlike English, where a demonstrative and a definite article cannot co-occur, Rudin (2021, p. 306) observes that in Colloquial Bulgarian and Macedonian, both elements can appear together within a single noun phrase. This typologically attested phenomenon demonstrates that the co-occurrence of a demonstrative and a definite article is structurally natural in some languages. Similarly, in Balti, the definite article co-occurs with demonstratives as illustrated in example 50, where the morpheme Bal. པོ *-po* functions as a definite article.

(50) དེ་ཨཁ་པོ་

di laq-po
DEF hand-DEF

This hand.

In constructions involving a demonstrative followed by a noun, the presence of the definite article is obligatory. Example 51 is ungrammatical because the unmarked generic form དེ་ལག་པ *laq-pa* 'hand' occurs with the demonstrative without the required definite article.

(51) དེ་ལག་པོ་*

*di laq-pa**
DEF hand

This hand.

The definite article also co-occur with genitive as illustrated in example 52. In this construction the genitive expresses relation.

(52) ཁྭེ་བང་པོ་ཤིས་

kʰwe baŋ-po ʃis
he-GEN cow-DEF die-PRS

His cow died.

In constructions involving a genitive followed by a noun, the presence of the definite article is obligatory. Example 53 is ungrammatical because the unmarked generic form བང་ *baŋ* 'cow' occurs with the genitive without the required definite article.

(53) ཁྭ་བང་ཤིས་*

*kʰwe baŋ ʃis**
he-GEN cow die-PRS

His cow died.

In example 54, a woman has Bal. རུ་ 'a goat', she asks her daughter to give grass to that particular རུ་ 'a goat'. Here the shared knowledge between the woman and her daughter determine the goat. Since the noun ends with the vowel Bal. ཨ་ *-a*, it undergoes a vowel change, shifting from Bal. ཨ་ *-a* to Bal. ཨོ་ *-o* to mark definiteness.

(54) རོ་ལ་རབ་ཏུ་ཏྲོད

ro-la *hrtswa ṭoŋ*
goat-DEF grass give

Give grass to the goat.

In example 55, a shopkeeper asks one of his customers to take a particular bag of flour. In this context, the noun ཕེ *pʰe*, meaning 'flour', ends in the vowel ེ *-e*. To form its definite counterpart, this final vowel undergoes a morphophonological change to ོ *-jo*, marking definiteness of the noun ཕྱོ *pʰjo* 'the flour'.

(55) དི་ཕྱོ་ཡང་ཇི་ཁེར་

di *pʰjo* *jaŋ-i* *kʰer*
this flour-DEF you-ERG take

You take this flour.

3.7.2 Plural Marker

The plural marker -ཀུན *kun*, along with its variant -ཨོན *-on* and -ཨུན *-un*, is commonly used to indicate the plural form of a noun. This marker not only indicates plurality but also definiteness as illustrated in example 56, where བང་ཀུན *baŋ-kun* 'the cows' indicates a specific group of cows and follows the demonstrative དེ *ḍe*.

(56) དེ་བང་ཀུན་ཨི་རྩྭ་ཟོས་

ḍe *baŋ-kun-i* *hrtswa zoseṭ*
that cow-PLU-ERG grass eat-PERF

Those cows have eaten grass (Those the cow).

Example 57 illustrates the use of *-kun* to mark definiteness. In this context, a man owns five cows that have been unwell and not eating since morning. When he inquires about them, his son responds with the sentence 57. The use of *baŋ-kun* 'the cows' refers specifically to those cows known to both speaker and listener. This demonstrates that *-kun*, in addition to marking plurality, also encodes definiteness.

(57) བང་ཀུན་ཨི་རྩྭ་ཟོས་

baŋ-kun-i *hrtswa zoseṭ*
cow-PLU.DEF-ERG grass eat-PERF

The cows have eaten grass.

The plural marker -ཀུན་ *-kun* typically appears after nouns ending in consonants. For examples, Bal. སྨན་ཀུན་ *smankun* 'medicines' form Bal. སྨན་ *sman* 'a medicine', Bal. ནད་ཀུན་ *naʈkun* 'diseases' from Bal. ནད་ *naʈ* 'a disease', Bal. སྐད་ཀུན་ *skaʈkun* 'languages' from Bal. སྐད་ *skaʈ* 'a language', and Bal. ཡུལ་ཀུན་ *julkun* 'villages' from Bal. ཡུལ་ *jul* 'a village'.

The plural marker -ན་ *-n* is used to form plurals after nouns ending in vowels: for nouns ending in ཨ་ *a*, the final vowel ཨ་ *a* changes to ཨོ་ *o* before adding the plural suffix -ན་ *-n*. Examples include Bal. ཨ་ཏོན་ *aʈon* 'fathers' derived from Bal. ཨ་ཏ་ *aʈa* 'a father', Bal. བི་ལོན་ *bilon* 'cats' from Bal. བི་ལ་ *bila* 'a cat', Bal. ཇོན་ *bjon* 'mice' from Bal. ཇ་ *bja* 'a mouse', and Bal. ཧྲོན་ *hrʈon* 'horses' from Bal. ཧྲ་ *hrʈa* 'a horse'.

For nouns ending in ཨོ་ *o*, the plural suffix -ན་ *-n* is directly added without vowel modification, as in Bal. ཨ་ཇོན་ *aɲon* 'mothers' from Bal. ཨ་ཇོ་ *aɲo* 'a mother', བོ་ཇོན་ *boɲon* 'daughters' from བོ་ཇོ་ *boɲo* 'a daughter', རྒོན་ *rgon* 'bodies' from རྒོ་ *rgo* 'a body', and ཟྒོན་ *zgon* 'doors' from ཟྒོ་ *zgo* 'a door'.

For nouns ending in ཨི་ *i*, the final vowel ཨི་ *i* changes to ཨུ་ *u*, and simultaneously, the glide ཇ་ *j* is inserted before the vowel. The plural suffix -ན་ *-n* is then added. For examples, Bal. ཁྱུན་ *kʰjun* 'dogs' from Bal. ཁི་ *kʰi* 'a dog' and Bal. སྟག་ཛུན་ *sʈaqʒjun* 'trees' from Bal. སྟག་ཛི་ *sʈaʒi* 'a tree'.

For nouns ending in ཨེ་ *e*, the final vowel ཨེ་ *e* changes to ཨོ་ *o*, and simultaneously, the glide ཇ་ *j* is inserted before the vowel. The plural suffix -ན་ *-n* is then added. For examples, Bal. ཕྱོན་ *pʰjon* 'powders' from Bal. ཕེ་ *pʰe* 'a powder' and Bal. ལྕོན་ *ɬʧjon* 'tongues' from Bal. ལྕེ་ *ɬʧe* 'a tongue'.

For nouns ending in ཨུ་ *u*, the plural suffix -ན་ *-n* is added directly, as in Bal. བུན་ *bun* 'boys' from Bal. བུ་ *bu* 'a boy', Bal. རྗུན་ *rjun* 'goat's kids' from Bal. རྗུ་ *rju* 'a goat's kid', and ཙེ་ནུན་ *tsenun* 'pants' from ཙེ་ནུ་ *tsenu* 'a pant'.

3.7.3 Indefinite Article

In Balti Bal. ཅི་ *ʧi* and its allomorphs Bal. ཨེ་ *e*, and Bal. ཨི་ *i* mark indefiniteness. Here, the indefinite markers are equivaltent to English 'some', 'any', or 'a'. In example 58, a man visits to his friend, and finds him eating Bal. ཕ་ཞིང་ *pʰaʈiŋ* 'dried apricot'. Later, another friend asks him about the previous friend, so he says the example sentence 58, where he does not specify the dried apricot. Therefore, the indefinite article Bal. ཅི་ *-ʧi* follows the noun.

(58) བོད་སི་ཁ་ཏིང་ཏི་ཟེན་ཡོད་སུག་

kʰo-si pʰaʈiŋ-ʧi zen joʈ-suk
he-ERG dry-fruit-INDF eating AUX-PST

He was eating some dry-fruit.

In example 59, the noun Bal. ཀུཕུ *kuʃu* 'apple' is not specified. Hence, it takes the indefinite marker Bal. -ི *-i*, indicating indefiniteness. When the noun ends in the vowel Bal. ུ *u*, the final Bal. ུ *u* changes to Bal. ི *i*, and the glide Bal. -ྱ- *-j-* is inserted before Bal. -ི *-i*.

(59) བོད་སི་ཀུ་ཤྭི་ཟེན་ཡོད་སུག་

mo-si kuʃw-i zen joʈ-suk
he-ERG apple-INDF eating AUX-PST

She was eating an apple.

In example 60, the noun Bal. སྟ་གེ *starge* 'nut' takes the indefinite marker Bal. ེ *-e*, indicating indefiniteness. When the noun ends in Bal. ་ *-a*, it changes to Bal. ེ *-e* to form its indefinite counterpart.

(60) དེ་ཕྲུ་སི་སྟ་གེ་ཟེན་ཡོད་སུག་

ɖe pʰru-si starge zen joʈ-suk
that boy-ERG walnut-INDF eating AUX-PST

That boy was eating a nut.

The examples above show that the indefinite article Bal. ཅི *ʧi* follows a noun ending with a consonant, its allomorph Bal. ི *i* follows a noun ending with Bal. ོ *o* or Bal. ུ *u*, the allomorph Bal. ེ *e* is used with a noun ending with Bal. ་ *a*, by altering the Bal. ་ *a* into Bal. ེ *e*.

3.7.4 Bare Form: Generic

In Balti, the bare form of the noun indicates generic usage. In example 61 the noun Bal. ཤིང་ *ʃiŋ* 'wood' indicates its generic usage.

(61) ང་སི་རྒུ་ནུ་ཤིང་ཏུ་གེད་

ŋa-si rgu-nu ʃiŋ ʈugeʈ
we-ERG winter-RN wood burn-PRS

We burn wood in winter.

In Balti the bare form of a noun indicates its generic usage. As illustrated in examples 62.

(62) བལ་ཏིས་ཀ་ནིང་བང་ཡོད་

baltistan-iŋ baŋ-∅ ra-∅ lu-∅ joʈ
Baltistan-INE cow-GENR goat–GENR sheep-GENR aux-EX.COP.FAC.PRS

There are cows, goats, and sheep in Baltistan.

3.8 Case Marking

The present section examines the case system of Balti language. Case is a grammatical category of nouns. In Balti grammatical case is expressed by the following case markers:

- Absolutive unmarked *-ø*
- Ergative -ས་ *-si*
- Dative -ལ་ *-la*
- Genitive -ི *-i*
- Ablative -ན་ *-na*
- Inessive -ང་ *-ŋ*

Moreover, the analysis suggests that Balti has features of ergative grammatical system. Balti grammatical pattern reveals that it treats intransitive subject and transitive subject differently while intransitive subject and transitive object in the same way as illustrated in examples 63, and 64.

(63) ཁོ་ཨེད་

kʰo-ø weʈ
he-ABS go-PRS

He goes.

(64) ཁོ་སི་ཆུ་ཐུངས་

kʰo-si tʃʰu ʈʰuŋs
he-ERG water-ABS drink-PST

He drank water.

The intransitive subject and transitive object occur without any case marker, which is referred to as the absolutive case with zero realization. In contrast, the transitive subject takes the case marker སི་ *si*, which is known as the ergative case.

In this case system, the transitive indirect object is marked with ལ་ *la*, which is the dative marker, as illustrated in the following example 65.

(65) ཁོ་སི་ཀུར་སི་ང་ལ་ཇྱངས་

kʰo-si kursi-ø ŋa-la ʧjaŋs
he-ERG chair-ABS I-DAT hit-PST

He hit the chair to me.

Furthermore, the order of ergative and dative can be changed without altering the meaning. Here, it suggests that the syntactic function is specified by case ending. The following subsection discusses each case in detail.

3.8.1 Absolutive Case -ø

The absolutive (ABS) case does have a case marker. Absolutive case functions as the subject of intransitive verbs as illustrated in the following example 66.

(66) ང་དིད་ཨོངས་

ŋa-ø ŋiʈ oŋs
I-ABS sleep verb-PST

I slept.

The absolutive functions as the subject of copulas, whether equative (EQ) or existential (EX). With the equative copula Bal. ཨིན་ *-in*, the subject is equated with another participant or a predicative element, which also takes the absolutive case. This is illustrated in example 67, where both the subject Bal. དི་རྒྱུ་ *ɖi rju-ø* and the predicative element Bal. ཕོ་རྩིད་ *pʰortsiʈ-ø* are in absolutive case.

(67) དི་རྒྱུ་ཕོ་རྩིད་ཨིན་

di rju-ø pʰortsiʈ-ø in
This young-goat-ABS male-goat-ABS COP.EQ

This young goat is male.

With existential copula, it is qualified or located by one of the existential copulas as illustrated in example 68.

(68) ཁོ་ནང་ན་ཡོད་

kʰo-ø naŋ-nu joʈ
he-ABS home-INE COP.EX

He is in the house.

The absolutive case also functions as a direct object of a transitive verb as illustrated in the following example 69.

(69) ཁོ་སི་ནང་ཏི་ཏྲངས་

kʰo-si naŋ-ʧi-ø ʈaŋs
He-ERG house-INDF-ABS build-PST

He built a house.

3.8.2 Ergative Case -སི *-si*

The ergative case takes *-si* after vowel and *-i* after consonant. The genitive case also has the same particle *i* but the function of *i* is determined by its linguistic context: the following transitive verb indicates that the particle *i* is ergative and the following nominal indicates that the particle *i* is genitive. The basic and only function of ergative case is the agent of the transitive verbs as illustrated in example 70.

(70) ཁོ་སི་ཟན་ཟོས་

kʰo-si zan-ø zos
he-ERG food-ABS eat-PST

He ate a meal.

Moreover, the ergative does not mark the experiencer subject of the sensory verbs as illustrated in examples 71, and 72.

(71) ཁོ་ལ་མིན་དོའི་དྲི་ཨོངས་

kʰo-la mindoɣi ʈri-ø oŋs
he-DAT flower-GEN smell-ABS come-PST

He experienced the fragrance of the flower.

(72) ཁོ་ལ་ཡང་ཐོངས་

kʰo-la jaŋ-ø ʈʰoŋs
he-DAT you-ABS see-PST

He saw you.

The examples show that the ergative does not mark the experiencer of the sensory verbs such as Bal. དྲི་མྱོང་ *ʈri-oŋs* 'experienced fragrance', and Bal. ཐོངས་ *ʈʰoŋs* 'saw' always take dative case.

3.8.3 Dative Case -ལ *-la*

According to Tournadre (2010, p. 160),in Literary Tibetan, the dative case -ལ *-la* serves to mark beneficiary, possessor, as well as locative meanings, including spatial and directional relations.

In Balti, the dative case marker -ལ *-la* functions similarly. Based on the data, three syntactic constructions involving the dative were observed:

- DAT + VERB
- DAT + ABS + VERB
- ERG + DAT + ABS + VERB

In the construction DAT + VERB, the dative-marked argument functions semantically as an experiencer, while syntactically it remains a non-subject argument as illustrated in examples 73, and 74.

(73) ངའ་གསམས་

ŋa-la xsams
I-DAT think-PST

I thought.

(74) ངའ་ཐིག་གྱ་མེད་

ŋa-la ʈʰik-gwa-meʈ
I-DAT guess-PRS-PERF

I cannot guess.

In the syntactic construction DAT + ABS + VERB, the dative-marked argument bears the semantic role of possessor as illustrated in example 75 or location as illustrated in examples 76, and 77 .

(75) ང་ལ་བུ་ཅིག་ཡོད་

ŋa-la pʰru tʃik joṭ
I-DAT son one COP.EX

I have a son.

(76) རི་ལ་ཁ་ཞོང་སེད་

ri-la kʰa oŋseṭ
hill-DAT ice-ABS come-PERF

Snow has fallen on the hill.

(77) སྣམ་ལ་ཟླ་བོད་ཤར་སོང་

snam-la lzoṭ ʃarseṭ
sky-DAT moon-ABS shine-PERF

The moon has shined in the sky.

In the construction ERG + DAT + ABS + VERB the dative-marked argument bears the semantic role of a beneficiary. This is illustrated in the following example 78, and 79.

(78) ཁོ་སི་ང་ལ་རྒྱུ་སྤྲི་རེ་ཟེར་མ་

kʰo-si ŋa-la hrku-spere zers
he-ERG I-DAT secret-INDF tell-PST

He told me a secret.

(79) ཁོ་སི་ང་ལ་པན་ཏེ་མིན་མ་

kʰo-si ŋa-la pen-tʃi mins
he-ERG I-DAT pen-INDF-ABS give-PST

He gave me a pen.

3.8.4 Genitive Case -ཨི -*i*

The genitive (GEN) case marker -ཨི -*i* reflects sandhi features as discussed in §3.3. This case marker uniquely connects one noun or noun phrase to another, establishing a relationship between them. The genitive is used to indicate that one noun or noun phrase modifies or qualifies another. It is positioned between the modifying noun or noun phrase and the modified noun or noun phrase. The relationship between genitive case and the following modified noun phrase can have the following meanings:

- Ownership: where the modifier noun owns the modified noun phrase.
- Whole-part relationship: where the modifier represents the whole, and the modified is a part of it.
- Origin: where the modifier noun is the source of the modified noun.
- Relation: where the modifier noun has a social relation with the modified noun.

The ownership can be a material possession or an abstract quality associated with the modifier. Here, the pattern is (owner + genitive marker + possession) as illustrated in examples 80, 81, and 82.

(80) ཡ་རི་ནང་པོ་

jar-i *naŋ-po*
you-GEN house-DEF

Your house.

(81) ཟམ་བི་ཨན་པོ་

zamb-i *an-po*
bridge-GEN power-DEF

The strength of the bridge.

(82) མིན་དོ་ཏི་ཏྲི་

mindoy-i *ʈri*
flower-GEN fragrance

The fragrance of the flower.

The genitive is used to show whole and part relationship, where the modifier is the whole and the modified is a part of it. This function of genitive is illustrated in examples 83, and 84.

(83) ཁུར་བི་པོ་ཅིག་

kʰurb-i *po* *ʧik*
bread-GEN part one

one part of the bread

(84) ན་རི་སྐོ་

naŋ-i *zgo*
house-GEN door

the door of the house

The genitive is used to show that the modifier noun is the source of the modified noun. This function is illustrated in examples 85, 86, and 87.

(85) བལ་གོན་ཅས་

bal-i *gontʃas*
wool-GEN clothes

Clothes of wool

(86) བཟའ་པི་ཀོད་

baxsp-i *coat*
leather-GEN coat

Coat of leather.

(87) ཤིང་ཏི་སྒོ་

ʃiŋ-i *zgo*
wood-GEN door

wooden door

The modifier may denote the origin of the head. Here the pattern is (modifier + genitive marker + modified head). The examples 88, and 89 illustrate this function of genitive.

(88) བང་ཏི་ཨོ་མ་

baŋ-i *oma*
cow-GEN milk

cow's milk

(89) ཉི་མི་གཟེར་

ɲim-i *ɣzer*
sun-GEN ray

sun's ray

The modifier also denotes a social relation with the modified head. This function of genitive is illustrated in examples 90.

(90) ཨ་དི་བུ་

aṭ-i bu
father-GEN son

father's son.

3.8.5 Ablative Case -ན་ *-na*

The ablative case marker Bal. -ན་ *-na* has multiple interpretations depending on its syntactic and semantic context:

- When it follows a locative expression, it denotes the source or origin of an entity.
- When its host is human or, in some cases, animate, it is interpreted as comitative, indicating accompaniment or interaction.
- When its host is inanimate, it is understood as instrumental, marking the means or tool by which an action is performed.

The ablative case marker Bal. -ན་ *-na* denotes the source or origin of an entity. This function is illustrated in example 91.

(91) ཁོ་ཁའེབ་ལུ་ན་ཨོང་སེད་

kʰo-ø xaplu-na oŋseṭ
he-ABS Kaplu-ABL come-PERF

He has come form Khaplu.

In this example, Bal. ཁའེབ་ལུ་ *xaplu* 'Khaplu' refers to the location, while Bal. ཁོ་ *kʰo* 'he' indicates the individual who came from that location. The ablative marker-ན་ *-na* explicitly marks the origin of Bal. ཁོ་ *kʰo* 'he' in this context.

The ablative marker Bal. -ན་ *-na* is interpreted as comitative when its host is human or, in some cases, at least animate. This function is demonstrated in example 92.

(92) ང་ཁོ་ན་ཐུག་

ŋa-ø kʰo-na ṭʰuks
I-ABS he-ABL meet-PST

I met him.

In this example, the host Bal. ཁོ་ *kʰo* 'he' is human which indicates the comitative function of Bal. -ན *-na*.

The ablative marker Bal. -ན *-na* is interpreted as instrumental when its host is inanimate. This usage is illustrated in examples 93, and 94.

(93) ངས་སི་ཁོ་ལ་ཡིག་བུ་ན་རླུང་ཁྱབ་ཏུ་སྤྲད།

ŋa-si kʰo-la ʃoqbu-na xluŋ ʈaŋs
I-ERG he-DAT book-DEF-ABL wind give-PST

I fan him with the book.

(94) ཁོ་སི་གྲི་ན་རས་པོ་ཆད།

kʰo-si gri-na ras-po-ø ʧaʈs
he-ERG knife-ABS cloth-DEF-ABS cut-PST

He cut the cloth with a knife.

In example 93, the host Bal. ཡིག་བུ *ʃokbu* 'book' is inanimate and used as an instrument to fan someone. Similarly, in example 94, the host Bal. གྲི *gri* 'knife' is inanimate and serves as the tool used to cut the cloth. These examples clearly demonstrate the instrumental function of the ablative marker Bal. -ན *-na* when the host noun is inanimate.

3.8.6 Inessive Case -ཨིང *-iŋ*

The inessive case marker is -ཨིང *-iŋ*. This case maker indicates one nominal is inside of another. This function is illustrated in example 95.

(95) ཁོ་ནང་རིང་ཡོད།

kʰo naŋ-iŋ joʈ
he home-INE is

He is in home.

In the example, the inessive marker Bal.-ཨིང *-iŋ* is attached to the noun Bal.ནང *ŋaŋ* 'house' and becomes Bal.ན་རིང *ŋaŋ-iŋ* 'in the house', which tells the position of *kʰo* 'he' in relation to *ŋaŋ* 'house'. The inessive marker also assimilates the final vowel of the definite article *-o* to *-i* hence the definite article *-po* assimilates to *-pi* before the inessive *-ŋ* as illustrated in examples 96, and 97.

(96) ནས་པོ་རྒོམ་

nas-po rgom-piŋ joʈ
barley-DEF box-DEF-INE be-PRS

The barley is in the box.

(97) གཞོལ་ཅག་ཐན་དིང་མེད་

xmol-tʃik ʒand-iŋ meʈ
money-INDF pocket-INE be.NEG-PS

A penny is not in the pocket.

3.9 Relator Nouns

In addition to the cases, there is a specific category, which usually occurs with the genitive particle, and this category indicates a noun in relation to another noun for which DeLancey (1997, p. 58) adopted the term 'Relator Noun' used by (Starosta, 1985) and in the present study the same term 'Relator Noun' is used. According to Bialek (2022, p. 129) relator nouns in Literary Tibetan form a distinct, non-modifiable, and non-quantifiable word class that primarily attaches to noun phrases via the genitive case, though a small subset connects through the absolutive case. Balti relator nouns are:

- Bal. ཀ་ *kʰa* 'on'
- Bal. ཉུ་ *nu* 'inside'
- Bal. ཨོག་ *oq* 'under'
- Bal. སྟོག་ *ʈʰjoq* 'over or above'
- Bal. ཕྱོག་ *pʰjoq* 'side'

3.9.1 ཀ་ *kʰa*

The relator noun Bal. ཀ་ *kʰa* always occurs with the genitive Bal. ཨི་ *-i* except after demonstrative and interrogative pronoun such as Bal. དིཀ་ *di kʰa* 'on / at this, over here' Bal. གེཀ་ *ge kʰa* 'on/at which or where'. The relator noun Bal. ཀ་ *kʰa* occurs in the structure: NP + GEN + RN. Noun + *i-kʰa* conveys the meaning of 'on top of the noun' and it locates the position of one noun on top of another as illustrated in the following examples 98, 99, 100, and 101.

(98) ཁོ་རྟ་ཡི་ཡོད་

kʰo-ø hrt-e kʰa joṭ
he-ABS horse-GEN RN COP.EX

He is on the horse.

(99) ཁོ་ཆུ་ཡི་དྲུལས་

kʰo-ø tʃʰw-i kʰa ɖruls
he-ABS water-GEN RN walk-PST

He walked on water.

(100) ཁོ་བྲག་ཨི་ཡི་རྩུལས་

kʰo-ø bray-i kʰa ʈʰuls
he-ABS mountain-GEN RN climb-PST

He climbed on the mountain.

(101) ཁོ་ཁྱན་དེ་ཧི་ཡི་དུགས་

kʰo-ø handuy-i kʰa ɖuks
he-ABS roof-GEN RN stay-PST

He stayed on the roof.

This Relator Noun also indicates time, as demonstrated in examples 102, and 103. The structure consists of verb + Bal.ཐྭི་ *ʈʰw-e-kʰa*, where the genitive case marker conveys the meaning of 'when'.

(102) ཁོ་ཨ་ཐྭི་ཡི་

kʰo-ø wa ʈʰw-e kʰa
he-ABS go time-GEN RN

at the time to go

(103) ཨོང་ཐྭི་ཡི་

kʰo-ø oŋ ʈʰwe kʰa
he come time-GEN RN

at the time to come

3.9.2 ནུ་ *nu*

The relator noun Bal. ནུ་ *nu* 'inside' is used with the inessive case marker Bal. -ཨིང་ *-iŋ* 'in' where the structure is : NOUN + INE + RN as shown in examples 104, 105, and 106. Interestingly, sentences without the Relator Noun still convey the same meaning when the inessive marker Bal. -ཨིང་ *-iŋ* 'in' is used alone.

(104) ཁོ་བཟོད་པིང་ནུ་ཡོད་

kʰo bzoʈ-piŋ nu joʈ
he store-DEF-INE RN be-PRS

He is in the store.

(105) བྲས་པོ་རྒོམ་པིང་ནུ་ཡོད་

bras-po rgom-piŋ nu juʈ
rice-DEF box-DEF-INE RN be-PRS

The rice is in the box.

(106) གཟུལ་པོ་ཟན་དིང་ནུ་མེད་

xmol-po zand-iŋ nu meʈ
money-DEF pocket-INE RN be-PERF-PRS

The money is not in the pocket.

3.9.3 ཨོག་ *oq*

The relator noun Bal. -ཨོག་ *-oq* 'under or beneath' indicates an entity under the noun. The relator noun -ཨོག་ *-oq* follows the genitive particle *-i*, forming the structure NP + GEN + RN, as illustrated in examples 107, 108, and 109.

(107) ཐུ་ལི་ཨོག་

tʃul-i oq
apricot-GEN RN

Beneath the apricot

(108) རྒོ་མི་ཨོག་

rgom-i oq
box-GEN RN

Under the box

(109) རྣན་དོ་ཨོག་

handoŋ-i oq
roof-GEN RN

Under the roof

3.9.4 སྟོག་ *ʈʰjoq*

The next Relator Noun Bal. སྟོག་ *ʈʰjoq* 'above or over' follows the genitive Bal. -ཨི *-i* forming the structure NP + GEN + RN, and conveys the meaning of English preposition 'above' or 'over'. The usage of relator noun སྟོག་ *ʈʰjoq* is demonstrated in examples 110, 111, and 112.

(110) ན་ཏི་ཁྱོག་

naŋ-i ʈʰjoq
house-GEN RN

Above the house

(111) རྩྭ་ཁྱོག་

hrkj-e ʈʰjoq
stream-GEN RN

Above the stream

(112) རྒྱམ་རྩེ་སྟོག་

rgjamtsw-e ʈʰjoq
river-GEN over

Over the river

3.9.5 ཕྱོག་ *pʰjoq*

The Relator Noun Bal. ཕྱོག་ *pʰjoq* 'side' combines with Bal. ཏྲན་ *ʈraŋ* 'right', Bal. འཞེན་ *xen* 'left', Bal. དུན་ *ɖun* 'front', and Bal. རྒབ་ *rgjap* 'back' to form compound relator nouns. These compounds follow the structure NP + GEN + RN, as demonstrated in the following examples 113, 114, 115, and 116.

(113) ན་ཏི་ཏྲང་ཕྱོག་

naŋ-i ʈraŋ-pʰjoq
house-GEN RN

The right side of the house.

(114) ན་ངེའོན་ཕྱོགཿ

naŋ-i *xen-pʰjoq*
house-GEN RN

The left side of the house.

(115) ན་ངེ་དུན་ཕྱོགཿ

naŋ-i *dun-pʰjoq*
house-GEN RN

The front side of the house.

(116) ན་ངེ་རྒྱབ་ཕྱོགཿ

naŋ-i *rgjab-pʰjoq*
house-GEN RN

The back side of the house.

3.10 Noun + Cardinal Numerals

In Balti, cardinal numbers from one to ten are: Bal. ཅིག་ *ʧik* 'one', Bal. གཉིས་ *ɲis* 'two', Bal. གསུམ་ *xsum* 'three', Bal. བཞི་ *bʒi* 'four', Bal. ལྔ་ *ya* 'five', Bal. དྲུག་ *ʈruk* 'six', Bal. བདུན་ *bd̪un* 'seven', Bal. བརྒད་ *bgjad* 'eight', Bal. དགུ་ *rgu* 'nine', and Bal. བཅུ་ *pʰʧu* 'ten'.

For forming eleven to nineteen ཅུ- *ʧu-* or ཅོ- *ʧo-* is added to the unit numbers:

- Bal. ཅུསཅིག་ *ʧustʃik* 'eleven'
- Bal. ཅོཉིས་ *ʧoɲis* 'twelve'
- Bal. ཅུགསུམ་ *ʧuxsum* 'thirteen'
- Bal. ཅུབཞི་ *ʧubʒi* 'fourteen'
- Bal. ཅོལྔ་ *ʧoya* 'fifteen'
- Bal. ཅུརུག་ *ʧuruk* 'sixteen'
- Bal. ཅུབདུན་ *ʧubd̪un* 'seventeen'
- Bal. ཅོབརྒད་ *ʧobgjad* 'eighteen'

- Bal. ཇུར་གུ་ *ʧurgu* ‘nineteen’.

Notably, in Bal. ཇུས་ཏིག་ *ʧustʃik* ‘eleven’, the element *-s-* appears between *ʧu* and the unit *ʧik*. In contrast, for Bal. ཇུ་རུག་ *ʧuruk* ‘sixteen’, the initial dental stop *ʈ* from *ʈruk* ‘six’ is omitted after *ʧu*.

Moreover, decimal system is used to form twenty, thirty and fifty by adding Bal. བཅུ་ *pʰtʃu* ‘ten’ to numerals Bal. ཉིས་ *ɲis* ‘two’ Bal. གསུམ་ *xsum* ‘three’ and Bal. ལྔ་ *ɣa* ‘five’ resulting in Bal. ཉི་ཤུ་ *ɲiʃu* ‘twenty’, Bal. གསུམ་བཅུ་ *xsumtʃu* ‘thirty’, Bal. ལྔ་བཅུ་ *ɣapʰtʃu* ‘fifty’.

Furthermore, vigesimal system is used to form forty, sixty and eighty by adding Bal. ཉི་ཤུ་ *ɲiʃu* ‘twenty’ to Bal. ཉིས་ *ɲis* ‘two’, Bal. གསུམ་ *xsum* ‘three’ and Bal. བཞི་ *bʒi* ‘four’ resulting in Bal. ཉི་ཤུ་ཉིས་ *ɲiʃuɲis* ‘forty’, Bal. ཉི་ཤུ་གསུམ་ *ɲiʃuxsum* ‘sixty’, and Bal. ཉི་ཤུ་བཞི་ *ɲiʃubʒi* ‘eighty’. For getting seventy and ninety both vigesimal and decimal systems are used, where Bal. བཅུ་ *pʰtʃu* ‘ten’ is added to Bal. ཉི་ཤུ་གསུམ་ *ɲiʃuxsum* ‘sixty’, and Bal. ཉི་ཤུ་བཞི་ *ɲiʃubʒi* ‘eighty’ getting Bal. ཉི་ཤུ་གསུམ་ན་བཅུ་ *ɲiʃuxsum na pʰtʃu* ‘seventy’ and Bal. ཉི་ཤུ་བཞི་ན་བཅུ་ *ɲiʃubʒina pʰtʃu* ‘ninety’.

The unrounded numbers are formed by adding a connector Bal. ན་ *na* followed by the rounded number and preceded by the unit number such as Bal. ཉི་ཤུ་ན་ཅིག་ *ɲiʃu na ʧik* ‘twenty one’, Bal. ཉི་ཤུ་ན་ཉིས་ *ɲiʃu na ɲis* ‘twenty two’ Bal. ཉི་ཤུ་ན་གསུམ་ *ɲiʃu na xsum* ‘twenty three’ and Bal. ཉི་ཤུ་ན་བཞི་ *ɲiʃu na bʒi* ‘twenty four’ etc. Additionally, there are specific words for hundred and thousand as Bal. བརྒྱ་ *bgja* ‘hundred’ Bal. སྟོང་ *ʂtoŋ* ‘thousand’.

All cardinal numbers follow the head nouns as illustrated in the following example 117.

(117) ཁོའི་ནང་ཉིས་ཡོད་

kʰo-ɲi naŋ nis joʈ
they-GEN house two have-PRS

They have two houses.

3.11 Quantifier

In Balti, certain expressions are commonly used to indicate quantity. The most frequently used quantifiers are: Bal. ཁ་ཡིག་ *kʰajig* ‘some’, Bal. རེ་རེ་ *rere* ‘each’, Bal. གང་མ་ *gaŋma* ‘all’. These quantifiers do not co-occur with numerals and always appear after the head noun within a noun phrase, as shown in examples 118, 119, 120.

(118) མི་ཁ་ཡིག་ཡོད་

mi kʰajik joʈ
man some be-PST

Some people are there.

(119) ཡི་ཏང་རེ་རེ་སོངས་

jiʈaŋ rere soŋs
you each go-PST

Each of you went.

(120) ཁོང་གང་མ་སོངས་

kʰoŋ gaŋma soŋs
they all go-PST

All of them went.

3.12 Noun Phrase Conclusion

This section can be concluded as noun phrases are structured around a noun or pronoun as the head, with various modifiers that precede it. These modifiers include possessives, demonstratives, ordinal numbers, and adjectives. However, the grammatical categories including plural markers, articles, and case markers follow the head nouns. Moreover, cardinal numerals, and quantifiers also follow head nouns. The general order of preceding modifiers is [GEN] > [DEM] > [ORD] > [ADJ] > [N], although ordinal numbers and adjectives can switch positions.

Nouns exhibit a rich morphological forms in ranging from monosyllabic, such as *mig* 'eye' and *baŋ* 'cow', to disyllabic, like *kosko* 'chin' or *snamsul* 'nose'. In disyllabic nouns suffixes like *-pa* and *-ma* function as integral part of nouns. Nouns are derived by adding suffixes like -པ *-pa*, -མོ *-mo*, -ཕོ *-pʰo*, -བུ *-bu*, -ཙེ *-tse* to existing noun stems and by adding suffixes like -ཅས *-ʧas*, -ཁན *-kʰan*, and -ས *-sa* to existing verb stems. Compounding is also a prevalent word-formation process in Balti, involving the combination of two free morphemes to create new nouns. It encompasses three main types: copulative, endocentric, and exocentric. Moreover, Balti pronouns serve various functions, including replacing nouns to refer to people, indicate objects or actions, reflect back to the subject, or form questions. The personal pronouns in Balti are categorized into first, second, and third persons. First-person pronouns can be singular or plural, with

plural forms further divided into inclusive (including the addressee) and exclusive (excluding the addressee). Second-person pronouns have both honorific and non-honorific forms. Third-person pronouns distinguish gender in singular forms, while plural forms are created by adding a suffix before case markers. Demonstrative pronouns, such as Bal. ཇུ *dju* 'this one' denotes proximity, while the distal demonstrative pronoun Bal. དོ *do* 'that one' denotes distance.The plural forms of demonstrative pronouns are formed by adding the suffix Bal. -ན *-n*. Reflexive pronouns refer back to the subject, using suffixes or modifications, like Bal. ངའང *ŋaŋ* 'myself' from ང *ŋa* 'I', Bal. ཁོང *kʰwaŋ* 'himself' from ཁོ *kʰo* 'he' and Bal. མོང *mwaŋ* 'herself' from མོ *mo* 'she'. Interrogative pronouns, including Bal. སུ *su* 'who' Bal. ཇི *ʧi* 'what' and Bal. གོ *go* 'which', are essential for forming questions about identity, objects, or choices. Possessive relationships are marked using a genitive construction with the suffixes Bal.ཨི *i* or Bal.ཨེ *e* which are applied based on the final sound of the possessor noun. The possessor noun precedes the head noun in the nominal phrase. Demonstratives such as Bal. དི *di* 'this' and Bal. དེ *de* 'that', indicate spatial and temporal proximity or distance and precede the nouns they modify. Adjectives also precede nouns and exist in positive, comparative, and superlative degrees, with specific prefixes forming the latter two. Additionally, adjectives can be derived from nouns by adding certain suffixes. Ordinal numbers are formed by adding the suffix Bal. རེསི *resi* to cardinal numbers, except for the lexicalized first ordinal, Bal. གོཔི *gopi* 'first'. Ordinal numbers always precede the head nouns while cardinal numbers precede the head nouns in phrases related to age, price, or sequence, while cardinal numbers typically follow head nouns in other contexts. Grammatical categories like plural marker, article and case marker follow the head noun. Furthermore, cardinal numbers, quantifiers also follow head nouns.

Chapter 4

The Verbal System

This section provides a brief discussion of verbal constructions in Balti. The language follows an SOV (Subject + Object + Verb) sentence structure, where the verb always appears at the end of the sentence. This pattern is evident in the following examples. In example 121, the lexical verb Bal. ཐུཉིད་ *ʈʰuŋeʈ* 'drink' concludes the sentence. Similarly, in example 122, the light verb Bal. བེད་ *beʈ* 'do' serves as the final element, while in example 123, the auxiliary verb Bal. ཡོད་ *joʈ* 'am' occurs in sentence-final position. In example 124, the existential copula Bal. ཨིན་ *in* 'is' terminates the sentence.

(121) ང་སི་ཀུ་ཐུཉིད་

ŋa-si tʃʰu ʈʰuŋeʈ
I-ERG water drink-PRS

I drink water.

(122) ཁོ་སི་ང་ལ་ཞེ་བེད་

kʰo-si ŋa-la xa beʈ
he-ERG I-DAT anger LV

He directs his anger at me.

(123) ང་སི་ཟན་ཟེན་ཡོད་

ŋa-si zan zen joʈ
I-ERG meal eat-PROG AUX

He is eating a meal.

(124) ཁོ་ཕྲུ་ཨིན་

kʰo-∅ pʰru in
I-ABS boy AUX

He is a boy.

Balti verbs can be categorized into lexical verbs §4.1 , light verbs §4.2, and auxiliary verbs §4.3.

4.1 Lexical Verbs

This section begins with an analysis of the internal structure of lexical verbs, using a comprehensive paradigm of the Balti verb *za* 'eat' to examine inflectional patterns. The following examples illustrate the inflectional variations of *za* 'eat':

(125) ང་སི་ཟན་ཟེད་

ŋa-si zan zeʈ
I-ERG meal eat-PRS

I eat a meal.

(126) ང་སི་ཟན་ཟེན་ཡོད་

ŋa-si zan zen joʈ
I-ERG meal eat-PROG AUX

I am eating a meal.

(127) ང་སི་ཟན་ཟོསེད་

ŋa-si zan zoseʈ
I-ERG meal eat-PERF

I have eaten a meal.

(128) ང་སི་ཟན་ཟོས་

ŋa-si zan zos
I-ERG meal eat-PST

I ate a meal.

(129) ང་སི་ཟན་ཟག་

ŋa-si zan zek
I-ERG meal eat-P.FUT

I will eat a meal.

(130) ང་སི་ཟན་ཟེ་ཨིན་

ŋa-si zan ze-in
I-ERG meal eat-DEF.FUT

I will eat a meal.

(131) ཁྱོང་ཨི་ཟན་ཟོ

kʰjaŋ-i zan zo
you-ERG meal eat-IMP

You eat a meal.

(132) ང་སི་ཟན་ཟོ་སེ་ཡིད་

ŋa-si zan zose weṭ
I-ERG meal eat-CONJ go-PRS

I will go after eating.

(133) ང་ཟན་ཟ་ཡིད་

ŋa-∅ zan za weṭ
I-ABS meal eat-INF go-PRS

I go to eat a meal.

(134) ང་སི་ཟན་ཟ་

ŋa-si zan za
I-ERG meal eat-PERM

Should I eat?

Various forms of verb *za* 'eat' is summarized in Table 4.1

Present Tense	Perfective	Past	Progressive	Definite Future	Potential Future	Imperative	Infinitive	Conjunctive
zeṭ	*zoseṭ*	*zos*	*zen*	*zein*	*zek*	*zo*	*za*	*zose*

Table 4.1: Full Paradigm of Verb *za* 'eat'

The paradigm of *za* 'eat' in Balti demonstrates how verbs incorporate suffixes to express tense, aspect, and mood, as illustrated in Table 4.2.

Present Tense	Perfective	Past	Progressive	Definite Future	Potential Future	Imperative
-eʈ	*-seʈ*	*-s*	*-en*	*-in*	*-ek*	*o* nucleus for imperative form

Table 4.2: TAM suffixes on Verb *za*

Additionally, the suffixes for non-finite verb forms include *-se* for the conjunctive and the nucleus *-a-* for the infinitive.

Furthermore, different auxiliaries including Bal. ཡོད་ *joʈ*, Bal. ནང་ *naŋ*, Bal. པ་ *pa*, and Bal. སྡུག་ *suk* are used with certain inflected forms of the verbs as illustrated in examples:

(135) ཁོ་སི་ཟན་ཟེན་ཡོད་

kʰo-si zan zen joʈ
he-ERG meal eat-PROG AUX

He is eating a meal.

(136) ཁོ་སི་ཟན་ཟེན་ནང་

kʰo-si zan zen naŋ
he-ERG meal eat-PROG AUX

He is eating a meal.

(137) ཁོ་སི་ཟན་ཟེན་ཡོད་པ་

kʰo-si zan zen joʈ-pa
he-ERG meal eat-PROG AUX

He was eating a meal.

(138) ཁོ་སི་ཟན་ཟེན་ནང་པ་

kʰo-si zan zen naŋ-pa
he-ERG meal eat-PROG AUX

He was eating a meal.

(139) ཁོ་སི་ཟན་ཟེན་ཡོད་སྡུག་

kʰo-si zan zen joʈ-suk
he-ERG meal eat-PROG AUX

He was eating a meal.

For a detailed discussion of the different uses of auxiliaries, see §4.3. The present section deals with lexical verbs. The first part of this section examines the internal structure of lexical verbs that express tense, aspect, and mood (henceforth TAM) and evidentiality §4.1.1. The second part focuses on non-finite lexical verb forms, including the conjunctive and infinitive.

4.1.1 Verb Root Variation and TAM Morphology

This section begins with an exploration of verb roots, followed by suffixation on those roots. The suffixes attached to the verb *za* 'eat' indicate that Balti has a complex verb internal structure, as the root of the verb *za* 'eat' is not predictable. The suffixes reveal two possible roots: *ze* and *zo*.

For example, the present tense form Bal. ཟེད་ *zeṭ* 'eat' the progressive form Bal. ཟེན་ *zen* 'eating' the definite future Bal. ཟེའིན་ *zein* 'will eat' and the potential future Bal. ཟེག་ *zek* 'will eat' suggest that *ze* is the root. On the other hand, the past tense form Bal. ཟོས་ *zos* 'ate' the perfective form Bal. ཟོསེད་ *zoseṭ* 'has eaten' and the non-inflected imperative form Bal. ཟོ *zo* 'eat' suggest that Bal. ཟོ *zo* is the root.

Additionally, the verb form Bal. ཟ་ *za* 'eat' is used as the permissive form of the imperative, further complicating the identification of a single root.

4.1.1.1 Verb Stems in Balti

As part of TAM morphology, Balti lexical verbs can be categorized based on their stem variations. The analysis reveals that they fall into one-stem, two-stem, and three-stem verbs.

4.1.1.1.1 One Stem Verbs The verb paradigm can be simply illustrated as stem + inflections. For example, the verbs *min* 'give', *skum* 'squeeze' *buṭ* 'fall', *duk* 'stay', *ṭʰon* 'reach', *ṭʰul* 'climb', *bar* 'glow', and *bes* 'open' are inflected for various TAM distinctions, as shown in Table 4.3. The table suggests that the bare stems, without suffixes, represent the root forms. This class of verbs is referred to as single-stem verbs, where the stem remains consistent across all inflected forms. However, resyllabification occurs when suffixation is applied, leading to phonological modifications in the root structure, as discussed in §4.1.1.2. Moreover, since non-controllable verbs lack an imperative form, the imperative column for these verbs is left blank in the table.

Past		Present		Progressive		Perfective		Definite Future		Potential Future		Imperative	
Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA
མིན་	*mins*	མི་ནེད་	*mineʈ*	མི་ནེན་	*minen*	མིན་སེད་	*minseʈ*	མིན་མིན་	*minmin*	མི་ནུག་	*minuk*	མིན་	*min*
སྐུམས་	*skums*	སྐུ་མེད་	*skumeʈ*	སྐུ་མེན་	*skumen*	སྐུམ་སེད་	*skumseʈ*	སྐུ་མིན་	*skomin*	སྐུམ་ནུག་	*skumnuk*	སྐུམ་	*skum*
བུཏས་	*buʈs*	བུ་ཏེད་	*buʈet*	བུ་ཏེན་	*buʈen*	བུཏ་སེད་	*buʈseʈ*	བུཏ་པིན་	*buʈpin*	བུ་ཏུག་	*buʈuk*		
དགས་	*duks*	དུ་གེད་	*dugeʈ*	དུ་གེན་	*dugen*	དུག་སེད་	*dukseʈ*	དུག་པིན་	*dukpin*	དུག་ཏུག་	*dukʈuk*	དུག་	*dug*
ཇོན་	*ʈʰons*	ཇོ་ནེད་	*ʈʰoneʈ*	ཇོ་ནེན་	*ʈʰonen*	ཇོན་སེད་	*ʈʰonseʈ*	ཇོན་མིན་	*ʈʰonmin*	ཇོ་ནུག་	*ʈʰonuk*	ཇོན་	*ʈʰon*
ཐུལས་	*ʈʰuls*	ཐུ་ལེད་	*ʈʰuleʈ*	ཐུ་ལེན་	*ʈʰulen*	ཐུལ་སེད་	*ʈʰulseʈ*	ཐུལ་པིན་	*ʈʰulbin*	ཐུ་ལུག་	*ʈʰuluk*	ཐུལ་	*ʈʰul*
བཱརས་	*bars*	བ་རེད་	*bareʈ*	བ་རེན་	*baren*	བཱརས་སེད་	*barseʈ*	བཱརས་པིན་	*barbin*	བ་རུག་	*baruk*		
བེས་	*bes*	བེད་	*beʈ*	བེད་	*ben*	བེ་སེད་	*beseʈ*	བེ་ཨིན་	*bein*	བེག་	*bek*		

Table 4.3: One stem verbs with full TAM paradigm

4.1.1.1.2 Two Stem Verbs Unlike the previous class of verb, the class of verb mentioned in table 4.4 including ***kab*** 'bury', ***kan*** 'lean', ***kal*** 'send', ***skal*** 'assign', and ***ʈʰaʈ*** 'please' have two possible roots. The first root corresponds to the stems ***kab*** 'bury', ***kan*** 'lean', ***kal*** 'send', ***skal*** 'assign' and ***ʈʰaʈ*** 'please' which are common in the present tense, past tense, perfective, progressive, definite future and potential future. The second root is found in the imperative form, where the stem changes to ***kob*** 'bury', ***kon*** 'lean', ***kol*** 'send', ***skol*** 'assign', with the ***o*** nucleus. In this class of verbs, the stems in present tense, past tense, perfective, progressive, definite future, and potential future have a nucleus with *-a-* that may be the root, as in Tibetan languages a verb root having *-a-* nucleus changes to *-o-* in its imperative counterpart, hence, this class of the verb strengthens the previous analysis that in the stems + suffixes constructions, the stems without the suffixes are the roots. See §4.1.1.2 for the morphophonemics alternation.

Past		Present		Progressive		Perfective		Definite Future		Potential Future		Imperative	
Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA	Bal	IPA
གཱབས་	*kabs*	ག་བེད་	*kabeʈ*	ག་བེན་	*kaben*	གཱབ་སེད་	*kabseʈ*	གཱབ་པིན་	*kabin*	གཱབ་ཏུག་	*kabʈuk*	གོབ་	*kob*
གཱནས་	*kans*	ག་ནེད་	*kaneʈ*	ག་ནེན་	*kanen*	གཱན་སེད་	*kanseʈ*	གཱན་མིན་	*kanmin*	ག་ནུག་	*kanuk*	གོན་	*kon*
གཱལ་	*kal*	ག་ལེད་	*kaleʈ*	ག་ལེན་	*kalen*	གཱལ་སེད་	*kalseʈ*	གཱལ་པིན་	*kalbin*	ག་ལུག་	*kaluk*	གོལ་	*kol*
སྐལས་	*skals*	སྐ་ལེད་	*skaleʈ*	སྐ་ལེན་	*skalen*	སྐལ་སེད་	*skalseʈ*	སྐལ་པིན་	*skalbin*	སྐ་ལུག་	*skaluk*	སྐོལ་	*skol*
ཐཱསས་	*ʈʰaʦs*	ཐ་ཅེད་	*ʈʰaʦeʈ*	ཐ་ཅེན་	*ʈʰaʦen*	ཐཱས་སེད་	*ʈʰaʦseʈ*	ཐཱས་པིན་	*ʈʰaʦpin*	ཐ་ཅུག་	*ʈʰaʦuk*	ཇོད་	*ʈʰoʈ*

Table 4.4: Two stem verbs with full TAM paradigm

4.1.1.1.3 Three Stem Verbs Three-stem verbs in Balti are open syllable verbs. The first stems ***ɬʈa*** 'see', and ***zba*** 'hide' are common in the past tense

and perfective forms. The second stems *hl̪e*, and *zbe* are used in the present tense, progressive, definite future, and potential future tenses. The third stems *l̪os*, and *zbos* are used in the imperative form. This suggests that the common stems in the past tense and perfective forms, *l̪a*, represent the roots, as the stems with the *a* nucleus change to the *o* nucleus in the imperative form.

First Stem with *a*		Second Stem with *e*				Third Stem with *o*
Past	Present	Progressive	Perfective	Definite Future	Potential Future	Imperative
Bal IPA	Bal IPA	Bal IPA	Bal IPA	Bal IPA	Bal IPA	Bal IPA
ལྟས་ *l̪as*	ལྟ་སེད་ *l̪aseʈ*	ལྟེད་ *l̪eʈ*	ལྟེན་ *l̪en*	ལྟེ་ཨིན་ *l̪ein*	ལྟེག་ *l̪ek*	ལྟོས་ *l̪os*
སྦས་ *zbas*	སྦ་སེད་ *zbaseʈ*	སྦེད་ *zbeʈ*	སྦེན་ *zben*	སྦེ་ཨིན་ *zbein*	སྦེག་ *zbek*	སྦོས་ *zbos*

Table 4.5: Three stem verbs with full TAM paradigm

The internal structures of one-stem, two-stem, and three-stem verbs suggest that in the construction of stem + past tense inflection, the stem without the past tense inflection is the root. For example, the one-stem verb Bal. སྨིན་ *mins* 'gave', two-stem verb Bal. ཀབས་ *kabs* 'buried', and three-stem verb Bal. ལྟས་ *l̪as* 'looked', indicate that the past tense form of a verb consists of the root plus the past tense suffix *s*. In these cases, the stems *min* 'give', *kab* 'bury', and *hl̪a* 'look', can be considered the roots, as they carry the semantic content but are not conjugated for any tense.

However, irregular verbs present an exception. For example, verbs like Bal. ཟོས་ *zos* 'ate' and Bal. སོངས་ *soŋs* 'went' can be analyzed as the stems *zo* 'eat' and *soŋ* 'go' with the past tense suffix *s*. These bare forms *zo*, and *soŋ* are conjugated for the imperative. Additionally, other bare forms, such as *za* 'eat' and *wa* 'go' are used as infinitives. Except for the two irregular verbs *za* 'eat' and *wa* 'go' in all other constructions of stem + past tense suffix, the stems can be considered the roots.

This analysis suggests that the phonological structure of verb roots plays a crucial role in the suffixation process, particularly regarding the root nucleus and final coda consonants. Specifically, roots with the nucleus *a* undergo a shift to *o* in the imperative form. Additionally, open syllable roots with the nucleus *a* change to *e* in the present tense and progressive forms. The analysis further reveals certain consonant alternations within the root structure.

The following section examines the suffixation process on the verb roots.

4.1.1.2 Suffixation on Verb Roots

This section examines how TAM suffixes—*-et̪*, *-set̪*, *-s*, *-en*, *-in*, *-ek*, *a*, and *o*—attach to verb roots and the internal changes that occur. Notably, in the formation of the imperative, no suffix is added; instead, changes occur through vowel alternation.

4.1.1.2.1 Present Tense Suffix *-et̪* on verb roots In Balti, verb roots ending in the consonants *b*, *t̪*, *m*, and *n* take the present tense suffix *-et̪*, undergoing re-syllabification. In this process, the final consonant of the root shifts to the onset position of the second syllable, resulting in a disyllabic structure as illustrated in the following examples:

- *kab* 'bury' > Bal. ཀ་བེད་ *kabet̪*
- *but̪* 'fall' > Bal. བྷ་དེད་ *bud̪et̪*
- *skum* 'squeeze' > Bal. སྐུ་མེད་ *skumet̪*
- *tʰon* 'reach' > Bal. ཐོན་ *tʰonet̪*

In Balti, verb roots with a closed syllable ending in the coda *k* undergo a change in their present tense form, where *k* becomes its voiced counterpart *g* and moves at the onset position of the second syllable following re-syllabification as illustrated in the following examples:

- *pʰtʃik* 'erase' > Bal. བཕེ་གེད་ *pʰtʃiget̪*
- *kuk* 'bend' > Bal. གུ་གེད་ *kuget̪*

In Balti, verb roots with a closed syllable ending in the coda *q* undergo a change in the present tense, where *q* becomes its voiced counterpart *ɣ* and shifts to the onset position as illustrated in the following examples:

- *jaq* 'keep' > Bal. ཡ་འེད་ *jaɣet̪*
- *pʰjaq* 'sweep' > Bal. ཕྱ་འེད་ *pʰjaɣet̪*

Verb roots with a closed syllable ending in the coda *ŋ* undergo a change in the present tense, where *ŋ* becomes *ɲ* and shifts to the onset position as illustrated in the following examples:

- *oŋ* 'come' > Bal. ཨོ་ཉེད་ *oɲet̪*

- *taŋ* 'send' > Bal. ཏ་ཉེན་ *ṭaŋneṭ*

Moreover, open syllable verb roots having a nucleus *-a*, or *-i* changes to *-e* in the present tense forms as illustrated in the following examples:

- *ɬṭa* 'look' > Bal. ཐེན་ *ɬṭeṭ*
- *rbi* 'write' > Bal. རེན་ *rbeṭ*

The verb roots having a nucleus *-e* remain the same, where only the present tense suffix *-ṭ* is added in the formation of present tense form

- *be* 'open' > Bal. བེན་ *beṭ*

In Balti, open syllable verb roots with the nuclei *o* and *u* change to the diphthong *we* in the present tense as illustrated in the following examples:

- *ko* 'hear' > Bal. ཀྭེན་ *kweṭ*
- *ŋu* 'weep' > Bal. ངྭེན་ *ŋweṭ*

From the discussion we can deduce that voiceless, unaspirated, velar plosive *k* changes to its voiced counterpart *g*, when the velar plosive *k* occurs between the vowel *u* and *e*, the voiceless unaspirated uvular plosive *q* changes to voiced unaspirated velar *ɣ*, when the uvular plosive occurs between *o* and *e*, and the voiceless velar nasal *ŋ* changes to the voiceless palatal nasal *ɲ*, when the velar nasal occurs between *o* and *e*. Table 4.6 summarizes the morphophonemics of present tense suffix *-eṭ*.

4.1.1.2.2 Progressive Suffix *-en* on Verb Roots In Balti, the progressive aspect is formed by adding the suffix *-en* to the verb root. For verb roots that end in consonants such as *b* and *m*, the progressive suffix triggers a re-syllabification process. In these cases, the coda consonants *b* and *m* move to the onset positions in the progressive forms. This is illustrated in the following examples:

- *kab* 'bury' > Bal. ཀ་བེན་ *kaben* 'burring'
- *kram* 'level' > Bal. ཀ་མེན་ *kramen* 'leveling'

In Balti, close syllable verb roots with a coda *k* undergo re-syllabification and change to its voiced counterpart *g* in the progressive form. This is illustrated in the following examples:

Root	Roots + Present Tense Suffix *e̱ṯ*	Coda	Present Tense	Meaning	Morphophonemics
kap	*kap* + *e̱ṯ*	*b*	*kabe̱ṯ*	bury	Re-syllabification
bu̱ṯ	*bu̱ṯ* + *e̱ṯ*	*ṯ*	*bu̱de̱ṯ*	fall	Re-syllabification
duk	*duk* + *e̱ṯ*	*k*	*duge̱ṯ*	stay	Re-syllabification *k* → *g*
jaq	*jaq* + *e̱ṯ*	*q*	*jaɣe̱ṯ*	keep	Re-syllabification *q* → *ɣ*
skum	*skum* + *e̱ṯ*	*m*	*skume̱ṯ*	squeeze	Re-syllabification
tʰon	*tʰon* + *e̱ṯ*	*n*	*tʰone̱ṯ*	reach	Re-syllabification
oŋ	*oŋ* + *e̱ṯ*	*ŋ*	*oŋe̱ṯ*	come	Re-syllabification *ŋ* → *ɲ*
kas	*kas* + *e̱ṯ*	*s*	*kase̱ṯ*	crack	Re-syllabification
tʰul	*tʰul* + *e̱ṯ*	*l*	*tʰule̱ṯ*	climb	Re-syllabification
bar	*bar* + *e̱ṯ*	*r*	*bare̱ṯ*	burn	Re-syllabification
rbi	*rbi* + *e̱ṯ*	*i*	*rbe̱ṯ*	write	Vowel *i* → *e*
ɬ̱a	*ɬ̱a* + *e̱ṯ*	*a*	*ɬ̱e̱ṯ*	look	Vowel *a* → *e*
be	*be* + *e̱ṯ*	*e*	*be̱ṯ*	open	*e* + *e* → *e*
ko	*ko* + *e̱ṯ*	*o*	*kwe̱ṯ*	hear	*o* → *w*
ŋu	*ŋu* + *e̱ṯ*	*u*	*ŋwe̱ṯ*	weep	*u* → *w*

Table 4.6: Present Tense Suffix *-e̱ṯ* on Verb Roots

- *pʰʃik* 'erase' > Bal. བཤིག་གེན་ *pʰʃigen* 'erasing'
- *bʒik* 'fade' > Bal. བཞིག་གེན་ *bʒigen* 'fading'

Verb roots with a closed syllable ending in the coda *q* undergo re-syllabification in the progressive form, where *q* not only shifts to its voiced counterpart *ɣ* but also changes in place of articulation from uvular to velar. This is illustrated in the following examples:

- *jaq* 'keep' > Bal. ཡ་འདེན་ *jaɣen* 'keeping'
- *pʰjaq* 'sweep' > Bal. ཕྱ་འདེན་ *pʰjaɣen* 'sweeping'

Close syllable verb roots with a coda *ŋ* undergo re-syllabification in the progressive form, where *ŋ* changes to *ɲ* at the onset position. This is illustrated in the following examples:

- *oŋ* 'come' > Bal. ཨོང་ངེན་ *oɲen* 'coming'
- *ʈʰoŋ* 'see' > Bal. ཐོང་ངེན་ *ʈʰoɲen* 'seeing'

Moreover, open syllable verb roots with the nucleus *-a* or *-i* undergo a vowel change to *-e* in their progressive forms. This is illustrated in the following examples:

- *ɬta* 'look' > Bal. ལྟེན་ *ɬten* 'looking'
- *rbi* 'write' > Bal. རྩེན་ *rben* 'writing'

The verb roots with the nucleus *e* remain unchanged in the progressive form, with only the progressive suffix *-n* being added as illustrated in the following example:

- *be* 'open' > Bal. བེན་ *ben* 'opening'

Open syllable verb roots with the nucleus *o* and *u* undergo a glide formation, changing to *w* in the progressive form as illustrated in the following examples:

- *ko* 'hear' > Bal. ཀྭེན་ *kwen* 'hearing'
- *ŋu* 'cry' > Bal. ངྭེན་ *ŋwen* 'crying'

Table 4.7 summarizes morphophonemics of progressive suffix *-en*.

Root	**Roots + Progressive *-en***	**Coda**	**Progressive**	**Meaning**	**Morphophonemics**
kap	*kap* + *en*	*b*	*kaben*	burying	Re-syllabification
buʈ	*buʈ* + *en*	*e*	*buɖen*	falling	Re-syllabification
duk	*duk* + *en*	*k*	*dugen*	staying	Re-syllabification *k* → *g*
jaq	*jaq* + *en*	*q*	*jaɣen*	keeping	Re-syllabification *q* → *ɣ*
skum	*skum* + *en*	*m*	*skumen*	squeezing	Re-syllabification
tʰon	*tʰon* + *en*	*n*	*tʰonen*	reaching	Re-syllabification
oŋ	*oŋ* + *en*	*ŋ*	*oɲen*	coming	Re-syllabification *ŋ* → *ɲ*
kas	*kas* + *en*	*s*	*kasen*	cracking	Re-syllabification
tʰul	*tʰul* + *en*	*l*	*tʰulen*	climbing	Re-syllabification
bar	*bar* + *en*	*r*	*baren*	burning	Re-syllabification
rbi	*rbi* + *en*	*i*	*rben*	writing	Vowel *i* → *e*
ɬʈa	*ɬta* + *en*	*a*	*ɬʈen*	looking	Vowel *a* → *e*
be	*be* + *en*	*e*	*ben*	opening	*e* + *e* merges into *e*
ko	*ko* + *en*	*o*	*kwen*	hearing	*o* → *w*
ŋu	*ŋu* + *en*	*u*	*ŋwen*	weeping	*u* → *w*

Table 4.7: Progressive suffix *-en* on Verb Roots

4.1.1.2.3 Perfective Suffix *-seṭ* on Verb Roots In Balti, the perfective is formed by adding the suffix *-seṭ* to the verb root. The perfective suffix *-seṭ* attaches to the root without any modification, regardless of the phonological structure of the verb root. This is illustrated in the following examples:

- *kan* 'lean' > Bal. ཀན་སེཊ་ *kanseṭ* 'leaned'
- *duk* 'stay' > Bal. དུཀ་སེཊ་ *dukset* 'stayed'
- *jaq* 'keep' > Bal. ཡཀ་སེཊ་ *jaqseṭ* 'kept'
- *oŋ* 'come' > Bal. ཨོང་སེཊ་ *oŋseṭ* 'come'
- *rbi* 'write' > Bal. རྦི་སེཊ་ *rbiseṭ* 'written'
- *ɬṭa* 'look' > Bal. ལྟཀ་སེཊ་ *ɬṭaseṭ* 'looked'
- *ko* 'hear' > Bal. ཀོ་སེཊ་ *koseṭ* 'heard'
- *ŋu* 'weep' > Bal. ངུ་སེཊ་ *ŋuseṭ* 'wept'

Table 4.8 illustrates the formation of the perfective by adding the suffix *-seṭ* to verb roots.

4.1.1.2.4 Definite Future Tense Suffix *-in* on Verb Roots In Balti, definite future is expressed by suffixing *-in* and its variants to verb roots. This suffix exhibits sandhi properties, with its allomorphs being *-min*, *-pin*, and *-bin*.

Verb roots with the coda *m* and *b* take the suffix *-in* in the definite future form. During this process, the coda consonants Bal. *b* and *m* shift to the onset position in their definite future counterparts. This is illustrated in the following examples:

- *kab* 'bury' > Bal. ཀབིན་ *kabin* 'will bury'
- *kram* 'level' > Bal. ཀྲམིན་ *kramin* 'will level'

Close syllable verb roots with the coda *n* or *ŋ* take the allomorph *-min* in the definite future construction as illustrated in the following examples:

- *kan* 'lean' > Bal. ཀན་མིན་ *kanmin* 'will lean'
- *oŋ* 'come' > Bal. ཨོང་མིན་ *oŋmin* 'will come'

. Verb roots with the coda *k*, *ṭ*, and *q* take the allomorph *-pin* in the definite future construction. This is illustrated in the following examples:

Root	Roots + Perfective *-seṭ*	Coda	Perfective	English Meaning	Morphophonemics
kab	*kab* + *-seṭ*	*b*	ཀབ་སེད་ *kabseṭ*	buried	No change
buṭ	*buṭ* + *-seṭ*	*ṭ*	བུད་སེད་ *buṭeṭ*	fell	No change
kuk	*kuk* + *-seṭ*	*k*	ཀུག་སེད་ *kukseṭ*	bent	No change
koq	*koq* + *-seṭ*	*q*	ཀོག་སེད་ *koqset*	snatched	No change
kram	*kram* + *-seṭ*	*m*	ཀྲམ་སེད་ *kramset*	leveled	No change
min	*min* + *-seṭ*	*n*	མིན་སེད་ *minset*	given	No change
oŋ	*oŋ* + *-seṭ*	*ŋ*	ཨོང་སེད་ *oŋset*	come	No change
kas	*kas* + *-seṭ*	*s*	ཀས་སེད་ *kaset*	cracked	No change
skor	*skor* + *-seṭ*	*r*	སྐོར་སེད་ *skorset*	spun	No change
kol	*kol* + *-seṭ*	*l*	ཀོལ་སེད་ *kolset*	used	No change
bri	*bri* + *-seṭ*	*i*	བྲི་སེད་ *briset*	decreased	No change
ɬṭa	*ɬṭa* + *-seṭ*	*a*	སྒྲ་སེད་ *ɬṭaset*	looked	No change
be	*be* + *-seṭ*	*e*	བེ་སེད་ *beset*	opened	No change
ko	*ko* + *-seṭ*	*o*	ཀོ་སེད་ *koset*	heard	No change
ŋu	*ŋ* + *-seṭ*	*u*	དུ་སེད་ *ŋuset*	wept	No change

Table 4.8: Perfective Suffix *-seṭ* on Verb Roots

- *kuk* 'bend' > Bal. ཀུག་པིན་ *kukpin* 'will bend'
- *koq* 'snatch' > Bal. ཀོག་པིན་ *koqpin* 'will snatch'
- *pʰuṭ* 'pull out' > Bal. ཕུད་པིན་ *pʰuṭpin* 'will pull out'

Verb roots with the coda *l* and *r* take the allomorph *-bin* in the definite future construction as illustrated in the following examples:

- *ṭul* 'stitch' > Bal. ཏུལ་བིན་ *ṭulbin* 'will stitch'
- *pʰur* 'fly' > Bal. ཕུར་བིན་ *pʰurbin* 'will fly'

Open syllable verb roots with the nucleus *a* and *i* take the allomorph *-in*. However, in addition to the suffix being added, vowel changes occur, where *a* and *i* change to *e* as illustrated in the following examples:

- *ɬta* 'look' > Bal. སྟེ་ཨིན་ *ɬṭein* 'will look'
- *rbi* 'write' > Bal. རྟེ་ཨིན་ *rbein* 'will write'

Open syllable verb roots with the nucleus *u* and *o* change to *w* and *e* is added as illustrated in the following examples:

- *ko* 'hear' > Bal. ཀྭིན་ *kwein* 'will hear'
- *ŋu* 'weep' > Bal. ངྭིན་ *ŋwein* 'will weep'

Table 4.9 summarizes the morphophonemics of definite future suffix *-in*.

Roots	Roots + Definite Future *-in*	Coda	Definite Future	English Meaning	Morphophonemics
kab	*kab* + *in*	*b*	ཀབིན་ *kabin*	will bury	
but̪	*but̪* + *in*	*t̪*	བུདཔིན་ *but̪pin*	will fall	after *t̪*, *p* precedes *in* → *pin*
duk	*duk* + *in*	*k*	དུགཔིན་ *dugpin*	will stay	after *k*, *p* precedes *in* → *pin*
jaq	*jaq* + *in*	*q*	ཡགཔིན་ *jaqpin*	will keep	after *q*, *p* precedes *in* → *pin*
skum	*skum* + *in*	*m*	སྐུམིན་ *skumin*	will squeeze	
tʰon	*tʰon* + *in*	*n*	ཐོན་མིན་ *tʰonmin*	will reach	after *n*, *m* precedes *in* → *min*
oŋ	*oŋ* + *in*	*ŋ*	ཨོང་མིན་ *oŋmin*	will come	after *ŋ*, *m* precedes *in* → *min*
kas	*kas* + *in*	*s*	ཀསཔིན་ *kaspin*	will crack	after *s*, *p* precedes *in* → *pin*
tʰul	*tʰul* + *in*	*l*	ཐུལབིན་ *tʰulbin*	will climb	after *l*, *b* precedes *in* → *bin*
bar	*bar* + *in*	*r*	བཇབིན་ *barbin*	will burn	after *r*, *b* precedes *in* → *bin*
rbi	*rbi* + *in*	*i*	རྦེིན་ *rbein*	will write	before *in*, *i* → *e*
ɬt̪a	*ɬt̪a* + *in*	*a*	ལྟེིན་ *ɬt̪ein*	will look	before *i*, *a* → *e*
be	*be* + *in*	*e*	བེིན་ *bein*	will open	
ko	*ko* + *in*	*o*	ཀྭིན་ *kwein*	will hear	before *i*, *o* → *we*
ŋu	*ŋu* + *in*	*u*	ངྭིན་ *ŋwein*	will weep	before *i*, *u* → *we*

Table 4.9: Definite Future Tense Suffix *-in* on Verb Roots

4.1.1.2.5 Potential Future Tense Suffix -ek on Verb Roots In Balti, the verb root plus *-ek* and its variants express potential future. This suffix exhibits sandhi properties, with its allomorphs being *-uk*, *-t̪uk*, and *-nuk*.

Verb roots with the coda consonants *b*, *k*, and *q* take the allomorph *-t̪uk* as illustrated in the following examples:

- *kab* 'bury' > Bal. ཀབ་ཏུག་ *kabṭuk* 'will bury'
- *kuk* 'bend' > Bal. ཀུག་ཏུག་ *kukṭuk* 'will bend'
- *koq* 'snatch' > Bal. ཀོག་ཏུག་ *koqṭuk* 'will snatch'

Verb roots with the coda consonants *m* and *ŋ* take the allomorph *-nuk* as illustrated in the following examples:

- *kram* 'level' > Bal. ཀྲམ་ནུག་ *kramnuk* 'will level'
- *oŋ* 'come' > Bal. ཨོང་ནུག་ *oŋnuk* 'will come'

Verb roots with the coda consonants *n*, *s*, *l*, and *r* take the potential future suffix *-uk*, with re-syllabification occurring as the final coda consonant shifts to combine with the *-uk* suffix. This is illustrated in the following examples:

- *kan* 'lean' > Bal. ཀ་ནུག་ *kanuk* 'will lean'
- *kas* 'crack' > Bal. ཀ་སུག་ *kasuk* 'will crack'
- *kal* 'send' > Bal. ཀ་ལུག་ *kaluk* 'will send'
- *zer* 'tell' > Bal. ཟེ་རུག་ *zeruk* 'will tell'

The open syllable nuclei *a* and *i* change to *e*, and *k* is added. This is illustrated in the following examples:

- *ɬta* 'look' > Bal. ཉེ་ག་ *ɬtek* 'will look'
- *rbi* 'write' > Bal. རེག་ *rbek* 'will write'

Verb roots with the nucleus vowels *o* and *u* change into the glide *w*, and *ek* is added. This is illustrated in the following examples:

- *ko* 'hear' > Bal. ཀྭེག་ *kwek* 'will hear'
- *ŋu* 'weep' > Bal. ངྭེག་ *ŋwek* 'will weep'

Table 4.10 summarizes the morphophonemics of potential future suffix *-ek*.

Roots	Root + potential future *-ek*	Coda	**potential future**	Meaning	Morphophonemics
kab	*kab* + *-ek*	*b*	གབ་ཏུག་ *kabʈuk*	will bury	After *b*, *ʈ* precedes *ek*, where *a* changes to *u*
buʈ	*buʈ* + *-ek*	*ʈ*	བུ་ཏག་ *buʈuk*	will fall	After *ʈ*, *e* changes to *u*
duk	*duk* + *-ek*	*k*	དུག་ཏག་ *dukʈuk*	will stay	After *k*, *ʈ* precedes *ek*, where *a* changes to *u*
koq	*koq* + *-ek*	*q*	ཀོག་ཏག་ *koqʈuk*	will snatch	After *q*, *ʈ* precedes *ek*, where *a* changes to *u*
kram	*kram* + *-ek*	*m*	ཀྲམ་ནུག་ *kramnuk*	will level	After *m*, *n* precedes *ek*, where *a* changes to *u*
min	*min* + *-ek*	*n*	མི་ནུག་ *minuk*	will give	After *n*, *a* changes to *u*
oŋ	*oŋ* + *-ek*	*ŋ*	ཨོང་ནུག་ *oŋnuk*	will come	After *ŋ*, *n* precedes *ek*, where *a* changes to *u*
kas	*kas* + *-ek*	*s*	ཀ་སུག་ *kasuk*	will crack	After *s*, *a* changes to *u*
kol	*kol* + *-ek*	*l*	ཀོ་ལུག་ *koluk*	will use	After *l*, *a* changes to *u*
skor	*skor* + *-ek*	*r*	སྐོ་རུག་ *skoruk*	will spin	
rbi	*rbi* + *-ek*	*i*	རྦེག་ *rbek*	will write	Before *e*, *i* becomes *e*, where *e* and *e* merged together
ɬʈa	*ɬʈa* + *-ek*	*a*	ཉེག་ *ɬʈek*	will look	Before *e*, *a* becomes *e*, where *e* and *e* merged together
be	*be* + *-ek*	*e*	བེག་ *bek*	will open	*e* and *e* merged together
ko	*ko* + *-ek*	*o*	ཀྭེག་ *kwek*	will hear	
ŋu	*ŋu* + *-ek*	*u*	ངྭེག་ *ŋwek*	will weep	

Table 4.10: Potential Future Tense Suffix *-ek* on Verb Roots

4.1.1.2.6 Imperative In Balti, the imperative form is derived only from controllable verbs. Non-controllable verbs do not have an imperative form.

In Balti, closed syllable verb roots with the nucleus *a* always change to *o* when deriving their imperative counterpart. This is illustrated in the following examples:

- *kan* 'lean' > Bal. ཀོན་ *kon* 'lean!'
- *kal* 'send' > Bal. ཀོལ་ *kol* 'send!'
- *skar* 'weigh' > Bal. སྐོར་ *skor* 'weigh!'
- *skaŋ* 'fill' > Bal. སྐོང་ *skoŋ* 'fill!'

Closed syllable verb roots with a nucleus other than *a* do not undergo any change, and their bare form is used as the imperative. This is illustrated in the following examples:

- *kuk* 'bend' > Bal. གུག་ *kuk* 'bend!'
- *koq* 'snatch' > Bal. ཀོག་ *koq* 'snatch!'
- *ʈʰuŋ* 'drink' > Bal. ཐུང་ *ʈʰuŋ* 'drink!'
- *min* 'give' > Bal. མིན་ *min* 'give!'
- *zer* 'tell' > Bal. ཟེར་ *zer* 'tell!'

In Balti, open syllable verb roots with the nucleus *a* changes to *o*, and a suffix Bal. *-s* is also added as illustrated in the following examples:

- *ɬʈa* 'look' > Bal. ལྟོས་ *ɬʈos* 'look!'

The verb *za* 'eat' may be an exception to this pattern, as its imperative form is Bal. ཟོ་ *zo* without the *s*. Open syllable verb roots with a nucleus other than *a* take the coda *-s* in the imperative form, as seen with the verb roots. This is illustrated in the following examples:

- *rbi* 'write' > Bal. རྦིས་ *rbis* 'write!'
- *hrko* 'dig' > Bal. ཧྐོས་ *hrkos* 'dig!'
- *pʰe* 'open' > Bal. ཕེས་ *pʰes* 'open!'
- *ŋu* 'weep' > Bal. ངུས་ *ŋus* 'weep!'

Table 4.11 illustrates the morphophonemics of imperatives.

Roots	Roots + Imperative ∅	Coda	**Imperative**	English Meaning	Morphophonemics
kab	*kab* + ∅	*b*	སྐོབ *kob*	bury	nucleus *a* changes to *o*
pʰuṯ	*pʰuṯ* + ∅	*ṯ*	ཕྱུད *pʰuṯ*	pull out	
duk	*duk* + ∅	*k*	དུག *ḏuk*	stay	
koq	*koq* + ∅	*q*	སྐོག *koq*	snatch	
kram	*kram* + ∅	*m*	ཀྲོམ *krom*	level	*a* changes to *o*
min	*min* + ∅	*n*	མིན *min*	level	
oŋ	*oŋ* + ∅	*ŋ*	ཨོང *oŋ*	come	
skor	*skor* + ∅	*s*	སྐོར *skor*	spin	
kol	*kol* + ∅	*l*	སྐོལ *kol*	use	
rbi	*rbi* + *s*	*i*	རྦིས *rbis*	write	*s* is added
ɬṯa	*ɬṯa* + ∅	*a*	རྟོས *ɬṯos*	look	*a* changes to *o* and *s* is added
ŋu	*ŋu* + *s*	*u*	དུས *ŋus*	weep	*s* is added

Table 4.11: Imperative

4.1.1.2.7 Past Tense Suffix *-s* on Verb Roots In Balti, the suffix *-s* attaches to verb roots to form the past tense. This is illustrated in the following examples:

- *kab* 'bury' > Bal. གཀབས *kabs* 'buried'
- *buṯ* 'fall' > Bal. བུདས *buṯs* 'fell'
- *kuk* 'bend' > Bal. གུགས *kuks* 'bent'
- *koq* 'snatch' > Bal. སྐོགས *koqs* 'snatched'
- *kram* 'level' > Bal. ཀྲམས *krams* 'leveled'
- *kan* 'lean' > Bal. གནས *kans* 'leaned'
- *ṯʰuŋ* 'drink' > Bal. ཐུངས *ṯʰuŋs* 'drunk'
- *kas* 'crack' > Bal. གས *kas* 'cracked'
- *kol* 'use' > Bal. སྐོལས *kols* 'used'
- *bar* 'glow' > Bal. བརས *bars* 'glowed'
- *rbi* 'write' > Bal. རྦིས *rbis* 'wrote'

- *ɬta* 'look' > Bal. ལྟས་ *ɬtas* 'looked'
- *be* 'open' > Bal. བེས་ *bes* 'opened'
- *ko* 'hear' > Bal. གོས་ *kos* 'heard'
- *ŋu* 'weep' > Bal. ངུས་ *ŋus* 'wept'

However, there are two exceptions:: Bal. ཟོས་ *zos* 'ate', and Bal. སོངས་ *soŋs* 'went' derived from the verb roots *za* 'eat' and *wa* 'go' respectively. Table 4.12 illustrates the past tense suffix *s*.

Roots	Roots + Past Tense *-s*	Coda	**Past Tense**	English Meaning	Morphophonemics
kab	*kab* + *-s*	*b*	གབས་ *kabs*	buried	No change
buṯ	*buṯ* + *-s*	*ṯ*	བུཏ་ *buṯs*	fell	No change
kuk	*kuk* + *-s*	*k*	གུགས་ *kuks*	bent	No change
koq	*koq* + *-s*	*q*	གོགས་ *koqs*	snatched	No change
kram	*kram* + *-s*	*m*	གྲམས་ *krams*	leveled	No change
min	*min* + *-s*	*n*	མིན་ *mins*	gave	No change
oŋ	*oŋ* + *-s*	*ŋ*	ཨོངས་ *oŋs*	come	No change
kas	*kas* + *s*	*s*	གས་ *kas*	cracked	No change
skor	*skor* + *-s*	*s*	སྐོར་ *skors*	spun	No change
kol	*kol* + *-s*	*l*	གོལ་ *kols*	used	No change
bri	*bri* + *-s*	*i*	བྲིས་ *bris*	decreased	No change
ɬṯa	*ɬṯa* + *-s*	*a*	ལྟས་ *ɬṯas*	looked	No change
be	*be* + *-s*	*e*	བེས་ *bes*	opened	No change
ko	*ko* + *-s*	*o*	གོས་ *kos*	heard	No change
ŋu	*ŋu* + *-s*	*u*	ངུས་ *ŋus*	wept	No change

Table 4.12: Past Tense Suffix *-s* on Verb Roots

4.1.1.3 Functions of Verb Inflections

This section deals with the functions of all the inflectional suffixes, including present tense *-eṯ*, progressive *-en*, perfective *-seṯ*, potential future *-ek*, definite future *-in*, and past tense *-s*.

4.1.1.3.1 Functions of Present Tense Suffix *-eʈ* The present tense suffix *-eʈ* conveys certainty, and marking information as factual. It serves multiple functions, including expressing sensations, describing generic events, issuing warnings, indicating immediate future occurrences, and denoting ongoing actions.

The present tense suffix *-eʈ* describes the speaker's present sensation, as illustrated in examples 140 and 141. In example 140, two friends are discussing having a party tonight. One of them uses the present tense Bal. རྩེད་ *tsʰeʈ* 'feel pain' to express his present sensation and his inability to attend the party.

(140) ངའལ་ལྟེང་རྩེད་

ŋa-la ɬtweŋ tsʰeʈ
I-DAT stomach pain-PRS

I have a stomachache.

In example 141, an old man and his nephew are talking outside their house. As the wind starts to blow, the old man shares his present sensation with his nephew using the present tense form of the verb Bal. གྲང་སེད་ *graŋseʈ* 'feel cold'.

(141) རླུང་དྲུལ་ལེད་དི་གོ་གྲང་སེད་

xluŋ druleʈ ŋi go graŋseʈ
Wind blow-PRS my head cold-PRS

The wind is blowing, my head feels cold.

The present tense suffix Bal. ཨེད་ *-eʈ* is used to describe generic events, as illustrated in example 142, where the present tense forms of the light verbs Bal. ཆར་པ་ཉིད་ *tʃʰarpa taŋeʈ* and Bal. ཁ་ཉིད་ *kʰa taŋeʈ* express the generic events of raining in summer and snowing in winter, respectively.

(142) སྦྱར་ལ་ཆར་པ་ཉིད་རྒྱུན་ཁ་ཉིད་

zbjar-la tʃʰarpa taŋeʈ rgunu kʰa ʈaŋeʈ
summer-DAT rain LV-PRS winter-DAT snow LV-PRS

It rains in summer, it snows in winter.

This suffix is used to warn the addressee about an immediate danger that is certain to occur if they do not take immediate action to prevent it. The event expressed by the present tense suffix in example 143 will inevitably happen unless the addressee acts quickly. In this example, two cousins are warming

themselves near a fireplace when one of them unknowingly places his foot too close to the fire. The other cousin warns him using the present tense verb form *kʰereṭ* 'fall in'.

(143) ཀང་མོ་མེ་ཁེར་

kaŋ-mo me-ŋ kʰereṭ
foot-DEF fire-INE fall-PRS

Your foot is falling into the fire.

The suffix is used to describe immediate future plans, as illustrated in example 144. In this example, a son calls his mother from Karachi (a city in Pakistan) to inform her about his upcoming visit to the village Khaplu (a village in Baltistan, Pakistan), where she is.

(144) ང་ཧསཀེ་ཨོ་ཏེད་

ŋa haske oŋeṭ
I tomorrow come-PRS

I will come tomorrow.

Across all these functions, two common features emerge: first, the speaker expresses certainty; and second, the knowledge being conveyed is already known or established. The suffix *-eṭ* may have developed from the existential auxiliary *joṭ* §4.3.4.1, a possibility that needs further study.

4.1.1.3.2 Functions of Progressive Suffix *-en* The progressive suffix *-en* is used to indicate continuity of an event. This suffix only shows the progression of an event, and it always takes an auxiliary which is laden with many functions as discussed in the auxiliary section §4.3.4. Here, this section presents a brief summary of the auxiliaries followed by progressive suffix *-en*. The auxiliary Bal. ཡོད་ *-joṭ* follows the progressive suffix *-en* indicates present time, and evidentiality as in 145, where the progressive form of the verb Bal. རེན་ *zen* indicates continuity and the auxiliary verb Bal. ཡོད་ *joṭ* indicates present time and evindentialiy, where the source of information is personal knowledge of the speaker.

(145) ཁོ་སི་ཟན་རེན་ཡོད་

kʰo-si zan zen joṭ
he-ERG meal eat-PROG AUX

He is eating a meal.

Just like the auxiliary Bal. ཡོད་ *joṭ*, Bal. ནང་ *naŋ* can also follow the progressive *en*, where both Bal. ནང་ *naŋ* and Bal. ཡོད་ *joṭ* indicate the present tense. However, unlike Bal. ཡོད་ *joṭ*, Bal. ནང་ *naŋ* signals that the speaker's knowledge is based on sensory evidence. In example 146, a man calls his friend to ask about another friend, and he uses the example sentence because he sees him eating a meal. Hence, he uses the progressive form of the verb along with the auxiliary Bal. ནང་ *naŋ*.

(146) ཁོ་སི་ཟན་ཟེན་ནང་

kʰo-si zan zen naŋ
he-ERG meal eat-PROG AUX

He is eating a meal.

The auxiliary Bal. པ་ *pa*, and Bal. སུག་ *suk* can follow the auxiliary Bal. ཡོད་ *joṭ*, while Bal. པ་ *pa* can also follow Bal. ནང་ *naŋ* as mentioned in detail in the auxiliary section §4.3.4. Moreover, the motion verbs Bal. ཝ་ *wa*, Bal. ཨོང་ *oŋ*, Bal. ཁེར་ *kʰer*, Bal. ཁྱོང་ *kʰjoŋ*, and the static verb Bal. དུག་ *duk* can also follow the progressive form *-en*, where the final motion verbs and the static verb take the tense suffix. The static verb is used to indicate duration. The construction with progressive and motion verb together indicates two parallel events as illustrated in example 147, where the event expressed by the progressive *zen*, and the event expressed by the motion verb *weṭ* indicate two parallel events. For the detail of progressive plus motion verb construction see §4.1.4.

(147) ཁོ་སི་ཟན་ཟེན་ཝེད་

kʰo-si zan zen weṭ
he-ERG meal eat-PROG go-PRS

He goes while eating.

The progressive form of the verb, combined with the motion verbs Bal. ཝ་ *wa* 'go' and Bal. ཨོང་ *oŋ* 'come', is also used to indicate an event happening over a period of time, as illustrated in example 148. In this example, a shepherd talks about his cattle, explaining that over the course of a year, his cattle died one by one. Here, he uses the progressive form of the verb Bal. ཤིན་ *ʃen* 'dying' along with the motion verb Bal. སོངས་ *soŋs* 'went' construction.

(148) རོར་རེ་རེ་ཤིན་སོངས་

nor rere ʃen soŋs
cattle one.by.one die-PROG go-PST

The cattle kept on dying one by one.

4.1.1.3.3 Functions of Perfective Suffix *-seṯ* The perfective suffix *-seṯ* conveys multiple semantic features, including completion, present relevance, and old knowledge. It is used when the speaker is personally familiar with the event that led to the result, indicating prior knowledge of the action expressed by the verb. This suffix suggests that the speaker is aware that the action has already taken place.

For instance, in example 149, a student invites his friend to have lunch with him. In response, the friend replies with the given sentence, indicating that he has already performed the action himself. The verb Bal. ཀལ་སེད་ *kalseṯ* 'cooked' confirms that the speaker has prior knowledge of the event and that the action is completed.

(149) ང་སི་ཟན་ཀལ་སེད་

ŋa-si zan kalseṯ
I-ERG meal cook-PERF

I have cooked the meal.

In examples 150 and 151, the perfective suffix *-seṯ* also conveys the speaker's direct experience with the event.

For instance, in example 150, two friends are conversing in the evening after sunset about a water shortage caused by cloudy weather. However, on that particular day, the heat of the sun melted the ice. One of the participants, having directly observed the event, uses the perfective form of the verb Bal. ཟུས་སེད་ *zuseṯ* 'melted' to describe the occurrence, emphasizing both completion and firsthand knowledge of the action.

(150) དི་རིང་ཨི་ཉི་མ་སི་མ་ཁ་ཟུས་སེད་

ḍiriŋ-i ɲimo-si kʰa zuseṯ
today-GEN sun-ERG snow melt-PERF

Today, the sun melted the snow.

In example 151, a mother asks her son to keep an eye on the pot with water on the stove and let her know when the water boils. The boy closely monitors the

event and informs his mother using the perfective form of the verb Bal. གསོད་སེད་ *xsoʈseʈ* 'boiled'.

(151) ཆུ་གསོད་སེད་

tʃʰu xsoʈseʈ
water boil-PERF

The water has boiled.

The perfective suffix *-seʈ* indicates the completion of an event at present. This suffix is used to provide information necessary to fulfill another action. In the villages of Baltistan, the villagers graze cattle in a systematic way, where one of the villagers takes responsibility for grazing the cattle of all villagers, and they do so in turn, one by one. Every morning, the person whose turn it is calls to release the cattle and consequently the villagers release their cattle. In example 152, a person informs his neighbors that the shepherd has called to release the cattle.

(152) ནོར་ཏོང་ཟེར་སེད་

nor toŋ zerseʈ
cattle leave call-PERF

An announcement has been made to release the cattle.

The perfective suffix *-seʈ* may have developed from the past tense suffix *-s*, and present suffix *-eʈ*. The past tense suffix *-s* likely adds a sense of completion to the action and the present tense suffix *-eʈ* may add present relevance. Moreover, the present tense suffix *-eʈ* may add old knowledge.

4.1.1.3.4 Functions of Potential Future Suffix *-ek* The potential future suffix *-ek* describes events that potentially take place. This construction expresses less certainty. The basic potential meaning of the potential future suffix *-ek* is illustrated in the questions in 153, where the speaker asks the addressee to make a guess about a future event.

(153) དིའིང་ཚན་ལ་ཆར་པ་ཡོང་རྒྱ་ག

diriŋ tsʰan-la tʃʰarpa oŋnu-ga
today night-DAT rain come-PFUT-INTRO

Would it rain tonight?

The suffix ***-ek*** is also used to warn about potential future events, with the particle ***he***, which expresses wander or concern, always following the suffix ***-ek*** Unlike the present tense suffix ***-eṭ***, which suggests an immediate preventive measure, this suffix merely suggests that one should consider the possibility of the event occurring, as illustrated in example 154.

(154) ཁི་ལ་མ་སྤྲོང་སོ་ཏཔ་ཏུག་ཧེ་

kʰi-la ma-broŋ soṭapṭuk he
dog-DAT NEG-provoke bite-PFUT WND

Do not provoke the dog! it might bite you.

This suffix is used to indicate action the speaker considers to perform in the future as shown in example 155.

(155) ཇི་ལས་ཀུན་ཆམ་མ་ན་ང་ཡི་ཀང་ན་ཡམ་བོ་ཝེག་

ŋi las-kun tʃʰam mana ŋa jiṭaŋ-na jambo wek
my work-PLU finish when I you-ABL together go-PFUT

When I finish my work, I will go together with you.

This suffix is also used in the main clause following a hypothetical conditional clause that contains ***suk-pa-na***, as illustrated in example 156. In this example, a boy asks his friend to accompany him to his house because it is dark, and he is fearful of the dark. The friend responds with the example sentence, using a hypothetical condition ***in-suk-pa-na*** in the if clause and potential future ***wek*** in the main clause, where the final ***pa*** indicates the determination of the speaker.

(156) ང་ཁྱང་ཨིན་སུག་པ་ན་ང་རྒྱབ་ལ་ཝེག་པ་

ŋa kʰjaŋ in-suk-pa-na ŋa tʰup-la wek pa
I you is-HYP-COND I dark-DAT go-PFUT DTR

If I were you, I might go in the dark.

The potential future suffix ***-ek*** may have developed from the speculative auxiliary ***dukṭuk*** §4.3.4.4, which needs further investigation.

4.1.1.3.5 Functions of Definite Future Suffix *-in* The definite future suffix ***-in*** expresses certainty. The suffix is used to indicate the definite future plan of the speaker as illustrated in example 157, where the speaker uses the definite future form of the verb Bal. ཝེ་ཨིན་ ***wein*** to express his definite intention.

(157) ང་དེས་ཀེ་སྐར་དོ་ཝེ་ཨིན་

ŋa haske skardo wein
I tomorrow Skardu go-DFUT

Tomorrow, I will go to Skardu.

This suffix is also used to indicate certainty, as seen in 158, where the speaker expresses strong confidence in their claim.

(158) དེས་ཀེ་མེཅ་པིང་པ་ཀིས་ཏན་རྒྱལ་བིན་

haske match piŋ Pakistan rgjalbin
tomorrow match in Pakistan win-PFUT

Tomorrow, in the match Pakistan will win.

The definite future suffix *-in* may have developed from the equative copula *-in* §4.3.3.2.1.

4.1.1.3.6 Past Tense Suffix *-s* The past tense suffix *-s* marks actions that occurred in the past. In example 159, a father asks his son about his activities from the previous day. The son responds using the past tense forms of the verbs Bal. ཟོས་ *zos* and Bal. སོངས་ *soŋs*.

(159) ང་སི་ཟན་ཟོས་དང་ན་ང་སྐར་དོ་སོངས་

ŋa-si zan zos ḍaŋna ŋa skardo soŋs
I-ERG meal eat-PST then I Skardu go-PST

I ate meal, then I went to Skardu.

So far, this study has examined the internal structure of Balti finite lexical verbs and the functions of various inflectional suffixes. Before moving on to non-finite verb constructions, the interrogative tag suffix *-a* is discussed.

4.1.2 Interrogative Suffix *-a*

In Balti, a polar question is formed by attaching the interrogative polar question suffix *-a* to finite verbs, light verbs, and auxiliary verbs, as shown in the following examples. In example 160, a daughter asks her father a polar question by inflecting the present tense verb Bal. རེད་ *zeṭ* with the interrogative suffix *-a*.

(160) ཡང་ཨེ་ཟན་ཟེ་ཀ་

jaŋ-i zan zeṭa
you-ERG meal eat-INTRO

Do you eat meal?

In example 161, a man asks his friend to guess whether it will rain tonight. He forms the question using a polar question structure, attaching the polar question suffix *-a* to the potential future form of the light verb Bal. ཨོང་ནུག་ *oŋnuk*.

(161) ཆར་པ་ཨོང་ནུ་ག་

ʧarpa oŋnuga
Rain LV-PFUT-INTRO

Will it rain?

In example 162, a home tutor assigns a boy to write something and then asks the boy's father a question by attaching the polar question suffix *-a* to the present tense auxiliary verb Bal. ཡོད་ *joṭ*.

(162) ཕྲུ་སི་རྩིན་ཡོ་ཏ་

pʰru-si rben joṭa
boy-DEF-ERG write-PROG AUX-INTRO

Is the boy writing?

4.1.3 Non-finite verbal forms

This section examines non-finite verbal forms. Traditionally, non-finite verbs are defined as forms that lack markings for categories such as tense, mood and aspect. In Balti, there are two types of non-finite verb forms: the conjunctive §4.1.3.1, and the infinitive 4.1.3.2.

4.1.3.1 Conjunctive -e/se

The term 'conjunctive' is used for this verb form as this verb form always precedes a finite verb, where the verb suffix *-e* or *-se* explicitly marks this connection, linking the conjunctive verb to the following verb in the sentence.

The conjunctive is formed by attaching the conjunctive suffix *-e* or its variant *-se* to verb roots. Verb roots with coda consonants *t*, *n*, *l*, *r*, *s* take *-e* to form conjunctive as illustrated in the following examples:

- *buṭ* 'fall' > Bal. བུཌེ་ *buḍe* 'having fallen'

- *kan* 'lean' > Bal. ཀན་ *kane* 'having leaned'
- *kal* 'send' > Bal. ཀལ་ *kale* 'having sent'
- *snur* 'push' > Bal. སྣུར་ *snure* 'having pushed'
- *lus* 'remain' > Bal. ལུས་ *luse* 'having remained'

Table 4.13 illustrates the morphophonemics of Conjunctive *-e*.

Roots	Roots + Conjunctive Participle	Coda	**Conjunctive**	English	Morphophonemics
ʈeʈ	*ʈeʈ* + *-e*	*ʈ*	དེད་ *ʈeɖe*	being dragged	Re-syllabification
kan	*kan* + *-e*	*n*	ཀནེ་ *kane*	being leaned	Re-syllabification
skul	*skul* + *-e*	*l*	སྐུལ་ལེ *skule*	being shaken	Re-syllabification
snur	*snur* + *-e*	*r*	སྣུརེ་ *snure*	being moved	Re-syllabification
lus	*lus* + *-e*	*s*	ལུསེ་ *luse*	being remained	Re-syllabification

Table 4.13: Root + Conjunctive *-e*

Verb roots ending in *p*, *k*, *q*, *ŋ*, *m*, *i*, *u*, and *o* take the suffix *-se* to form their conjunctive counterparts as illustrated in the following examples:

- *kap* 'bury' > Bal. ཀབསེ་ *kapse* 'having buried'
- *bguk* 'run' > Bal. བགུགསེ་ *bgukse* 'having run'
- *oŋ* 'come' > Bal. ཨོངསེ་ *oŋse* 'having come'
- *kram* 'level' > Bal. ཀྲམསེ་ *kramse* 'having leveled'
- *bri* 'decrease' > Bal. ཇིསེ་ *brise* 'having decreased'
- *ŋu* 'weep' > Bal. ཉུསེ་ *ŋuse* 'having wept'
- *ko* 'hear' > Bal. ཀོསེ་ *kose* 'having heard'

Table 4.14 illustrates morphophonemics of conjunctive Bal. སེ་ *-se*. The conjunctive form of a verb does not occur alone, it always occurs with a main verb which is inflected for tense. The conjunctive plus main verb construction is used either to form a single event or two events. When it expresses a single event, the conjunctive form indicates the manner of the main verb. This is illustrated in example 163, where a father instructs his son to come to the market using the conjunctive Bal. རྡུལེ་ *drule*, meaning 'by walking'.

Roots	Roots + Conjunctive	Coda	**Conjunctive**	English	Morphophonemics
kab	*kab* + *-se*	*b*	ཀབ་སེ་ *kabse*	having buried	No change
bguk	*bguk* + *-se*	*k*	བགུག་སེ་ *bgukse*	having run	No change
oŋ	*oŋ* + *-se*	*ŋ*	ཨོང་སེ་ *oŋse*	having come	No change
tʃʰam	*tʃʰam* + *-se*	*m*	ཆམ་སེ་ *tʃʰamse*	having finished	No change
pʰri	*pʰri* + *-se*	*i*	ཕྲི་སེ་ *pʰrise*	having decreased	No change
ŋu	*ŋu* + *-se*	*u*	ངུ་སེ་ *ŋuse*	having come	No change
bo	*bo* + *-se*	*o*	བོ་སེ་ *bose*	having fall	No change

Table 4.14: Root + Conjunctive *-se*

(163) ཁྱོང་དྲུ་ལེ་བ་ཟར་ཨོང་

kʰjaŋ drule bazar oŋ
you walk-CONJ market come-IMP

You come to market by walking.

In example 164, the flour mill owner instructs the employee to bring a sack of flour using the Conjunctive Bal. ཁུ་རེ་ *kʰure* 'carry', which expresses the manner of the verb Bal. ཇོག་ *kʰjoŋ* 'bring'.

(164) ཁྱོང་ཨི་ཡེ་ཁུ་རེ་ཇོག་

kʰjaŋ-i pʰe kʰure kʰjoŋ
you-ERG flour carry-CONJ bring-IMP

You bring the flour by carrying it.

The Balti dependent conjunctive plus main verb construction resembles converb constructions. Haspelmath (1995, p. 03) defines a converb as a non-finite verb form whose primary function is to indicate adverbial subordination. In this construction, the first verb is in a non-finite form and depends on the following finite verb.

In example 165, the Conjunctive Bal. སྒུ་སེ་ *zguse* 'having bent' expresses the manner of motion conveyed by the second verb, Bal. སོངས་ *soŋs* 'went'. Here, the first verb functions adverbially.

(165) ཁོ་སྒུ་སེ་སོངས་

kʰo zguse soŋs
he bend-CONJ go-PST

He went by bending his body.

The conjunctive followed by another verb can indicate two consecutive events, with or without a temporal gap between them. This is illustrated in example 166, where the subject Bal. ཁོ་ *kʰo* 'he' first completes the action expressed by the conjunctive Bal. བྱས་ *bjase* 'done'. After completing this action, the second event, expressed by the verb Bal. སོང་ *soŋs* 'went' takes place. In this case, there is no explicit temporal gap between the two actions.

(166) ཁོ་སི་ལས་པོ་བྱ་སེ་སོང་

kʰo-si las-po bja-se soŋs
he-ERG work-DEF do-CONJ go-PST

Having done the work, he went.

The two consecutive events expressed by the conjunctive and the following verb may have an explicit temporal gap, as in example 167, where the word Bal. ལྕ་ *lza* 'month' following the conjunctive Bal. ཟུས་ *zuse* 'melting' indicates the temporal gap between the two events: Bal. ཟུས་ *zuse* 'having melt' and Bal. ཏ་བེད་ *ʈabeʈ* 'cultivate'.

(167) ཁ་ཟུས་ལྕ་ལ་ཏ་བེད་

kʰa zuse lza-la ʈabeʈ
snow melt-CONJ month-DAT cultivate-PRS

One month after the snow melts, we cultivate.

This usage of conjunctive plus main verb construction also resembles converb verb construction. As a converb is not only used adverbially but also to indicate sequence of event as Haspelmath states,

> There is a type of subordinate construction that is neither argumental nor adnominal nor it is clearly adverbial: the so called clause chaining construction, which is used to convey a sequence of event.(1995, p. 07)

A converb links a subordinate clause to the main clause, indicating a temporal relationship between the two events. This is illustrated in example 168, where the non-finite verbal form Bal. ཟོས་ *zose* 'having eaten' establishes a temporal connection with the main verb Bal. སོང་ *soŋs* 'went'. The event expressed by the non-finite conjunctive Bal. ཟོས་ *zose* 'having eaten' occurs before the

event expressed by the main verb Bal. སོངས་ *soŋs* 'went' In this construction the temporal relation is indicated by the conjunctive suffix *-e*.

(168) ཁོ་སི་ཟན་ཟོ་སེ་སོངས་

kʰo-si zan zose soŋs
he-ERG meal eat-CONJ go-PST

He went after eating.

In addition, the conjunctive also expresses a causal relationship, as illustrated in example 169, where the conjunctive verb Bal. ཟུ་སེ་ *zuse* 'melt' serves as the cause of Bal. ཀར་པོ་སོང་སེད་ *karposoŋseʈ* 'become white'.

(169) ཁ་ཟུ་སེ་བྲག་ཀུན་ཀར་པོ་སོང་སེད་

kʰa zuse braq-kun karpo soŋseʈ
snow melt-CONJ rock-PLU white becomePERF

The rocks have become white after the snow melted.

In example 170, the conjunctive form of the light verb Bal. ཆར་པ་ཨོང་སེ་ *ʧʰarpa oŋse* 'having rained' becomes the cause of Bal. ཇིགས་ *ʈʰiks* 'tickled'.

(170) ཆར་པ་ཨོང་སེ་ཆར་ཆུ་ཇིགས་

ʧʰarpa oŋse ʧʰarʧʰu ʈʰiks
rain come-CONJ rain-water tickle-PST

Rainwater tickled after it rained.

Two consecutive events can be denoted by inserting Bal. རྒྱབ་ན་ *rgjab-na* 'afterwards' after the conjunctive *-e* or *-se*, as shown in the example 171. Here, Bal. རྒྱབ་ན་ *rgjab-na* 'afterwards' links the sequence of events expressed by the conjunctive Bal. སོངསེ་ *soŋse* 'went' and the following verb Bal. ཨོང་ཉེད་ *oŋeʈ* 'come'.

(171) ཁོ་སོང་སེ་རྒྱབ་ན་ང་ཨོང་ཉེད་

kʰo soŋse rgjab-na ŋa oŋeʈ
he went-CONJ back-ABL I come-PRS

I will come after he leaves.

In Balti, the conjunctive precedes the negative auxiliary Bal. མེད་ *meʈ* combined with the conditional marker *na*, followed by the negative imperative *ma*

and the main verb in its imperative form. This construction establishes a conditional restriction, where the action expressed by the imperative verb ཟོ་ *zo* 'eat' is conditional to the event expressed by the Conjunctive ཙོསེ་ *tsose* 'having cooked'.

(172) ཤ་ཙོསེ་མེད་ན་མ་ཟོ་

ʃa tsose meʈ na ma-zo
meat cook-CONJ NEG-PRS COND NEG-eat-IMP

Do not eat the meat unless it is cooked.

In example 173, the event expressed by the imperative Bal. ཐུང་ *ʈʰuŋ* 'drink' is conditional to the event expressed by the conjunctive verb Bal. གྲངསེ་ *graŋse* 'cold'.

(173) ཙ་གྲངསེ་མེད་ན་མ་ཐུང་

ʧa graŋse meʈ na ma-ʈʰuŋ
tea cool-CONJ NEG-PRS COND NEG-drink-IMP

Do not drink tea unless it get cool.

4.1.3.2 Infinitive

In Balti, the infinitive form of a verb is created by adding one of the following suffixes to the verb root: པ་ *pa*, བ་ *ba*, མ་ *ma*, ཕ་ *pʰa*, or *a*. Verb roots ending in the consonants *k*, *q*, *ʈ*, and *s* take the suffix *-pa*. This is illustrated in the following examples:

- Bal. ཀུཀ་ *kuk* 'bend' > Bal. ཀུཀ་པ་ *kukpa* 'to bend'
- Bal. སྟྲག་པ་ *sʈraq* 'burn' > Bal. སྟྲག་པ་ *sʈraqpa* 'to burn'
- Bal. ཟླཏ་ *xlaʈ* 'become tired' > Bal. ཟླཏ་པ་ *xlaʈpa* 'to become tired'
- Bal. ཇས་ *jas* 'bloom' > Bal. ཇས་པ་ *jaspa* 'to bloom'

Verb roots ending in the consonants *l*, and *r* take the infinitive suffix Bal. བ་ *-ba*. This is illustrated in the following examples:

- Bal. ཀལ་ *kal* 'send' > Bal. ཀལ་བ་ *kalba* 'to send'
- Bal. ཁེར་ *kʰer* 'take away' > Bal. ཁེར་བ་ *kʰerba* 'to take away'

The suffix *-ma* is added with the verb roots ending with *n*, and *ŋ* as illustrated in the following examples:

- Bal. ཀན་ *kan* 'lean' > Bal. ཀན་མ་ *kanma* 'to lean'
- Bal. ཁྱོང་ *kʰjoŋ* 'bring' > Bal. ཁྱོང་མ་ *kʰjoŋma* 'to bring'

The suffix *-a* is added to verb roots ending with *b*, *m*. This is illustrated in the following examples:

- Bal. ཀབ་ *kab* 'bury' > Bal. ཀ་བ་ *kaba* 'to bury'
- Bal. ཁོམ་ *kʰom* 'have time' > Bal. ཁོ་མ་ *kʰoma* 'to have time'

Verb roots ending in the vowels *i*, *e*, *u*, and *o* take the infinitive suffix *a*, with phonological adjustments. Specifically, the glide *j* replaces the vowels *i* and *e*, while the glide *w* replaces *u* and *o*, as illustrated in the following examples:

- Bal. ཇི་ *ʈri* 'ask' > Bal. ཇྱ་ *ʈrja* 'to ask'
- Bal. ཕེ་ *pʰe* 'open' > Bal. ཕྱ་ *pʰja* 'to open'
- Bal. ཉུ་ *ɲu* 'weep' > Bal. ཉྭ་ *ɲwa* 'to weep'
- Bal. ཀོ་ *ko* 'hear' > Bal. ཀྭ་ *kwa* 'to hear'

Table. 4.15 illustrates the morphophonemics of infinitive suffix.

4.1.3.2.1 Functions of Infinitive The infinitive is used in a wide variety of constructions. It is used as the subject of the copula Bal. ཨིན་ *in*, as a complement of a verb, in the negative construction of present tense with negative factual copula Bal. མེད་ *meʈ*, and negative testimonial copula Bal. མི་དུག་ *miduk*. The infinitive is also used before comparative particle Bal. པ་ཙེ་ *patse*, The infinitive form is also used with modal verbs.

4.1.3.2.2 Infinitive as Subject of the copula *in* and its negative counterpart *men* The copula links a subject with its complement as shown in examples 174, and 175.

In example 174, the infinitive form Bal. འགྲུལ་བོ་ *drulbo* 'walking' is the subject of the copula Bal. ཨིན་ *in* which links it with its complement Bal. གཤེ་ *gaʃe* 'good'. Here the final *a* of the infinitive Bal. འགྲུལ་བ་ *drulba* 'to walk' changes to *o* for making the nominal definite.

Roots	Roots + Infinitive Particle	Coda	**Infinitive**	Meaning	Morphophonemics
kuk	*kuk* + *-pa*	*k*	*kukpa*	bend	The suffix *-pa* follows
straq	*straq* + *-pa*	*q*	*straqpa*	burn	the coda *k*,*q*, *g*, *ʈ*, and *s*
kog	*kog* + *-pa*	*g*	*kogpa*	snatch	
xlaʈ	*xlaʈ* + *-pa*	*ʈ*	*xlaʈpa*	tire	
jas	*jas* + *-pa*	*s*	*jaspa*	bloom	
kʰer	*kʰer* + *-ba*	*r*	*kʰerba*	take away	The suffix *-ba* follows
kal	*kal* + *-ba*	*l*	*kalba*	send	the codas *r* and *l*
kan	*kan* + *-ma*	*n*	*kanma*	lean	The suffix *-ma* follows
kʰioŋ	*kʰioŋ* + *-ma*	*ŋ*	*kʰjoŋma*	bring	the codas *n* and *ŋ*
kab	*kab* + *-a*	*b*	*kaba*	bury	The suffix *-a* follows
kʰom	*kʰom* + *-a*	*m*	*kʰoma*	have time	the codas *b* and *m*
ʈri	*ʈri* + *-a*	*i*	*ʈrja*	ask	The suffix *-a* follows the nuclei *i*,
ŋu	*ŋu* + *-a*	*u*	*ŋwa*	weep	*u*, and *o*, where *i* changes into
ko	*ko* + *-a*	*o*	*kwa*	hear	the glide *j*, while *u*, and *o* into *w*

Table 4.15: Verb Roots + Infinitive Particle

(174) འབྲུལ་པོ་ག་ཤེ་ཨིན་

drulbo gaʃe in
Walking-INF-DEF good COP

Walking is good

In the example 175, the infinitive form is Bal. བུག་པ་*bukpa* functions as the as the subject of the negative copula Bal. མེན་*men*, where the final *a* of Bal. བུག་པ་*bukpa* changes to *o* for making the nominal definiteness.

(175) བུག་པོ་ག་ཤེ་མེན་

bukpo gaʃe men
Backbiting-INF-DEF good NEG.COP

Backbiting is not good.

4.1.3.2.3 Infinitive as complement of a verb In Balti, an infinitive functions as the complement of a verb, as illustrated in example 176. In this example, the infinitive form of the verb Bal. རྒྱ་ *rbja* 'to write' serves as the complement of the verb Bal. ཐ་དེད་ *ʈʰaʈet* 'like'.

(176) མོ་རྒྱ་ཐ་དེད་

mo rbja *ʈʰaʈet*
she write-INF please-PST

She likes to write.

In example 177, the infinitive form ***xswa*** 'to raise' functions as the purposive complement of the verb ***mins*** 'give'.

(177) ང་སི་ཁོ་ལ་ཕྲུ་གས་མིན་

ŋa-si *kʰo-la* *pʰru xswa* *mins*
I-ERG he-DAT boy raise-INF give-PST

I gave him the baby to raise.

4.1.3.2.4 Infinitive in the negative construction of present tense In Balti, the infinitive form is used in the negative construction of the present tense, where the infinitive form of the verb occurs with negative present tense auxiliary མེད་ ***meʈ***. In example 178, the infinitive ཟ་ ***za*** 'to eat' combines with the auxiliary མེད་ ***meʈ*** to form the negative present-tense construction.

(178) ང་སི་ཟན་ཟ་མེད་

ŋa-si *zan* *za* *meʈ*
I-ERG meal eat-INF NEG-PRS

I do not eat a meal.

4.1.3.2.5 Infinitive in the construction of comparative constructions The infinitive form appears in the comparative construction before the comparative particle ***patse*** 'rather than', with the main verb following the particle being preferred over the infinitive that occurs prior to it. This is illustrated in example 179. In this example, the comparative ***patse*** 'rather than' compares the infinitive form of the verb ***dukpa*** 'to stay' with the main verb ***soŋs*** 'went',being preferred over the infinitive form ***dukpa*** 'to stay'.

(179) ཡང་དུག་པ་པ་ཙོ་སོང་

jaŋ *dukpa* *patse soŋs*
you stay-INF CMP go-PST

Instead of staying you went.

4.1.3.2.6 Infinitive plus modal verbs The infinitive form is used with modal verbs such as Bal. ཨན་ *jan* 'can', Bal. རྒོས་ *rgos* 'need', and Bal. ཤེས་ *ʃes* 'know' to express ability, necessity, or knowledge of an action. In these constructions, the infinitive represents the core action, while the modal verb modifies its meaning. In example 180, the infinitive Bal. རྦྱ་ *rbja* 'to write' is used with the modal verb Bal. ཡ་ནེད་ *janet* 'can' to express ability. The infinitive indicates the core action Bal. རྦྱ་ *rbja* 'to write', while the modal verb Bal. ཡ་ནེད་ *janet* 'can' modifies it to convey that the subject Bal. ཨན་ *jaŋ* 'you' has the ability to perform the action.

(180) ཡང་ལ་རྦྱ་ཡ་ནེད་

jaŋ-la rbja janeʈ
you-DAT write-INF able-PRS

You can write.

In example 181, the infinitive Bal. རྦྱ་ *rbja* 'to write' is used with the modal verb Bal. རྒོ་སེད་ *rgoset* 'need' to show that you need to write. The infinitive expresses the action, while the modal verb highlights the necessity of doing it.

(181) ཡང་ལ་རྦྱ་རྒོ་སེད་

jaŋ-la rbja rgoseʈ
you-DAT write-INF need-PRS

Bal. ཡང་ལ་རྦྱ་རྒོ་སེད་

You need to write.

In example 182, the infinitive Bal. རྦྱ་ *rbja* 'to write' is used with the modal verb Bal. ཤེ་སེད་ *ʃeseʈ* 'know' to show that you know how to write. The infinitive expresses the action, while the modal verb highlights the knowledge of doing it.

(182) ཡང་ལ་རྦྱ་ཤེ་སེད་

jaŋ-la rbja ʃeseʈ
you-DAT write-INF know-PRS

You know how to write.

4.1.4 Non-finite plus Motion Verb

In the non-finite form plus motion verb construction the temporal relation between the two verbs is prior, concurrent, or subsequent.

In Balti, the non-finite plus motion verb construction uses the non-finite suffix of the first verb to determine the temporal sequence of events: prior, concurrent, or subsequent. The conjunctive suffix indicates that the event expressed by the non-finite form occurs prior to the event expressed by the motion verb, the progressive suffix indicates that the event is concurrent with the event expressed by the motion verb, and the infinitive suffix shows that the event expressed by the non-finite form is subsequent to the event expressed by the motion verb. In the construction of non-finite verbal forms—conjunctive, progressive, and infinitive—plus motion verbs, the finite motion verbs include Bal. དུག་ *ḍuk* 'stay', Bal. ཝ་ *wa* 'go', Bal. ཁེར་ *kʰer* 'take away' Bal. ཨོང་ *oŋ* 'come', and Bal. ཇོང་ *kʰjoŋ* 'bring'.

The zero motion verb Bal. དུག་ *ḍuk* 'stay' expresses a state of no motion, while the motion verbs Bal. ཝ་ *wa* 'go' and Bal. ཁེར་ *kʰer* 'take away' indicate motion away from the deictic center. In contrast, the motion verbs Bal. ཨོང་ *oŋ* 'come' and Bal. ཇོང་ *kʰjoŋ* 'bring' express motion towards the deictic center. The construction involving a non-finite form combined with each of these motion verbs is discussed in sections: §4.1.4.1, §4.1.4.2, §4.1.4.3, §4.1.4.4, and §4.1.4.3.

Before discussing non-finite verbs combined with motion verbs, it is worth noting that this construction shares similarities with associated motion verbs. As Guillaume and Koch (2021) defines associated motion verb:

> [A] verbal grammatical category, separate from tense, aspect, mood, and direction, whose function is to associate, in different ways, different kinds of translational motion (spatial displacement/change of location) to a (generally non-motion) verb event. (2021, p. 03)

Guillaume and Koch (ibid., p. 04) further explains that associated motion can be expressed through verbal affixes, clitics, particles, or auxiliaries, treating it as a primarily morphological phenomenon. However, Lovestrand and Ross (2021, p. 02) demonstrate that associated motion can also be expressed through multi-verb constructions, particularly in languages that lack a dedicated morphological marking for associated motion. In such cases, multi-verb constructions fulfill this function.

Additionally, Guillaume and Koch (2021) outlines a typology of associated motion based on three major semantic parameters:

> The temporal relation between the motion and the main event, the direction of the motion, and the grammatical role of the moving figure. (2021, p. 09)

The relationship between non-finite verb plus motion verb constructions and associated motion verbs remains an open area of research.

4.1.4.1 Non-finite Verb Forms Plus Zero-motion Verb *ɖuk*

The motion verb Bal. དུག་ *ɖuk* 'stay' may follow the conjunctive form of the verb §4.1.3.1, progressive form of the verb §4.1.1.2.2, or infinitive form of the verb §4.1.3.2, where the zero motion verb Bal. དུག་ *ɖuk* 'stay' may indicate subsequent zero motion, concurrent zero motion or prior zero motion as illustrated in examples 183 to 185.

Example 183 illustrates subsequent zero motion, where the first verb Bal. རྟེས་ *rbise* 'having written' is in the Conjunctive form, indicating the completion of the event. The second verb, Bal. དུགས་ *ɖuks* 'stayed', is inflected for the past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' first wrote Bal. ཨདཱ་ *xaʈ* 'letter' and then stayed.

(183) ཁོ་སི་ཨདཱ་ཙི་རྟེས་དུགས་

kʰo-si xaʈ-ʦi rbise duks
he-ERG letter-INDF write-CONJ stay-PST

Having written a letter, he stayed.

Example 184 illustrates concurrent zero motion, where, the first verb Bal. རྟེན་ *rben* 'writing' is in progressive form expressing the continuity of the event, while the second verb Bal. དུགས་ *duks* 'stayed' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' stayed while writing Bal. ཨདཱ་ *xaʈ* 'the letter'.

(184) ཁོ་སི་ཨདཱ་ཙི་རྟེན་དུགས་

kʰo-si xaʈ-ʦi rben duks
he-ERG letter-DEF write-PROG stay-PST

He stayed while writing a letter.

Example 185 illustrates prior zero motion, where first verb Bal. རྒྱ་ *rbja* 'to write' is in infitive form expressing prospective event, while the second verb Bal. དུགས་ *duks* 'stayed' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' stayed to write Bal. ཨདཱ་ *xaʈ* 'the letter'.

(185) ཁོ་སི་ཨདཱ་ཙི་རྒྱ་དུགས་

kʰo-si xaʈ-ʧi rbja duks
he-ERG letter-INDF write-INF stay-PST

He stayed to write a letter.

4.1.4.2 Non-finite Verb Forms Plus Motion Verb *wa*

The motion verb Bal. ཝ་ *wa* 'go' gives a sense of moving away from the deictic center. The motion verb Bal. ཝ་ *wa* 'go' may follow the Conjunctive form of the verb §4.1.3.1, progressive form of the verb §4.1.1.2.2, or infinitive form of the verb §4.1.3.2, where the motion verb Bal. ཝ་ *wa* 'go' may indicate subsequent motion, concurrent motion or prior motion as illustrated in examples 186 to 188. Example 186 illustrates subsequent motion. The first verb, Bal. རྦིས་ *rbise* 'having written' appears in the Conjunctive form, indicating the completion of the action. The second verb, Bal. སོངས་ *soŋs* 'went' expresses the notion of moving away and is inflected for past tense. In this construction the subject Bal. ཁོ་ *kʰo* 'he' first wrote Bal. ཨཏ་ *xaʈ* 'the letter' then he went away.

(186) ཁོ་སི་ཨཏ་ཅི་རྦིས་སི་སོངས་

kʰo-si xaʈ-ʧi rbise soŋs
he-ERG letter-INDF write-CONJ go-PST

Having written a letter, he went.

Example 187 illustrates concurrent motion, where, the first verb Bal. རྦེན་ *rben* 'writing' is in progressive form expressing the continuity of the event, while the second verb Bal. སོངས་ *soŋs* 'went' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' went, while writing Bal. ཨཏ་ *xaʈ* 'the letter'.

(187) ཁོ་སི་ཨཏ་ཅི་རྦེན་སོངས་

kʰo-si xaʈ-ʧi rben soŋs
he-ERG letter-INDF write-PROG go-PST

He went while writing a letter.

Example 188 illustrates prior motion, where first verb Bal. རྦྱ་ *rbja* 'to write' is in infinitive form expressing prospective event, while the second verb Bal. སོངས་ *soŋs* 'went' (indicating moving away) is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' stayed to write Bal. ཨཏ་ *xaʈ* 'letter'.

(188) ཁོ་སི་ཨཏ་ཅི་རྦྱ་སོངས་

kʰo-si xaʈ-ʧi rbja soŋs
he-ERG letter-INDF write-INF go-PST

He went to write a letter.

4.1.4.3 Non-finite Verb Forms Plus Motion Verb *kʰer*

The motion verb Bal. ཁེར་ *kʰer* gives a sense of taking away from the deictic center. The motion verb Bal. ཁེར་ *kʰer* 'take away' may follow the Conjunctive form of the verb §4.1.3.1 , progressive form of the verb §4.1.1.2.2, or infinitive form of the verb §4.1.3.2, where the motion verb Bal. ཁེར་ *kʰer* 'take away' may indicate subsequent motion, concurrent motion or prior motion as illustrated in examples 189 to 191. Example 189 illustrates subsequent motion, where the first verb Bal. རྦད་ *rbise* 'having writen' is in Conjunctive form expressing the completion of the event expressed by the non-finite conjunctive form of the verb, while the second verb Bal. སོང་ *soŋs* 'went' (expressing the notion taking away) is inflected for past tense. In this construction the subject Bal. ཁོ་ *kʰo* 'he' first wrote Bal. ཡིག་ *xaʈ* 'the letter' then he took it away.

(189) ཁོ་སི་ཡིག་ཏི་རྦད་སི་ཁེར་

kʰo-si xaʈ-ʧi rbise kʰers
he-ERG letter-INDF write-CONJ take.away-PST

Having written a letter, he took it away.

Example 190 illustrates concurrent motion, where, the first verb Bal. རྦེན་ *rben* 'writing' is in progressive form expressing the continuity of the event, while the second verb Bal. ཁེར་ *kʰers* 'took away' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' took it away, while writing Bal. ཡིག་ *xaʈ* 'the letter'.

(190) ཁོ་སི་ཡིག་ཏི་རྦེན་ཁེར་

kʰo-si xaʈ-ʧi rben kʰers
he-ERG letter-INDF write-PROG take.away-PST

He took it away while writing a letter.

Example 191 illustrates prior motion, where first verb Bal. རྒྱ་ *rbja* 'to write' is in infinitive form expressing a prospective event, while the second verb Bal. ཁེར་ *kʰer* 'took away' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' took it away to write Bal. ཡིག་ *xaʈ* 'the letter'.

(191) ཁོ་སི་འཚད་ཏི་རྒྱ་ཞེར་

kʰo-si xaʈ-ʧi rbja kʰers
he-ERG letter-INDF write-INF -PST

He was taken away to write a letter.

4.1.4.4 Non-finite Verb Forms Plus Motion Verb *oŋ*

The motion verb Bal. ཨོང་ *oŋ* gives a sense of moving towards the deictic center. The motion verb Bal. ཨོང་ *oŋ* 'come' may follow the Conjunctive form of the verb §4.1.3.1, progressive form of the verb §4.1.1.2.2, or infinitive form of the verb §4.1.3.2, where the motion verb Bal. ཨོང་ *oŋ* 'come' may indicate subsequent motion, concurrent motion or prior motion as illustrated in examples 192 to 194. Example 192 illustrates subsequent motion, where the first verb Bal. རྦིས་ *rbise* 'having written' is in Conjunctive form expressing the completion of the event, while the second verb Bal. ཨོངས་ *oŋs* 'came' (expressing the notion moving towards) is inflected for past tense. In this construction the subject Bal. ཁོ་ *kʰo* 'he' first wrote Bal. འཚད་ *xaʈ* 'the letter' then he came towards the deictic center.

(192) ཁོ་སི་འཚད་ཏི་རྦིས་སི་ཨོངས་

kʰo-si xaʈ-ʧi rbise oŋs
he-ERG letter-INDF write-CONJ come-PST

Having written a letter, he came.

Example 193 illustrates concurrent motion, where, the first verb Bal. རྦེན་ *rben* 'writing' is in progressive form expressing the continuity of the event, while the second verb Bal. ཨོངས་ *oŋs* 'came' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' came, while writing Bal. འཚད་ *xaʈ* 'the letter'.

(193) ཁོ་སི་འཚད་ཏི་རྦེན་ཨོངས་

kʰo-si xaʈ-ʧi rben soŋs
he-ERG letter-INDF write-PROG come-PST

He came while writing a letter.

Example 194 illustrates prior motion, where first verb Bal. རྦྱ་ *rbja* 'to write' is in infinitive form expressing prospective event, while the second verb Bal. ཨོངས་ *oŋs* 'came' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' came to write Bal. འཚད་ *xaʈ* 'the letter'.

(194) ཁོ་སི་འཚད་ཏི་རྒྱབ་ཨོང་

kʰo-si xaʈ-tʃi rbja soŋs
he-ERG letter-INDF write-INF come-PST

He came to write a letter.

4.1.4.5 Non-finite Verb Forms Plus Motion Verb *kʰjoŋ*

The motion verb ཇོང་ *kʰjoŋ* gives a sense of bringing towards the deictic center. The causative motion verb ཇོང་ *kʰjoŋ* 'bring' may follow the Conjunctive form of the verb §4.1.3.1 , progressive form of the verb §4.1.1.2.2, or infinitive form of the verb §4.1.3.2, where the causative motion verb ཇོངས་ *kʰjoŋs* 'brought' may indicate subsequent motion, concurrent motion or prior motion as illustrated in examples 195 to 197. Example 195 illustrates subsequent motion, where the first verb Bal. རྦད་ *rbise* 'having written' is in Conjunctive form expressing the completion of the event, while the second verb Bal. ཇོངས་ *kʰjoŋs* 'brought' is inflected for past tense. In this construction the subject Bal. ཁོ་ *kʰo* 'he' first wrote Bal. འཚད་ *xaʈ* 'the letter' then he brought Bal. འཚད་ *xaʈ* 'the letter' towards the deictic center.

(195) ཁོ་སི་འཚད་ཏི་རྦད་ཅི་ཇོངས་

kʰo-si xaʈ-tʃi rbise kʰjoŋs
he-ERG letter-INDF write-CONJ bring-PST

Having written a letter, he brought it.

Example 196 illustrates concurrent motion, where, the first verb Bal. རྦེན་ *rben* 'writing' is in progressive form expressing the continuity of the event, while the second verb Bal. ཇོངས་ *kʰjoŋs* 'brought' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' brought it, while writing Bal. འཚད་ *xaʈ* 'letter'.

(196) ཁོ་སི་འཚད་ཏི་རྦེན་ཇོངས་

kʰo-si xaʈ-tʃi rben kʰjoŋs
he-ERG letter-INDF write-PROG bring-PST

He brought a letter while writing it.

Example 197 illustrates prior motion, where first verb Bal. རྒྱ་ *rbja* 'to write' is in infinitive form expressing prospective event, while the second verb Bal. ཇོངས་ *kʰjoŋs* 'brought' is inflected for past tense. In this construction, the subject Bal. ཁོ་ *kʰo* 'he' was brought to write Bal. འཚད་ *xaʈ* 'the letter'.

(197) ཁོས་སི་འཛད་ཏི་རྒྱ་ཇོངས་

kʰo-si xaʈ-ʧi rbja kʰjoŋs
he-ERG letter-INDF write-INF bring-PST

He brought to write a letter.

4.1.5 Argument Structure

The argument structure of a verb refers to the number and type of noun phrases that a verb combines with in a sentence. This section explores varied argument structures that Balti verbs exhibit, with a recognition that Balti verbs can accommodate up to three core arguments. Based on argument structure, Balti verbs can be categorized into mono-valent, bi-valent and tri-valent verbs. A mono-valent verb features a simple, single argument structure. In contrast to the bi-valent and tri-valent verbs with a more complex argument structure, involving two and three arguments, respectively. Lobsang (1995, pp. 30–31) has provided valuable insights into the classification of Balti verbs, categorizing them into transitive, intransitive, and auxiliary verbs. However, a more detailed examination reveals that he (ibid., page 30-31) distinguishes Balti verbs primarily into transitive and intransitive based on the number of arguments. According to Lobsang (ibid., pp. 30–31), a transitive verb requires a direct object in addition to a subject, while an intransitive verb requires only a subject and no object. Notably, this classification does not explicitly address the distinction between bi-valent and tri-valent verbs. Furthermore, he (ibid., page 30-31) does not take into account the relation between the verb and its argument structure. Therefore, to enhance the completeness of the classification, further considerations are needed, including the differentiation between bi-valent and tri-valent verbs and the exploration of the relation between verbs and their argument structure. The following subsections; mono-valent verbs, bi-valent verbs and tri-valent verbs give an in depth classification of Balti verbs on the base of their argument structure.

4.1.5.1 Mono-Valent Verbs

In Balti, mono-valent verbs—those that take a single argument—include controllable motion verbs, non-controllable animate action verbs, non-controllable verbs of sensation, and non-controllable change-in-state verbs. These categories are discussed in detail in the following sections: controllable motion verbs

§4.1.5.1.1, non-controllable animate action verbs §4.1.5.1.2, verbs of sensation §4.1.5.1.3, and non-controllable change-in-state verbs §4.1.5.1.4.

4.1.5.1.1 Controllable Motion Verbs The terms controllable and non-controllable verbs are adopted from Haller, where Haller (2000, p. 175) defines a controllable verb as one that denotes an event that can be controlled by an agent, while a non-controllable verb describes an event that cannot be controlled.

Additionally, the term 'motion' is used specifically within the category of 'controllable motion verbs,' where 'motion' signifies the movement expressed by each verb in this particular category.

In Balti, a controllable motion verb takes an agent in absolutive case. Example 198 illustrates controllable mono-valent motion verb, where the mono-valent verb Bal. ཁོར་སས་ *kʰors* 'roamed' takes the subject Bal. ཁོ་ *kʰo* 'he' as an agent in absolutive case. Here, the verb Bal. ཁོར་སས་ *kʰors* 'roamed' expresses an event which is controlled by the agent Bal. ཁོ་ *kʰo* 'he'.

(198) ཁོ་གུན་དེ་རྒར་དེ་ཁོར་སས་

kʰo-∅ gunḍe rgaḍe kʰors
he-ABS yesterday much roam-PST

He roamed a lot yesterday.

Mono-valent verbs which can take an agent in absolutive case include controllable motion verbs such as Bal. ཁོར་ *kʰor* 'to roam', Bal. ཇོང་ *ʧʰoŋ* 'to jump', Bal. དྲུལ་ *drul* 'to walk', Bal. བགྱུག་ *bgjuk* 'to run', Bal. ཝ་ *wa* 'to o', Bal. ཨོང་ *oŋ* 'to come', and Bal. ཧྲྀ་ *hrtsja* 'to dance'.

4.1.5.1.2 Non-Controlled Animate Action Verb A non-controlled animate action verb expresses an action that is not under the control of the agentive subject, typically an animate being. It takes an experiencer subject in absolutive case as illustrated in example 199. In this example the mono-valent verb Bal. རྒ་ལེད་ *haleṭ* 'pants' takes the subject experiencer Bal. ཁོ་ *kʰo* 'he' in an absolutive case. Here, the verb Bal. རྒ་ལེད་ *haleṭ* 'pants' expresses a non-controlled event.

(199) ཁོ་རྒར་དེ་རྒ་ལེད་

kʰo-∅ rgaḍe haleṭ
he-ABS much pant-PRS

He pants a lot.

Mono-valent non-controllable animate action verbs which can take an experiencer in absolutive case include non-controllable human action including: Bal. ཐད་ *tʰaʈ* 'become happy', Bal. ཧལ་ *hal* 'pant', and Bal. ཁོག་ *kʰoq* 'caugh'.

4.1.5.1.3 Verb of sensation A mono-valent non-controllable verb of sensation denotes an involuntary physical or emotional state experienced by the subject. Such verbs take an experiencer in the absolutive case, as illustrated in example 200, , where, the verb Bal. སྐོག་སོགས་ *ʂʈoxs* 'hunger' takes the experiencer subject Bal. ང་ *ŋa* 'I' in absolutive case.

(200) ང་ཨིལ་འཁྲ་སྐོག་སོགས་

ŋa-∅ iʃaŋ ʂʈoxs
I-ABS much hunger-PST

I hungered much.

Non-controllable verbs of sensation include Bal. སྐོམ་ *skom* 'crave', Bal. སྐོག་ *ʂʈox* 'hunger', Bal. གྲང་ *graŋ* 'become cold', and Bal. དྲོས་ *ʈros* 'become warm'.

4.1.5.1.4 Change-in-state verb A mono-valent non-controllable change-in-state verb denotes an involuntary transformation or transition in the state or condition of its subject. These verbs typically take an undergoer subject in the absolutive case, representing an entity that experiences the change without exerting control over the process. This verb type often involves inanimate subjects, as they naturally undergo changes without agency. This is illustrated in example 201, where the mono-valent verb Bal. སྨིན་སེད་ *sminseʈ* 'has ripen' takes Bal. ཇུ་ལི་ *ʧuli* 'apricot' as the undergoer of the event expressed by the verb. Here, the subject undergoes change-in-state from unripe to ripe. This class of verb usually takes an inanimate subject.

(201) ཇུ་ལི་སྨིན་སེད་

ʧuli-∅ sminseʈ
apricot-ABS ripe-PERF

The apricot has ripened.

Mono-valent non-controllable change-in-state verbs include Bal. བེ་ *be* 'open', Bal. བུད་ *buʈ* 'fall', Bal. ཆག་ *ʧʰaq* 'break', Bal. ཆད་ *ʧʰaʈ* 'tear', Bal. དག་ *daq* 'cleanse', Bal. གྲང་ *graŋ* 'become cold', Bal. དྲོས་ *ʈros* 'become warm', Bal. ཇོལ་ *jol* 'finish',

Bal. སྨིན་ *smin* 'ripe', Bal. རྡིབ་ *rɖip* 'collapse', Bal. ཡས་ *jas* 'bloom', Bal. ཇོམས་ *ʃoms* 'whither', Bal. ཙྷོས་ *tsʰos* 'bake', Bal. གསོད་ *xsoʈ* 'boil' and Bal. རུལ་ *rul* 'rot'. This class of verbs usually has an inanimate undergoer in the absolutive case. Additionally, these verbs may take a beneficiary or maleficiary in the dative case, where the beneficiary or maleficiary is typically a human being who possesses the undergoer, as illustrated in the example 202. Here, the subject Bal. མོ་ *mo* 'she' acts as the malefactor of the event Bal. རྡིབས་ *rɖips* 'collapse' expressed by the verb.

(202) མོ་ལ་ནང་པོ་རྡིབས་

mo-la naŋ-po rɖips
she-DAT house-DEF.ART collapse-PST

The house collapsed on her loss.

A group of change-in-sate non-controllable verbs can have an animate ungergoer, subject, in absolutive case as illustrated in example 203, where, the verb *ʃis*, 'died' takes the undergoer subject *kʰo*, 'he' in absolutive case.

(203) ཁོ་ཤིས་

kʰo-∅ ʃis
he-ABS died-PST

He died.

This class of verbs include Bal. ཤི་ *ʃi*, 'die' Bal. གསོན་ *xson*, 'live', Bal. སྟོར་ *sʈor*, 'disappear' Bal. རོན་ *ŋon* 'rise to fame', Bal. རྒྱགས་ *ɖroxs* 'frighten', Bal. གྲོལ་ *grol* 'undone' and Bal. འགྱུར་ *gjur* 'pass away'.

The analysis reveals that non-controllability dominates mono-valency, as all mono-valent verbs are non-controllable verbs, with the exception of mono-valent controllable motion verbs. Now, the verbs that need two arguments are discussed here.

4.1.5.2 Bi-valent Verbs

The type of verb determines the number and type of arguments it takes. Controllable action verbs §4.1.5.2.1, sensory verbs §4.1.5.2.2, reception verbs §4.1.5.2.3 , and achievement or belief verb §4.1.5.2.4 take two arguments.

These bi-valent verbs can have an absolutive, ergative, or dative subject based on the type of verbs. These bi-valent verbs closely resemble Urdu and

Hindi verbs, as Butt et al. (2023, pp. 92–93) explains that Urdu and Hindi bi-valent verbs can have either an ergative or nominative subject, or a dative subject. They further explain that the ergative subject is employed when the verb typically expresses perfective actions, while the nominative subject is used when the verb expresses the non-perfective aspect, and a dative subject is conditional to an experiencer subject (2023, pp. 92–93).

In Balti, controllable action verbs have ergative agentive subjects irrespective of the perfective or non-perfective aspect, and sensory verbs have dative subjects, similar to Urdu/Hindi, when the sensory verb expresses an experience. A verb of reception, which exhibits some distal property, takes an unmarked absolutive undergoer subject. And an achievement and belief verb also takes absolutive achiever or believer.

4.1.5.2.1 Controllable Action Verbs Controllable bi-valent action verbs take an agentive subject in ergative case and an object patient in absolutive case. This category of verbs involves an activity in which an agentive subject carries out the action, and a patient object undergoes the effects of the activity. Read (1934, p. 7) uses the term agent case for the ergative agent, noting that the suffix Bal. སི་ *si*, when following the subject, typically indicates the agent case. He further explains that this marker is used in all tenses as it highlights the subject as the doer of the action. However, he may have mistakenly equated the doer agent with the ergative, as not all subjects performing an action are marked with the ergative particle Bal. སི་ *si*. For example, mono-valent motion verbs take the absolutive case instead.

Example 204 illustrates that the bi-valent action verb Bal. ཕབ་སེད་ *pʰapseʈ* 'brought down' takes the agent subject Bal. ཁོ་ *kʰo* 'he' in ergative case and the patient object Bal. ཙུ་ལི་ *ʧuli* 'apricot' in absolutive case.

(204) ཁོ་སི་ཙུ་ལི་ཕབས་

kʰo-si ʧuli pʰapseʈ
he-ERG apricot-ABS bring-down-PERF

He brought down apricots.

Controllable bi-valent action verbs include Bal. ལེན་ *len* 'pick up', Bal. ཅད་ *ʧat* 'cut', Bal. ཅག་ *ʧaq* 'break', Bal. རྡུང་ *rɖuŋ* 'beat', Bal. ཟུན་ *zun* 'catch', Bal. ཕུད་ *pʰuʈ* 'root out', Bal. ཚོ་ *tsʰo* 'graze', Bal. བཙོ་ *pʰʧo* 'build', Bal. ཐུང་ *ʈʰuŋ* 'drink', Bal. ཟ་ *za* 'eat', Bal. རྩེ་ *hrtse* 'play' Bal. ཁྲོལ་ *kʰrol* 'untie' Bal. ཕང་ *pʰaŋ* 'throw', Bal. ཕེ་ *pʰe*

'open', Bal. སྟྲངཿ *straŋ* 'straighten', Bal. ཇངཿ *ʧaŋ* 'hit', Bal. ཕྱུངཿ *pʰjuŋ* 'bring out', Bal. ཇིཾཿ *ʧĩŋ* 'tie', Bal. སྤུརཿ *spur* 'chase away', Bal. རིཿ *rbi* 'write', Bal. ཕབཿ *pʰap* 'bring down', Bal. ཀོལཿ *kol* 'use', Bal. སྐྱུརཿ *skjur* 'leave', Bal. སྐོརཿ *skor* 'rotate', Bal. ཟྦཿ *zba* 'hide', Bal. བགྭཿ *bgwa* 'devide', Bal. ཧྐྭཿ *hrkwa* 'steal', Bal. ཁྲཱུཿ *kʰru* 'wash', Bal. ཐཱཀཿ *tʰaq* 'grind', Bal. པྷུཿ *pʰʃu* 'peal' and Bal. ཡཱཀཿ *jaq* 'keep'.

4.1.5.2.2 Sensory Verb Balti sensory verbs take either a dative experiencer or an ergative agent. Butt et al. (2023, pp. 92–93) discusses how sensory verbs in Urdu and Hindi can take either a dative experiencer or an ergative agent, depending on whether the subject passively experiences the sensation or actively performs the action.

Similarly, in Balti, sensory verbs follow the same pattern, allowing for both dative experiencers and ergative agents based on the subject's role in the event. Sensory verbs expressing experience take the subject experiencer in dative case, while the object, the theme, is marked in absolutive case. This is illustrated in examples 205 and 206, where, the verbs Bal. ཐོངསཿ *tʰoŋs*, and Bal. ཤེསཿ *ʃes* take the subject experiencer Bal. ངཿ *ŋa* in dative case while the object theme Bal. ཡངཿ *jaŋ* in absolutive case.

(205) ང་ལ་ཡང་ཐོངས་

ŋa-la jaŋ-∅ tʰoŋs
I-DAT you-ABS see-PST

I saw you.

(206) ང་ལ་ཡང་ཤེས་

ŋa-la jaŋ-∅ ʃes
I-DAT you-ABS know-PST

I know you.

Balti sensory verbs exhibiting experience include Bal. ཀོཿ *ko* 'hear', Bal. ཐོངཿ *tʰoŋ* 'see', Bal. བཇེདཿ *bʒet* 'forget', Bal. ཐོབཿ *tʰop* 'find', Bal. ཤེསཿ *ʃes* 'know', Bal. རྟུཿ *ʧʰuʈ* 'understand', Bal. ཚོརཿ *tsʰor* 'feel', and Bal. ལོབཿ *lop* 'learn'.

Sensory verbs expressing action take the agentive subject in ergative case and the theme in dative case as illustrated in the example 207, where the verb Bal. ཐཱ་ *ʈa* 'see' expresses action performed by the subject Bal. ངཿ *ŋa* 'I'.

(207) ང་མི་མོ་ལ་ལྟས་

ŋa-si mo-la ɬt̪as
I-ERG she-DAT see-PST

I looked at her.

Sensory verbs indicating action include Bal. ཇ་ *ɬt̪a* 'see', Bal. སྣབ་ *snabja* 'listen', Bal. ཨེ་ཏུབ་ *it̪ubja* 'remember', Bal. དྲི་བ་ *ʈribja* 'smell', and Bal. ཚྲབ་ *ʰtsap* 'teach'.

However, the sensory verb Bal. རྡིག་ *ʤik* 'fear' uniquely takes the experiencer subject in absolutive case and the direct object the target of feeling 'fear' is in dative case as illustrated in example 208, where, the verb Bal. རྡིག་ *ʤik* 'fear' takes the subject undergoer Bal. ང་ *ŋa* 'I' in absolutive case and the direct object Bal. མོ་ *mo* 'she' in dative case.

(208) ང་མོ་ལ་རྡིགས་

ŋa-∅ mo-la ʤiks
I-ABS she-DAT fear-PST

I feared her.

4.1.5.2.3 Reception Verb Reception verbs describe actions aimed at a goal or receiver. This type of verbs have two arguments: a subject undergoer in absolutive case and the reciever in dative case. This is illustrated in examples 209. In this example, the verb Bal. ཕོག་ *pʰoq* 'hit' takes a subject undergoer, which is the entity or person undergoing the action of hitting. In the sentence, Bal. ཁྭེ་ཀར་པོ་ *kʰwe karpo* 'his car' serves as the subject undergoer and is marked in the absolutive case, while the second argument Bal. རྒྱངཔོ་ *rgjaŋpo* 'the wall' functions as the goal is marked in the dative case with the dative case marker Bal. ལ་ *la*.

(209) ཁྭེ་ཀར་པོ་རྒྱང་པོ་ལ་ཕོགས་

kʰwe kar-po rgjaŋ-po-la pʰoqs
his car-DEF wall-DEF-DAT strike-PST

His car struck the wall.

This category of verbs include Bal. ཕོག་ *pʰoq* 'hit', strike', Bal. ཀན་ *kan*,'lean', Bal. ཐོབ་ *ʈʰop* 'obtain', Bal. རྒོས་ *rgos* 'need', Bal. སྐྱེས་ *skjes* 'give birth', and Bal. བྱོར་ *bjor* 'suit' etc.

4.1.5.2.4 Achievement and Belief Verb This type of verb expresses an achievement or belief. This category of verbs take the subject, achiever or believer in absolutive case and the object the target of action or belief in dative case. Example 210 illustrates verb taking the absolutive believer and dative target of belief. In the example 210, the verb Bal. ཚེས་ *ʧʰes* 'trusted' takes the subject achiever Bal. སོ་ *mo* in the absolutive case, while the object the target of belief Bal. ཁོ་ *kʰo* is marked in the dative case.

(210) སོ་ཁྭེ་ལ་ཚེས་

mo-∅ kʰwe-la ʧʰes
mo-ABS he-DAT trust-PST

She trusted in him.

4.1.5.3 Tri-Valent Verbs

The complex argument structure also include tri-valent verbs. Controllable tri-valent verbs involve three participants: the agent, who is responsible for the action and acts as a benefactor or malefactor, is marked with the ergative case, the patient, which is the direct object and the entity directly affected by the action, remains unmarked with the absolutive case, meanwhile, the benefactee or malefactee, the one who benefits or suffers from the action, is marked with the dative case. Example 211 illustrates Balti tri-valent verb Bal. སྨིན་ *min* 'give', where, the verb Bal. སྨིན་ *min* 'give' takes the subject, agentive benefactor, Bal. ང་ *ŋa* 'I' in ergative case, the direct object Bal. ཟན་ *zan* 'food' the benefit, which is directly affected by the action, in absolutive case, and the indirect object the benefactee Bal. ཁོ་ *kʰo* 'he' who receives the benefit in dative case. All the tri-valent verbs are controllable verbs.

(211) ང་སི་ཁོ་ལ་ཟན་སྨིན་

ŋa-si kʰo-la zan-∅ mins
I-ERG he-DAT food-ABS give-PST

I gave him food.

Balti controllable tri-valent verbs include Bal. ཏང་ *ʈaŋ* 'send, apply, put', Bal. ཟེར་ *zer* 'tell', Bal. སྨིན་ *min* 'give', Bal. ཁེར་ *kʰer* 'take away', Bal. ཁྱོང་ *kʰjoŋ* 'bring', Bal. ཀལ་ *kal* 'send', Bal. ལྟྲབ་ *ɬtsap* 'teach', Bal. བཙོ་ *pʰʧo* 'build', Bal. དྲི *ʈri* 'ask', and Bal. ལྟ་ *ɬʈa* 'look'. In addition to the basic argument structures, Balti allows for variation in the argument structure with respect to causative and non-causative

(see §4.1.6) pairs. Furthermore, the causative *ʧuk* (see §4.1.7) takes an extra causer argument transforming the structure into tri-valent construction.

4.1.6 Causative and Non-causative verbs

Tournadre and Suzuki (2023, pp. 374–75) state that modern Tibetic languages have partially inherited causative non-causative verb pairs from Old Tibetan (OT) and Classical Tibetan (CT). While CT preserves around 200 pairs, modern varieties typically retain about 30. Tournadre and Suzuki (ibid.) state morphologically, the causative verb was historically derived from the basic non-causative form through the prefixation of *s-*, a feature also present in Sino-Tibetan (ST). In Classical Tibetan (CT), this causative *s-* often appears as a superscript *s-*. Tournadre and Suzuki (ibid.) state in most other languages, causative verbs are distinguished from their non-causative counterparts by tone and/or aspiration, though in some cases, the spoken forms no longer differentiate between the two.

In Balti, certain verbs form causative and non-causative pairs, with the causative derived from the non-causative by adding the prefix *s-* to the non-causative form, as shown in the following examples:

- Bal. ཁོལ་ *kʰol* 'boil' > Bal. སྐོལ་ *skol* 'make boil'
- Bal. ཁོར་ *kʰor* 'turn around' > Bal. སྐོར་ *skor* 'cause to turn around'
- Bal. བར་ *bar* 'catch fire' > Bal. སྤར་ *spar* 'light, ignite'
- Bal. ཉལ་ *ɲal* 'sleep' > Bal. སྙལ་ *sɲal* 'put to sleep'
- Bal. ལོག་ *log* 'fall' > Bal. སློག་ *slog* 'cause to fall'
- Bal. ཁུམ་ *kʰum* 'shrink' > Bal. སྐུམ་ *skum* 'squeeze'
- Bal. གོན་ *gon* 'wear' > Bal. སྐོན་ *skon* 'make wear'
- Bal. གང་ *gaŋ* 'be full' > Bal. སྐང་ *skaŋ* 'fill'
- Bal. ནུར་ *nur* 'move' > Bal. སྣུར་ *snur* 'set in motion'
- Bal. ནུབ་ *nup* 'dip' > Bal. སྣུབ་ *snup* 'cause to dip'
- Bal. གུལ་ *gul* 'move' > Bal. སྐུལ་ *skul* 'mobilize, prompt'
- Bal. ཌྲུལ་ *ɖrul* 'walk' > Bal. སྟྲུལ་ *stṛul* 'make walk'

- Bal. དྲེས་ *ɖres* 'mix' > Bal. སྟྲེས་ *sʈres* 'cause to mix'
- Bal. འགྱུར་ *gjur* 'revolve' > Bal. སྒྱུར་ *zgjur* 'make revolve, rotate'
- Bal. གགས་ *gaq* 'block' > Bal. སྒགས་ *zgag* 'cause to block'
- Bal. གྲིགས་ *grik* 'fix' > Bal. སྒིགས་ *zgik* 'fasten, secure'
- Bal. དམ་ *ɖam* 'gather' > Bal. སྡམ་ *zɖam* 'cause to gather'

Some verbs form causative and non-causative pairs, with the causative form typically marked by a voiceless aspirated consonant. as illustrated in the following examples:

- Bal. བུད་ *buʈ* 'fall' > Bal. ཕུད་ *pʰuʈ* 'cause to fall'
- Bal. བྲིས་ *bris* 'decrease' > Bal. ཕྲིས་ *pʰris* 'cause to decrease'
- Bal. བེས་ *bes* 'open' > Bal. ཕེས་ *pʰes* 'cause to open'
- Bal. འབྱུང་ *bjuŋ* 'come out' > Bal. ཕྱུང་ *pʰjuŋ* 'cause to come out'
- Bal. བབ་ *bap* 'fall' > Bal. ཕབ་ *pʰap* 'cause to fall'
- Bal. བཞིག་ *bʒik* 'fade' > Bal. བཤིག་ *pʰʃik* 'cause to fade'

Certain verbs form causative non-causative pairs, where the causative is marked with voiceless onset, as illustrated in the following examples:

- Bal. གོབ་ *gop* 'cover' > Bal. ཀོབ་ *kop* 'cause to cover'
- Bal. གོག་ *goq* 'come off' > Bal. ཀོག་ *koq* 'cause to come off'

Syntactically, a non-causative verb highlights an event in which something undergoes a change of state, as illustrated in example 212. Here, the non-causative verb takes one argument, where the subject Bal. སྒོ་ *zgo* 'door' undergoes the change of state expresses by the non-causative verb Bal. བེ་ *be* 'open'.

(212) སྒོ་བེས་

zgo *bes*
door-ABS open-PST

The door opened.

On the other hand a causative verb always takes an additional argument corresponding to an agent performing the action. This is illustrated in example 213. In this example, the agent subject Bal. ཁོ་ *kʰo* 'he' initiates the action Bal. ཕེས་ *pʰes* 'open' on the object patient Bal. སྒོ་ *zgo* 'door'. Here, the causative verb takes two arguments an agent Bal. ཁོ་ *kʰo* 'he' and a patient Bal. སྒོ་ *zgo* 'door'.

(213) ཁོ་སི་སྒོ་ཕེས་

kʰo-si zgo-∅ pʰes
he-ERG door-ABS open-PST

He opened the door.

Moreover, the *s-* prefix causative and the aspiration and devoicing causative share the same syntactic structure, as illustrated in examples 214 and 215. In example 214, the *s-* prefix causative verb Bal. སྐུལ་ *skuls* 'shook' takes an agentive subject marked with the ergative case Bal. ཁོ་ *kʰo* 'he' and a patient object Bal. ཀུ་ཤུ་ *kuʃu* 'apple' in the absolutive case.

(214) ཁོ་སི་ཀུ་ཤུ་སྐུལ་

kʰo-si kuʃu-∅ skuls
he-ERG apple-ABS shake-PST

He shook the apple.

Similarly, in example 215, the aspiration and devoicing causative verb Bal. ཕབས་ *pʰaps* 'bring down' follows the same syntactic pattern. The agentive subject Bal. ཁོ་ *kʰo* appears in the ergative case, while the patient object Bal. ཤུ་ཤུ་ *kuʃu* 'apple' remains in the absolutive case.

(215) ཁོ་སི་ཀུ་ཤུ་ཕབས་

kʰo-si kuʃu-∅ pʰaps
he-ERG apple-ABS bring-down-PST

He picked the apple.

4.1.7 The Causative Verb *tʃuk*

Unlike the previous section, where the causative verb by itself expresses causation, here the causative verb Bal. ཇུག་ *tʃuk* always follows another verb. It conveys either causation or permission for the action of the preceding verb to

take place. In example 216, the causative Bal. ཇུག་ *ʧuk* expresses encouragement for the attendant to cause the patient to eat. This sentence is an instruction from a doctor to an attendant, where the doctor is advising the attendant to encourage the patient, who has just recovered from a disease in the hospital, to eat.

(216) ཁོ་ལ་ཟན་ཟ་ཇུག་

kʰo-la zan-∅ za-ʧuk
he-DAT food-ABS eat-CAUS

Encourage him eat the meal.

In example 217, the causative Bal. ཇུག་ *ʧuk* conveys the meaning of 'let'. In this context, a sister and brother are preparing to go to school. As the sister steps out of the house, the mother says this sentence.

(217) ཁོ་ལ་ཟན་ཟ་ཇུག་

kʰo-la zan-∅ za-ʧuk
he-DAT food-ABS eat-CAUS

Let him eat the meal.

The causative suffix Bal. ཇུག་ *ʧuk* takes an additional argument a causee as illustrated in examples 218, and 219, where in 218 the bi-valent verb Bal. ཟེར་ *zer* 'speak' takes the subject, agent, Bal. ཁོ་ *kʰo* 'he' in the ergative case and the object, patient, Bal. བདེན་ *kʰaṯraŋ* 'truth' in the absolutive case, while in 219, the causative Bal. ཇུག་ *ʧuk* takes an additional argument performer, causee, Bal. ཁོ་ལ་ *kʰo-la* 'he' in the dative case.

(218) ཁོ་སི་བདེན་ཟེར་སེད་

kʰo-si kʰaṯraŋ-∅ zerseṯ
he-ERG truth-ABS speak-PERF

He has spoken the truth.

(219) དྲང་པ་སི་ཁོ་ལ་བདེན་ཟེར་ཇུག་སེད་

ʈraŋpa-si kʰo-la kʰaṯraŋ-∅ zer ʧukseṯ
village.chief-ERG he-DAT truth-ABS speak-INF CAUS-PERF

The village chief has made him speak the truth.

In the *ʧuk* causative constructions, the main lexical verb always appears in the infinitive form (see §4.1.3.2). In examples 218 and 219, the main lexical verb Bal. ཟེར་ *zer* is in the infinitive form, while the causative Bal. ཇུག་ *ʧuk* carries the tense and aspect inflections.

Additionally, the *ʧuk* causative construction occurs with both causative and non-causative verb pairs, as discussed in Section 4.1.6. This is illustrated in examples 220 and 221.

In example 220, the causative *ʧuk* follows the non-causative verb Bal. གོན་ *gon* 'put on'. Here, the causative *ʧuk* introduces an additional argument, Bal. ཁོ་ *kʰo* 'him', which is marked with the dative case.

(220) ཁྱང་ཨི་ཁོ་ལ་གོན་ཅས་གོན་ཇུག་

kʰjaŋ-i kʰo-la gonʧas-∅ gon ʧuk
you-ERG he-DAT clothes-ABS wear-NON-CAUS-INF CAUS-IMP

You let him put clothes on.

In example 221, the causative *ʧuk* follows the causative verb སྐོན་ *skon* 'cause to put on'. In this construction, *ʧuk* introduces an additional argument, Bal. ཁོ་ *kʰo* 'he', which is marked with the dative case. Meanwhile, the causative verb Bal. སྐོན་ *skon* 'cause to put on' takes the agent subject Bal. ཁྱང་ *kʰjaŋ* 'you' in the ergative case, the indirect object Bal. ཕྲུ་ *pʰru* 'the child' in the dative case, and the direct object Bal. གོན་ཅས་ *gonʧas* 'clothes' in the absolutive case.

(221) ཁྱང་ཇི་ཁོ་ལ་ཕྲུ་ལ་གོན་ཅས་སྐོན་ཇུག་

kʰjaŋ-i *kʰo-la pʰru-la gonʧas-∅ skon ʧuk*
he-DAT child-DAT clothes-ABS wear-CAUSE-INF CAUS-IMP

You let him put clothes on the child.

4.2 Light Verbs

Now, we will discuss the complex predicate in the language, where two elements form the predicate of the sentence and the two elements jointly take the argument structure of the sentence. This section deals with the light verb construction in Balti. Butt and Lahiri argue that

> [l]ight verbs need to be recognized as a distinct syntactic class. The point can be illustrated quite straightforwardly with respect to Urdu,

> where auxiliaries and light verbs show distinct syntactic behaviors with regard to case marking, word order, reduplication and topicalization. (2013, p. 10).

Discussing the difference between main verb and light verb, Butt and Lahiri argue that

> [a]lthough it is form-identical to a main verb, the predicational contribution is not that of a main verb. Rather, it serves to modify the main verb semantics by expressing such notions as completion, inception, benefaction, frocefulness, suddenness or volitionality. (2013, p. 08)

The Balti light verbs including Bal. བྱ་ *bja*, Bal. ཏང་ *ʈaŋ*, Bal. ཕང་ *pʰaŋ*, Bal. པ་ *wa*, and Bal. ཨོང་ *oŋ* constitute a distinct syntactic category. Balti light verbs form a distinct category on the basis of their syntactic and semantic contribution in a sentence. Syntactically, a Balti light verb forms a complex predicate in combination with another predicative elements (noun, adjective or another verb) that jointly form the predicate of mono-clausal structure. Semantically, in Balti, unlike full verbs, light verbs play a little role. Light verbs are named as such because they are semantically light. They co-occur with a noun, an adjective or another verb and the two together describe one event or situation, where the preceding element (a noun, an adjective or another verb) provides the full semantic content while the following light verb provides a sense of activity, transfer, completion, duration, coming to pass, and transformation. In the construction of noun plus light verb and adjective plus light verb, the light verb verbalizes the nominal.

Before discussing various light verbs in Balti, it is important to discuss how a Balti light verb is distinct from that of a full verb (see §4.2.1) and how a Balti light verb is different from that of an auxiliary (see §4.2.2).

4.2.1 Light Verbs versus Full Verbs

Analysis of Balti light verbs reveals that they constitute a distinct category. Unlike main or full verbs, this class of verb cannot independently predicate a mono-clausal structure. They always require a predicative element such as a noun, an adjective, or another verb, where the preceding element provides the semantic content while the light verb imparts a sense of activity, transfer,

completion, coming to pass, or transformation, as illustrated in examples 222 to 226.

In example 222, the light verb Bal. བེད་ *bet̪* cannot stand alone as an independent predicate; it needs the preceding nominal Bal. འཇའ་ *xa* 'anger' to give a complete sense, where the nominal provides the full semantic content and the light verb verbalizes it, giving a sense of an activity.

(222) ཁོ་སི་ང་ལ་འཇའ་བེད་

kʰo-si ŋa-la xa bet̪
he-ERG I-DAT anger LV-PS

He is angry at me.

In example 223, the light verb Bal. ཏང་ *t̪aŋ* cannot stand alone as an independent predicate; it needs the preceding nominal Bal. ཐུག་ *t̪ʰuk* 'spit', which provides the full semantic content, and the following light verb Bal. ཏངས་ *t̪aŋs* gives a sense of transfer, indicating parting from the subject Bal. ཁོ་ *kʰo* 'he'.

(223) ཁོ་སི་ཐུག་ཏངས་

kʰo-si t̪ʰuk t̪aŋs
he-ERG spit LV-PST

He spat.

In example 224, Bal. ཕངས་ *pʰaŋs* can make no sense without the preceding full verb Bal. ཀ་ལེ་ *kale* 'cook', where the main verb Bal. ཀ་ལེ་ *kale* 'cook' provides semantic content while the light verb gives a sense of completion.

(224) ཁོ་སི་ཟན་ཀ་ལེ་ཕངས་

kʰo-si zan kale pʰaŋs
he-ERG meal cook-CONJ LV-PST

He cooked a meal (completion).

In example 225, the light verb Bal. ཨོངས་ *oŋs* does not make sense without the preceding nominal Bal. ཨི་ཏུ་ *i̪t̪u* 'memory' which provides core meaning. While the light verb gives a sense of coming to pass.

(225) ཁོ་ལ་ང་ཨི་ཏུ་ཨོངས་

kʰo-la ŋa i̪t̪u oŋs
he-D T I remember LV-PST

I came to his memory (come to pass).

In example 226, the light verb Bal. སོངས་ *soŋs* does not make sense without the preceding adjective Bal. རྒྱལ་པོ *rgaʃe* 'beautiful', where the light verb gives a sense of transformation.

(226) ཁོ་ནང་པོ་རྒྱལ་ཤེ་སོངས་

kʰo-la naŋ-po rgaʃe soŋs
he-DAT house-DEF beautiful LV-PST

The house has become beautiful for him (come to pass).

All the light verbs discussed in the following sections, including Bal. བྱ *bja*, Bal. ཏང་ *ʈaŋ*, Bal. ཕང་ *pʰaŋ*, Bal. ཨོང་ *oŋ*, and Bal. ཝ་ *wa* (see §4.2.3, §4.2.4, §4.2.6, §4.2.7, and §4.2.8) demonstrate that light verbs depend on the preceding predicative element to convey a complete sense. The two components together form a single semantic unit, sharing the same arguments. However, this class of verb is formed identically to main verbs in the sense that it bears the full inflectional paradigm, and negation similar to a full verb.

4.2.2 Light Verbs versus Auxiliaries

Light verbs differ from auxiliaries on several grounds, including case marking, word order, combinatory restrictions, inflectional paradigm, and negation.

An auxiliary verb cannot assign case to a nominal associated with the verb, as illustrated in example 227. Here, the main verb Bal. ཟེན་ *zen* 'eating' assigns the ergative case to the agent, Bal. ཁོ་ *kʰo* 'he', and the absolutive case to the patient, Bal. ཟན་ *zan* 'meal'. The auxiliary Bal. ཇོད་ *joʈ* plays no role in this case assignment.

(227) ཁོ་སི་ཟན་ཟེན་ཇོད་

kʰo-si zan-∅ zen joʈ
he-ERG meal-ABS eat-PROG AUX

He is eating a meal.

Unlike an auxiliary, a light verb has the ability to assign case to the arguments as illustrated in examples 228 and 229, where in the first instance the light verb Bal. བྱས་ *bjas* assigns the ergative case to the agentive subject, indicating the performer of the action, and the absolutive case to the patient, direct

object, Bal. རྣངས་པོ་ *naŋpo* 'the house' indicating the patient which underwent the effect of the action, while the adjective Bal. རྒྱགས་ *rgaʃe* 'beautiful' provides the core semantic content.

In the second instance, the light verb Bal. སོང་ *soŋs* assigns absolutive case to the undergoer, Bal. རྣངས་པོ་ *naŋpo* 'the house'.

(228) ཁོས་སི་རྣངས་པོ་རྒྱགས་ཏེ་བྱས་

kʰo-si naŋ-po-∅ rgaʃe bjas
he-ERG house-DEF-ABS beautiful LV-PST

He beautified the house.

(229) རྣངས་པོ་རྒྱགས་ཤེ་སོང་

naŋ-po-∅ rgaʃe soŋs
house-DEF-ABS beautiful LV-PST

The house became beautiful.

The second difference between light verbs and auxiliaries lies in word order, where the positions of the two cannot be switched, as illustrated in example 230, where the positions of the light verb Bal. བེན་ *ben* and the auxiliary Bal. ཇོད་ *joʈ* cannot be interchanged.

(230) ཁོས་སི་རྣངས་པོ་རྒྱགས་ཏེ་བེན་ཇོད་

kʰo-si naŋ-po-∅ rgaʃe ben joʈ
he-ERG house-DEF beautiful LV-PROG AUX

He is beautifying the house.

The third distinction between a light verb and an auxiliary verb lies in their combinatory restrictions. Light verbs are often subject to more restrictive combinations with nouns, adjectives, or certain full verbs whereas auxiliary verbs can occur with any full verb in the relevant tense and aspect. It is worth noting that the light verbs Bal. ཇྱ་ *bja*, Bal. ཏྱང་ *ʈaŋ*, Bal. ཕངས་ *pʰaŋ*, Bal. ཝ་ *wa*, and Bal. ཨོང་ *oŋ* exhibit combinatory restriction. This phenomenon, described as a peculiar property of light verbs by Seiss et al., they noted,

> [l]ight verbs exhibit subtle lexical semantic differences in terms of combinatorial possibilities with main verbs, are thus restricted in their combinations. Auxiliaries, on the other hand, are not restricted in their combinatorical possibilities. (2009, p. 509)

Light verbs in Balti often come with specific restrictions regarding the types of words or phrases they can combine with. For instance, the light verb Bal. ཇྱ་ *bja* typically requires a preceding nominal indicating an activity or the result of an activity. On the other hand, Bal. ཏྱང་ *ʈaŋ* necessitates an abstract noun undergoing the action or a concrete noun transferring from the subject to the object.

Similarly, the light verb Bal. ཕངས་ *pʰaŋ* demands the conjunctive form of the verb, restricting its usage with non-volitional verbs. The light verb Bal. ཨོང་ *oŋ*, however, prefers abstract nouns, typically indicating emotions. Finally, Bal. ཝ་ *wa* requires a preceding adjective.

These restrictions serve to elucidate the specific semantic roles played by each light verb, whether it be indicating activity, transfer, completion, coming to pass, or transformation within a sentence.

Unlike a light verb, an auxiliary can occur with any full verb in the specific tense and aspect.

The light verbs Bal. ཇྱ་ *bja*, and Bal. ཏྱང་ *ʈaŋ* follow either a noun or an adjective that provides the semantic content, while the subsequent light verb contributes tense and aspect inflections. Both combinations, either noun plus light verb or adjective plus light verb, describe a unified event or situation. The light verb Bal. ཇྱ་ *bja* typically signifies an activity, thus, it is limited to nouns indicating either an activity or the result of an activity.

On the other hand, the light verb Bal. ཏྱང་ *ʈaŋ* indicates spatial transfer, and as such, it is limited to abstract nouns executed by the light verb or concrete nouns transferred from the agent to elsewhere. The light verb Bal. ཏྱང་ *ʈaŋ* also follows a full verb (volitional), where the preceding full verb provides the semantic content while the light verb Bal. ཏྱང་ *ʈaŋ* provides the tense and aspect inflections and the two together form one semantic unit. The light verb Bal. ཕངས་ *pʰaŋ* follows the verbal form conjunctive (see §4.1.3.1), where the preceding full verb provides the full semantic content while the light verb Bal. ཕངས་ *pʰaŋ* indicates completion. In the construction of conjunctive form of full verb and the light verbs Bal. ཕངས་ *pʰaŋ* and Bal. ཏྱང་ *ʈaŋ* the light verbs always follow the main verb and the position of the two cannot be changed.

The light verb Bal. ཨོང་ *oŋ* follows an abstract noun indicating human experience, where the light verb exhibits a sense of 'coming to pass'. The light verb Bal. ཝ་ *wa* follows an adjective, where the light verb gives a sense of transformation.

The fourth distinction between a light verb and an auxiliary verb is that a

light verb bears a full inflectional paradigm like a full verb, while an auxiliary is defective in terms of verb inflection. Specifically, the light verbs: Bal. ཇྱ *bja*, Bal. ཏྟང་ *ʈaŋ*, Bal. ཕངཔ་ *pʰaŋ*, Bal. ཝ་ *wa*, and Bal. ཨོང་ *oŋ* exhibit a full verb inflectional paradigm.

The fifth distinction between a light verb and an auxiliary is the negation formation, as the light verb is negated just like a full verb while an auxiliary has a negative auxiliary counterpart as illustrated in examples 231, and 232, where in example 231 the negation of the light verb is formed just like a main verb with the negative prefix Bal. མ་ *ma*.

(231) ཁོསཱི་ང་ལཱལཱ་མ་བྱས་

kʰo-si ŋa-la xa ma-bjas
he-ERG I-DAT anger NEG-LV-PST

He did not show anger to me.

In contrast, in example 232, the negation of the auxiliary is formed with the negative Bal. མེད་ *meʈ* counterpart of Bal. ཡོད་ *joʈ*.

(232) ཁོསཱི་ང་ལཱལཱ་བེན་མེད་

kʰo-si ŋa-la xa ben meʈ
he-ERG I-DAT anger LV-PROG NEG-AUX-PRS

He is not showing anger to me.

Now, each of the light verbs including Bal. ཇྱ *bja*, Bal. ཏྟང་ *ʈaŋ*, Bal. ཕངཔ་ *pʰaŋ*, Bal. ཝ་ *wa* and Bal. ཨོང་ *oŋ* will be discussed here, focusing on their distinctive features.

4.2.3 The Light Verb *bja*

The light verb Bal. ཇྱ *bja* has a prototypical meaning 'do' and is the most widely used light verb in Balti. Light verb Bal. ཇྱ *bja* can occur with another element like a noun, or an adjective describing one event or situation. Examples involving Noun plus Light verb Bal. ཇྱ *bja* are given in table 4.16.

The light verb Bal. ཇྱ *bja* is used with a noun as illustrated in example 233, where the noun Bal. ཁཱ་ *xa* 'anger' provides the full semantic content while the light Bal. ཇྱ *bja* gives a sense of an activity and the two jointly denotes a single event Bal. ཁཱཇྱ *xabja* 'to show anger'. In this construction, the light verb Bal. བེད་ *beʈ* takes the arguments Bal. ཁོ *kʰo* 'he' the agent in ergative case, and Bal. ང་ *ŋa*

Noun			Noun + Light Verb *bja*		
ཕྱག་	*pʰjaq*	a pray	ཕྱག་བྱ་	*pʰjaqbja*	to pray
ཇི་	*qi*	a scream	ཇི་བྱ་	*qibja*	to cry
ཐེག་	*ʈʰik*	a guess	ཐེག་བྱ་	*ʈʰikbja*	to guess
ཞར་གད་	*ʒargaʈ*	a joke	ཞར་གད་བྱ་	*ʒargaʈbja*	to joke
ཕུ་	*pʰu*	a whoosh	ཕུ་བྱ་	*pʰubja*	to blow
སྐྲམ	*zrum*	a smile	སྐྲམ་བྱ་	*zrumbja*	to smile
ཡུར་མ་	*jurma*	a weed	ཡུར་མ་བྱ་	*jurmabja*	to weed
ཟན་	*zan*	a meal	ཟན་བྱ་	*zanbja*	to cook
ཨ་ཅི་	*aʃi*	a possession	ཨ་ཅི་བྱ་	*aʃibja*	to get in possession
སྣ་	*sna*	an ear	སྣ་བྱ་	*snabja*	to listen
རྩིན་མོ་	*hrtsinmo*	a toy	རྩིན་མོ་བྱ་	*hrtsinmobja*	to play
བག་སྟོན་	*bagsʈon*	a marriage	བག་སྟོན་བྱ་	*bagstonbja*	to get married
རྟ་	*rɖa*	a sign	རྟ་བྱ་	*rɖabja*	to signal
ལིང་	*liŋ*	a hunt	ལིང་བྱ་	*liŋbja*	to hunt
རོག་	*rox*	assistance	རོག་བྱ་	*roxbja*	to help
རྩ་རྩ་	*hrŋartsa*	harvesting	རྩ་རྩ་བྱ་	*hrŋartsabja*	to harvest
ཏབ་ཐོ་	*ʈapʈʰo*	a plough	ཏབ་ཐོ་བྱ་	*ʈapʈʰobja*	to plough
ཆག་བུ་	*tʃʰaqbu*	a bunch	ཆག་བུ་བྱ་	*tʃʰaqbubja*	to make a bunch
ཚོང་	*tsʰoŋ*	commerce	ཚོང་བྱ་	*tsʰoŋbja*	to do trade
ཁཾ་	*xa*	anger	ཁཾ་བྱ་	*xabja*	to snub
རྟེ་	*hrpe*	imitation	རྟེ་བྱ་	*hrpebja*	to imitate
ཕེད་	*pʰeʈ*	a half	ཕེད་བྱ་	*pʰeʈbja*	to make half

Table 4.16: Noun + Light Verb ***bja***

'I' the experiencer in dative case and share the arguments with its complement Bal. ཞེ་ *xa* 'anger' what is done. In addition, the light verb is inflected with the present tense suffix Bal. ཨེད་ *-et*.

Furthermore, the negation of 233 can be formed by adding a negative auxiliary Bal. མེད་ *meʈ*, similar to how negation is formed for a full verb. This reinforces the idea that the construction behaves more like a full verb in terms of negation, distinguishing it from an auxiliary verb.

(233) ཁོ་སི་ང་ལ་ཞེ་བེད་

kʰo-si ŋa-la xa beʈ
he-ERG I-DAT anger LV-PS

He shows anger to me.

The light verb Bal. ཇྱ་ *bja* is also used with an adjective where the adjective gives full semantic content, while the light verb gives a sense of an activity as shown in example 234, where the adjective Bal. རྒའེ་ *rgaʃe* 'beautiful' qualifies the result of the event expressed by Bal. ཇྱ་ *bja*, here, the light verb Bal. ཇྱ་ *bja* cannot stand alone without the preceding adjective Bal. རྒའེ་ *rgaʃe* 'beautiful', here the light verb Bal. ཇྱ་ *bja* takes the arguments Bal. ཁོ་ *kʰo* 'he' in ergative and Bal. ནང་པོ་ *naŋ-po* 'the house' in absolutive case and shares the arguments with its adjectival complement Bal. རྒའེ་ *rgaʃe* 'beautiful'.

The light verb Bal. ཇྱས་ *bjas* is inflected for the past tense with the past tense suffix *-s*.

Additionally, the negation of this construction can be formed similar to a full verb by prefixing the negative prefix Bal. མ་ *ma-* to the light verb Bal. ཇྱས་ *bjas*. Here, it indicates that the negative particle Bal. མ་ *ma-* can be inserted between the preceding element and the light verb. This further reinforces the characteristics of the light verb as being more like a full verb in terms of inflection and negation formation.

(234) ཁོ་སི་ནང་པོ་རྒའེ་ཇྱས་

kʰo-si naŋ-po rgaʃe bjas
he-ERG house-DEF beautiful LV-PST

He made the house beautiful.

Examples of adjectives + light verb *bja* 'do' are given in the table 4.17.

Butt states

Adjective			Adjective + Light Verb *bja*		
རྒ་ཤེ་	*rgaʃe*	beautiful	རྒ་ཤེ་བྱ་	*rgaʃebja*	beautify
ཇ་དུ་	*tʃʰaʈu*	ugly	ཇ་དུ་བྱ་	*tʃʰaʈubja*	uglify
ཐོན་མོ་	*ʈʰoŋmo*	high	ཐོན་མོ་བྱ་	*ʈʰoŋmobja*	heighten
རིང་བོ་	*riŋbo*	long	རིང་བོ་བྱ་	*riŋbobja*	lengthen
ཐུང་བྱ་	*kʰuʈ*	short	ཐུང་བྱ་	*kʰuʈbja*	shorten
ཕལ་ཕལ་	*pʰalpʰal*	wide	ཕལ་ཕལ་བྱ་	*pʰalpʰalbja*	widen
བཐ་མོ་	*bapʰmo*	short	བཐ་མོ་བྱ་	*bapʰmobja*	shorten in height
ཞིམ་བོ་	*ʒimbo*	tasty	ཞིམ་བོ་བྱ་	*ʒimbobja*	tastify
དྲོན་མོ་	*ʈronmo*	warm	དྲོན་མོ་བྱ་	*ʈronmobja*	warm
ཚོ་	*tsʰo*	warm	ཚོ་བྱ་	*tsʰobja*	warm
གྲག་མོ་	*graxmo*	cold	གྲག་མོ་བྱ་	*graxmobja*	cool

Table 4.17: Adjective + Light Verb *bja*

> [i]n the N-V complex predicates, the light verb acts as a verbalizer. That, it is a very productive device for drawing predicates into the language and incorporating loan words into the verbal system. (2010, p. 4)

Similar to Urdu, the Balti light verb Bal. བྱ་ *bja* accommodates English and Urdu loanwords, including nouns, adjectives, and verbs, within a Balti mono-clausal structure. In the case of Urdu and English verbs, it seems that these verbs are borrowed as nouns (indicating an activity or the result of an activity) and are verbalized by the light verb Bal. བྱ་ *bja*. This is demonstrated in examples 235 and 236, where the Urdu verb Bal. མ་དད་ *maɖaɖ* 'help' and the English verb 'change' have been incorporated into the sentence structure of Balti through the light verb Bal. བྱ་ *bja*. Here, the Urdu and English verbs provide the semantic content, while the light verb Bal. བྱ་ *bja* supplies the Balti verbal inflections for tense, and together, they describe a single event. In both examples, negation can be formed by adding the negative auxiliary Bal. མེད་ *meʈ*.

(235) ཁོ་སི་ངི་མ་དད་བེད་

kʰo-si ŋi maɖaɖ beʈ
he-ERG I-GEN help LV-PRS

He helps me.

(236) ཁོ་སི་སབ་ཇེད་ཅེན་ཅད་ལོ་

kʰo-si subject change beʈ lo
he-ERG subject change LV-PS QUOT

He changes the subject (it is said).

Examples of Urdu loanwords with Balti light verb ***bja*** are given in table 4.18.

Urdu Words			Urdu Loanwords + Light Verb ***bja***		
شادی	*ʃaḍi*	marriage	ཤཱ་དི་བྱ་	*ʃadi bja*	to get marry
حساب	*hesab*	counting	ཧེ་སབ་བྱ་	*hesab bja*	to count
خرچہ	*xartʃa*	expenditure	ཁཱར་ཙ་བྱ་	*xartʃa bja*	to spend
محنت	*mihnat*	hard work	མིཧ་ནད་བཡ་	*mihnat bja*	to do hard work
فکر	*fikir*	worry	ཕི་ཀིར་བྱ་	*pʰikir bja*	to get worry
شروع	*ʃuru*	begin	ཤུ་རུ་བྱ་	*ʃuru bja*	to begin
شامل	*ʃamil*	involve	ཤ་མིལ་བྱ་	*ʃamil bja*	to get involve
بحث	*behes*	discussion	བེ་ཧེས་བྱ་	*behes bja*	to discuss
یقین	*jaqin*	belief	ཡ་ཇིན་བྱ་	*jaqin bja*	to believe in
کوشش	*koʃiʃ*	struggle	ཀོ་ཤིཤ་བྱ་	*koʃiʃ bja*	to struggle
آرام	*aram*	comfort	ཨ་རམ་བྱ་	*aram bja*	to get rest
یاد	*jaʈ*	remember	ཡཊ་བྱ་	*jaʈ bja*	to remember
ختم	*xaʈam*	finish	ཁཊ་ཏམ་བྱ་	*xaʈam bja*	to finish
خوبصورت	*kʰubsuraʈ*	beautiful	ཁུབ་སུ་རད་བྱ་	*kʰubsuraʈ bja*	beautify
وضاحت	*wazahat*	explanation	ཝ་ཟ་ཧད་བྱ་	*wazahaʈ bja*	to explain

Table 4.18: Urdu Loanwords + Balti Light Verb ***bja***

Examples of English loanwords in combination with Balti light verb Bal. ཐྱ་ ***bja*** are given in table 4.19.

4.2.4 The Light Verb *ʈaŋ*

The Balti light verb Bal. ཊང་ *ʈaŋ* has a prototypical meaning encompassing actions like 'put,' 'give,' and 'apply.' It can co-occur with various predicational elements such as verbs, nouns, and adjectives.

Examples of Balti full verbs combined with the light verb Bal. ཊང་ *ʈaŋ* are provided in Table 4.20.

The light verb Bal. ཊང་ *ʈaŋ* is used with full verbs, as illustrated in examples 237, 238, and 240. In each case, the first full verb provides the full semantic content, while Bal. ཊང་ *ʈaŋ* contributes a sense of spatial transfer. In the full verb

English Loan Word		English Loan Word + Light Verb *bja*		Meaning
ཧེ་ལེབ་	*helep*	ཧེ་ལེབ་བྱ་	*helep bja*	to help
གེས་	*ges*	གེས་བྱ་	*ges bja*	to guess
ཅེན་	*ʧendʒ*	ཅེན་བྱ་	*ʧendʒ bja*	to change
ཏྲན་སཔར་	*transp^{h}ar*	ཏྲན་སཔར་བྱ་	*transp^{h}ar bja*	to transfer
ཏྲེ་ཝལ་	*trewal*	ཏྲེ་ཝལ་བྱ་	*trewal bja*	to travel
ད་ཇུ་	*draju*	ད་ཇུ་བྱ་	*draju bja*	to drive
ཏི་ཊིང་	*titʃiŋ*	ཏི་ཊིང་བྱ་	*titʃiŋ bja*	to teach
ཨིན་ཝལ་	*inwol*	ཨིན་ཝོལ་བྱ	*mwol bja*	to involve
མི་ཏིང་	*mitiŋ*	མི་ཏིང་བྱ་	*mitiŋ bja*	to meet
པྲུ་གཙམ་	*prugram*	པྲུ་གཙམ་བྱ་	*prugram bja*	to program
ཨེཁ་སྤེ་ལེན་	*ekspelen*	ཨེཁ་སྤེ་ལེན་བྱ་	*eksplen bja*	to explain

Table 4.19: English Loanwords + Balti Light Verb ***bja***

Conjunctive			Conjunctive + Light Verb ***ʈaŋ***	
ཀ་ལེ་	*kale*	send	ཀ་ལེ་ཏང་ *kaleʈaŋ*	to send
ཕུ་ལེ་	*p^{h}ule*	push	ཕུ་ལེ་ཏང་ *p^{h}uleʈaŋ*	to push
ལེ་ནེ་	*lene*	lift	ལེ་ནེ་ཏང་ *leneʈaŋ*	to lift
སྒོ་རེ་	*zgore*	cut in circle	སྒོ་རེ་ཏང་ *zgoreʈaŋ*	to cut in circle
ཕོ་སེ་	*p^{h}ose*	flow	ཕོ་སེ་ཏང་ *p^{h}oseʈaŋ*	to allow flow
བཏཱ་སེ་	*braqse*	shave	བཏཱ་སེ་ཏང་ *braqseʈaŋ*	to shave
ཕུ་ཏེ་	*p^{h}uʈe*	release	ཕུ་ཏེ་ཏང་ *p^{h}uʈeʈaŋ*	to release
ཕྱུང་སེ་	*p^{h}iuŋse*	expel	ཕྱུང་སེ་ཏང་ *p^{h}iuŋseʈaŋ*	to expel

Table 4.20: Verb + Light Verb ***ʈaŋ***

plus light verb Bal. ཏང་ *ʈaŋ* construction the positions of the two verbs cannot be switched.

In Example 237, the full verb Bal. ཀལེ་ *kale* 'send' takes the conjunctive form, providing the complete semantic content, while the light verb Bal. ཏང་ *ʈaŋ* is inflected for present tense (Bal. ཨེད་ *-eʈ*). Together, they form a cohesive semantic unit, where the light verb takes the arguments: subject agent Bal. ང་ *ŋa* 'I' in the ergative case, the full verb Bal. ཀལེ་ *kale* takes the direct object undergoer Bal. ཧྲཏཱག་ *hrʈax* 'gift' which transfers from Bal. ང་ *ŋa* 'I' to the indirect object benefactor Bal. ཁྱོང་ *kʰjaŋ* 'you' which is in the dative case. In this construction, the full verb Bal. ཀལེ་ *kale* 'send' light verb Bal. ཏང་ *ʈaŋ* co-predicate the mono-clausal structure. The negation of this structure can be formed by adding the negative auxiliary Bal. མེད་ *meʈ*.

(237) *ŋa-si kʰjaŋ-la hrʈax-ʧi kale ʈaŋeʈ*
I-ERG you-DAT gift-INDF send-CONJ LV-PRS
Bal. ངས་ཁྱོང་ལ་ཧྲཏཱ་ཅི་ཀལེ་ཏང་ཉེད་

I will send a gift to you.

Example 238 illustrates the combination of the full verb Bal. ཕུལེ་ *pʰule* 'push' in conjunctive form with the light verb Bal. ཏང་ *ʈaŋ*, inflected for past tense (*-s*), where the full verb Bal. ཕུལེ་ *pʰule* 'push' gives full semantic content and the light verb Bal. ཏང་ *ʈaŋ* gives a sense of transfer, the two verbs jointly predicate a mono-clausal structure, the light verb taking the arguments: agent subject Bal. ཁོ་ *kʰo* 'he' in the ergative case, and the direct object Bal. ང་ *ŋa* 'I' undergoer in the absolutive case, which it shares with its complement full verb Bal. ཕུལེ་ *pʰule* 'push'. The negation of this structure is formed by inflecting the negative prefix Bal. མ་ *ma-* to the light verb as illustrated in example 239. This example indicates that the negative particle Bal. མ་ *ma-* can be inserted between the light verb and the preceding element.

(238) ཁོས་ང་ཕུལེ་ཏངས་

kʰo-si ŋa-∅ pʰule ʈaŋs
he-ERG I-ABS push-CONJ LV-PST

He pushed me.

(239) ཁོས་ང་ཕུལེ་མ་ཏངས་

kʰo-si ŋa-∅ pʰule ma-ʈaŋs
he-ERG I-ABS push-CONJ NEG-LV-PST

He did not push me.

In Example 240, the full verb Bal. སྐྱོར་ *zgure* 'cut in a circle' is in the conjunctive form, providing the semantic content, while the light verb Bal. ཏང་ *ʈaŋ* is inflected for past tense (*-s*). Together, they create a semantic unit describing a specific event, where the light verb Bal. ཏང་ *ʈaŋ* takes arguments: the subject agent Bal. ཁོ་ *kʰo* 'he' in the ergative case and the direct object, patient, Bal. ཙུ་ལི་ *ʧuli* 'apricot' in absolutive case. The negation of this structure can be formed by inflecting the negative prefix Bal. མ་ *ma-* as illustrated in example 241. This example indicates that the negative particle Bal. མ་ *ma-* can be inserted between the light verb and the preceding element.

(240) ཁོ་སི་ཙུ་ལི་སྐྱོར་རེ་ཏངས་

kʰo-si ʧuli-∅ zgore ʈaŋs
he-ERG apricot- cut-in-circle-CONJ LV-PST

He cut the apricot.

(241) ཁོ་སི་ཙུ་ལི་སྐྱོར་མ་ཏངས་

kʰo-si ʧuli-∅ zgore ma-ʈaŋs
he-ERG apricot- cut-in-circle-CONJ NEG-LV-PST

He did not cut the apricot.

In the full verb plus light verb Bal. ཏང་ *ʈaŋ* construction, changing the positions of the two verbs result in a change in meaning, with each verb contributing a separate event as illustrated in example 242, where the verb Bal. ཏང་ *ʈaŋ* 'put' provides full semantic content contributing a separate event followed by another event indicated the full verb Bal. ཀལ་ *kal* 'send'. In this construction the preceding verb is in non-finite form while the following verb is inflected for present perfective form.

(242) ངས་ཁྱོད་ལ་རྟགས་ཅི་ཏང་སེ་ཀལ་སེད་

ŋa-si kʰjaŋ-la hrʈax-ʧi ʈaŋse kalseʈ
I-ERG you-DAT gift INDF put-CONJ send-PERF

I have prepared a gift and sent it to you.

Examples of the light verb Bal. ཏང་ *ʈaŋ* combined with nouns are presented in Table 4.21.

Noun			Noun + Light Verb *tʃʰarpa*		
ཆར་པ་	*tʃʰarpa*	rain	ཆར་པ་ཏང་	*tʃʰarpaʈaŋ*	to rain
ཕྱག་མ་	*pʰiaxma*	mob	ཕྱག་མ་ཏང་	*pʰiaxmaʈaŋ*	to sweep
གཅིན་	*xtʃin*	urine	གཅིན་ཏང་	*xtʃinʈaŋ*	to urinate
སྤེར་	*spera*	word	སྤེར་ཏང་	*speraʈaŋ*	to talk
གཟོན་	*ɣzon*	lie	གཟོན་ཏང་	*ɣzonʈaŋ*	to tell a lie
ཐུག་	*ʈʰuk*	spit	ཐུག་ཏང་	*ʈʰukʈaŋ*	to spit
བང་	*baŋ*	run	བང་ཏང་	*baŋʈaŋ*	to run
གླུ་	*xlu*	song	གླུ་ཏང་	*xluʈaŋ*	to sing
ཕུང་	*pʰuŋ*	boasting	ཕུང་ཏང་	*pʰuŋʈaŋ*	to boast
ལན་	*lan*	call	ལན་ཏང་	*lanʈaŋ*	to call
ཟང་	*zan*	meal	ཟན་ཏང་	*zanʈaŋ*	to give feast
ཨོད་	*oʈ*	light	ཨོད་ཏང་	*oʈʈaŋ*	to illuminate
བྱབ་རྫོན་	*biabdʒon*	egg	བྱབ་རྫོན་ཏང་	*biabdʒonʈaŋ*	to lay egg
རྒྱང་	*rgiaŋ*	wall	རྒྱང་ཏང་	*rgiaŋʈaŋ*	to build a wall
གསམ་བ་	*xsamba*	thought	གསམ་བ་ཏང་	*xsambaʈaŋ*	to think
གད་	*gaʈ*	knot	གད་ཏང་	*gaʈʈaŋ*	to tie
སྨན་	*sman*	medicine	སྨན་ཏན་	*smanʈaŋ*	to apply medicine
ཆུ་	*tʃʰu*	water	ཆུ་ཏང་	*tʃʰuʈaŋ*	to water
གཟི་མ་	*ɣzima*	lock	གཟི་མ་ཏང་	*ɣzimaʈaŋ*	to lock
ཉི་མ་	*ŋima*	sun	ཉི་མ་ཏང་	*ŋimaʈaŋ*	to put in the sun to dry
མེ་	*me*	fire	མེ་ཏང་	*meʈaŋ*	to fire
ཕེན་	*pʰen*		ཕེན་ཏང་	*pʰenʈaŋ*	to fart
རྡོག་པ་	*rɖoqpa*	kick	རྡོག་པ་ཏང་	*rɖoqpaʈaŋ*	to kick
ཕྲུ་	*pʰru*	child	ཕྲུ་ཏང་	*pʰruʈaŋ*	miscarriage
ཁྲོ་བ་	*kʰurba*	bread	ཁྲོ་བ་ཏང་	*kʰurbaʈaŋ*	make bread
རྩྭ་	*hrtswa*	grass	རྩྭ་ཏང་	*hrtswaʈaŋ*	to give grass to cattle
ཟན་མ་	*zanma*	grain	ཟན་མ་ཏང་	*zanmaʈaŋ*	to give grain to bird

Table 4.21: Noun + Light Verb *ʈaŋ*

In this construction, the preceding nominal can be either an abstract noun, such as Bal. སྤེར་ *spera* 'talk', Bal. གཞོན་ *ɣzon* 'lie', and Bal. བབ་ *baŋ* 'run', where the light verb indicates the execution of the abstract notion expressed by the preceding nominal. Alternatively, it can be a concrete noun like Bal. ཆར་པ་ *tʃʰarpa* 'rain', Bal. ཐུག་ *ʈʰuk* 'spit', and Bal. གཅིན་ *xtʃin* 'urine', where the nominal undergoes an action, moving from the subject to elsewhere. However, in both cases the nominal plus the light verb describes a single event.

The light verb Bal. ཏང་ *ʈaŋ* is often employed with various nouns, typically involving a scenario where the preceding noun functions as the theme, moving away from the subject (the agent). For instance, in 243, the noun Bal. ཐུག་ *ʈʰuk* 'spit') detaches from the agent Bal. མོ་ *mo* 'she'. The negation of this structure can be formed by inflecting the negative prefix Bal. མ་ *ma-* just like a full verb negation, where it indicates that the negative particle Bal. མ་ *ma-* can be inserted between the light verb and the preceding element.

(243) མོ་སི་ཐུག་ཏངས་

mo-si ʈʰuk ʈaŋs
she-ERG spit LV-PST

She spat.

Similar to the light verb Bal. ཇ་ *bja*, Bal. ཏང་ *ʈaŋ* in Balti can also incorporate Urdu and English loanwords into Balti sentence structures. In Example 244, the English loanword **paint** Bal. པེནཏ་ *pent* seamlessly integrates into the Balti sentence structure through the light verb Bal. ཏང་སེད་ *ʈaŋseʈ*. In this context, the English loanword **paint** contributes the semantic content, while the Balti light verb Bal. ཏང་སེད་ *ʈaŋseʈ* provides the necessary verbal morphology. In this construction, the light verb Bal. ཏང་ *ʈaŋ* gives a sense of application. The negation of this structure can be formed by adding the negative auxiliary Bal. མེད་ *meʈ*.

(244) མོ་སི་གེད་ཀོ་ལ་པེན་ཏང་སེད་

kʰo-si get-po-la pent ʈaŋseʈ
he-ERG gate-DEF-DAT paint LV-PERF

He has painted the gate.

Table 4.22 presents examples of Urdu loanwords combined with the Balti light verb Bal. ཏང་ *ʈaŋ*.

Examples of English words in combination with the light verb *ʈaŋ* are illustrated in table 4.23.

Urdu Loanwords				Urdu Loanwords + Light Verb *ʈaŋ*	
رنگ	རང་	*raŋ*	colour	རངཊཱ་	*raŋʈaŋ*	to colour
سبق	སབཱ་	*sabaq*	lesson	སབཱཀཱ་	*sabaqʈaŋ*	to teach
رشوت	རཤྭཏ་	*riʃwaʈ*	bribe	རཤྭཏྚཱ་	*riʃwaʈʈaŋ*	to bribe
پیشاب	པི་ཤབ་	*pitʃʰab*	urine	པི་ཤབཊཱ་	*pitʃʰabʈaŋ*	to urinate
کہانی	ཀཧ་ནི་	*kahni*	story	ཀཧ་ནི་ཊཱ་	*kahniʈaŋ*	to narrate story
زور	ཛོར་	*zor*	force	ཛོར་ཊཱ་	*zorʈaŋ*	to stress

Table 4.22: Urdu Loanwords + Balti Light Verb *ʈaŋ*

English Loanwords	English Loanwords + Light Verb *ʈaŋ*	Meaning
སོ་ནོ་ *sono*	སོ་ནོ་ཊཱ་ *sonoʈaŋ*	snow
རེན་ *ren*	རེན་ཊཱ་ *renʈaŋ*	rain
པེན་ *pent*	པེན་ཊཱ་ *pentʈaŋ*	paint
མེལ་ *mel*	མེལ་ཊཱ་ *melʈaŋ*	mail
ཌ་མ་ *drama*	ཌ་མ་ཊཱ་ *drama ʈaŋ*	play drama
སྟེས་ *stres*	སྟེས་ཊཱ་ *stresʈaŋ*	stress
ཕོར་སཱ་ *fors*	ཕོར་སཱ་ཊཱ་ *forsʈaŋ*	force

Table 4.23: English Loanwords + Balti Light Verb *ʈaŋ*

4.2.5 The Light Verb *bja* vs The Light Verb *ʈaŋ*

Table 4.18, and Table 4.19 reveal that Balti light verb Bal. བྱ་ *bja* accommodates English and Urdu loanwords in a Balti sentence structure. Table 4.22, and Table 4.23 also exhibit that Balti light verb Bal. རྟང་ *ʈaŋ* accommodates English and Urdu loanwords in a Balti sentence structure. However, there is a slight difference between the loanwords preceding the light verbs Bal. བྱ་ *bja* and Bal. རྟང་ *ʈaŋ*. A loanword indicating an activity or a result of an activity is followed by the light verb Bal. བྱ་ *bja*, while usually an abstract noun or a concrete noun precedes the light verb Bal. རྟང་ *ʈaŋ*, where the abstract noun undergoes the action expresses by the light verb Bal. རྟང་ *ʈaŋ*, while the concrete noun transfers from the subject to else where.

4.2.6 The Light Verb *pʰaŋ*

The light verb Bal. ཕང་ *pʰaŋ* follows the conjunctive form of a full verb. Before exploring the details of its usage as a light verb, let's first examine its role as a main verb. The verb Bal. ཕང་ *pʰaŋ* carries the meaning of 'throw' when used as a full verb, as demonstrated in 245.

In this construction, Bal. ཁོ་ *kʰo* 'he' is semantically the agent of the throwing event, Bal. ཁ་ *kʰa* 'snow' is semantically the patient, Bal. རྒྱང་རོགས་ *handoqna* 'from roof' indicates the source, and Bal. ལམ་ཡིང་ *lampiŋ* 'in the street' indicates the goal of the throwing event.

It is noteworthy that native speakers perceive Bal. ཁ་ཕངས་ *kʰa pʰaŋs* 'throw snow' as two separate units of meaning rather than a single entity. This construction highlights that Bal. ཕང་ *pʰaŋ* 'throw' is used as a full verb after a nominal, where the verb is the predicate of the sentence, and all the arguments are associated with it. Additionally, the verb and the preceding nominal represent distinct semantic entities.

(245) ཁོ་སི་རྒྱང་རོག་ན་ལམ་ཡིང་ཁ་ཕངས་

kʰo-si handoq-na lam-piŋ kʰa-∅ pʰaŋs
he-ERG roof-LOC street-INE snow-ABS throw-PST

He threw snow in the street from the roof .

The verb Bal. ཕང་ *pʰaŋ* is also employed as a light verb, relying on the preceding full verb for the complete semantic content. When used as a light verb, Bal. ཕང་ *pʰaŋ* follows the conjunctive, as illustrated in 246. Here, the

Conjunctive form of the verb Bal. རྟྭིས་ *rbise* 'having written' carries the full semantic content, while the light verb Bal. ཕངས་ *pʰaŋs* is inflected for the past tense, providing a sense of completion.

In this construction, the Conjunctive Bal. རྟྭིས་ *rbise* 'having written' and the light verb Bal. ཕངས་ *pʰaŋs* jointly predicate the mono-clausal structure. Both verbs share the arguments Bal. ཁོ་ *kʰo* 'he' in the ergative case, indicating the agent, and Bal. ཡཏ་ *xaʈ* 'letter' in the absolutive case, indicating the patient. The negation of the structure can be formed by inflecting the negative prefix Bal. མ་ *ma-* in a manner similar to other full verb past tense constructions.

(246) ཁོ་སི་ཡཏ་ཙི་རྟྭིས་ཕངས་

kʰo-si xaʈ-tʃi-∅ rbise pʰaŋs
he-ERG letter-INDF-ABS write-CONJ LV-PST

He wrote a letter.

Moreover, the light verb Bal. ཕངས་ *pʰaŋs* always follows transitive verbs and it cannot follow intransitive verbs as 247 is ungrammatical, where the light verb Bal. ཕངས་ *pʰaŋs* cannot follow the non-volitional verb Bal. བེས་ *bese* 'having opened'. The light verb follows the volitional verb Bal. ཕྱེས་ *pʰese* 'having opened' the counterpart of non-volitional Bal. བེས་ *bese* 'having opened' as in 248, where the first full verb Bal. ཕེས་ *pʰese* 'having opened' and the second light verb Bal. ཕངས་ *pʰaŋs* jointly take the arguments Bal. ཁོ་ *kʰo* 'he' in ergative case and Bal. སྒོ་ *zgo* 'door' in absolutive case. Moreover the light verb Bal. ཕངས་ *pʰaŋs* is inflected for past tense with past tense suffix *-s*.

(247) སྒོ་བེས་ཕངས་

**zgo-∅ bese pʰaŋs*
door-ABS open-CONJ LV-PST

*The door opened.

(248) སྒོ་ཕེས་ཕངས་

zgo-∅ pʰese pʰaŋs
door-ABS open-CONJ LV-PST

The door was opened.

Examples of Conjunctive plus the light verb Bal. ཕང་ *pʰaŋ* are given in the table 4.24.

Past Participle			Past Participle + *pʰaŋ*		
ཅཱག་སེ་	*ʧaqse*	being broken	ཅཱག་སེ་ཕང་	*ʧaqsepʰaŋ*	break
ཅ་ཀེ་	*ʧaʈe*	being cut	ཅ་ཀེ་ཕང་	*ʧaʈepʰaŋ*	cut
རྩུབ་སེ་	*hrʈupse*	being cut	རྩུབ་སེ་ཕང་	*hrʈupspʰaŋ*	cut
དཔེགས་སེ་	*pʰʃikse*	being erased	དཔེགས་སེ་ཕང་	*pʰʃiksepʰaŋ*	erase
སྨུ་རེ་	*mure*	being chewed	སྨུ་རེ་ཕང་	*murepʰaŋ*	chew
གཏུགས་སེ་	*xtʃuse*	being bent	གཏུགས་སེ་ཕང་	*xtʃusepʰaŋ*	bent
ལེ་ནེ་	*lene*	being lift	ལེ་ནེ་ཕང་	*lenepʰaŋ*	lift
ཕེ་སེ་	*pʰese*	being opened	ཕེ་སེ་ཕང་	*pʰesepʰaŋ*	open
ཕྱགས་སེ་	*pʰjaqse*	being swept	ཕྱགས་སེ་ཕང་	*pʰjaqsepʰaŋ*	sweep
ཁྲུས་སེ་	*kʰruse*	being washed	ཁྲུས་སེ་ཕང་	*kʰrusepʰaŋ*	wash
ཕྱི་སེ་	*pʰise*	being plucked	ཕྱི་སེ་ཕང་	*pʰisepʰaŋ*	pluck
ཏྱི་ལེ་	*ʈile*	being demolished	ཏྱི་ལེ་ཕང་	*ʈilepʰaŋ*	demolish
རྡབ་སེ་	*rɖabse*	being killed	རྡབ་སེ་ཕང་	*rɖabsepʰaŋ*	kill
ཐྱིང་སེ་	*ʈʰiŋse*	being spread	ཐྱིང་སེ་ཕང་	*ʈʰiŋsepʰaŋ*	spread
བྱ་སེ་	*bjase*	being done	བྱ་སེ་ཕང་	*bjasepʰaŋ*	do
སྙལ་ལེ་	*ʂnale*	being laid	སྙལ་ལེ་ཕང་	*ʂnalepʰaŋ*	lay
ཙཱག་སེ་	*tsaqse*	being sifted	ཙཱག་སེ་ཕང་	*tsaqsepʰaŋ*	sift
སྦྲལ་ལེ་	*pʰsale*	being sorted	སྦྲལ་ལེ་ཕང་	*pʰsalepʰaŋ*	sort
སྐོན་ནེ་	*skone*	being dressed	སྐོན་ནེ་ཕང་	*skonepʰaŋ*	dress
ཏྲིང་སེ་	*ʧiŋse*	being bound	ཏྲིང་སེ་ཕང་	*ʧiŋsepʰaŋ*	bind
སྐོལ་ལེ་	*skole*	being shaken	སྐོལ་ལེ་ཕང་	*skolepʰaŋ*	shake

Table 4.24: Past Participle + Verb *pʰaŋ*

In the example 249, the first verb is in Conjunctive form which is the main or full verb. The second verb carries tense/aspect inflections just like a simple lexical verb paradigm. Here, the final verb is in form identical to the main verb but the predicational contribution of this verb is not like that of a main verb. In this construction the two verbs Bal. ཙཱག་སེ་ *ʧaqse* Bal. ཕངས་ *pʰaŋs* 'having broken' indicate a single event of breaking Bal. ཤིང་ *ʃiŋ* 'wood'. The two verbs jointly predicates the the mono-clausal structure. In this structure the final verb Bal. ཕངས་ *pʰaŋs* which usually means 'throw' losses its core meaning. Here, rather, this verb serves to modify the semantic of the main verb by expressing the notion of completion.

(249) ཁོ་སི་ཤིང་ཙཱག་སེ་ཕངས་

kʰo-si ʃiŋ-∅ ʧaqse pʰaŋs
he-ERG wood-ABS break-CONJ LV-PST

He has broken the wood (completion).

The verb Bal. ཕངས་ *pʰaŋs* 'throw' is also used in bi-clausal construction such as in the example 250, where the structure is bi-clausal as the two verbs indicate two separate events: the first verb Bal. ཙཱག་སེ་ *ʧaqse* 'having broken' is the main verb of the clause while the second verb Bal. ཕངས་ *pʰaŋs* 'throw' is the main verb embedded. In this structure both verbs share the same subject. In the first clause the subject Bal. ཁོ་ *kʰo* 'he' breaks the wood, and in the second clause the same subject Bal. ཁོ་ *kʰo* 'he' throws the wood on the roof. Here, the noun Bal. རྔན་དོག་ *handok* 'roof' intervenes between the first verb and the second verb, creating a bi-clausal structure with the second verb serving as the full verb of the second clause.

(250) ཁོ་སི་ཤིང་ཙཱག་སེ་རྔན་དོག་ཕངས་

kʰo-si ʃiŋ-∅ ʧaqse handok-∅ pʰaŋs
he-ERG wood-ABS break-CONJ roof-ABS throw-PST

Having broken the wood, he threw it on the roof.

The same structure without a noun can also be used to indicate two separate events where the conjunction *na* 'after that' makes it bi-clausal as in 251, where, the first verb Bal. ཙཱག་སེ་ *ʧaqse* 'having broken' is the main verb of the main clause and Bal. ཕངས་ *pʰaŋs* 'threw' is the main verb of the embedded clause and the conjunction *na* 'after that' joins the two clauses.

(251) ཁོ་སི་ཤིང་ཙག་སི་ན་ཕངས་

kʰo-si ʃiŋ-ABS tʃaqse na pʰaŋs
he-ERG wood-ABS break-CONJ COND throw-PST

Having broken the wood, he threw.

4.2.7 The Light Verb *oŋ*

The light verb Bal. ཨོང་ *oŋ* is not as frequently employed as the previous light verbs. It predominantly functions as a full verb, indicating a motion towards a deictic center. Before exploring its usage as a light verb, let's examine its usage as a full verb. Example 252 illustrates its usage as a full verb, where the full verb Bal. ཨོང་ *oŋ* 'come' takes the agent, subject, Bal. ཁོ *kʰo* 'he' in absolutive case and the verb Bal. ཨོང་ *oŋ* 'come' gives the semantic content move towards the speaker of the sentence.

(252) ཁོ་ཇ་འི་སྐུ་ལིང་ཨོ་ཉེད་

kʰo-∅ dʒayi skuliŋ, oŋeṭ
he-ABS everyday school-INE go-PRS

Everyday he comes to school.

The verb Bal. ཨོང་ *oŋ* is also used as a light verb, where it follows an abstract noun indicating human experience as mentioned in the table 4.25.

Noun			Noun + *oŋ*		
ཨོང་	*xa*	anger	འཿཨོང་	*xaoŋ*	get angry
ཨོབ	*op*	hiccough	ཨོབཨོང་	*opoŋ*	hiccup
ཨི་ཏུ	*iṯu*	memory	ཨི་ཏུཨོང་	*iṯuoŋ*	come to memory
ཉིད	*ŋiṯ*	sleep	ཉིདཨོང་	*ŋiṯoŋ*	sleep
སྦིད་པ	*zbiṯpa*	sneezing	སྦིད་པཨོང་	*zbiṯpaoŋ*	sneeze
འཿན་མ	*xanma*	itching	འཿན་མཨོང་	*xanmaoŋ*	to itch
ཉེས་པས	*ɲespa*	sin	ཉེས་པཨོང་	*ɲespaoŋ*	to be sinful
སྤྲོད	*broṭ*	taste	སྤྲོདཨོང་	*broṭoŋ*	enjoy

Table 4.25: Noun + Light Verb *oŋ*

The light verb Bal. ཨོང་ *oŋ* in this construction, following an abstract noun such as Bal. འཿ *xa* 'anger,' is illustrated in example 253, where the light verb Bal.

ཨོང་མ་ *oŋs* verbalizes the noun. In this context, the noun Bal. འཁ་ *xa* 'anger' and the light verb Bal. ཨོང་ *oŋ* jointly take the argument Bal. ཁོ་ *kʰo* 'he' as the subject, experiencer, now in the dative case. This differs from its full verb usage, where Bal. ཨོང་ *oŋ* takes the argument in the absolutive case, as previously illustrated in example 253. Moreover, as usual the light verb Bal. ཨོང་མ་ *oŋs* is inflected for past tense with past tense suffix *-s*.

(253) ཁོ་ལ་འཁ་ཨོང་མ་

kʰo-la xa oŋs
he DAT anger LV-PS

He got angry.

Furthermore the same noun Bal. འཁ་ *xa* can also be combined with the light verb Bal. བྱ་ *bja*, here the combinatory possibility exhibits a subtle semantic differences the light verb Bal. ཨོང་ *oŋ* indicating coming to pass while the light verb Bal. བྱ་ *bja* indicates an activity.

4.2.8 The Light Verb *wa*

The light verb Bal. ཝ་ *wa* doesn't see as much frequent usage as the previously discussed light verbs, although both Bal. ཨོང་ *oŋ* and Bal. ཝ་ *wa* are used as light verbs.

Before examining its usage as a light verb, let's first examine its usage as a full verb, as illustrated in example 254. As a full verb, it is predominantly used as a motion verb indicating movement away from the deictic center as illustrated in example (243), where the full verb Bal. ཕེད་ *weʈ* 'goes' takes the agent, subject, Bal. ཁོ་ *kʰo* 'he' in absolutive case and the verb Bal. ཕེད་ *weʈ* 'goes' gives the semantic content move away from the speaker of the sentence.

(254) ཁོ་ཇ་འི་སུ་ཀུ་ལིང་ཕེད་

kʰo dʒayi sukuliŋ, weʈ
he everyday school-INE go-PRS

Everyday he comes to school.

The verb Bal. ཝ་ *wa* follows an adjective describing the result, indicating a change of state. In this construction, the verb imparts a sense of 'becoming'. Table 4.26

Adjective			Adjective + Light Verb *wa*	
རྒྱལ་	*rgaʃe*	beautiful	རྒྱལ་བ་	*rgaʃewa*	to become beautiful
རིང་པོ་	*riŋbo*	long	རིང་པོ་བ་	*riŋbowa*	to become long
སངས་	*saŋs*	bright	སངས་པ་	*saŋswa*	to become bright
ཐུབ་	*tʰup*	dark	ཐུབ་པ་	*tʰupwa*	to become dark
ཞུམ་པོ་	*ʒumbo*	tasty	ཞུམ་པོ་བ་	*ʒumbowa*	to become tasty
མཆོ་	*xo*	bitter	མཆོ་བ་	*xowa*	to become bitter
ཡག་མོ་	*ljaxmo*	good	ཡག་མོ་བ་	*ljaxmowa*	to become good
དྲག་མོ་	*ɖraxmo*	cold	དྲག་མོ་བ་	*ɖraxmowa*	to become cold

Table 4.26: Adjective + Light Verb *wa*

Example 255 highlights the use of the light verb Bal. བ་ *wa* with the adjective Bal. རྒྱལ་ *rgaʃe* 'beautiful'. In this context, the light verb Bal. བ་ *wa* imparts a sense of change or transformation to the adjective. The adjective provides the full semantic content, while the light verb indicates a change in state. In this construction as usual, the light verb is inflected for past tense. In this construction the light verb Bal. བ་ *wa* takes the argument Bal. ཡ་རི་ནང་པོ་ *jarinaŋpo* 'your house' subject , undergoer in absolutive case and shares with its complement Bal. རྒྱལ་ *rgaʃe* 'beautiful'.

(255) ཡ་རི་ནང་པོ་རྒྱལ་སོང་ས་

jari *ŋaŋ-* *po-*∅ *rgaʃe* *soŋs*
you-GEN house-DEF beautiful LV-PST

Your house became beautiful.

Like the light verbs Bal. ཇ་ *bja* and Bal. ཏང་ *ʈaŋ*, the light verb Bal. བ་ *wa* can also accommodate Urdu and English loanwords in a Balti sentence structure as illustrated in the tables 4.27 and 4.28. Examples of Urdu loanwords with Balti light verb Bal. བ་ *wa* are given in table 4.27

Examples of English loanwords + Balti light verb Bal. བ་ *wa* are illustrated in Table 4.28

4.2.9 The Light Verb *bja* vs The Light Verb *wa*

The light verb Bal. བ་ *wa* can follow all the Urdu and English loanwords followed by the light verb Bal. ཇ་ *bja* as mentioned in Table 4.27, and 4.28 where the

Urdu loanWords				Urdu Loanwords + Light Verb *wa*		
شادی	ཤ་དི་	*ʃaḍi*	marriage	ཤ་དི་ཝ་	*ʃadiwa*	to get marry
حساب	ཧེ་སབ་	*hesab*	counting	ཧེ་སབ་ཝ་	*hesabwa*	to count
خرچہ	ཁཚ་ཅ་	*xartʃa*	expenditure	ཁཚ་ཅ་ཝ་	*xartʃawa*	to spend
فکر	ཕི་ཀིར་	*pʰikir*	worry	ཕི་ཀིར་ཝ་	*pʰikirwa*	to get worry
شروع	ཤུ་རུ་	*ʃuru*	begin	ཤུ་རུ་ཝ་	*ʃuruwa*	to begin
شامل	ཤ་མིལ་	*ʃamil*	involve	ཤ་མིལ་ཝ་	*ʃamilwa*	to get involve
بحث	བེ་ཧེས་	*behes*	discussion	བེ་ཧེས་ཝ་	*beheswa*	to discuss
یقین	ཡ་ཇིན་	*jaqin*	belief	ཡ་ཇིན་ཝ་	*jaqinwa*	to believe in
کوشش	ཀོ་ཤིཤ་	*koʃiʃ*	struggle	ཀོ་ཤིཤ་ཝ་	*koʃiʃwa*	to struggle
آرام	ཨ་རམ་	*aram*	comfort	ཨ་རམ་ཝ་	*aramwa*	to get rest
یاد	ཡད་	*jaṯ*	remember	ཡད་ཝ་	*jaṯwa*	to remember
ختم	ཁཏ་ཏམ་	*xaṭam*	finish	ཁཏ་ཏམ་ཝ་	*xaṭamwa*	to finish
خوبصورت	ཁུབ་སུ་རད་	*kʰubsuraṯ*	beautiful	ཁུབ་སུ་རད་ཝ་	*kʰubsuraṯwa*	beautify
وضاحت	ཝ་ཟ་ཧད་	*wazahat*	explanation	ཝ་ཟ་ཧད་ཝ་	*wazahaṯwa*	to explain

Table 4.27: Urdu Loanwords + Balti Light Verb w

English Loan Word		English Loan Word + Light Verb *wa*		
ཧེ་ལེབ་	*helep*	ཧེ་ལེབ་ཝ་	*helepwa*	to help
གེས་	*ges*	གེས་ཝ་	*geswa*	to guess
ཅེན་ཛ་	*tʃendʒ*	ཅེན་ཛ་ཝ་	*tʃendʒwa*	to change
ཏྲཱན་སཕར་	*transpʰar*	ཏྲཱན་སཕར་ཝ་	*transpʰarwa*	to transfer
ཏྲེ་ཝལ་	*trewal*	ཏྲེ་ཝལ་ཝ་	*trewalwa*	to travel
ད་ཇུ་	*draju*	ད་ཇུ་ཝ་	*drajuwa*	to drive
ཏི་ཊིང་	*titʃiŋ*	ཏི་ཊིང་ཝ་	*titʃiŋwa*	to teach
ཨིན་ཝོལ་	*inwol*	ཨིན་ཝོལ་ཝ་	*involwa*	to involve
མི་ཏིང་	*mitiŋ*	མི་ཏིང་ཝ་	*mitiŋwa*	to meet
པྲུ་གྲཱམ་	*prugram*	པྲུ་གྲཱམ་ཝ་	*prugramwa*	to program
ཨེཁ་སྤླེན་	*eksplen*	ཨེཁ་སྤླེན་ཝ་	*eksplenwa*	to explain

Table 4.28: English Loanwords + Balti Light Verb *wa*

difference between the two lies in the meaning: the light verb Bal. ཇ་ *bja* indicates an activity carried out by an agent subject, while the light verb Bal. ཝ་ *wa* indicates transformation, where the subject undergoes a transformation. This difference is illustrated in examples 256 and 257, where in the first instance the subject Bal. ཁོ་ *kʰo* 'he' carried out the event Bal. ཞབ་ *ʃaɖi* 'marriage' as an act, while in the second instance, the event Bal. ཞབ་ *ʃaɖi* 'marriage' takes place and the subject Bal. ཁོ་ *kʰo* 'he' becomes unmarried to married.

(256) ཁོས་ཞབ་བྱས་

kʰo-si ʃaɖi bjas
he-ERG marriage LV-PST

He has married.

(257) ཁྭེ་ཞབ་སོངས་

kʰwe ʃaɖi soŋs
he-GEN marriage LV-PST

His marriage happened.

4.3 Evidential Auxiliary Verbs

Balti has long been at the center of discussion regarding the presence and scope of evidentiality in its grammar. While some scholars have questioned whether Balti truly encodes evidential distinctions, recent investigations suggest that a range of auxiliaries—and the nuances in how they are employed—do indeed mark different types of evidence and degrees of speaker certainty. In what follows, I outline both sides of this debate §4.3.1 before examining the specific ways Balti auxiliaries reflect old factual knowledge, new sensory evidence, and inferred information §4.3.2. This broader exploration lays the groundwork for understanding Balti's rich system of copulas and primary auxiliaries, each of which plays a crucial role in signaling the speaker's epistemic stance and evidential source.

4.3.1 Evidentiality A Debate In Balti

Hill and Gawne (2017) summarized the existing literature on evidentiality, determining that all Tibetan varieties exhibit grammaticalized evidentiality. They

found extensive research on Lhasa Tibetan evidentiality, whereas comparatively little work has been done on other varieties. Their study highlighted that, despite common features among Tibetan languages, evidentiality is encoded in different ways across varieties. They categorized Lhasa Tibetan evidentiality into three distinct types: personal, factual, and experiential. They identified a rich evidential system in various Tibetan varieties, while the presence of evidentiality in Balti remains a topic of debate.

Hill and Gawne (2017, pp. 20–21) highlight that some scholars, including Tournadre and LaPolla (2014, 254, Note 27), have cited Bielmeier (2000) as claiming that Balti does not mark evidentiality. However, as Hill and Gawne (2017, pp. 20–21) argue, Bielmeier does not explicitly use the term "evidentiality," yet his treatment of "semantic-pragmatic effects" aligns with the evidential distinctions found in other Tibetan languages. They reference Bielmier, who describes *jot* [yod] as indicating "subjective definite knowledge, acquired through previous personal experience", which aligns with the notion of personal evidentiality. Additionally, Bielmeier (1985) presents a series of paired verb tenses in which one form explicitly indicates visual information. In these pairs, the addition of the suffix *-suk* marks the "observed" member, further reinforcing the presence of evidential markers in Balti.

Further supporting this claim, Jones (2009) investigates Balti experiential auxiliaries *-suk* and *-naŋ*, both of which indicate evidence acquired through direct experience. Ebihara (2017, pp. 41–60) similarly discusses the evidential uses of *snaṅ* in Balti Tibetan alongside other dialects, providing additional evidence for an evidential system in Balti.

Historical accounts also point toward evidential distinctions in Balti. Read (1934, p. 41) has discussed the two copulas *joṭ suk* and *joṭ pa*, indicating the difference between *joṭ pa* and *joṭ suk*, he states that *joṭ pa* indicates 'hearsay' while the construction with *joṭ suk* refers a past event or incident which is 'certain and seen by the speaker'. He has given the examples <*Esa-i zizi deba yodpa*> 'The mother of Jesus was there' and <*kʰo de-i dikha yodsuk*> 'He was here earlier in the day'. Although, the construction with *joṭ pa* indicates old definite knowledge, while the construction with *joṭ suk* refers to indicate a sensory or inferential knowledge. Here, Read (ibid.) misinterpreted the instances as in the first example, the speaker is pretty much sure about the presence of <*Esa i zizi*> 'Mother of Jesus' over there, hence, the speaker used here *joṭ pa*, and in the second example, the speaker saw the subject *kʰo* over there, so, the speaker used *joṭ suk*. Moreover, he further states matters of custom, habit or

permanent things usually take <*yodsuk*> instead of <*yodpa*> and he has quoted the examples <*Deba rdo kwat truk, Yahudpong-i gdong laqpa khrwa phari, khrim na zomse yotsuk*> 'there were six water pots, after the manner of purification of the Jews'. Here, in the example the verb *joṭ suk* does not mark any matter of custom, habit or permanent thing, instead the verb *joṭ suk* indicates sensory information, indicating that the speaker saw the *kwat truk* 'six water pots' and came to know about it. Read's (1934, p. 41) discussion further strengthens the argument that Balti has a well-defined evidential system.

These early contributions suggest that Balti, contrary to some claims, does indeed feature evidential distinctions. Hill and Gawne (2017) emphasize that while these markers may not have been fully recognized or explored in earlier research, they are present in the language. My study, particularly in the section Evidential Auxiliaries 4.3, builds upon these findings by offering a more detailed exploration of the evidential system in Balti. By analyzing auxiliary verbs, my research seeks to provide a more comprehensive account of how evidentiality operates in Balti, challenging the notion that the language lacks overt evidential markers.

4.3.2 Epistemic Encoding in Balti Auxiliaries

Balti auxiliaries are encoded with three types of information: old factual knowledge, new sensory knowledge and new inferential knowledge. The auxiliary Bal. ཡོད་ *joṭ*, and Bal. ཨིན་ *in* indicate that the speaker's knowledge is old and factual. The auxiliary Bal. ནང་ *naŋ* indicates that the speaker's knowledge is new and sensory, and the auxiliary Bal. ཡོད་པིན་མང་ *joṭ-pin-maŋ* and Bal. ཨིན་མང་ *in-maŋ* indicates that the speaker's knowledge is inferential. All of these auxiliaries indicate certainty of the information. In addition, there is another type of auxiliary Bal. དུག་ཏུག་ *duktuk* which indicates that the speaker's knowledge is uncertain and he is not sure about the information he is talking about.

These auxiliaries can be used independently or they depend on the main verb, when the auxiliaries are used independently, they are termed as copulas, and when the auxiliaries depend on the main verbs they are termed as primary auxiliaries. The first section of this portion deals with Balti copulas, and the second section deals with Balti auxiliaries in combination with verb (primary auxiliaries).

4.3.3 Copula Auxiliaries

Bialek (2022, p. 51) defines a copula as a verb that links a subject to a property attributed to it. She notes that Literary Tibetan employs two copulas: ཡོད་ *jo̱t* 'to be there; to exist' and ཡིན་ *yin* 'to be'. She further observes that both the subject and the predicate in such constructions appear in the absolutive case.

Similarly, Balti distinguishes two types of copulas: the existential ཡོད་ *jo̱t* 'to exist' and the equative ཨིན་ *in* 'to be'. The existential copula ཡོད་ *jo̱t* 'to exist' indicates the presence or existence of something, while the equative copula ཨིན་ *in* links a subject to its attributes, including identity, name, profession, ethnicity, nationality, religion, etc.

4.3.3.1 Existential Copulas

The existential copulas Bal. ཡོད་ *jo̱t*, Bal. ནང་ *naŋ*, and Bal. ཡོད་པིན་མང་ *jo̱t-pin-maŋ* are used to indicate location and possession. The choice of copula depends on the speaker's source of information and degree of certainty.

4.3.3.1.1 The Copula *jo̱t* The copula Bal. ཡོད་ *jo̱t* indicates old and factual information, meaning that the speaker presents the statement as an established fact about which they are certain. In example 258, the copula Bal. ཡོད་ *jo̱t* is used to assert that the subject Bal. ཁོ་ *kʰo* 'he' has three sons, conveying this information as something known and unquestioned. Here, the use of Bal. ཡོད་ *jo̱t* suggests that the speaker treats this information as established knowledge, either because it is widely known or because they have reliable prior knowledge of it.

(258) ཁོ་ལ་བུ་གསུམ་ཡོད་

kʰo-la bu xsum jo̱t
he-DAT son three COP-EX.FAC.PRS

He has three sons.

The past tense of copula Bal. ཡོད་ *jo̱t* is formed by adding Bal. པ་ *pa*. This is illustrated in example 259.

(259) ཁོ་ལ་བུ་སུམ་ཡོད་པ

kʰo-la bu xsum jo̱t-pa
he-DAT son three COP-EX.FAC.PST

He had three sons.

The negative form of the factual copula Bal. ཡོད་ *joṭ* is Bal. མེད་ *meṭ*. This is illustrated in example 260, where Bal. མེད་ *meṭ* functions as the negative copula, conveying factual information. In this example, Bal. ཁོ་ལ་ *kʰo-la* 'to him' and Bal. བུ་ཕྲུ་ *pʰrupʰra* 'child' are followed by Bal. མེད་ *meṭ*, indicating the absence of a child as a factual statement.

(260) ཁོ་ལ་ཕྲུ་ཕྲུ་མེད་

kʰo-la pʰrupʰra meṭ
he-DAT child COP-NEG.EX.FAC.PRS

He does not have child.

4.3.3.1.2 The Copula *naŋ* The existential copula Bal. ནང་ *naŋ* indicates that the speaker's access to the information is new and based on sensory perception. This is illustrated in example 261, where the speaker confirms the existence of the subject Bal. ཁོ་ *kʰo* upon hearing his voice. Here, the use of Bal. ནང་ *naŋ* signals that the speaker has just acquired evidence of the subject's presence through sensory perception—in this case, hearing his voice. Unlike Bal. ཡོད་ *joṭ*, which conveys known factual information, Bal. ནང་ *naŋ* emphasizes that the speaker's knowledge is certain, recently acquired and directly perceived.

(261) ཁོ་ནང་ཁྭི་སྐད་པ་ང་ལ་ཀྱེད་

kʰo naŋ kʰwe skaṭ-po ŋa-la kweṭ
he COP-EX.SEN.PRS his voice-DEF I-DAT listen-PRS

He is there, his voice comes to me.

The past tense of copula Bal. ནང་ *naŋ* is formed by adding Bal. པ་ *pa*. This is illustrated in examples 262. In example 263, the copula Bal. ནང་ *naŋ* indicates that the information is new and sensory, while the addition of Bal. པ་ *pa* marks it as past tense.

(262) ཁོ་ནང་ནུ་ནང་པ་

kʰo naŋ-nu naŋ-pa
he house-LOC COP-EX.SEN.PST

He was at home.

The negative form of the sensory copula Bal. རང་ *naŋ* is Bal. མེད་ *meṭaŋ*. This is illustrated in example 263, where the speaker, after tasting the tea, confirms that it lacks salt. Here, Bal. པ་ཇུ་ *paju* 'salt' is followed by Bal. མེད་ *meṭaŋ*, indicating the absence of salt as directly perceived sensory information.

(263) པ་ཇུ་མེ་ཏང་

paju meṭaŋ
salt COP-NEG.EX.SEN

It lacks salt.

4.3.3.1.3 The Copula *joṭ-pin-maŋ* The copula Bal. ཡོད་པིན་མང་ *joṭ-pin-maŋ* indicates that the speaker's access to the information is inferential, meaning that the existence of the subject is deduced rather than directly observed. This is illustrated in example 264, where the second clause Bal. ཁྱེ་གང་ལྷམ་པོ་ནང་ *kʰwe kaŋɬam-po naŋ* 'his shoe is there' serves as evidence leading the speaker to infer the presence of Bal. ཁོ་ *kʰo* 'he'. Here, the speaker does not directly perceive the subject but infers his presence based on the existence of his shoes. Unlike Bal. རང་ *naŋ*, which signals immediate sensory perception, Bal. ཡོད་པིན་མང་ *joṭ-pin-maŋ* implies reasoned deduction from available evidence, though with a lower degree of certainty.

(264) ཁོ་ཡོད་པིན་མང་ཁྱེ་གང་ལྷམ་པོ་ནང་

kʰo jot-pin-maŋ *kʰwe kaŋɬam-po naŋ*
he COP-EX.INFR.PRS his shoes-DEF COP-EX.SEN.PRS

He is there, his shoe is there.

The past tense of the inferential copula Bal. ཡོད་པིན་མང་ *jot-pin-maŋ* is Bal. ཡོད་པིན་སུག་ *jot-pin-suk*. This is illustrated in example 265, where the copula Bal. ཡོད་པིན་ *jot-pin* indicates existence, while Bal. སུག་ *suk* conveys that the information is inferential, based on the evidence Bal. གང་ལྷམ་པོ་ *kaŋɬam-po* Bal. རང་པ་ *naŋ-pa* 'the shoes were there'.

(265) ཁོ་ཡོད་པིན་སུག་ཁྱེ་གང་ལྷམ་པ་རང་པ་

kʰo jot-pin-suk *kʰwe kaŋɬam-po naŋ-pa*
he COP-EX.INFR.PST his shoes-DEF COP-EX.SEN.PST

He was there, as his shoe was there.

The negative form of Bal. ཡོད་པིན་མང་ *joṯ-pin-maŋ* is Bal. མེད་པིན་མང་ *meṯ-pin-maŋ*. This is illustrated in example 266, where the inferential negative copula indicates the absence of the subject ***kʰo*** on the base of the absence of his Bal. གང་སྒམ་པ་ *kaŋɬam-po* 'shoes'.

(266) ཁོ་མེད་པིན་མང་ཁྱེ་གང་སྒམ་པོ་མེ་ཏང་

kʰo meṯ-pin-maŋ *kʰwe kaŋɬam-po meṯaŋ*
he COP-NEG.EX.INFR.PRS his shoes-DEF COP-NEG.EX.SEN.PRS

He is not there, his shoe is not there.

4.3.3.1.4 The Copula *dukṯuk* In addition to the copulas Bal. ཡོད་ *jot*, which indicates old factual information, Bal. ནང་ *naŋ*, which conveys new sensory information, and Bal. ཡོད་པིན་མན་ *joṯ pin maŋ*, which marks inferential knowledge, there is another distinct copula, Bal. དུག་ཏུག་ *dukṯuk*, which expresses a guess made without any prior or new knowledge. This copula is used when the speaker lacks direct evidence or prior familiarity with the information being stated, relying purely on speculation. This is illustrated in example 267, where the speaker makes a guess without any prior or new knowledge.

(267) ཁོ་ནང་ནུ་དུག་ཏུག་

kʰo naŋ-nu *dukṯuk*
he house-LOC COP-EX.SPEC.PRS

He may be at home.

The past tense of copula Bal. དུག་ཏུག་ *dukṯuk* is formed by adding Bal. པ་ *pa*. This is illustrated in examples 268. In this example, the copula Bal. དུག་ཏུག་པ་ *dukṯuk-pa* indicates that the information is a guess, without any prior or sensory knowledge, while the addition of Bal. པ་ *pa* marks it as past tense.

(268) ཁོ་ནང་ནུ་དུག་ཏུག་པ་

kʰo naŋ-nu *dukṯuk-pa*
he house-LOC COP-EX.SPEC.PST

He might be at home.

The negative form of the speculative copula Bal. དུག་ཏུག་ *dukṯuk* is Bal. མི་དུག་ *miduk*. This is illustrated in example 269, where the speaker speculates about the absence of the subject he.

(269) ཁོ་ནང་ནུ་མི་དུག་

kʰo naŋ-nu miduk
he house-LOC COP-EX.NEG.SPEC.PRS

He may not be at home.

4.3.3.2 Equative Copula

The equative copula Bal. ཨིན་ ***in*** and Bal. ཨིན་མང་ ***in-maŋ*** are used to equate two noun phrases. The choice between Bal. ཨིན་ ***in*** and Bal. ཨིན་མང་ ***in-maŋ*** depends on the speaker's source of information and degree of certainty.

4.3.3.2.1 *in* The copula Bal. ཨིན་ ***in*** indicates old and factual information, meaning that the speaker presents the statement as an established fact about which they are certain. This is illustrated in example 270, where the copula Bal. ཨིན་ ***in*** equates the two noun phrases Bal. ཁོ་ ***kʰo*** and Bal. ཕྲུ་ ***pʰru***. conveying this information as something known and unquestioned. Here, the use of Bal. ཨིན་ ***in*** suggests that the speaker treats this information as established knowledge, either because it is widely known or because he has reliable prior knowledge of it.

(270) ཁོ་ཕྲུ་ཨིན་

kʰo pʰru in
he boy COP-EQT.FAC.PRS

He is a boy.

The equative copula Bal. ཨིན་ ***in*** is also used to describe a noun with a descriptive adjective, as in 271. In this case, the copula not only attributes a quality to the noun but also signals that this information is treated as factual or established. The speaker presents the statement as something based on prior knowledge or commonly accepted facts.

(271) དི་མོ་བ་ཡིལ་པོ་ལྕེག་མོ་ཨིན་

di mobajil-po ljaxmo in
this mobile-DEF good COP-EQT.FAC.PRS

This mobile is good.

The past tense of copula Bal. ཨིན་ *in* is Bal. ཨིན་པ་ *in-pa*. This is illustrated in example 272, where the equative factual copula Bal. ཨིན་ *in* equates the pronoun Bal. ཁོ་ *kʰo* 'he' and Bal. ཕྲུ་ *pʰru* 'child, conveying this information as something known and unquestioned, while Bal. པ་ *pa* marks it past tense.

(272) ཁོ་ཕྲུ་ཨིན་པ་

kʰo pʰru in-pa
he boy COP-EQT.FAC.PST

He was a boy.

The negative form of the factual equative copula Bal. ཨིན་ *in* is Bal. མེན་ *men*. As illustrated in example 273, the negative copula Bal. མེན་ *men* negates factual information, indicating that the speaker presents the statement as an established fact about which they are certain.

(273) ཁོ་ཕྲུ་མེན་

kʰo pʰru men
he boy COP-NEG.EQT.FAC.PRS

He is not a child.

4.3.3.2.2 The Copula *in-maŋ* The equational copula Bal. ཨིན་མང་ *in-maŋ* indicates inferential new knowledge, meaning the speaker has arrived at a conclusion based on observed evidence. In 274, the implication is that the speaker examined various aspects of the mobile—such as its build, features, or performance—and, based on this observation, came to know that the mobile is of good quality. This suggests that the information was not previously known to the speaker but has now been inferred.

(274) དི་མོ་བ་ཡི་ལ་པོ་ཇྱཱ་མོ་ཨིན་མང་

di mobajil-po ljaxmo in-maŋ
this mobile-DEF good COP.EQT.INFR

This mobile is good.

The negative of factual equative copula Bal. ཨིན་མང་ *in maŋ* is Bal. མེན་མང་ *men maŋ*. This is illustrated in example 275, where མེན *men* negates the equative statement, indicating that the described quality does not hold as a fact.

(275) དི་མོ་བ་ཡི་ལ་པོ་ཇྱཱ་མོ་མེན་མང་

di mobajil-po ljaxmo men maŋ
this mobile-DEF good COP.EQT.INFR

This mobile is not of good.

The past tense of the inferential equative copula Bal. ཨིན་མང་ *in-maŋ* is Bal. ཨིན་སུག་ *in-suk*. This is illustrated in example 276, where Bal. ཨིན་སུག་ *in-suk* indicates that the statement about the mobile phone's quality is based on inference regarding a past situation.

(276) Bal. དི་མོ་བ་ཨེལ་ཡོ་ཨིག་མོ་རེན་སུག་

di mobajil-po ljaxmo in-suk
this mobile-DEF good COP.EQT.INFR

This mobile was of good quality.

4.3.4 Primary Auxiliaries

The auxiliaries Bal. ཡོད་ *joṯ*, Bal. རང་ *naŋ*, Bal. ཡོད་པིན་མང་ *joṯ-pin-maŋ*, and Bal. དུག་ཏུག་ *dukṯuk* function as primary auxiliaries. Their selection is determined by the source of information and the speaker's degree of certainty regarding the action or event.

4.3.4.1 The Auxiliary *joṯ*

The primary auxiliary Bal. ཡོད་ *joṯ* is used to form the present progressive tense. This is illustrated in example 277, where the progressive form of the verb Bal. ཚུ་བེན་ *ʈtsaben* 'teaching' indicates the continuity of the action, while the factual auxiliary Bal. ཡོད་ *joṯ* marks present time. This construction is equivalent to the English present progressive, conveying that the action expressed by the verb is occurring at the time of speaking. Additionally, the auxiliary Bal. ཡོད་ *joṯ* also signals that the information is presented as factual.

(277) དོ་མ་ཁོ་སི་ས་བག་ཡོ་ཚུ་བེན་ཡོད་

dose kʰo-si sabaq-po ʈtsaben joṯ
now he-ERG lesson-DEF teach-PROG AUX-PRS.FAC

Now, he is teaching the lesson.

The negative form of the present progressive is formed by replacing the factual auxiliary Bal. ཡོད་ *joṯ* with Bal. མེད་ *meṯ*. This is illustrated in example 278,

where the progressive form of the verb Bal. ལྕེབན་ *ɬtsaben* 'teaching' expresses the continuity of the action, while the negative factual auxiliary Bal. མེད་ *meṭ* negates the present progressive meaning, indicating that the action is not occurring at the time of speaking.

(278) ཁོ་སི་ས་བག་པོ་ལྕེབན་མེད་

dose kʰo-si sabaq-po ɬtsaben meṭ
now he-ERG lesson-PO teach-PROG AUX-NEG.PRS.FAC

Now, he is not teaching the lesson.

The negative factual auxiliary Bal. མེད་ *meṭ* is also used to form the negative simple present tense. This is illustrated in example 279, where the verb Bal. ལྕབ་ *ɬtsaba* 'teach' appears in its infinitive form, while the negative factual auxiliary Bal. མེད་ *meṭ* negates the statement, indicating that the action does not occur.

(279) ཁོ་སི་ས་བག་པོ་ལྕབ་མེད་

kʰo-si sabaq-po ɬtsaba meṭ
now he-ERG lesson-PO teach-INF AUX-NEG.PRS.FAC

He does not teach.

The factual auxiliary Bal. ཡོད་ *joṭ* is used in the construction of the past progressive tense, where the past tense marker Bal. པ་ *pa* indicates past time. This is illustrated in example 280, where the progressive verb form Bal. ལྕེབན་ *ɬtsaben* 'teaching' denotes the continuity of the action, while the auxiliary Bal. ཡོད་པ་ *joṭ-pa* marks it as a factual event occurring in the past.

(280) གུན་དེ་ཁོ་སི་ས་བག་པོ་ལྕེབན་དུག་ཡོད་པ་

gunḍe kʰo-si sabaq-po ɬtsaben joṭ-pa
yesterday he-ERG lesson teach-PROG AUX-PST.FAC

Yesterday, he was not teaching the lesson.

4.3.4.2 The Auxiliary *naŋ*

The sensory auxiliary Bal. ནང་ *naŋ* is used to construct the present progressive tense, specifically conveying that the action is perceived through direct sensory experience. This is illustrated in example 281, where the progressive form of the verb Bal. ལྕེབན་ *ɬtsaben* 'teaching' indicates the continuity of the action, while the auxiliary Bal. ནང་ *naŋ* marks it as an event directly observed or sensed by the speaker.

(281) དོ་སེ་ཁོ་སི་ས་བག་པོ་ལྷ་བེན་རེད་

dose kʰo-si sabaq-po ɬtsaben reŋ
now he-ERG lesson teach-PROG -AUX-SEN.PRS

Now, he is teaching the lesson.

The negative sensory auxiliary Bal. མེ་ཏན་ *me-taŋ* is used to negate the present progressive construction with the sensory auxiliary Bal. རེང་ *reŋ*. This is illustrated in example 282. In this example, the progressive form of the verb Bal. ལྷ་བེན་ *ɬtsaben* 'teaching' indicates the continuity of the action, while the auxiliary Bal. རེང་ *reŋ* would typically mark it as a directly perceived event. However, when negated as Bal. མེ་ཏང་ *me-taŋ*, it indicates that the speaker directly perceives through one of his senses that the action is not occurring at the moment of speaking.

(282) དོ་སེ་ཁོ་སི་ས་བག་པོ་ལྷ་བེན་མེ་ཏང་

dose kʰo-si sabaq-po ɬtsaben me-taŋ
now he-ERG lesson teach-PROG -AUX-NEG.SEN.PRS

Now, he is not teaching the lesson.

The auxiliary Bal. ཡོད་སུག་ *joṭ-suk* is used to mark the past progressive tense with a sensory evidential meaning. This is illustrated in example 283. In this example, the progressive form of the verb Bal. ལྷ་བེན་ *ɬtsaben* 'teaching' expresses the continuity of the action, while Bal. ཡོད་སུག་ *joṭ-suk* functions as the past tense counterpart of the sensory auxiliary Bal. རེང་ *reŋ*, indicating that the speaker had direct sensory evidence of the event occurring in the past.

(283) གུན་དེ་ཁོ་སི་ས་བག་པོ་ལྷ་བེན་ཡོད་སུག་

gunḍe kʰo-si sabaq-po ɬtsaben joṭ-suk
yesterday he-ERG lesson teach-PROG AUX-NEG.SEN.PST

Yesterday, he was teaching the lesson.

4.3.4.3 The Auxiliary *joṭ-pin-maŋ*

The inferential auxiliary Bal. ཡོད་པིན་མང་ *joṭ-pin-maŋ* is used to express present progressive tense. This is illustrated in example 284, the speaker infers or assumes the action is happening, even though they do not have direct sensory evidence of it. This construction conveys that the speaker is making an inference based

on context or evidence. In this example, the verb Bal. ལྟ་བེན་ *ɬtsaben* 'teaching' is in its progressive form, and the auxiliary Bal. ཡོད་པིན་མང་ *joʈ-pin-maŋ* marks the action as inferred to be ongoing in the present.

(284) གྱན་དེ་ཁོ་སི་ས་བཀ་ལྟ་བེན་ཡོད་པིན་མང་

kʰo-si sabaq ɬtsaben joʈ-pin-maŋ
he-ERG lesson teach-PROG -AUX-INFER.PRS

Yesterday, he was teaching the lesson.

The negative form of the inferential auxiliary Bal. ཡོད་པིན་མང་ *joʈ-pin-maŋ* is constructed by replacing it with Bal. མེད་པིན་མང་ *meʈ-pin-maŋ*. This construction, as illustrated in example 285, indicates that the speaker infers the action is not taking place. Based on context or indirect evidence, the speaker concludes that the action is not ongoing, even though they lack direct observation.

(285) གྱན་དེ་ཁོ་སི་ས་བཀ་ལྟ་བེན་མེད་པིན་མང་

kʰo-si sabaq ɬtsaben meʈ-pin-maŋ
he-ERG lesson teach-PROG AUX-NEG.INFER.PRS

He is not teaching the lesson.

The past tense form of the inferential auxiliary Bal. ཡོད་པིན་མང་ *joʈ-pin-maŋ* is Bal. ཡོད་པིན་སུག་ *joʈ-pin-suk*. This form is used to indicate that the speaker infers that an action took place in the past. Example 286 illustrates this usage.

(286) གྱན་དེ་ཁོ་སི་ས་བཀ་ལྟ་བེན་ཡོད་པིན་མང་

kʰo-si sabaq ɬtsaben joʈ-pin-suk
he-ERG lesson teach-PROG -AUX-INFER.PST

Yesterday, he was teaching the lesson.

4.3.4.4 The Auxiliary *dukʈuk*

The speculative auxiliary Bal. དུག་ཏུག་ *dukʈuk* is used to form the present progressive tense, indicating that the speaker is not certain but considers the action likely to be happening. This is illustrated in example 287, where the progressive form of the verb Bal. ལྟ་བེན་ *ɬtsaben* 'teaching' shows that the action is ongoing, while the auxiliary Bal. དུག་ཏུག་ *dukʈuk* marks it as speculative, meaning the speaker is unsure but thinks it is happening.

(287) དོ་སེ་ཁོ་སི་ས་བག་ལྷ་བེན་དུག་ཏུག་

dose kʰo-si sabaq ɬtsaben dukʈuk
now he-ERG lesson teach-PROG -AUX-SPEC.PRS

Now, he is teaching the lesson.

The negative form of the construction with the speculative auxiliary Bal. དུག་ཏུག་ *dukʈuk* is formed by replacing it with Bal. མི་དུག་ *miduk*. This negates the speculative meaning, indicating that the speaker believes the action is not happening, while still suggesting that it could be happening under different circumstances. This is illustrated in example 288. In this construction, the negative speculative auxiliary Bal. མི་དུག་ *miduk* suggests that the speaker considers it unlikely or not happening at the moment.

(288) དོ་སེ་ཁོ་སི་ས་བག་ལྷ་བེན་མི་དུག་

dose kʰo-si sabaq ɬtsaben miduk
now he-ERG lesson teach-PROG -AUX-NEG.SPEC.PRS

Now, he not is teaching the lesson.

The construction of the past progressive tense with the speculative auxiliary Bal. དུག་ཏུག་ *dukʈuk* is formed by adding the past tense marker Bal. པ་ *pa* to indicate that the action was ongoing in the past. In this case, Bal. དུག་ཏུག་པ་ *dukʈuk-pa* expresses that the speaker speculates the action was happening at that time, but in the past. This is illustrated in example 289, where the verb Bal. ལྷ་བེན་ *ɬtsaben* 'teaching' is in the progressive form, and the auxiliary Bal. དུག་ཏུག་པ་ *dukʈuk-pa* marks it as a past progressive action, with the speaker considering it likely or probable.

(289) གུན་དེ་ཁོ་སི་ས་བག་ལྷ་བེན་དུག་ཏུག་པ་

gunde kʰo-si sabaq ɬtsaben dukʈuk-pa
yesterday he-ERG lesson teach-PROG -AUX-SPEC.PST

Yesterday, he was not teaching.

This section concludes that auxiliaries in Balti function both independently and in combination with other verbs. These auxiliaries encode evidential, epistemic, and tense-related information.

For present time reference, the auxiliaries Bal. ཡོད་ *joʈ*, Bal. རང་ *naŋ*, Bal. ཡོད་པིན་མང་ *joʈ pin maŋ*, Bal. ཨིན་ *in*, and Bal. ཨིན་མང་ *in maŋ* are used. Meanwhile, the auxiliaries Bal. པ་ *pa* and Bal. སུག་ *suk* mark past time.

Each auxiliary carries distinct evidential and epistemic meanings. Bal. ཡོད་ *joṭ* and Bal. ཨིན་ *in* convey factual knowledge that is already established. In contrast, Bal. ནང་ *naŋ* signals newly acquired sensory knowledge. The auxiliaries Bal. ཡོད་པིན་མང་ *joṭ pin maŋ* and Bal. ཨིན་མང་ *in maŋ* indicate inferential new knowledge.

Regarding past tense auxiliaries, Bal. པ་ *pa* and Bal. སུག་ *suk* follow Bal. ཡོད་ *joṭ* and Bal. ཨིན་ *in*. The auxiliary Bal. པ་ *pa* marks past factual information that is certain and already known, while Bal. སུག་ *suk* denotes new inferential knowledge from the past. Furthermore, Bal. པ་ *pa* also follows Bal. ནང་ *naŋ*, marking past time reference.

Additionally, Bal. སུག་ *suk* serves as the past tense counterpart of Bal. ཡོད་པིན་མང་ *joṭ pin maŋ*. Instead of Bal. མང་ *maŋ*, the auxiliary Bal. སུག་ *suk* is used, forming constructions like Bal. ཡོད་པིན་སུག་ *joṭ pin suk* and Bal. *in suk*, which correspond to Bal. ཨིན་མང་ *in maŋ*. Moreover, the auxiliary Bal. དུག་ཏུག་ *dukṭuk* conveys speculative information, meaning it does not indicate factual old knowledge, sensory evidence, or inferential new knowledge. Instead, it solely expresses speculation. Its past tense is formed by adding the past tense auxiliary Bal. པ་ *pa*.

4.3.5 Verbal System Conclusion

The analysis of Balti's verbal system reveals a complex morphophonological structure, where verbs are formed through suffixation to verb stems. This suffixation varies depending on the final consonants, nucleus, and final vowels, which shape the overall morphophonological structure of verbs. Verbal suffixes encode tense, aspect, and mood (TAM), as well as additional functions such as epistemic marking and evidentiality.

Balti verbs exhibit diverse argument structures, including monovalent, divalent, and trivalent verbs. The morphophonological analysis identifies both causative and non-causative verb pairs, with causative derived from non-causative through three primary processes: prefixation with *s-*, devoicing and aspirating the initial consonant, and suffixation with *-ʧuk*. Additionally, the study finds that light verbs constitute a distinct syntactic category, differing from both main verbs and auxiliary verbs in their function and behavior.

A key feature of Balti verbal morphology is the role of auxiliaries, which carry significant grammatical information, particularly in evidentiality, epistemic modality, and tense-aspect marking.

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