

A Preliminary Analysis of the Phonological  
System of the Western Pahārī Language of Kvār



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# Tables of Contents

|       |                                   |    |
|-------|-----------------------------------|----|
| 1     | Introduction.....                 | 1  |
| 1.1   | Geography.....                    | 1  |
| 1.2   | History.....                      | 2  |
| 1.3   | Linguistic environment.....       | 3  |
| 1.3.1 | The Pahārī Languages.....         | 3  |
| 1.3.2 | Linguistic affiliation.....       | 4  |
| 1.3.3 | Previous research.....            | 5  |
| 1.3.4 | The Baṅgāñī controversy.....      | 6  |
| 1.3.5 | Linguistic policy & contacts..... | 6  |
| 1.3.6 | Naming issues.....                | 7  |
| 1.4   | Local culture.....                | 8  |
| 1.5   | Fieldwork & methodology.....      | 9  |
| 1.5.1 | Preparation.....                  | 9  |
| 1.5.2 | In the field.....                 | 10 |
| 1.5.3 | The informants.....               | 11 |
| 2     | Phonetics.....                    | 12 |
| 2.1   | List of sounds.....               | 13 |
| 2.2   | Vowels.....                       | 14 |
| 2.2.1 | Description of oral vowels.....   | 14 |
| 2.2.2 | Nasalization.....                 | 16 |
| 2.2.3 | Length.....                       | 17 |
| 2.2.4 | Semivowels.....                   | 18 |
| 2.3   | Consonants.....                   | 19 |
| 2.3.1 | Velars.....                       | 20 |
| 2.3.2 | Palatals.....                     | 20 |
| 2.3.3 | Dental affricates.....            | 21 |
| 2.3.4 | Retroflex stops.....              | 23 |
| 2.3.5 | Dentals.....                      | 23 |
| 2.3.6 | Labials.....                      | 25 |

|        |   |    |
|--------|---|----|
| 2.3.7  | Nasals.....                               | 26 |
| 2.3.8  | Liquids.....                              | 26 |
| 2.3.9  | Sibilants.....                            | 27 |
| 2.3.10 | Laryngeals.....                           | 28 |
| 2.3.11 | Diverse.....                              | 28 |
| 3      | The phonemes.....                         | 30 |
| 3.1    | Vowel phonemes.....                       | 32 |
| 3.1.1  | Nasalization.....                         | 33 |
| 3.2    | Semivowels.....                           | 34 |
| 3.3    | Consonant phonemes.....                   | 35 |
| 3.3.1  | Nasal consonants.....                     | 36 |
| 3.3.2  | Dental stops.....                         | 37 |
| 3.3.3  | Velar consonants.....                     | 38 |
| 3.3.4  | Labial consonants.....                    | 39 |
| 3.3.5  | Liquids.....                              | 41 |
| 3.3.6  | Retroflexes.....                          | 41 |
| 3.3.7  | Fricatives & affricates.....              | 42 |
| 3.4    | Length.....                               | 45 |
| 3.4.1  | Vowels.....                               | 45 |
| 3.4.2  | Consonants.....                           | 45 |
| 3.5    | Devoicing of final voiced consonants..... | 46 |
| 4.     | Syllable structure.....                   | 48 |
| 4.1    | General considerations.....               | 48 |
| 4.2    | Distribution of syllables in Kvāri.....   | 48 |
| 4.3    | Monosyllabic words.....                   | 51 |
| 4.4    | Disyllabic words.....                     | 52 |
| 4.5    | Polysyllabic words.....                   | 53 |
| 4.6    | Diphthongs.....                           | 53 |
| 4.7    | Consonant clusters.....                   | 56 |
| 4.7.1  | Consonant clusters of affricates ?.....   | 59 |

|                                   |     |
|-----------------------------------|-----|
| 4.8 Pitch accent & stress.....    | 61  |
| 4.8.1 Disyllabic words.....       | 61  |
| 4.8.2 Polysyllabic words.....     | 63  |
| 4.8.3 Question versus answer..... | 65  |
| 4.9 Tones.....                    | 67  |
| 4.10 Summary.....                 | 74  |
| 5 Comparative studies.....        | 76  |
| 5.1 Sound systems.....            | 76  |
| 5.1.1 Eastern Pahārī.....         | 76  |
| 5.1.2 Central Pahārī.....         | 77  |
| 5.1.3 Western Pahārī.....         | 78  |
| 5.1.4 Dardic & Nuristāni.....     | 80  |
| 5.1.4.1 Vowels.....               | 80  |
| 5.1.4.2 Consonants.....           | 82  |
| 5.1.5 Summary.....                | 84  |
| 5.2 Vocabulary and etymology..... | 85  |
| 5.2.1 Consonantal evolution.....  | 85  |
| 5.2.1.1 Depalatalization.....     | 87  |
| 5.2.2 Vocalic evolution.....      | 88  |
| 6 Conclusion.....                 | 90  |
| Appendix.....                     | 92  |
| Photographs.....                  | 105 |
| Bibliography.....                 | 106 |

## **Tables of charts**

|  |    |
|--|----|
| <i>Chart 1</i> Kvāri vowel phones.....       | 14 |
| <i>Chart 2</i> Kvāri consonant phones.....   | 19 |
| <i>Chart 3</i> Kvāri vowel phonemes.....     | 32 |
| <i>Chart 4</i> Kvāri consonant phonemes..... | 35 |

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## List of abbreviations

- Aś: Aśkun  
Ba: Baṅgāṇī  
Bi: Bihārī  
CP: Central Pahārī  
EP: Eastern Pahārī  
f<sub>0</sub>: fundamental frequency  
Gu: Gujarātī  
Hi: Hindi  
HP: Himāchal Pradesh  
IA: Indo-Aryan  
IPA: International Phonetic Alphabet  
Jo: Jaunsari  
Ka: Kati  
Kl: Kalasha  
Kh: Khowar  
Kś: Kashmiri  
Kṭg Kc: Koṭgarhi Koci  
Ku: Kumauni  
Kv: Kvāri  
Ma: Marāṭhi  
MIA: Middle Indo-Aryan  
Ne: Nepāli  
NIA: New Indo-Aryan  
Nu: Nuristāni  
OIA: Old Indo-Aryan  
Pa: Palula  
Pu: Panjābi  
Pr: Prasun  
Sh: Shina  
SIL: Summer Institute of Linguistics  
Wa: Waigali  
WP: Western Pahārī



# 1. Introduction

The phonology of the language which will be analyzed here is called Kvāri. This language belonging to the Western Pahāṛī linguistic group of Indo-Aryan languages is spoken in the Ḍoḍra-Kvār valley in the state of Himāchal Pradesh (HP) in the western part of the Indian Himalayas. The purpose of this thesis is to present a general overview of the sound system of this language starting with phonetics, viz. the description of phones, or sounds *per se*. The part dealing with phonology will follow, starting with a presentation of the diverse phonemes, their behavior, their prosodic positions within words and their oppositions. This chapter will also include an overview of the different syllabic systems in Kvāri and will end with the analysis of pitch accent. Finally, the central question will be discussed: does Kvāri have tones and, if so, how many? Following the phonology chapter, I will conclude this thesis: first by comparing the phonological stock of Kvāri with neighboring languages and secondly explaining the origins and etymologies of certain words. Is the Kvāri sound system similar to other Pahāṛī varieties or does it differ somehow? How could we linguistically and geographically categorize the phonology of Kvāri? A list of words recorded in the field is to be found at the end of the thesis.

## 1.1 Geography

The village of Kvār is located in the district of Shimla. The main town in the area is the bazar of Rohṛu from where local transportation to Kvār is available. One has to drive about a hundred kilometers eastwards from Rohṛu to reach the Chanshal pass (3750 m.). Afterward, a 20-kilometer ride from the Chanshal pass in the direction of Uttarākhaṇḍ leads to the valley where Ḍoḍra-Kvār is located. After passing through the village of Ḍoḍra down the valley, crossing the Rupin river and driving up another twenty kilometers, one arrives to the village of Kvār on the border with the state of Uttarākhaṇḍ (about three kilometers by foot), the nearest village being Sewa. The village itself lies on the slope of a mountain at an altitude of about 2400m according to local estimations. From Kvār, another path passing through the lower part of the village, where low cast people live (cynically nicknamed “Bangladeshis” by Kvāris), leads to the village of Jiskun and then further north to the Tibetan-speaking area of Kinnaur.

Map of the Shimla district:



## 1.2 History

*The Bashahar State Gazetteer*<sup>1</sup> is the main source of knowledge in terms of history of the area where Doḍra-Kvār is located. It first acknowledges that “not much is known about the history of the Bashahar sate previous to the XIXth century” (5). One of the first known rulers is named Parduman and is said, “according to one story” (5) to be the grandson of Shri Kishan. His capital was set in Kamru. The dynasty ruled until 1803 when the princely state was eventually conquered by the Gurkhas. The Gurkhas sacked the capital of Rampūr and built forts along the Hattu range. However, some portions of Bashahar like Kanawar and the town of Kamru, where the state treasure was kept, did not surrender to the Gurkhas. At the

<sup>1</sup> *Gazetteer of the Shimla Hill States 1910*, Indus Publishing Company, New Delhi, 1998

beginning of the first British-Gurkha war, Bashahari troops led by wazirs Tikkan Das and Badri Das helped by a contingent from Kullu managed to first push back the Gurkha commander Kirti Rana before surrounding and capturing him. He was then handed over to the British. On the 6th of November 1815, the British government decided to give his territories back to the raja less Rawin and Kotgarh. The dynasty continued until the death of the raja Tikka Raghunath Singh in 1898. The state was then divided into three tehsils: Chini, Rampūr and Rohru of which the pargana of Doḍra-Kvār was a part (4). During the reign of Tikka Raghunath Singh, Doḍra-Kvār experienced several rebellions by Ran Bahadur Singh, one of the hereditary of the wazirs, who tried to establish an independent principality with himself as a ruler. The Bashahar hill gazetteer reads: “He was arrested and put on trial by Tikka Raghunath Singh but was released and restored to office on the latter’s death by the Raja”. After being arrested again by the superintendent of the Hill States, he started to pay the revenue he owed to the state but died before he could pay the entire sum. But it was not enough to smash the rebellious spirit in Doḍra-Kvār and local zamindars (land-owners) went on refusing to pay the revenue until the summer of 1906 when a police force was sent to Doḍra-Kvār. The ringleaders were then imprisoned and the authority of the state restored. Unfortunately, little is known about recent history.

## **1.3 Linguistic environment**

### **1.3.1 The Pahārī languages**

Deriving from the Hindi substantive *pahār* (mountain) to which the adjective marker suffix *-ī* is added, the word Pahari means mountainous, from the mountains, or, according to Masica’s definition, “hill speech” (Masica 13). It is a very generic term that includes the IA varieties of languages spoken throughout the Himalayan mountain range. As their name indicates, these languages are spoken in the Himalayas and form a zone stretching roughly from Sikkim in the east to Jammu in Western India. They are traditionally divided into three groups by linguists:

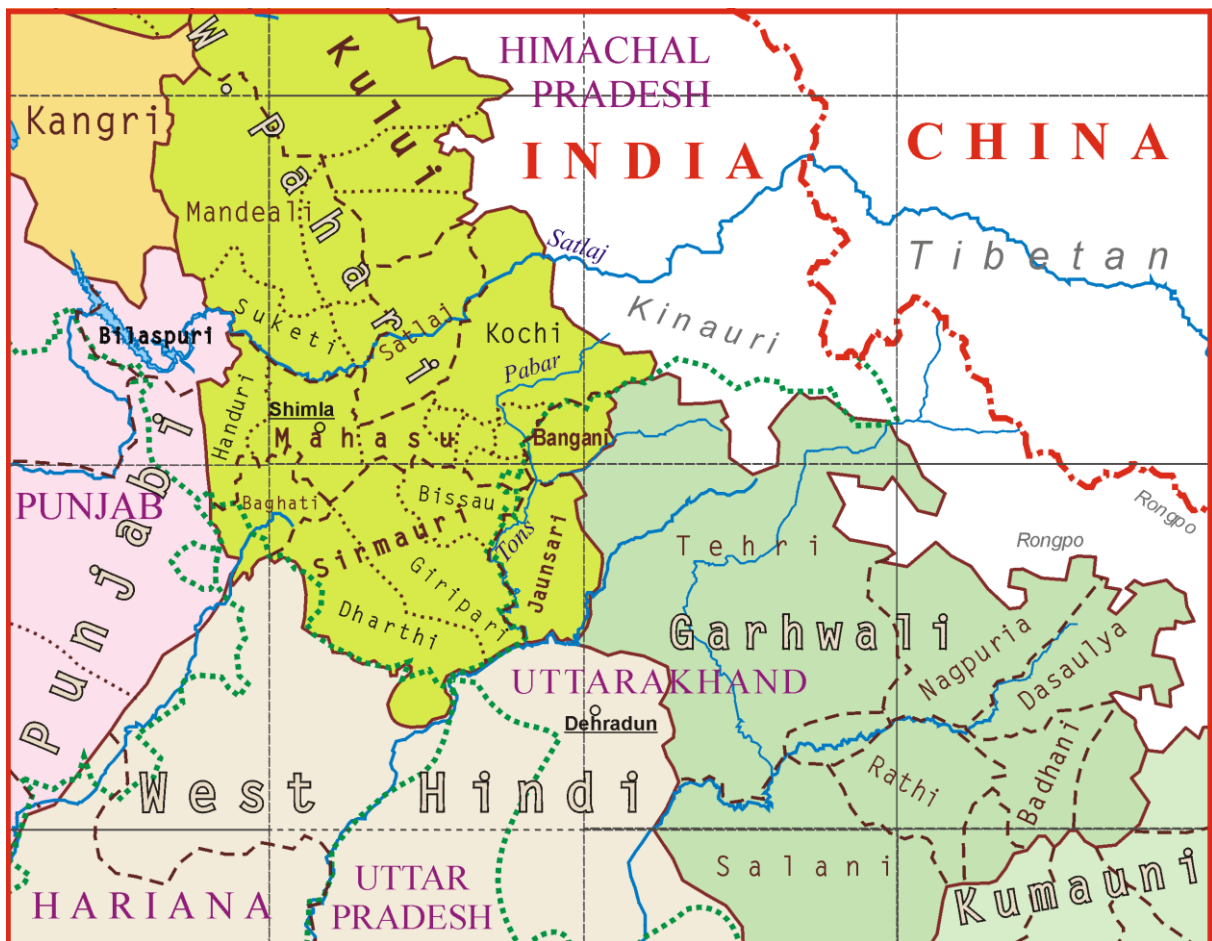
-The Eastern Pahārī (EP) group spoken in Nepal, Sikkim, parts of Bhutan and the Darjeeling district of the West Bengal state from which Nepālī is the largest written and spoken language. Other languages include Newari and Lepcha.

-The Central Pahārī (CP) group corresponding to Garhwālī and Kumaunī both spoken in the state of Uttarākhand.

-The Western Pahārī (WP) group, mostly spoken in Himāchal Pradesh and Jammu, for which countless varieties exist.

Kvār is situated in a zone where IA languages are spoken. The local variety belongs to the Western Pahārī group.

Map of the Pahārī languages:



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### 1.3.2 Linguistic affiliation

Being little studied, it is difficult to categorize the central and western varieties of Pahārī and to find some clear affiliations, both between themselves and with other

surrounding languages. It looks as if the division is based on purely political and religious grounds rather than on linguistic ones: EP is spoken in Nepal, CP in Uttarākhaṇḍ, WP in HP and Dardic in Northern Pakistan, as if linguistic influence and radiation stopped at every administrative border, be it regional or international. Being geographically relatively close to the core Hindi-speaking region, that is the Delhi/Haryaṇa area, and spoken in an area having been under Panjābi rule, the Pahārī languages obviously resemble Hindi or Panjābi although, Masica claims that “they are more closely allied to Rājasthāni than to the Hindi of the plains” (Masica 13). Claus Peter Zoller agrees with the Rājasthāni theory but goes farther by suggesting that “Western Pahari has many affinities with the Dardic<sup>2</sup> group of languages and both share a common vocabulary” (Zoller 1997 154-55) and giving other phonological and grammatical arguments to support this theory. The term “Dardic” has been used by western scholars to classify the group of languages spoken by Muslim mountainous people in the time of British India. George Abraham Grierson (1841-1951) first argued that the Dardic group formed a third branch besides Iranian and IA (Zoller forthcoming 40). Later on, Georg Morgenstierne (1892-1978) proposed another type of classification that included the Dardic languages inside the IA group, showing that the Nuristāni languages actually formed a third branch between Ir. and IA (Zoller forthcoming 40 & Strand 297).

### 1.3.3 Previous research

The first westerner to write about the Pahārī languages was Thomas Grahame Bailey (1872-1942), who published, among others, a *History of Urdu literature*, a *Panjabi manual and grammar* as well as an *English Panjabi Dictionary* and two important books for my research: *Linguistic Studies from the Himalayas* (1975) and *The Languages of the Northern Himalayas* (1908) which both include sentences, limited wordlists and short grammars of many tongues spoken in the then-Punjab Hill States. Not being a professional linguist, his work is purely comprised of short descriptions probably aimed at British imperial officers and civil servants, and includes a few mistakes (especially in terms of phonetic) but is nevertheless a tremendous source of data and information about the Pahārī languages of that time. Hans Hendriksen worked during the 1970s and 1980s on the WP varieties of Koci and

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<sup>2</sup> .The Dardic languages are the languages spoken in the Kashmir valley and Northern Pakistan

Koṭgarhi and gave a well detailed and professional account of those two dialects spoken in southern HP, not far from the Doḍra-Kvār valley. Recently, Dr. Zoller worked on the Baṅgāñī language, publishing several articles about grammar and phonology as well as a dictionary.

### 1.3.4 The Baṅgāñī controversy

In the 1980s, while working on Baṅgāñī, Dr. Zoller made a sensational discovery when he found traces of a “centum” language in the middle of a purely “satem”<sup>3</sup> area (Zoller 1988). The preservation of several velar stops, typical of centum languages instead of the regular sibilant like in the word for hundred, *koto*, is highly unusual in that part of Asia. Later, Dr. George Van Driem and Dr. Suhnu Ram Sharma conducted a fieldwork in that area and claimed that Dr. Zoller got the wrong information and that his theory was erroneous. Zoller then replied that the two scholars did not even set foot in Baṅgāñ but interviewed speakers at another location near Baṅgāñ. To make things clear, the Indian professor Anvita Abbi went to Baṅgāñ after them and confirmed Zoller’s data.<sup>4</sup>

### 1.3.5 Linguistic policy & contacts

As a local teacher told me, the dialect of the Doḍra-Kvār area is not “formalized”, and variations occur from hamlet to hamlet. The dialect is not standardized either and it exists no written form for it. Locals in Kvār do affirm that the language in use in Doḍra is “different but understandable”. The same applies for the dialect spoken in Jiskun which is even closer geographically to Kvār than Doḍra is. Other important languages such as Hindi and English

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<sup>3</sup> 1. Centum and satem are the words for “hundred” in Latin and Avestan respectively. The Indo-European group is separated into two phonological branches: languages that had a sound change from OIE palatal stops \*k, \*g, \*gh to spirants s, ś, ṣ found in Armenian, Albanian, Indo-Iranian and Balto-Slavonic groups and languages that evolved to velar stops. Remember that the Latin letter “c” was pronounced as a “k”. The groups belonging to the centum languages are Greek, Germanic and Romance languages. <http://www.britannica.com/EBchecked/topic/286368/Indo-European-languages/74563/Changes-in-phonology?anchor=ref603322>

<sup>4</sup> <http://www-personal.umich.edu/~pehook/bangani.hock.html>

are also spoken. Hindi is the national language of the Republic of India and is therefore taught in schools, and used in the administration and the mass media. Most people in Kvār do speak Hindi but English (also taught at schools) is almost unknown and pretty useless for Kvāris since tourism is not developed there and almost no foreigners come to the village. Civil servants and policemen in Kvār speak mostly Hindi together but since all of them come from HP, some of them catch up the local dialect pretty rapidly and mix it with Hindi. However, colloquial Hindi remains the favorite mean of communication between themselves and the locals. The Pahārī languages are not recognized as official by the constitution and are therefore not taught in schools. They are considered as minority or tribal languages by national authorities.

There is no Pahārī-speaking radio broadcast in that region although locals still enjoy Pahārī music at home. The local variety of Pahārī is spoken on a daily basis at home, on the street, in the fields, at fairs and in social places such as the main square, the temples and the few dhabas.

The Doḍra-Kvār valley borders on regions where other Pahārī varieties are spoken:

-In Uttarākhaṇḍ: Gaṛhwālī and Jaunsari to the south-east; Baṅgāñī to the east.

-In Himachal Pradesh: Bissau to the south-west; Barari, Soracholi and Kirni to the west; Koci to the north and Kinnauri to the north-east.

For a more detailed listing of the Pahārī languages, please visit the following link on the Summer Institute of Linguistics (SIL) webpage:

<http://www.ethnologue.com/subgroups/northern-zone>

### **1.3.6 Naming issues**

The names given to the language in the literature are purely scientific and, one could say, “artificial” because Pahārī speakers do not have distinct proper names for their languages. They were named by linguists after the name of the valley, the region or the village in which they are spoken. South Asians call them Pahārī but we have already seen that this is a rather general name and that Pahārī is actually a group of different languages, not a single well defined one. Locals simply call their languages *apri boli/bāsa* meaning *our own*

*speech/language* or *desi boli/bāsa: local speech/language*. From all the places I have visited in the Indian Himalayas, this was the rule among villagers. This is the reason why I named this language “Kvāri” in reference to the village of Kvār.

## 1.4 Local culture

The local population is mainly Hindu. They worship a deity (devta) called Jākh Kvār. Although the population is very scarce (about two thousand souls according to local estimations), there are five temples in the whole village of Kvār alone. Once a year, the idols from the villages of the valley are gathered in front of the main temple of Kvār. People carry them on their shoulders and make small procession ceremonies through the village. Thereafter, people gather around the main temple with the idols, carried out for the occasion. Then, men make them “dance” on their shoulders and choose a sacrificial goat that they bring to the roof of the temple. A priest recites prayers and incantations before an assistant cuts the throat of the poor animal with an axe and then throws its head down to the crowd. People then cheer, shoot a few bullets from their old rifles and start singing, dancing and drinking until late. Strangers can take part in these ceremonies but are forbidden to enter or even touch the temples. Local superstitions include the placing of a big stone on top of the entrance door to chase evil-spirits.

Recently, the Radha Swami sect has started penetrating Kvār and gain local converts; a temple was under construction during my stay. This means that several people have given up worshipping the devta, drinking alcohol and eating meat.

Local people live mainly from agriculture; they grow crops such as pumpkins (sometimes even on the roofs of their houses), cholay, a plant similar to quinoa which they use to make flour, apples (a Himachali specialty) and beans. Dairy products are also part of their local production. Cows and goats are seen everywhere.

Men usually wear western-style clothes with a Kinnauri hat and a Himachali woolen jacket. Many men get carved silver bracelets during their childhood and once they are adults, the space between the bracelet and the wrist gets so tight that it becomes impossible for them to remove it. Women wear more traditional colorful kurtta pajamas with a veil to cover their hair or even sometimes a Kinnauri hat and a jewel or two.



## 1.5 Fieldwork & methodology

To gain a clear picture of the phonology of a given language, one should be directly confronted to the language in its daily and natural environment. A fieldwork is, therefore, necessary to gain such a picture. There is no comparison, when one studies the phonetic and/or phonological aspects of a language, between a study from an armchair phonologist and a study from a fieldworker. The fieldworker will always have an incredible advantage. Furthermore, even a complex and highly diacritical written form does not always render fully the small nuances, the lengths, the allophones, the tones and pitches of a given phonological system. If good ear is necessary, the use of a software, like the SIL speech analyzer, is of tremendous help. The knowledge of a language that is similar or belongs to the same linguistic family is also a must.

### 1.5.1 Preparation

The preparation is to be taken seriously into account. I must say that Anvita Abbi's book *A Manual of Linguistic Field Work and Structures of Indian Languages*<sup>5</sup> really helped me get a good theoretical picture and impression about daily life on the field as well as practical tips and linguistic insights about the basic characteristics of Indian languages.

Before going on the field, the researcher should, in my opinion, get used to sounds they are not familiar with. For instance, a native speaker of Arabic will have problems identifying phonemes that are unknown in their native tongue like the unvoiced plosive [p] or a vowel such as [y]. The phonetic stock one acquires during childhood is used throughout life as a pattern for a subjective standardized view of a limited phonetic system which the speaker can consider absolute and universal if they are not exposed to other sounds and languages (even to dialectal variations of their mother tongue). The fieldworker must therefore have the broadest possible panel of sounds in his mental phonetic inventory to be able to discriminate different phonemes as best as possible. Knowledge of the phonology of Hindi, Nepāli, Dardic and Panjābi is a big plus.

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<sup>5</sup> Lincom Europa, Munich, 2001

Knowledge of ancient South Asian languages such as Sanskrit helps when one works with etymology and historical linguistics. Although a researcher familiar with Sanskrit phonology might have an advantage compared to others who do not, the fact is that Sanskrit is nowadays mostly a written language and a virtually (almost) extinguished spoken tongue. Its pronunciation has been corrupted through time and the holy language of Hinduism is spoken or recited with a strong alteration of its ancient rigid, original and purified phonological system. For example, a young Brahmin from Uttarākhaṇḍ that I heard reciting prayers in Sanskrit was making no difference in pronunciation between the three fricatives [s], [ʃ] and [ʂ], pronouncing the three of them as a single phoneme, namely the unvoiced alveolar fricative /s/ which is typical for Dardic and Pahārī languages (Masica 98-9). As written before, the knowledge of Sanskrit is more helpful when one works with historical linguistics and etymology than with modern South Asian phonology.

To prepare myself for this work, I have studied several languages from that area and beyond. During these trips and studies, I got more and more exposed and accustomed to new phonemes like the retroflexes or the aspirated consonants which are much more common in those areas than in Europe.

Interviewing native speakers is not a straightforward process and demands time, patience and experience. I had the opportunity during my pre-fieldwork training to conduct interviews of Nepālī and Nuristāni speakers together with my more experienced supervisor. I must say that this helped me a lot once in the field.

Another aspect which is crucial when one studies an unknown, unrecorded or unwritten language is time. A long stay in the linguistic community is essential, especially when going on a deeper linguistic level like describing grammar, differences between generations in word use and speech or collecting local stories, epics or songs.

### **1.5.2 In the field**

The kind of fieldwork that I conducted is called prototypical. It involves a long stay in a given community, as well as the collection and recording of data, in order to study of a foreign language in its natural context. This kind of fieldwork is made by a researcher

studying a different tongue than their own and/or a little known or completely unknown language (Sakel 3).

The fieldwork was conducted in the village of Kvār between mid-September and mid-October 2012. I chose to stay in Kvār because it was the most convenient location to gain a good picture of the pronunciation of the languages of that area. As a matter of fact, Kvār being the largest village there, it attracts people from the whole valley and is the most populated. It can be considered as a town. The local Western Pahārī variety spoken in Kvār was therefore the most standardized and used in the whole valley.

### **1.5.3 The informants**

During my stay, I spent time talking to locals, explaining my project and, most important of all, gaining their trust. After a while, I managed to find people willing to get interviewed and recorded. The work consisted of giving them wordlists on different topics, sitting with them and recording them on a digital recording device. The four speakers I interviewed wanted to have their names quoted in the essay but the western scientific ethical approach forbids us to do so. As a form of *status quo*, I have decided to give their first names only: speaker number one is named Santosh, a young farmer and shopkeeper in his twenties. Enthusiast about his local tongue, he was my main source of information. Speaker number two is called Satyanand, a civil servant from Kvār in his forties working with ration supplies. Speaker number three is a young man in his twenties named Chuni, who works on the farm with his family. Finally, speaker number four is called Sandira, a woman from Kvār, close to forty years old, working at a small drugstore. I only had one short interview with her. I must add that the four informants refused to get paid for their services.

## 2. Phonetics

In this chapter, I will present a list of the different phones that constitute the phonetic system of Kvāri. Phonetics is the science of the description, the production and the pronunciation of sounds individually and independently. The object of phonetic studies is the sound (or phone) in itself, its oral production and its auditive reception. Phonetics uses other sciences like anatomy and acoustics to study sounds coming from a human voice (Neveu 81). The phones will be presented individually, together with the allophones on which they are based. How the phones behave in daily speech and within words, their prosody, how they interact with each other and the questions regarding tones and pitch accent will be analyzed in the next chapters in order to describe the phonology of Kvāri.

The first list given hereunder is a general list of the phones encountered in Kvāri, divided into three sections: the first one is an inventory of the vowels, the second one an inventory of the semivowels and the third one an inventory of the consonants present in the language.

A note about the transcription: the letters between brackets are phonetic transcriptions of individual sounds or phones, according to the standard International Phonetic Alphabet (IPA). For the phonemes, I will follow the most common way of phonologically transcribing IA languages and use the following letters and diacritics between diagonal bars for the following sounds: long vowels will be written with a horizontal bar above them [a:] = /ā/ and nasalization will be noted with a tilde above the vowel [ã] = /ã/. In cases of allophony, like for instance with the phoneme [a], the allophone will be given in IPA between brackets. The same will apply to the semi vowel [w], which will be phonemically presented as /v/ and noted phonetically either with a [v] or a [w] in case of allophony. The other semi-vowel [j] will be phonemically presented as /y/. Retroflexes will be distinguished from dental stops and liquid phonemes by a dot beneath them, e.g. [ɖ] = /ḍ/. Aspirated consonants will be followed by an *h*, thus [p<sup>h</sup>] = /ph/. Palatals will have an accent mark above them, ex: [tʃ] = /č/ while the dental affricate [tʃ] will be transcribed as /č/. Their voiced corresponding sounds are going to be written as a simple /j/ for the palatal [dʒ], /ž/ in the case of the palatal [ʒ] and /dz/ for the phone [dʒ]. The sibilant [ʃ] will be noted /ś/. Finally, the nasal velar [ŋ] will be written with a dot above it: /ñ/. Hindi and Urdu words will be given with their standard roman transcription.

Both transcriptions are fairly similar to each-other, however, a Pahārī phoneme such as /ć/ will be written as *c* in the standard Hindi roman transcription.

## 2.1 List of sounds

Vowels: a, a:, o, o:, ɔ, ɔ:, e, e:, ε, i, i:, u, u:, ʊ, ə

Nasalized vowels: ã, ẽ, ĩ, ù, õ

Semi-vowels: j, w

Velars: k, k<sup>h</sup>, g

Palatals: ʃ, ʃ<sup>h</sup>, ʒ, dʒ

Dental affricates: tʃ, dʒ

Retroflexes: ɻ, ɻ<sup>h</sup>, ɽ

Dentals: t, t<sup>h</sup>, d, d<sup>h</sup>

Labials: p, p<sup>h</sup>, b, b<sup>h</sup>, v

Nasals: n, ŋ, ɳ

Liquids: r, ɽ, l, ɭ

Sibilants: ʃ, s, z

Laryngeals: h

## 2.2 Vowels

Chart 1: *Kvāri* vowel phones

### oral vowels

|           | front |      | central | back  |      |
|-----------|-------|------|---------|-------|------|
|           | short | long | short   | short | long |
| close     | i     | i:   |         | ʊ     | u:   |
| close-mid | e     | e:   | ə       | o     | o:   |
| open-mid  | ɛ     |      |         | ɔ     | ɔ:   |
| open      |       |      |         | a     | a:   |

### nasalized vowels

|          | front | back  |      |
|----------|-------|-------|------|
|          | short | short | long |
| close    | ĩ     | ũ     | ũ:   |
| mid      | ẽ     | õ     | õ:   |
| open-mid |       | õ̃    | õ̃:  |
| open     |       | ã     | ã:   |

### 2.2.1 Description of oral vowels

[a]

-A common low-mid or mid-central unrounded vowel. Its pronunciation is frequently close to [ɔ], although the difference is clear. It is pronounced like in Hindi *ab* which is represented by

the Devanāgarī letter अ. Being pronounced open to mid-open, this phone has a couple of allophones which are to be found in daily speech always fluctuating between the open-mid back [ʌ] and the schwa [ə] like in *das* (ten).

[o]

-A high-mid back rounded vowel, pronounced like in French *chaud*, presented in the Devanāgarī script by ओ.

[ɔ]

-Sometimes transliterated as *au* in Hindi, it is a low-mid to mid back rounded vowel like in French *homme*. Its use is pretty frequent in Kvāri words and usually corresponds to the Hindi phone [a] as in Hi. /ghar/ - Kv. /gɔr/ (house). The Devanāgarī letter representing this sound is the letter औ. Originally a diphthong, it became a single phoneme during the MIA period and continues as such in most of NIA languages (Woolner 26). A similar evolution has been observed from Latin to French (Lt. *aurum* [aurum] > Fr. *or* [ɔR], gold).

[e]

-A high mid-front unrounded vowel similar to the French *été*. It is written ए in the Devanāgarī script.

[ɛ]

-Also sometimes transliterated as *ai* in Hindi, it is frequently encountered in Kvāri. This is a low-mid front short unrounded vowel pronounced as the English *best*. Originally, it was pronounced as a diphthong [aj] in OIA, but has become a single vowel in NIA languages (Abbi 2001 26). Shukla confirms this point for Hindi adding that “the long vowels ऐ ē and औ ā, both oral and nasal, are pronounced as oral or nasal diphthongs ai and au, respectively, in the eastern part of the Hindi-speaking area; elsewhere, these vowels have a monophthongal pronunciation ē and ā” (Shukla 59). Its Devanāgarī letter is ऐ.

[i]

-A high fronted unrounded vowel, it is equivalent to the English *sit*, or the Hindi *din*. The Devanāgarī letter representing this vowel is the letter इ.

[u]

-A high back rounded vowel, its pronunciation is similar to the German *Urlaub*, and is written with the letter उ in Devanāgarī.

[ə]

-The schwa is rarely used, I encountered it only once during my interviews in [fərai pa:n]. It resembles the French mute *e* (*e muet*) or the Albanian phoneme ë, most probably an allophone of /a/.

[ʊ]

-A relatively rare short sound that I only heard on a few occasions like [batsʊʔtɔ] calf. Most probably an allophone of [u].

## 2.2.2 Nasalization

The nasalization of vowels is extremely widespread in NIA languages (Masica 117).

[ã]

-A nasalized allophone of the phone [a] just like in Polish *sq*. This sound, as well as other nasal vowels, is rather common in IA languages and Kvāri is not an exception to the rule (Masica 116). As its name indicates, the vowel is pronounced by expelling air both through the nasal cavities and the mouth and not only through the mouth. The Devanāgarī letter representing this sound is अं.

[õ]

-A nasalized version of the vowel [o], it is pronounced as the French *son*. It is written with the letter ओं in Devanāgarī.

[ũ]

-This sound is produced by a nasalization of the phoneme [u] like in Hindi *ũgli*. The Devanāgarī equivalent is the letter उं.



[ĩ]

-A nasal pronunciation of the vowel [i], like in Hindi *ĩcnā*. It is rendered as a ङ in the Devanāgarī alphabet.

[õ]

-A nasalized variant of the mid back rounded vowel [ɔ] like in the word for honey, *mõ*.

### 2.2.3 Length

The absence of minimal pairs in my vocabulary stock makes it hard for me to affirm that the vowel length is phonemically distinctive, but the difference in pronunciation is obvious to the ear and to the speech analyzer. In some cases like between [a] and [a:], minimal pairs have been recorded in neighboring languages and in NIA languages (Masica 110-12). Thus, it would not be false to state that the majority of vowels in Kvāri have their long equivalents.

[a:]

-A low central unrounded long vowel, it is pronounced just as the /a/ above but longer and lower. It corresponds to the Devanāgarī letter आ as in Urdu *āb* or in the German word *Haare*.

[i:]

-A high front unrounded long vowel, it is pronounced as the English *meat*. One writes it with the letter ई in the Devanāgarī script.

[u:]

-A high back rounded long vowel, similar to the pronunciation of *Uhr* in German. Its corresponding Devanāgarī letter is the letter ऊ.

[ɔ:]

-A low-mid to mid back rounded long vowel similar to the Hindi *aur* or French *or*. In Kvāri, the phone is usually heard on the first syllable of a word, e.g. *kõslāde* (armpit) or *šõkõɔ*

(beehive). Also found in neighboring languages such as Kotgarhi (Hendriksen 1986:13) and Baṅgāñī (c.p Zoller).

[e:]

-A long high mid-front unrounded vowel like in German *See*, heard several times in Doḍra-Kvār, mostly in the final syllable of a word.

## 2.2.4 Semivowels

The presence and status of semi-vowels in Kvāri is obscure. Their pronunciations are not crystal clear and it seems that these phones are allophones of the consonantal and vocalic phonemes /v/, /u/ and /i/ (see 3.2 and 4.6 in the phonology chapter). The descriptions below have to be taken with great care, as I can only assume their existence, not affirm it.

[j]

-Usually found after vowels, this palatal semivowel is uttered in the same way as the English *yes*. One finds it frequently in final position together with another vowel: a diphthong like in *rui* [ruij] (cotton). Devanāgarī: रू

[w]

-Also found mostly together with vowels, it replaces the approximant /v/ as in many other NIA dialects although the approximant /v/ can be heard in few words like *čeverε* (woman). As for the [j], the glide [w] is mainly encountered in final diphthongs like in [ɖziu<sup>w</sup>] *heart* which means that its length is shorter and utterance weaker than in initial or medial position, where a clear vowel [u] is heard. Its near-equivalent in the Devanāgarī script is व्.

## 2.3 Consonants

Chart 2: *Kvāri* consonant phones

consonant phones

|           |                       | labial         | dental             | retroflex      | palatal            | velar          | post-<br>velar |
|-----------|-----------------------|----------------|--------------------|----------------|--------------------|----------------|----------------|
| plosive   | unvoiced<br>aspirated | p <sup>h</sup> | t <sup>h</sup>     | ʈ <sup>h</sup> |                    | k <sup>h</sup> |                |
|           | unvoiced              | p              | t                  | ʈ              |                    | k              |                |
|           | voiced<br>aspirated   | b <sup>h</sup> | d <sup>h</sup>     |                |                    |                |                |
|           | voiced                | b              | d                  | ɖ              |                    | g              |                |
|           | devoiced              | ɸ              | ɗ                  |                |                    | ɠ              |                |
| affricate | unvoiced<br>aspirated |                | (tʃ <sup>h</sup> ) |                | (tʃ <sup>h</sup> ) |                |                |
|           | unvoiced              |                | tʃ                 |                | tʃ                 |                |                |
|           | voiced                |                | dʒ                 |                | dʒ                 |                |                |
| fricative | unvoiced              |                | s                  |                | ʃ                  |                | h              |
|           | voiced                |                | z                  |                | ʒ                  |                |                |
| nasal     |                       | m              | n                  | ɳ              |                    | ŋ              |                |
| glide     |                       | w              |                    |                | j                  |                |                |
| lateral   |                       |                | l                  | ɭ              |                    |                |                |
| flap      |                       |                |                    | ɻ              |                    |                |                |
| trill     |                       |                | r                  |                |                    |                |                |

### 2.3.1 Velars

[k]

-An unvoiced unaspirated plosive pronounced as in French *car* and written क् in Devanāgarī.

[k<sup>h</sup>]

-An unvoiced aspirated plosive which is frequent in Indo-Aryan (Masica 101-04) and pronounced like in English *brick house*. The Devanāgarī letter it corresponds to is the ख्.

[g]

-A voiced unaspirated plosive like in English *god*. Devanāgarī: ग्

[g̊]

-A devoiced unaspirated plosive pronounced as in Russian *bereg*. This sound is found in final position like in the word for sting [ʃiŋg̊] and has no Devanāgarī equivalent.

### 2.3.2 Palatals

[tʃ]

-A pre-palatal unaspirated unvoiced affricate, similar to the English *cherry* but with the tip of the tongue put lower behind the upper teeth than for standard English. Pahārī languages actually tend to depalatalize this phoneme that is to replace the Hindustānī or Sanskrit affricate /č/ by [tʃ] (Masica 94), for instance in the Hindi word for “scorpion” *bichu* which is pronounced [bitsu] in Ḍoḍra-Kvār. Devanāgarī: च्

[tʃ<sup>h</sup>]

-A pre-palatal aspirated voiced affricate like in English *church hill*. Again, its rather seldom use is restricted to men only and is found mostly in Hindi loanwords. Devanāgarī: च्ह्

[ʒ]

-A palatal-alveolar fricative pronounced like in French *jour*. I strongly suspect this phone to be an allophone of the affricate /j/. I heard a few times in Kvār, in the word for seed, [bi:ʒa], for instance but otherwise it is quite unusual. It has no Devanāgarī equivalent.

[dʒ]

-A pre-palatal unaspirated voiced affricate, pronounced like in English *John*. It is a quite frequent sound that I encountered in local (ex: *jɔgān* = firefly), inherited (ex: *āje* = intestines) and loanwords (ex: *bāju* = arm). Devanāgarī: ज्ञ.

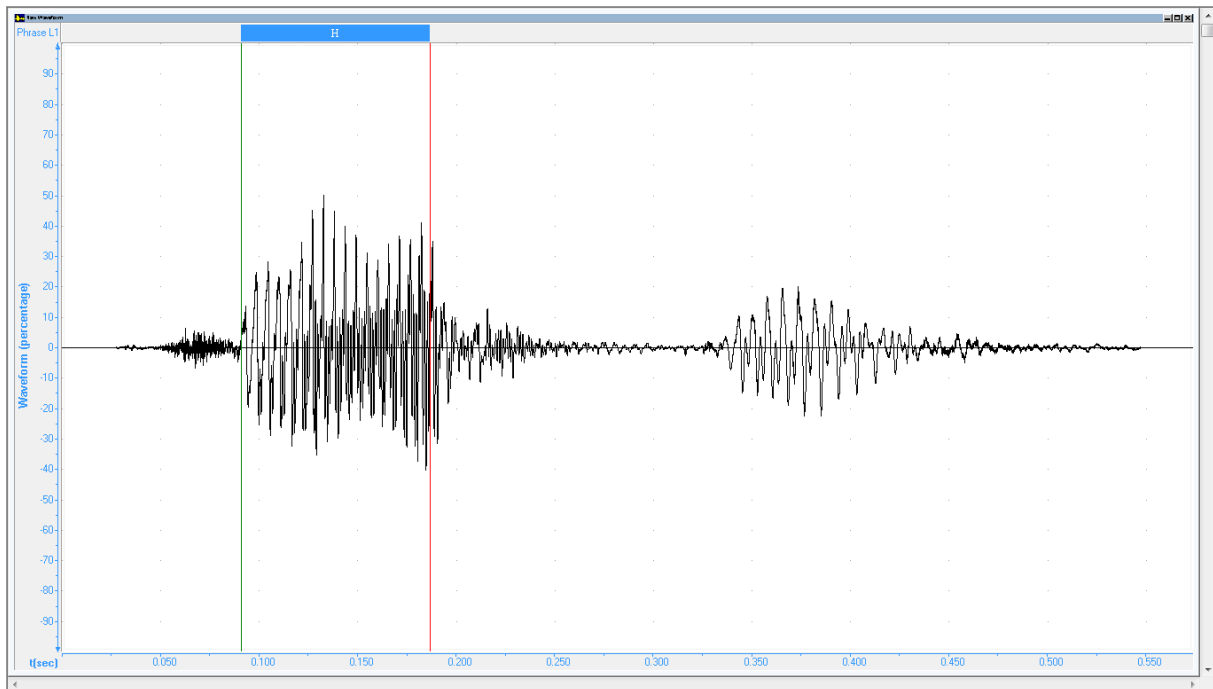
### 2.3.3 Dental affricates

[tʃ]

-A common dental unvoiced affricate, pronounced like in German *zählen*. A widespread phoneme, it usually replaces the pre-palatal affricate /č/ found in many IA languages (Masica 94). Its Devanāgarī compound letter is त्स्

[tʰ]

-An aspirated dental unvoiced affricate met on few occasions in the Doḍra-Kvār valley pronounced as *hits hard* in English. Its use is rather seldom and the aspiration is not as strong and frank as it is in Hindi. Hindi words that have the pre-palatal aspirated voiced affricate [tʃʰ] become depalatalized in Kvār, with the aspiration sometimes remaining. Example with the Hindi word *chāṭī* (umbrella) pronounced [tʰa:ti] by Kvāri speakers and that shows the aspiration between vertical lines:



There is no Devanāgari matching letter.

[dʒ]

-Another depalatalized voiced affricate just like in the English *words*. Another frequent phoneme in Kvāri it is the depalatalized version of the affricate /j/ just like in the difference between Hindi *jagah* and Kwari *dzaga* (place). I will write later about the depalatalization process that occurred in Dardic/Pahārī. Devanāgari: द्ज

### 2.3.4 Retroflex stops

Before describing the retroflexes, a word must be said about the articulation of these phonemes in Kvāri. Compared to Hindi, the point of articulation of these phones is more fronted in Kvāri. The retroflexes are, therefore, less easily identifiable as such in the Himalayas than in the NIA languages of the plains. The tip of the tongue is closer to the teeth, between the hard palate and the alveolar ridge, than in Hindi retroflexes for instance, with the result that they sound closer to dentals. The same phenomenon has been observed in other Pahārī/Dardic languages (c.p Zoller).

[t]

-An unaspirated retroflex unvoiced plosive which has few equivalents in European languages apart from standard Norwegian *gjort* [juʈ:]. This phone is very frequent in NIA, Dravidian and Munda tongues (Abbi 2001 25, 30, 44) and is also encountered in Kvāri. It is pronounced with the tip of the tongue touching the palate and is rendered as a ढ in the Devanāgarī script.

[t<sup>h</sup>]

-An aspirated retroflex unvoiced plosive, the phone is found both NIA and Dravidian languages (Abbi 2001 25, 30) and is written ढ in Devanāgarī.

[d]

-An unaspirated retroflex voiced plosive, the Devanāgarī letter is ढ

### 2.3.5 Dentals

[t]

-An unvoiced unaspirated dental plosive that differs from its retroflexed corresponding phoneme /t/ by the fact that the tip of the tongue touches the back of the upper teeth and not the palate as is the case with the retroflexes. Pronounced as the French *tu*, it is written त in Devanāgarī.

[t<sup>h</sup>]

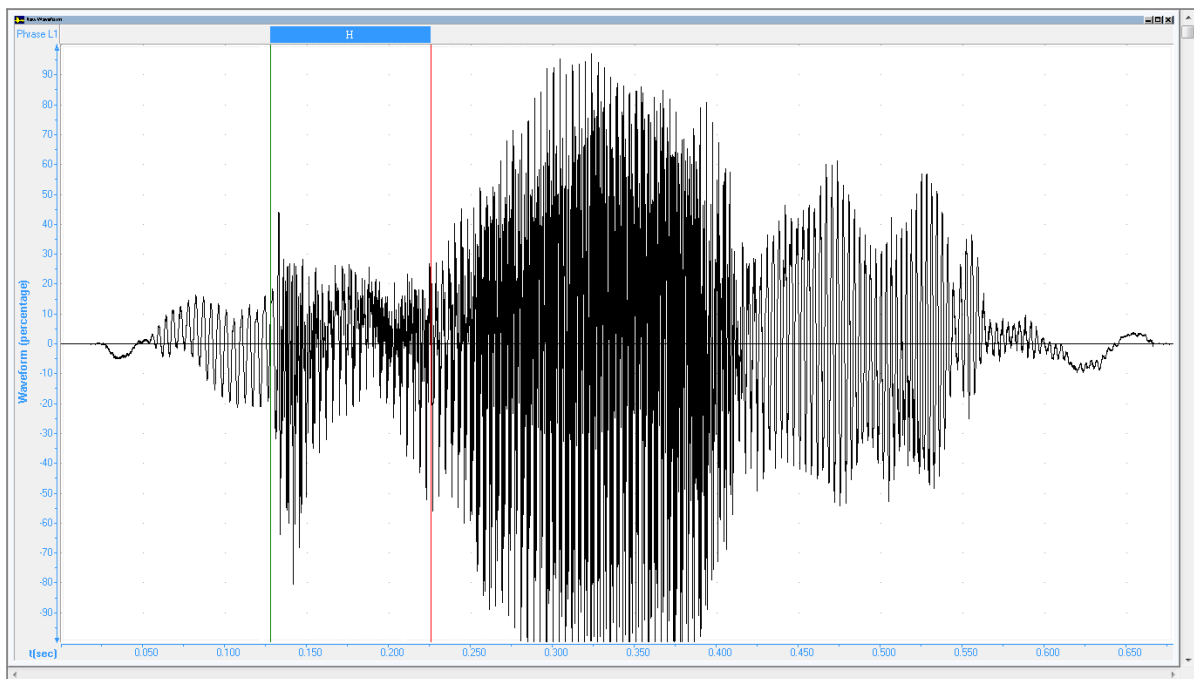
-An unvoiced aspirated dental plosive, it is uttered as the English *get hit*. Devanāgarī: थ्

[d]

-A voiced unaspirated dental plosive, pronounced as a regular as in French *doute*. The Devanāgarī letter is द्.

[d<sup>h</sup>]

-A voiced aspirated dental plosive similar to the English *did he?*. This phone is very uncommon in Kvāri and I found it only in one very frequent word, namely *dhāl* (hello), during my stay. Here a picture from the speech analyzer showing a clear aspiration between the vertical lines:



The absence of aspiration for voiced consonants is a recurrent phenomenon in the Dardic/Pahārī-speaking area (Zoller forthcoming 40). The extremely rare presence of this aspirated mediae in Kvāri words could easily confirm this observation. Devanāgarī: ध्



## 2.3.6 Labials

[p]

-An unvoiced unaspirated bilabial plosive pronounced in like the French *pour*. The Devanāgarī letter it corresponds to is प्.

[p<sup>h</sup>]

-An unvoiced aspirated bilabial plosive of a relatively frequent use like in English *gap hole*. This is an old phone since it was also pronounced as an unvoiced aspirated bilabial plosive in Sanskrit and ancient Greek (φ) (Masica 158) but is often confused with the unvoiced labio-dental fricative [f]. The latter is virtually unknown in Kṡvāri which prefers using [p<sup>h</sup>] and [p<sup>h</sup>f]. Words like foreign loanwords such as *afīm* (opium) are pronounced *phīm* by locals. Its Devanāgarī letter is फ्.

[f]

-An unvoiced fricative that is pronounced like in English *for*. A rare sound found only in one loanword from English: *frying pan*. It is probably an allophone of /ph/. It is represented by the Devanāgarī letter फ्.

[p<sup>h</sup>f]

-An unvoiced aspirated bilabial plosive ending with a slight utterance of the fricative [f], almost similar in pronunciation with German *Pferd*. It is presumably an allophone of /ph/. Words having it in OIA keep the same feature in modern Kṡvāri (e.g. OIA *phalam* > Kṡ. [p<sup>h</sup>fɔ], neither\*[fɔ] nor \*[p<sup>h</sup>fɔ]). There is no Devanāgarī letter for this phone.

[b]

-A voiced unaspirated bilabial plosive as in French *bulle*. The Devanāgarī letter is ब्

[b<sup>h</sup>]

-A voiced aspirated bilabial plosive like in English *web horror*. A rather seldom sound which I heard few times during my stay and only on Hindi loanwords like *bhāṅg* (cannabis).

Devanāgarī: भ्

### 2.3.7 Nasals

[n]

-A dental nasal. Same pronunciation as in English *no*. Devanāgarī: ऩ

[ŋ]

-A velar nasal pronounced the same way as the English *thing*. The phoneme is regularly found in front of velar stops (see 3.3.1 about neutralization). It is rendered as a ङ in the Devanāgarī script.

[ɳ]

-A retroflex nasal consonant. A common nasal sound especially found before retroflex consonants like in [ka:ɳɖɔ] *thorn*. Its use seems more frequent than in standard Hindi, a Hindi word like *pānī* (water) is pronounced *pāṇi* [pa:ɳi] in Ḍoḍra-Kvār. The Devanāgarī letter is ण.

### 2.3.8 Liquids

[r]

-A voiced alveolar trill with a weak roll like in Austrian German *Tirol*. The roll and the length of this sound are less pronounced and shorter than in Romance or Slavonic languages. Sometimes, cases of allophony with the lateral [l] can occur, especially since many [r] evolved to a lateral [l] during the MIA era (Masica 186). It is written र् in Devanāgarī.

[ɽ]

-A retroflex flap, this sound differs from the British/American *r*. It is pronounced “by curling the tip of the tongue up and back, and then allowing it to strike against the back part of the alveolar ridge as it returns to its position behind the lower front teeth”(Shukla 51).

Devanāgarī: ढ

[l]

-A voiced alveolar lateral which is pronounced as in *lean* and not as in *ball*. It is written ल in the Devanāgarī script.

[l]

-A retroflex voiced alveolar lateral, different from /l/, with the tip of the tongue rising higher on the palate than for the /l/. In comparison with retroflex stops, the point of articulation lies lower on the palate and the tip of the tongue touches a spot that is closer to the teeth than for Hindi. Its resemblance to [ɭ] makes it hard for someone who is not a native speaker to distinguish the two. It is very frequent in final position. The Devanāgarī letter used for this phone is ल्.

### 2.3.9 Sibilants

[ʃ]

-An unvoiced pre-palatal fricative resembling the English *she*. Its Devanāgarī corresponding letter is श्.

[ʂ]

-An unvoiced retroflex fricative pronounced with the tongue more rolled inside the mouth. A very ancient sound found principally in OIA, it disappeared during the MIA period to become a single fricative [ʃ] or [s] (Masica 185). But in Hindi, a natural sandhi makes speakers actually pronounce it as a retroflex before another retroflex consonant like in *kaṣṭ* (difficulty) (Shukla 100). I personally encountered this phoneme only twice in Ḍoḍra-Kvār, namely on the words for ‘mouse’ [mu:ʂɔ] <OIA *mūṣa*, given by Santosh, and ‘daughter in law’ [ʂa:ʂu] given by Satyanand. But in other loanwords from Sanskrit and *tatsamas*, that are words that have “the same form [...] as in Sanskrit, except for the absence of case terminations in nouns” (Masica 65), this particular sound was not pronounced as a retroflex sibilant and words such as *bhāṣā* (language) are naturally pronounced as *bhāśā* in Hindi and *bāsa* in Ḍoḍra-Kvār. It is written ष् in the Devanāgarī script.

[s]

-An unvoiced post-dental fricative pronounced as in English *see*. I have mentioned before for dental affricates that Himalayan languages have a strong tendency to depalatalization. This

tendency makes this sibilant pretty common in that part of Asia and plain Indo-Aryan fricatives /ś/ like in *śānti* are pronounced as /s/ *sānti* in Nepāli and most of the Himalayas (Masica 98). In some words, Kvāri has the opposite particularity to pronounce the Hindi sibilant as a fricative: Hi. *āśū* Kv. *āśu* (tear), Hi. *pissū* Kv. *piśu* (flea). Devanāgari: स्

[z]

-A voiced post-dental fricative, pronounced as in English *zoom*. In most NIA languages, the phoneme is unknown although theoretically present. Vedic and Classical Sanskrit didn't have it and it was introduced in Northern India by Turkic-Persian speaking Moghuls (Masica 71 and 90-93). Most NIA languages speakers in Northern India keep on pronouncing [z] as [dʒ] (Shukla 114) but the phoneme is widespread and frequent in the Himalayas (Masica 100-01). It is used in native words as well as in Hindi words containing the fricative [dʒ] like H. [a:dʒ], Kv. [a:z] *today*. The Devanāgari letter it represents is ज्ञ.

### 2.3.10 Laryngeals

[h]

-A voiced glottal fricative, less aspirated than in Hindi *ham*. This sound is closer to the Arabic heh ه than to ha ح. As I could personally observe, the frequency of its use varies from person to person, the pronunciation is weak and often omitted by some speakers. It is written ह in Devanāgari.

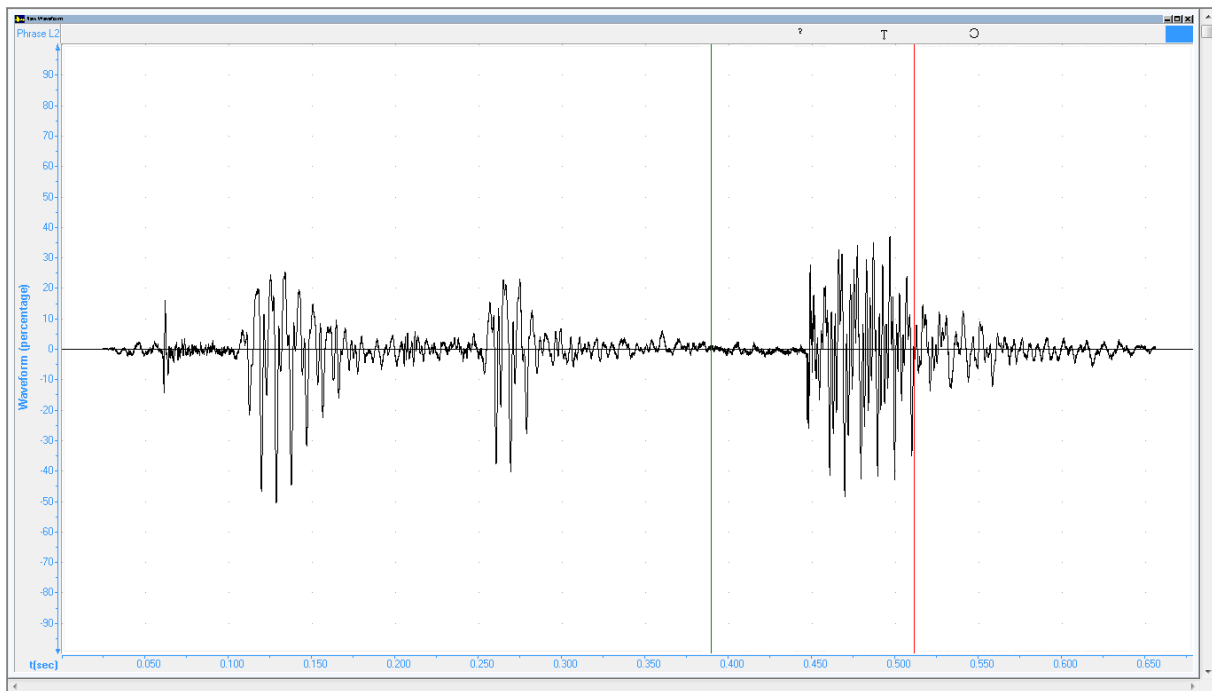
### 2.3.11 Diverse

[ʔ]

-A glottal stop which corresponds more or less to the Arabic letter and sound hamza: ء. A glottal stop is a short break between two sounds during the prosodic utterance of a syllable or a word close to the syncope in music. The sound is often heard on the last syllable when a

vowel meets the suffix *-tɔ*. In the graph showing the word *kukuɬɔ* (dog), one clearly sees, between the vertical lines, a diminution of the air flow and vibration at the end of the second syllable *-ku-*, coming close to zero before being abruptly released on the final syllable *-tɔ*.

*kukuɬɔ* (dog):



This sound is hard to qualify as it might just be a long unvoiced dental retroflex [t:] (see 3.4.2) but Bailey<sup>6</sup> mentions the existence of a kind of glottal stop in several WP varieties: Lower Kinnauri (48) and the dialects of Jubbal (172) not far for Ḍoḍra-Kvār.

<sup>6</sup> Bailey, *Linguistic Studies from the Himalayas*, New Delhi, 1975

### 3. The phonemes

The analysis of the different phonemes present in Kvāri is presented in this chapter. Before describing these phonemes, one has to remember that this study is based on a collection of words established in the field. The list, which is given at the end of the thesis, is not exhaustive, hence the title of this work: *A Preliminary Analysis...* The current analysis is based on data consisting of less than five hundred words, usually plain morphemes without any grammatical distinction apart from a couple of words given in the genitive, few words in the plural and two verbs in the imperative form. The language studied here needs more investigation and a larger data in order to have the broadest possible view about its phonological characteristics. Moreover, only the phonetics and phonology of the language import to us here.

In the chapter dedicated to phonetics, I listed the sounds (or phones) that are heard in the language of Kvār. This present chapter will deal with the phonology of that language. The difference between phonology and phonetics must be kept in mind: as written in the introduction chapter about phonetics, that science analyzes the production and reception of individual sounds and, on the other end, phonology investigates the abstract-systematic sound order which underlies every language. It analyses the ways phonemes combine, how they influence each other within a word, a sentence or a whole language. The first theories were exposed during the 1920s by the Prague Linguistic Circle (*Pražký lingvistický kroužek*) and the International Association for Phonology was officially founded in Geneva in 1931 (Trubetzkoy 5). One of the main mentors of this new discipline was Nikolay Sergeyeitch Trubetzkoy (1890-1936) whose book *Grundzüge der Phonologie* quickly became the work of reference for phonologists around the globe. Trubetzkoy differentiates phonetics and phonology as “the distinction between the study of sound pertaining to the act of speech and the study of sound pertaining to the system of language” (Trubetzkoy 5). The purpose of this thesis is not only to find out whether tones are present or not and how they are produced, but rather whether tones have distinctive functions in the oral linguistic system of the language (tonemes) and whether the meaning of two similar-looking words can be decided by the kind of tone they bear.

The method exposed by Trubetzkoy is to find out distinctive oppositions in a language. Trubetzkoy defines the distinctive opposition by “any phonic opposition capable of

differentiating lexical meaning in a given language” (Trubetzkoy 33). A sound which has such a distinctive function in a language is called a phoneme. An essential difference between phonetics and phonology is that the first discipline is centered on physical phones and the other on abstract phonemes. As written in the previous chapter, one central element of such an analysis is minimal pairs, especially, in this case, tonal ones. Finding minimal pairs is a way to be certain that a particular sound has a communicative function in a language. Minimal pairs can also be found between two words that do not belong to the same grammatical category like in German *stillen* (verb) and *Stollen* (noun) (Trubetzkoy 32). Needless to say, only with a great number of minimal pairs can the phonology of a given language be studied deeply and thoroughly. Logically, the more words are available, the greater the chances are to find minimal pairs. Because of the limited data available for this language, the number of minimal and quasi minimal pairs to be found and compared in this study will also be limited and will not give us a full overview of the phonological system in Kvāri. Some phonological distinctions, such as the length or the tones, will only be discussed tentatively.

This chapter will be divided in four parts: the first part will deal with the vowels, the second one with the semi-vowels and diphthongs, the third one with the consonants and finally, the fourth one will deal with pitch accent and then tones.

### 3.1 Vowel phonemes

Chart 3: *Kvāri* vowel phonemes

#### oral vowels

|          | front |      | back  |      |
|----------|-------|------|-------|------|
|          | short | long | short | long |
| close    | i     | ī    | u     | ū    |
| mid      | e     | ē    | o     | ō    |
| open-mid | ɛ     |      | ɔ     | ō    |
| open     |       |      | a     | ā    |

#### nasalized vowels

|          | front |      | back  |      |
|----------|-------|------|-------|------|
|          | short | long | short | long |
| close    | ĩ     |      | ũ     | ũ̃   |
| mid      | ẽ     |      | õ     | õ̃   |
| open-mid |       |      | õ     | õ̃   |
| open     |       |      | ã     | ã̃   |

One of the first remarks concerning the vocalic system of *Kvāri* is that the endings in *-ɔ* and *-i*, denote a grammatical difference in gender, the *-ɔ* showing that the noun or adjective



is masculine and the *-i* showing that it is feminine, exemplified with these animal pairs: *kukurɔ* (rooster) vs. *kukuri* (hen); *gɔɾɔ* (horse) vs. *gɔɾi* (steed) (Bailey 159). Another interesting example is the pair *aɖɪhɔ* (thumb) vs. *aɖɪhi* (finger, toe). The close back vowel [u] contrasts with the close mid-back vowel [ɔ] as in the minimal pair: *aso!* (come!) and *asu* (tear). A third phoneme can be added to the list with the close front vowel [i], found in *asi* (mirror). The fairly common open mid back vowel [ɔ] contrasts with its mid version in the quasi-minimal pair *gɔrɛɖ* (grinder) and *gɔrɛd* (deer). The vowel [ɔ] contrasts with the close back vowel [u] as exemplified by the minimal pair *mɔcɛ* (chilly) vs. *mucɛ* (moustache). The vowel [ɔ] also contrasts with the open short back vowel [a] in the minimal pair *nɔ* (nine) vs. *na* (not), making them two different phonemes. A last contrast has been noticed between the close front vowel [i] and the open-mid back [ɔ] in the minimal pair *piɖu* (flea) vs. *poɖu* (cattle).

By using Trubetzkoy's model of contrastive vocalic classification explained in chapter IV.3 (95-122), one can say that the Kvāri vocalic system is a triangular one with four degrees of aperture:

| <i>Aperture</i> | <i>phonemes</i> |   |
|-----------------|-----------------|---|
| Wide            | a               |   |
| Medial          | ɔ               | ɛ |
| Medial          | o               | e |
| Narrow          | u               | i |

### 3.1.1 Nasalization

All vowels, save /ɛ/ can be nasalized in Kvāri. The most common being the long open back vowel /ã/. Its short version exists as well, although much more seldom, e.g. *pākheru* (bird). The phoneme /ã/ is encountered in two positions, the initial: *ãdɔ* (egg), and the medial, such as in: *dzãdzi* (comb). The nasalization is contrastive because of the quasi-minimal pairs found that oppose vocal vs. nasalized vowel:

-between long close back vowels: *khūn* (blood) vs. *kūñ* (who)

-between the back close-mid short /o/ and the nasalized back open-mid long /õ/, as exemplified by the other quasi-minimal pair: *koɔ* (nest) and *kõɔ* (soft);

-between the oral long open back /ā/ and the nasalized open-mid back vowel /ã/: *čāti* (chest) and *čãti* (lip).

There is a contrast between the long close nasalized /ũ/ and the long open-mid back nasalized vowel /õ/, as the minimal pair: *mũ* (mouth) vs. *mõ* (honey) shows well. The close front vowel /ĩ/ is not found independently but only in diphthongs: *naĩ* (no), *tɔluaiĩ* (sole), *čaiĩ* (roof) (see 4.6). Kväri does not seem to use initial nasalized vowels; with the exception of *ãdɔ*, no Kväri word starts with this type of vowel. Some nasalized short vowels can also appear in final position, but these are limited and usually include diphthongs: *mɔsaã* (meat), *geũ* (wheat), *čaiĩ* (roof), as well as few monosyllabic words: *mõ* (honey) and *juũ* (body louse). The mid front vowel /ẽ/ can be heard at the end of simple words such as *mutkhẽ* (head). It also has an important function in Kväri since it marks the agent case in masculine and feminine declensions (Bailey 159).

## 3.2 Semi-Vowels

The question of the differentiation between the labiodental [v] and the bilabial [w] in NIA is still open as they seem to constitute only one phoneme, with differences in pronunciation varying from place to place (Masica 99-100). The name of the village itself is clearly pronounced with a [w] although the Devanāgarī orthography and its transcription in Roman script of this name is always given with a *v*; but orthography is very often unreliable and does not reflect the actual utterance of this sound. The trend in Kväri is to privilege the use of [w] instead of [v], with few exceptions such as the word *čevɜr* ‘woman’ pronounced several times by two different speakers with a clear [v]. Hence one can conclude that [v] and [w] are allophones of the phoneme /v/. This phone can often be confused with the vowel [u] when together with another vowel or in an intervocalic position like in *čauāl* (rice). The question of whether or not this phone is to be counted as the vowel /u/ or as the consonant /v/ will be treated in the chapter on syllables (see 4.6).

The status of the other semi-vowel [j] is as confusing as the status of the phoneme /v/ because it is sometimes counted as the vowel /i/ (see 4.6).

### 3.3 Consonant phonemes

Chart 4: *Kvāri* consonant phonemes

|           |                       | labial | dental | retroflex | palatal | velar | post-<br>velar |
|-----------|-----------------------|--------|--------|-----------|---------|-------|----------------|
| plosive   | unvoiced<br>aspirated | ph     | th     | ṭh        |         | kh    |                |
|           | voiced                | b      | d      | ḍ         |         | g     |                |
|           | unvoiced              | p      | t      | ṭ         |         | k     |                |
| affricate | unvoiced<br>aspirated |        | (čh)   |           | (čh)    |       |                |
|           | voiced                |        | dz     |           | j       |       |                |
|           | unvoiced              |        | č      |           | ć       |       |                |
| fricative | voiced                | v      | z      |           |         |       |                |
|           | unvoiced              |        | s      |           | ś       |       |                |
| nasal     |                       | m      | n      | ṇ         |         |       |                |
| glide     |                       |        |        |           | (y)     |       |                |
| lateral   |                       |        | l      | ḷ         |         |       |                |
| flap      |                       |        |        | ɽ         |         |       |                |
| trill     |                       |        | r      |           |         |       |                |

### 3.3.1 Nasal consonants

The different nasals used in Kvāri are the following: [n, m, ŋ, ɲ]. Among these consonants, only the dental /n/ and the labial /m/ are found in all positions as shown in these examples:

- The nasal dental /n/ is heard:
  - in initial position, e.g. *nɔg* (fingernail)
  - in medial position, e.g. *phenɔɾɔ* (shoulder)
  - in final position, e.g. *jɔgɔn* (firefly)
- The nasal bilabial /m/ is heard:
  - in initial position, e.g. *mātsi* (fish)
  - in medial position, e.g. *amɛ* (we)
  - in final position, e.g. *phīm* (opium, poppy)
- The nasal retroflex /ŋ/ is heard:
  - in medial position, e.g. *luŋũɔ* (salty)
  - in final position, e.g. *bĩŋ* (without)

The nature of the following consonant determines the behavior of the nasal consonants, which *almost* always become neutralized in Kvāri. This means that a nasal consonant followed by a dental stop will naturally become dental as well, something observed very often in Kvāri and other languages, examples including for instance *bāndēr* (monkey) or *undi* (down).

In case the following consonant is a retroflex, the preceding nasal consonant gets automatically cerebralized /ɲ/. Several words follow this rule such as a voiced dental retroflex /ḍ/ in *kāṇḍɔ* (thorn), or in front of its unvoiced version /ṭ/, as in *ḍeṇṭheḷ* (stalk). Not only the retroflex nasal consonants occur before their equivalent stops, but they are found in front of other types of phonemes or sometimes independently in final position. It can be heard:

- between two vowels: *śiṅgaṇɔ* (nasal mucus) or *gɔṅɛ* (ornament)
- in final position after a vowel: *bĩŋ* (without) or *sivēŋ* (needle)

The fact that a quasi-minimal pair exists between a nasal dental [n] and a retroflex one [ɲ]: *khūn* (blood) vs. *kũŋ* (who), is sufficient to affirm here that these are two different phonemes.

As a rule, one should expect a labial nasal in front of a labial stop as in *kambēl* (blanket). The phenomenon is extremely widespread and is a typical example of sandhi junction between two phones, as shown in English by the difference in the use of the negative prefix *-in*: *incredible* but *impossible*. However, the word *līmci* (lizard) is an odd exception in Kvāri because the labial nasal /m/ remains labial in front of an unvoiced dental fricative [ʈ] where one would expect a dental nasal /n/; this is probably due to the fact that the nasal consonant meets a fricative and not a stop.

The last phone to be considered here is the nasal velar [ŋ]. Exclusively encountered before plosive velars /g, k/ like in *buṅgu* (owl) or *ḍaṅk* (sting), this phoneme, like any nasal opposition, is neutralized by the following consonant. Some languages like Tibetan or Vietnamese do have a velar nasal phoneme which is usually transcribed as *ng* in the Roman alphabet (Buéso 75). It is never found in initial position. But in that part of the Himalayas, although [ŋ] is frequently found together with a plosive velar on the last syllable of a word, Kvāri speakers pronounce the final plosive like in *ḍḍḍāṅg* [dʒɔɽa:ŋg] (body), but when asked to pronounce the word for ‘leg’, Santosh gave several versions: one with the final voiced plosive [baŋg], another without the final plosive [baŋ] and finally a last utterance with the final devoiced plosive [baŋ̥]. On behalf of these observations, the phone [ŋ] cannot be counted as a phoneme.

- Quasi-minimal pairs:
  - dental vs. retroflex: *khūn* (blood) and *kūñ* (who)
  - nasal vs. trill: *rāt* (night) and *nāt* (nosering in septum)
  - labial vs. dental: *mḍḍḍgɔ* (expensive) and *nɔg* (fingernail)
  - long vs. short: *gɔnnɔ* (reed) and *gɔŋɔ* (thick)

### 3.3.2 Dental stops

- The dentals in use in Kvāri are: [t, d, t<sup>h</sup>, ḍ]
- The unvoiced dental /t/ can be found
  - in initial position, e.g. *tɔva* (griddle)
  - in medial position, e.g. *potū!* (butterfly)
  - in final position, e.g. *rāt* (night)

- An aspirated unvoiced dental also exists in:
  - initial position, e.g. *thūk* (sputum)
  - medial position, e.g. *hātheli* (palm of hand)
  - final position e.g. *āth* (hand)

- Its voiced counterpart, the phoneme /d/ is heard:
  - in initial position e.g. *dilɔ* (loose)
  - in medial position e.g. *sindūk* (box)
  - in final position e.g. *dūd* (milk)

This aspirated or unaspirated unvoiced dental contrasts with its retroflex variant in the minimal pair *bāt* (rice straw) and *bāṭ* (road) or in *āth* (hand) and *āṭh* (eight). Usually, and as we will see for other phonemes, one finds only one aspirated consonant per word. The unvoiced dental stop /t/ contrasts with its velar counterpart /k/, as proved by the minimal pair: *nāt* (nosering in septum) vs. *nāk* (nose).

The aspirated pronunciation of the voiced dental /d/ exists only in one word: *dhāl* (greetings) (see 2.3.5). However, the fact that only a single (and possibly imported) word bears this phone is not sufficient to count it as an individual phoneme. It is unknown in many Pahārī languages (Zoller, forthcoming 5) and the minimal pair with the word *dāl* (lentils) is not convincing since this is a recent loanword from Hindi, the original Kvāri word being *poita*. Confusion can occur given that Bailey's transcription is outdated, unprofessional and probably influenced by Hindi. He gives for example the transcription *dūdḥ* for milk (the same as in Hindi) while my recent recordings show no final aspiration at all.

### 3.3.3 Velar consonants

The velar consonants used in Kvāri are: [k, k<sup>h</sup>, ɡ, ɡ̌, ŋ]

- The unvoiced unaspirated velar plosive /k/ occurs in:
  - initial position like in *kōke* (where)
  - medial position like in *khəkətɔ*  
(cheek)
  - final position like in *nāk* (nose)

- The unvoiced aspirated velar plosive /kh/ occurs in:
  - initial position like in *khāl* (skin)
  - medial position like in *ḍokhrṇ* (field)
  - final position like in *mūkh* (face)

The aspirated voiced velar plosive /gh/ is unknown in Kvāri. Most Indo-Aryan words that are common to Kvāri and Hindi see their voiced velar consonant unaspirated in Kvāri. Examples include Hindi *ghās* (grass) and *ghar* (house) vs. Kvāri *gās* and *gṛ*.

The unvoiced velar stop /k/ has a contrastive minimal pair with the voiced labial plosive /b/: *kārgṇ* (loom) vs. *bārgṇ* (lower back).

Voicing is contrastive, as proven by the minimal pair *koḷṇ* (nest) vs. *goḷṇ* (throat). Aspiration is also contrastive with /k/, as there is a distinction made between *khaṭṇ* (sour) and *kathṇ* (hard). An unvoiced affricate /č/ also contrasts with the unvoiced velar unaspirated and aspirated stops /k/ and /kh/ in the minimal pairs: *čunṇ* (lime) vs. *kunṇ* (corner) and *mūč* (urine) vs. *mūkh* (face).

### 3.3.4 Labial consonants

The labial consonants present in Kvāri are: [p, b, p<sup>h</sup>, p<sup>hf</sup>, f, ɸ, m, v]

The unaspirated bilabial plosive consonants /p/ and /b/ are found in different positions within a word, such as in: -initial position: *bārgṇ*, (lower back) and *pṇśu* (cattle)

-medial position: *sābin* (soap) and *ṭoṇṇa* (cap)

-final position: *pānjēb* (anklet) and *sāp* (snake)

The unvoiced labial stop /p/ contrasts with the dental lateral /l/ in: *āpu* (self) vs. *ālu* (potato).

As for voiced dentals and velars, the aspirated labial consonant [b<sup>h</sup>] is unknown in Kvāri. The only word bearing this feature is, again, a loanword from Hindī: *bhāg* (cannabis). One could easily argue that this word might be an original local word since it is the Sanskrit

word for this plant as well and could, therefore, be a *tatsama*, that is “a word that has the same form [...] as in Sanskrit, except for the absence of case terminations in nouns”(Masica 65). But it is, in my opinion, fairly improbable since no typically Pahārī word present an aspiration on its voiced bilabial. For instance, the word for sheep which is similar to Hindi loses its aspiration in Kvāri, let us compare: Hindi /bheṛ/ vs. Kvāri /bīṛ/. In case the regular presence of an aspiration is confirmed (which I sincerely doubt), the phone couldn't be counted as a single phoneme in Kvāri, but rather as an allophone.

The unvoiced fricative [f] is almost unknown in Kvār. It was only heard once in the English loanword *frying pan* [fərai pa:n]. Not being an original Indo-Aryan phone (Masica 92), it was introduced in South-Asia in the 16th century by Turkic-speaking Mughals. Those conquerors knew Persian, the administrative language, and used a great deal of Perso-Turko-Arabic words which shaped the modern Indo-Aryan languages, from which, Urdu constitutes the best example of this fusion (Masica 48-9). New sounds and letters were added, such as the fricative [f]. Several languages welcomed these new sounds and started using them, such as Kalam Kohistānī (Baart 1997 24-25) while others, such as Pahārī kept on maintaining the original aspirated bilabial plosive /ph/. This phoneme is always the only aspirated consonant present within a word and is found almost entirely in initial and final position, e.g.

-initial position: *phaprɔ* (millet)

-final position: *sāph* (clean)

Santosh gives many words starting both with either [p<sup>h</sup>] or [p<sup>hf</sup>] such as [p<sup>h</sup>ɔn:ɔ] (shoulder) or [p<sup>hf</sup>ɔria:tɛ] (upper back). The difference between them is very complex and so subtle that it is hard to hear for an untrained ear. However, the absence of minimal pairs for these sounds is a sufficient proof allowing to write that the phones [p<sup>hf</sup>] and [f] are allophones of the phoneme /ph/. When hearing that I was from France, locals used to say /phrās/; and the popular cigarette brand “Four Square” was pronounced something like /phūska/ by Kvāri people. On the other hand, the aspirated phoneme /ph/ contrasts with its unaspirated equivalent in the minimal pair: /sāp/ (snake) vs. /sāph/ (clean). Again, only one aspirated labial is allowed within a single word.



### 3.3.5 Liquids

There are four kinds of liquids in Kvāri: [r, ɽ, l, ʎ] and all of them can be considered as phonemes.

- The dental trill /r/ is heard in:
  - initial position, e.g. *rōṭ* (food)
  - medial position, e.g. *kitraīni* (never)
  - final position, e.g. *čār* (four)
- The dental lateral /l/ is heard:
  - in initial position, e.g. *luṇūṭ* (salty)
  - in medial position, e.g. *gɔlēṭ* (wrong)
  - in final position, e.g. *khāl* (skin)

Their retroflex counterparts are also very common in that valley, as in other Dardic and Pahārī languages (Masica 97-8). The minimal pairs *gulɔ* (knee), *gɔḷɔ* (throat) and *gɔɽɔ* (horse) prove that these are three different phonemes in the phonological system of Kvāri.

- The retroflex flap /ɽ/ is heard:
  - in medial position, e.g. *gorēḍ* (deer)
  - in final position, e.g. *peɽ* (plant)
- The retroflex lateral /ʎ/ is heard:
  - in initial position, e.g. *ḷɔ* (flame)
  - in medial position, e.g. *bɔḷēḍ* (bull)
  - in final position, e.g. *kɔpāḷ* (forehead)

The liquid /r/ is contrastive with the retroflex flap /ɽ/ as shown by the minimal pair: *kukɽi* (hen) vs. *kūkuri* (bitch). The trill /r/ contrasts with the lateral /l/: *gɔlēṭ* (wrong) vs. *gɔrēṭ* (grinder).

### 3.3.6 Retroflexes

The retroflexes used in Kvāri are: [ɽ, ɽ, d, ŋ, ʈ, ʈʰ, ɖ], from which the nasal [ŋ], as well as the liquids [ɽ] and [ɽ] have been described (see above 3.3.1 and 3.3.5). The ones that

interest us here are the plosives [t, tʰ, d, d̪]. Aspiration of the unvoiced retroflex plosive [t] is distinctive as shown by the minimal pair *khaʈɔ* (sour) vs. *kaʈhɔ* (hard). Both /t/ and /tʰ/ can, therefore, be considered as two different phonemes in the phonological system of Kṽāri. The aspirated retroflex /tʰ/ cannot be heard with other aspirates within one word.

- The unvoiced plosive retroflex /t/ can be found in:
  - initial position, e.g. *t̪ɔt̪ɔri* (necklace)
  - medial position, e.g. *kəʈvaɔ* (fence)
  - final position, e.g. *bāt* (road)
- Its aspirated version /tʰ/ is seen in:
  - initial position, e.g. *t̪h̪k* (good)
  - medial position, e.g. *d̪eŋt̪he!* (stalk)
  - final position, e.g. *āt̪h* (eight)
- The voiced plosive retroflex /d/ is found in:
  - initial position, e.g. *dokhrɔ* (field)
  - medial position, e.g. *kāŋdɔ* (thorn)

### 3.3.7 Fricatives & affricates

The fricatives in use in Kṽāri are: [ʃ, ʈ, ts, tsʰ s, dʒ, dʒ, and z]

- The post-alveolar fricative /ʃ/ is found in:
  - initial position, e.g. *śukɔ* (dry)
  - medial position, e.g. *śɔsiŋ* (oil)
  - final position, e.g. *bīś* (twenty)

- The alveolar fricative /s/ is found in:
  - initial position, e.g. *sɔbz̄i* (vegetable)
  - medial position, e.g. *musul* (pestle)
  - final position, e.g. *sās* (breath, sweat)
- The voiced alveolar fricative /z/ is found in:
  - initial position, e.g. *zāl̄i* (false)
  - medial position, e.g. *kizrāṇi* (fetid)
  - final position, e.g. *piāz* (onion)
- The unvoiced palatal fricative /č/ is found in:
  - initial position, e.g. *čīṇi* (sugar)
  - medial position, e.g. *čāču* (uncle)
  - final position, e.g. *mūč* (urine)
- The voiced palatal fricative /j/ is found in:
  - initial position, e.g. *jṅg* (brass water jar)
  - medial position, e.g. *bāju* (arm)
- The depalatalized unvoiced fricative /ç/ is found in:
  - initial position, e.g. *čever* (woman)
  - medial position, e.g. *baçəṭə* (calf)
  - final position, e.g. *pāç* (five)
- The depalatalized voiced fricative /dz/ is found in:
  - initial position, e.g. *dzīb* (tongue)
  - medial position, e.g. *pundzuṭə* (tail)

From this, one can first of all observe that the post-alveolar /š/ contrasts with the palatal fricative /č/ and the alveolar /s/. The first one is heard in the minimal pair *šāšu* (daughter in law) vs. *čāču* (uncle). The second differentiation is confirmed by the presence of the minimal pair *sūr* (beer) vs. *šūr* (underground gallery).

Another particular trait of several Pahārī languages is the historical process of depalatalization that gave depalatalized fricatives. This phenomenon will be treated later in the chapter on comparative studies. The pair of fricatives [tʃ] and [dʒ] can be heard frequently in Kvār, the question here is to find out whether or not these sounds are plain phonemes or just allophones of /č, j, t, d/. As a matter of fact, when a Hindi word or a *tatsama* contains the

fricative [tʃ] or [dʒ], its Pahārī equivalent will be pronounced without palatalization as [tʂ] and [dʒ] respectively, for example: Hi. *bichu* vs. Kv. *bičū* (scorpion) and Hi. *jāl* vs. Kv. *dzāl* (net). A strong indicator that /č/ and /ć/ might be two different phonemes is shown in the quasi-minimal pair *mūć* (urine) vs. *mūće* (moustache). One could argue that the minimal pair is not a sufficient proof given that it is not a full minimal pair and that the presence of a final vowel (the plural ending -ε) could depalatalize the affricate /č/. However, this explanation does not seem correct because Kvāri accepts final depalatalized affricates and that, theoretically, the word for *moustache* in the singular would therefore be \**mūć* which, as we have seen, means *urine*.

Three words do have an aspirated unvoiced fricative [tʰ] (see 2.3.3): *čever* (woman), *čāti* (chest) and *biču* (scorpion). However, the aspiration occurs pretty seldom and is not contrastive with its unaspirated counterpart [tʂ].

Less frequent than the phoneme /dz/, the voiced alveolar fricative [z] appeared many times during the interviews. At first, one could easily state that this sound is encountered only in Persian-Arabic loanwords such as *sobzi* (from *sabzi* سبزی vegetable), *piāz* (پیاز onion) or *zāda* (زیاد much, many). Another example shows a sound switch from the velar fricative [ɣ] present in the original Arabic word غلطة [ɣalatʔat] and kept as such in Urdū غلط [ɣalat] to an initial voiced alveolar fricative [z] heard in *zāli* (false): [ɣ]→[g]→[ʒ]→[z]. There is no aspirated voiced affricate [dʒʰ].

Not only do loanwords possess this particular sound (which did not exist in OIA) but two IA words also present such a feature in the list, the first one being *čūza* (mouse) and the second *āz* (today). In the latter, one should expect the phoneme /dz/ since the original Sanskrit/Hindi word containing [dʒ] either stays as such or is pronounced as a [dʒ]. As a rule, one should hear either \**āj* or \**ādz* and not just *āz*: OIA *adya* > MIA *ajja* > NIA *āj* > Kv. *āz*. But writing about Dardic languages, Masica points out that “A [dz] very easily passes over to a [z]” (Masica 100) acknowledging that this allophonic switch does actually happen frequently as it also happens in Kṭg Kc. (Hendriksen 1986 16).

## 3.4 Length

### 3.4.1 Vowels

Virtually all short vowels can be lengthened. Length is hard to establish, in words having more than one vowel, the prominent vowel is longer than the other one(s) but it does not mean that it is always long. It fluctuates between a short and a long vowel e.g. *dzaga* [dzaːga] (place). I could not record any word containing a long [ɛ]. Whether or not the length is contrastive in Kvāri is a difficult statement to make given the fact that I could not record any minimal pair based on vocalic length. However, by using Bailey's wordlist and transcription together with my data, I was able to find a couple of minimal pairs with long and short [u]: *kuā* (crow) vs. *kūā* (well) as well as *kukri* (hen) vs. *kūkuri* (bitch) (Bailey 1975 170). Length can also determine the meaning and function of words containing nasal vowels: *mĩ̃* (mouth) and *mũ̃* (me). Long vowels are mostly found in initial and medial positions, while they are almost unheard of in final position (monosyllabic words are the exception, see 4.3). Bailey's chapter about "Koci-Kuari" (1975 159-171) shows many words ending with long vowels, but compared with my recordings, it seems that Bailey's transcription was strongly influenced by Hindi pronunciation and orthography.

### 3.4.2 Consonants

Concerning the length of this type of phonemes, I have only been able to hear and record three phonetically long nasal dentals just as in *bunne* (embroidery), *phɔnnɔ* (shoulder) and *gɔnnɔ* (reed). Another word is still confusing because the speaker pronounced it several times with different consonantal lengths. This word is the word for beam which was pronounced either with short /n/: *kĩne* or with long *n*: *kĩnne*. Further study is needed to make this point clear. Otherwise, the phonetically long unvoiced dental stop was found only once during my research, namely in the word *kitti* (how much/many) but no minimal pair with a short /t/ has been found so far. In its Baṅgāṇī wordlist, Zoller gives the word *kitti*, proving that a long unvoiced dental retroflex exists in that area (c.p Zoller). The long plosive retroflex [t:] heard in for example *kukuṭɔ* (dog) cannot be counted as a phoneme since it is a suffix added to show a type of classification (Zoller forthcoming xxi, Bailey 1975 48 and Hendriksen 1986 75-7) and is just an allophone of /t/.

Another consonant that can be lengthened in Kvāri is the liquid retroflex /ɭ/, as shown by the word *kūllɔ* (why), which is contrastive with its short counterpart in the quasi-minimal pair *kūllɔ* vs. *koɭɔ* (nest).

### 3.5 Devoicing of final voiced consonants

A last word can be said about the devoicing process of the last phoneme of a word that happens in Kvāri. Many languages across the globe have this feature which consists of a devoicing of a voiced consonant when put in final position. This process is well known among people having studied a Slavonic language or German where the word which is written *ab* is pronounced [ap].

Although this is not an absolute rule since some Kvāri words do not get their final voiced consonants devoiced, the phenomenon is not limited to few words or classes of phonemes. What is interesting here is that final voiced velars stops stay voiced when preceded by a velar nasal [ŋ] such as in [dʒɔ:ŋa:ŋg] (body) and [baŋg] (leg). The phoneme /g/ is usually devoiced after a long vowel: [dʒɔ:g] (brass water jar), [dima:g] (brain, skull) and [dʒā:g] (thigh). In conclusion, I would say that the devoiced velar plosive [g̥] is an allophone of the phoneme /g/.

There also seems to be a tendency to devoice the final voiced dental [ɖ] of a word in Kvāri, although this statement should be considered with precaution since this phenomenon was only heard with one speaker, Santosh. If one takes a look at a word like *murēd* [mure:ɖ] (man), one could easily conclude that Kvāri speakers devoice the final voiced dental consonant after a long vowel /ē/, but this rule is contradicted by two other words presenting the same long vowels: the first one being *boḷēd* [bo:ɭe:d] (bull), also given by Santosh and the second one *dūd* [du:d] (milk) pronounced by Chuni. The devoiced [ɖ̥] is, therefore, just an allophone of the voiced dental /d/ and cannot be counted as a single phoneme.

But the assumption that the retroflex plosive /ɖ/ is often or even sometimes devoiced in final position is, for the moment, difficult to prove with certainty. The task is even harder since only one word presents a voiced plosive retroflex in final position, *gorēd* (deer) and no obvious minimal pair appear on the wordlist, only a set of three quasi-minimal pairs. One can

clearly hear a devoicing of this consonant but is it contrastive? The fact that no minimal pair exists for these two phones [d] and [d̥] is sufficient to write that, as for [g], [g̥] and [b], the devoiced plosive retroflex [d̥] is an allophone of the phoneme /d/.

Concerning the voiced bilabial /b/ in final position, the devoicing has been observed in one word given by Santosh: *dzīb*, [dzi:b̥] (tongue). Another voiced form is also encountered, as mentioned above with *pānjēb*, pronounced by Chuni. The scarcity of the data available for these sounds (just two words by two different speakers) makes it difficult to categorize the [b̥] or to give an absolute rule about the behavior of these phones. But by comparing with other classes of phones, I would declare that the devoiced labial consonant is just an allophone of the phoneme /b/.

## 4. Syllable structure

### 4.1 General considerations

A syllable is a linguistic unit consisting of at least one vowel called the nucleus. Unlike the vowel, a consonant alone is not enough to be classified as a single syllable given the fact that its pronunciation is impossible and unnatural. This is reflected in many scripts all over the world (de Saussure 79). The Devanāgarī script, for example, always includes a short *-a* in every consonant letter, while vowel letters can be pronounced as they are without any other consonant: क is pronounced /ka/ and इ /i/, an isolated /k/ is impossible to utter. The vowel is therefore the core or the basic unit of the syllable and is called *nucleus*<sup>7</sup>. A consonant preceding the nucleus is called an *onset*. Following the nucleus, a consonant closing the syllable is named a *coda*<sup>8</sup>. The nucleus and the coda are called *rhyme*, a term also used in poetry. A syllable which does not have a coda is called *open* like in *we*, while a syllable which has a coda is called *closed* like in *bad* (Nathan 43-6).

To give a syllable structure, one uses the capital letters V for vowels and C for consonants. A bar on the top of the symbols means that the phoneme is long  $\bar{V}$ : /ā/,  $\bar{C}$ : /dd/. A tilde above the V means that the vowel is nasalized  $\tilde{V}$ : /ã/. By adding both the bar and the tilde, one gives a long nasalized vowel  $\bar{\tilde{V}}$ : /ã̄/. The syllables are separated by a dot between them, a disyllabic word like *butɔ* will be transcribed CV.CV

### 4.2 Distribution of syllables in Kvāri

Based on the data I gathered, I can observe that most of the words that I have recorded are disyllabic words, viz. made up of two syllables. The longest words I heard during my stay were made of four consonants and the shortest consists of just one syllable.

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<sup>7</sup> Latin for core.

<sup>8</sup> Latin for edge, end, tip, tail,...



Based on my my data, I can write that the following syllable patterns occur in Kvāri:

One syllable:

| <i>structure</i> | <i>word</i> | <i>translation</i> |
|------------------|-------------|--------------------|
| CV               | /sɔ/        | he                 |
| CV̄              | /gū/        | feces              |
| V̄C              | /ām/        | mango              |
| CV̄̃             | /mṣ̃/       | honey              |
| CVC              | /khur/      | hoof               |
| CV̄C             | /nāk/       | nose               |
| CV̄̃C            | /rāḡ/       | color              |

Two syllables:

|          |         |             |
|----------|---------|-------------|
| V.V      | /iɔ/    | and         |
| V.CV     | /ubi/   | up          |
| V̄.CV    | /ālu/   | potato      |
| V̄̃.CV   | /ājɛ/   | intestines  |
| VC.CV    | /ɔlkɔ/  | light (adj) |
| V̄C.CV   | /ūlti/  | vomit       |
| CV.CV    | /setɔ/  | white       |
| CV.V̄̃   | /coĩ/   | roof        |
| CV.V     | /rui/   | cotton      |
| CV.VC    | /neol/  | mongoose    |
| CV.V̄C   | /siāl/  | fox, jackal |
| CV̄.CV   | /dūdi/  | nipple      |
| CV̄.CV   | /gattɔ/ | tight       |
| CV̄.CV̄̃ | /tēṇũ/  | chick       |

|                                   |           |            |
|-----------------------------------|-----------|------------|
| C <sup>̃</sup> .CV                | /čōti/    | lip        |
| CV.CVC                            | /śóśiŋ/   | oil        |
| CV.C <sup>̃</sup> C               | /gudēɾ/   | waistcloth |
| CV.C <sup>̃</sup> C               | /pəlōg/   | bed        |
| CVC.CV                            | /luŋtə/   | salt       |
| C <sup>̃</sup> C.CV               | /kārgə/   | loom       |
| CVC.CVC                           | /kəndzəl/ | ear        |
| CVC.C <sup>̃</sup> C              | /sindūk/  | box        |
| C <sup>̃</sup> C.C <sup>̃</sup> C | /bāndēr/  | monkey     |

Three syllables:

|                                    |           |             |
|------------------------------------|-----------|-------------|
| CV.CV.CV                           | /khəkətə/ | cheek       |
| C <sup>̃</sup> .CV.CV              | /pākheru/ | bird        |
| CV.V.V                             | /təua/    | griddle     |
| CV.V.VC                            | /koiɛl/   | cuckoo      |
| CV.V.CV                            | /dziule/  | cloth       |
| CV.ṽ.CV                            | /mōśi/    | buffalo     |
| CV.CV.V                            | /śurua/   | soup        |
| CV.CV.ṽ                            | /məsaḍ/   | flesh, meat |
| CV.C <sup>̃</sup> .V               | /luŋũə/   | salty       |
| C <sup>̃</sup> .CV.CV              | /čēturə/  | kid         |
| C <sup>̃</sup> .CV.V               | /gōru/    | pregnant    |
| CV.C <sup>̃</sup> .CV              | /biṛāti/  | cat         |
| C <sup>̃</sup> .C <sup>̃</sup> .CV | /dāgōṭi/  | bracelet    |
| CVC.CV.CV                          | /śiŋgaŋə/ | nasal mucus |
| CV.CVC.CV                          | /śəgakṛə/ | pumpkin     |

|             |             |             |
|-------------|-------------|-------------|
| CV.CV.VṼ   | /tɔluaĩ/    | sole        |
| CV̄C.CV̄.CV | /kɔ̄slɔ̄dɛ/ | armpit      |
| V.VC.CV     | /iakɔ̄/     | yak         |
| V.V̄.CV     | /aɔ̄θhi/    | finger, toe |
| V.CV.CV     | /ilurɔ̄/    | mud         |
| V.CV̄.CV    | /inā̄rɔ̄/   | dark        |

Four syllables:

|               |              |            |
|---------------|--------------|------------|
| CV.CV.V.CV    | /phfɔ̄riatɛ/ | upper back |
| CV.CCV.V̄.CV  | /kitraĩni/   | never      |
| CV̄.CV.VV̄.CV | /kūniaiĩ/    | elbow      |

The basic syllable types in Kväri are: V, V̄, V̄, V̄, CV, CV̄, CV̄, CV̄, VC, V̄C, VV, VV̄, CVC, CV̄C, CV̄C, CV̄C.

### 4.3 Monosyllabic words

Words that are made of a single vowel occur regularly, especially among pronouns. Monosyllabic words are the only words accepting a final long vowel, while it is not the case in other environments where words do not bear a final long vowel. Final long vowels in monosyllabic words can also be nasalized:

CV̄: *čā* (tea), *tū* (you, sg), *nō* (nine), *lō* (flame)

CV̄: *mō* (honey), *mū* (mouth)

In words made up of one syllable, when the syllable is closed, the nucleus is long, CVC words are exceptions, the vast majority of words follow the CV̄C pattern: *bā!* (hair), *rāt* (night), *θhīk* (right), *sūr* (beer) etc....

The same can be said about nasalized long vowels: *pā̃c* (five), *kū̃ṅ* (who), etc....

## 4.4 Disyllabic words

Without a doubt, most of the words that I recorded belong to this category. I must point out here that the words present in this list are plain morphemes, neither conjugated verbs nor nouns with a case ending, as these kinds of words become longer and can present a different picture due to an agglutination of affixes and grammemes which provoke internal sandhis and so on. It is therefore not a surprise to remark that the average basic morpheme encountered in Kvāri is disyllabic.

A large number of these words present the CV.CV configuration but the first nucleus is often lengthened as well: C $\bar{V}$ .CV. One remark here is that the phonemes /a/ and /e/ are usually long in front of liquids when put in a final syllabic position. This is particularly true for the combination /ā/+/l/ present in *kɔpāl* (forehead), *munāl* (peacock) and /ā/+/l/, e.g. *khāl* (skin) or *śiāl* (fox).

Another common combination with /ā/ is the one with /r/ found in *pogār* (wall) or *koṭhār* (granary).

When a word starts with a vowel, the tendency is to lengthen it, especially /a/: *āśu* (tear), *ākhe* (eyes), *ālu* (potato), *āpu* (self), *ādmi* (man), *ūḷti* (vomit) and *āsi* (mirror). The same tendency is observed with nasalized vowels: *ā̃je* (intestines) and *ā̃dɔ* (egg). However, there are few exceptions such as *ubi* (up) or *ame* (we) but the last example can be explained by the fact that it originally comes from the OIA personal pronoun *aham* and that the aspiration is usually very weak and often omitted (see 2.3.10) by Pahārī speakers (c.p. Zoller).

## 4.5 Polysyllabic words

Polysyllabic words are the longest words found in Kvāri and always include vowel diphthongs. The longest words I recorded had three to four syllables. They can be double or even triple (see 4.6) and are placed either in medial or in final position, e.g. *tɔluaĩ* (sole) or *phɔriaɕe* (upper back). Generally, the longest words are made of three or four consonants.

## 4.6 Diphthongs

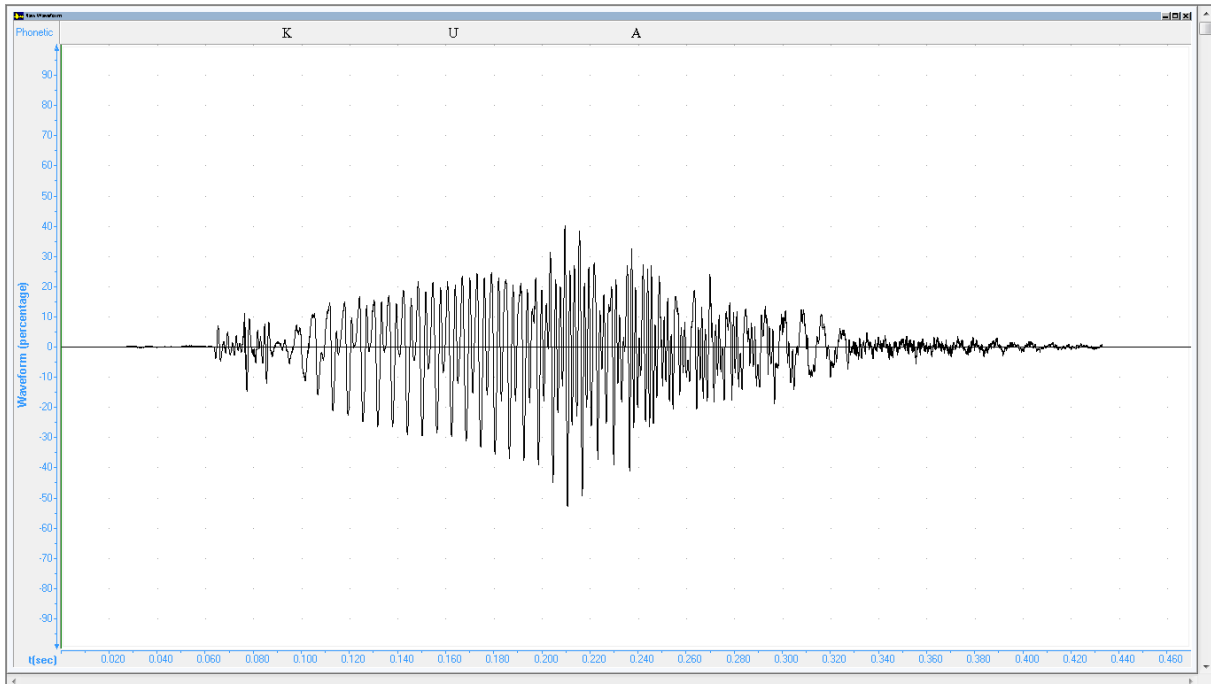
This section deals with the phenomenon of diphthongs that is “a vowel with a moving location in articulatory space”(Nathan 158). This phenomenon is widespread, many languages presenting this feature. The diphthong can sometimes be distinctive like in German *Haus* [h<sup>aus</sup>] and *Haß* [has]. The question here is to find out whether these vowel combinations form one single phonological unit, i.e. if we hear a vowel followed by another vowel such as [i] and [u], the two sounds constituting one syllabic nucleus in an open syllable; or rather if the vowels are dissociated from each-other and must therefore be counted as a vowel plus a consonant glide, such as [y] and [w]. In the latter case, this would constitute a nucleus and a coda, that is a closed syllable.

Example with the word *gai* (cow):

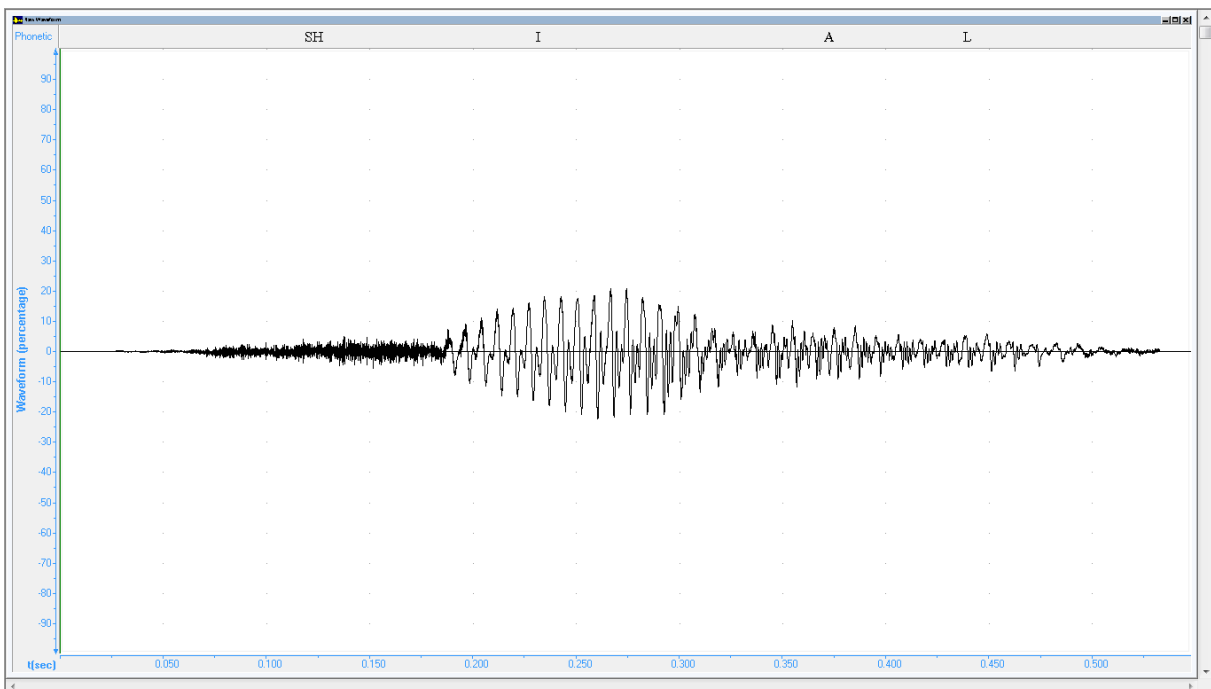
| <i>Coda analysis</i> |         |      | <i>Diphthong analysis</i> |         |    |
|----------------------|---------|------|---------------------------|---------|----|
| Onset                | Nucleus | Coda | Onset                     | Nucleus |    |
| C                    | V       | C    | C                         | V       | V  |
| /g                   | a       | y/   | /g                        | a       | i/ |

In my opinion, the combinations should be interpreted as vowel + vowel, viz. diphthongs. When one listens carefully to the utterance of the sound, one can clearly hear a longer /i/ or /u/, followed by a short break before the utterance of the next vowel. In the case of the /u/, the sound is more rounded than for the [w], giving a sound close to a [u<sup>w</sup>] + vowel. A glide would be pronounced short and together with a vowel without any sort of break, forming one consonantal unit.

Example with the word *kūa* (crow):



The same can be said about the [i] which is longer than the glide [j]. In the word for 'fox' *siāl*, one observes that the preceding vowel [i] has almost the same length as the following vowel [a:]:



Another proof that these phonemes are vowels is the presence of a great number of combinations including nasalized vowels. As a matter of fact, the majority of diphthongs present in Kṽāri are nasalized ones. A semi-consonantal glide can hardly be nasalized, although Masica mentions a Rājāsthāni dialect which has one [w̃] (Masica 100). This is particularly true for the front close vowel /ĩ/ which is found after vowels, such as in *naĩ* (no). The front back vowel /u/ can also be nasalized (see 3.1.1) but is not found together with another vowel apart from the lone exception *luṅũᵛ* (salty). However, here, the nasalization is due to the presence of nasal retroflex /ŋ/ before it. The closest nasalized vowel that exists together with another vowel is the fairly common open mid-back vowel /õ/.

There are many sorts of diphthongs in Kṽāri, including nasal diphthongs and trivocalic diphthongs. The majority is made out of diphthongs including close short vowels /i, u/ with another vowel. The close back vowel /u/ can be found both before a vowel: *kuā* (crow), *rosuiḡr* (kitchen) or *guruᵛ* (heavy, m.) and after another vowel: *lauḷ* (vine) or *dziule* (cloth). For certain words, the diphthong with /u/ is decisive for the meaning of the word: *kuā* (crow) vs. *kā* (what) or *dui* (two) vs. *di* (in). For another word the diphthong including a nasalized vowel helps to make the distinction with another plain vowel: *ćᵛ* (six) vs. *ćᵛĩ* (roof). Based on the data available, it is safe to write that diphthongs with a preceding /u/ are more common than the ones with /u/ following a vowel. These diphthongs are found in medial and final positions. No diphthong including a /u/ has been found in initial position during my research.

The diphthongs with the close front vowel /i/ are also rather common in Kṽāri. As for the /u/ there exist diphthongs with a /i/ before another vowel: *dziu* (heart) or *iakćᵛ* (yak) and after a vowel: *poita* (lentils) or *rui* (cotton). As written above for the diphthongs with /u/, the vast majority of diphthongs with /i/ are heard in medial and final positions. Curiously, some words are strictly made of one diphthong: *ᵛi* (and), *iᵛ* (it) and *iē* (they).

Another type of diphthongs present in Kṽāri is nasalized diphthongs. Typically, the nasalized vowel is the one following the oral one, with the sole exception of *luṅũᵛ* (salty). One in particular seems fairly widespread in Kṽāri: /aõ/. Mostly found in final position, such as in *mᵛsaõ* (meat), *gaõ* (village), *zaõ* (towards) and *naõ* (navel, name), one also encounters it both in medial *ḍaõkhi* (ladle) and initial positions *aõṭhᵛ/i* (thumb/finger, toe). The nasalized short front close vowel /i/ also becomes often nasalized after another vowel, usually a /a/: *naĩ* (no), *kitraĩni* (never) and *tᵛluaĩ* (sole) but with /ᵛ/ as well: *mᵛĩsi* (buffalo) and *ćᵛĩ* (roof).

Finally, there are long diphthongs which are made of three vowels: *tɔluaĩ* (sole) and *koiel* (cuckoo).

The diphthong structures that are possible in Kvāri are: V.V, V.Ṽ, V.Ṃ, V.V.V, and V.V.Ṽ

## 4.7 Consonant clusters

Consonant clusters are a combination of several consonants like in English *crow*. Some clusters can be made of more than two consonants and are extremely difficult to pronounce for a person who is not used to them such as in strengths [ŋkps].

A general rule in Kvāri is that both initial and final clusters are not permitted. A proof could be the disappearance of initial clusters in OIA: Sk. *trīṇi* > Kv. *tīn* (three) and final clusters as well: Sk. *mūtra* > Kw. *mūc* (see 5.2.1). Another example is the way the English loanword *frying pan* is rendered into Kvāri as [fərai pa:n] where one clearly observe that a schwa is inserted between [f] and [r] in order to be able to pronounce the word correctly. Another loanword which shows a disappearance of its final consonant cluster is the word for *man*. The original Persian word *mard* (مرد) presents a final cluster r+d which is not the case in its Kvāri version, a long /ē/ being inserted between both consonants: *murēd* while the original medial consonant cluster d+m encountered in the Arabic loanword *ādmi* (person) stays as such in Kvāri. The same is true for the Persian loanword *sabzī* which retains its cluster b+z in Kvāri: *sɔbzi*. A final vowel following the cluster is necessary to keep it at the end of a word. Otherwise, in both final and initial position, a vowel comes between consonants.

Different clusters are allowed in a medial position. I will not go through the common nasal + stops clusters (n+t/d, m+p/b, ŋ+t/d and ŋ+k/g) as we have seen already how they are neutralized by the nature of their following consonants. They too are only allowed in medial position but not in final.

Consonant clusters appear in disyllabic words in the following syllable patterns:

-CVC.+CV<sup>9</sup> e.g. *gurdɔ* (kidney), *patlɔ* (thin), *khilkɔ* (shirt).

-VC.+CV<sup>10</sup> e.g. *umlɔ* (left), *ɔlkɔ* (light, adj)

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<sup>9</sup> The first nucleus can be long and nasalized, e.g. *pāgrɔ* (turban), *mūgrī* (earring in upper ear)



In trisyllabic words, clusters are also present in the same position, they making the junction between the coda of the first syllable and the onset of the second one according to this pattern: CVC.+CV.CV e.g. *harkuṛi* (bone) and *pətpətə* (fetid).

The liquid consonants /l/, /r/, /l̥/ and /r̥/ are regularly part of consonant clusters either as the coda of the first syllable or as the onset of the second.

List of consonant clusters involving liquid consonants:

*In coda position:*

| Cluster  | word           | structure | meaning           |
|----------|----------------|-----------|-------------------|
| /r̥+/g/  | <i>bārgə</i>   | CVC.CV    | <i>lower back</i> |
| /r̥+/k/  | <i>harkuṛi</i> | CVC.CV.CV | <i>bone</i>       |
| /r̥+/n/  | <i>bəṛni</i>   | CVC.CV    | <i>eyelash</i>    |
| /r̥+/ç/  | <i>karçi</i>   | CVC.CV    | <i>ladle</i>      |
| /l̥+/r/  | <i>belri</i>   | CVC.CV    | <i>maize</i>      |
| /l̥+/k/  | <i>khilkə</i>  | CVC.CV    | <i>shirt</i>      |
| /l̥+/t̥/ | <i>ūḷṭi</i>    | V̄C.CV    | <i>vomit</i>      |
| /l̥+/k/  | <i>əḷkə</i>    | VC.CV     | <i>light</i>      |

*In onset position:*

| Cluster   | word           | structure    | meaning           |
|-----------|----------------|--------------|-------------------|
| /p̥+/r̥/  | <i>phapṛə</i>  | CVC.CV       | <i>millet</i>     |
| /kh̥+/r̥/ | <i>bakhra</i>  | CVC.VC       | <i>billy goat</i> |
| /t̥+/r̥/  | <i>çətri</i>   | CVC.VC       | <i>umbrella</i>   |
| /z̥+/r̥/  | <i>kizrāṇi</i> | CVC.CV.V̄.CV | <i>fetid</i>      |

<sup>10</sup> The first nucleus can be long, e.g. *ūḷṭi* (vomit), *āḍmi* (person)

|         |                 |              |                             |
|---------|-----------------|--------------|-----------------------------|
| /m/+l/  | <i>kimli</i>    | CVC.CV       | <i>ant</i>                  |
| /s/+l/  | <i>k̄sl̄d̄e</i> | C̄VC.C̄V̄.CV | <i>armpit</i>               |
| /t/+l/  | <i>patl̄o</i>   | CVC.CV       | <i>thin</i>                 |
| /g/+l̄/ | <i>oḡl̄o</i>   | VC.CV        | <i>type of buckwheat</i>    |
| /m/+l̄/ | <i>sum̄l̄o</i>  | CVC.CV       | <i>right</i>                |
| /g/+r̄/ | <i>m̄ūgr̄i</i>  | C̄V̄C.CV     | <i>earring in upper ear</i> |
| /k/+r̄/ | <i>l̄āk̄r̄o</i> | C̄V̄C.CV     | <i>wood</i>                 |
| /p/+r̄/ | <i>ś̄āpr̄i</i>  | C̄V̄C.CV     | <i>rib</i>                  |
| /b/+r̄/ | <i>dz̄ibr̄i</i> | CVC.CV       | <i>chin</i>                 |

From these consonant clusters, one can easily remark that the unaspirated velar stops /k/ and /g/ are followed by the retroflexed liquid /r̄/. A certain number of them have been found during my fieldwork and, apart from the clusters starting with nasals, they are the commonest kind of clusters heard in Kvāri. On the other hand, their aspirated counterpart /kh/ is always followed by the voiced alveolar /r/, hence the combinations \*/kh/+r̄/ and \*/k/ or /g/+r̄/ are not permitted although further investigation is needed to confirm this point.

Other less frequent consonant clusters do exist in Kvāri. Some of them have already been described above. Many include fricatives and dental stops:

| cluster | word                | structure | meaning          |
|---------|---------------------|-----------|------------------|
| /d/+m/  | <i>ād̄mi</i>        | V̄C.CV    | <i>person</i>    |
| /t/+kh/ | <i>mutkh̄ē</i>      | CVC.C̄V̄  | <i>head</i>      |
| /k/+t/  | <i>gukti</i>        | CVC.CV    | <i>pigeon</i>    |
| /k/+ç/  | <i>iak̄ç̄o</i>      | VVC.CV    | <i>yak</i>       |
| /m/+ç/  | <i>l̄im̄ç̄i</i>     | C̄V̄C.CV  | <i>lizard</i>    |
| /ś/+p/  | <i>khūś̄pu</i>     | CVC.CV    | <i>perfume</i>   |
| /b/+z/  | <i>sōbz̄i</i>      | CVC.CV    | <i>vegetable</i> |
| /t/+p/  | <i>p̄ōtp̄ōt̄o</i> | CVC.CV.CV | <i>faded</i>     |
| /s/+t/  | <i>sōst̄o</i>      | CVC.CV    | <i>cheap</i>     |

Another cluster that appeared to me during one interview seems dubious; it is the unvoiced affricate /č/ with the liquid /l/ heard in *mčeli* (fish). This cluster might not be valid (at least for this word) because I think this version of the word for *fish* is too much influenced by the Hindi word *machlī* presenting the liquid /l/ at the onset of the last syllable. As a matter of fact, Chuni first gave the word *mači* before giving *mčeli* and Santosh only gave *mači* proving that this is actually the correct word used in Kvāri.

One loanword worth noticing here is the Persian word for perfume *khušpu* which is a compound word made of the elements *xuš* (happy, or here, good) and *bu* (scent, smell). In Hindī/Urdū, the tendency is to connect the two elements with a schwa, but here, a process of sandhi is operated. According to sandhi rules, when an unvoiced phoneme meets a voiced one, the second phoneme is automatically unvoiced (Maurer 135-43 and 175-82). The result in this case is that the voiced bilabial /b/ logically becomes the unvoiced labial /p/ giving the actual pronunciation of /khušpu/ instead.

Finally, a consonant cluster can be contrastive and decide the meaning of a word. In one case, a difference in meaning is made between a CVC.CV and a CV.CV word:

*dzɔbrɔ* (molar) and *dzɔrɔ* (root/deer).

### 4.7.1 Consonant clusters or affricates?

As for diphthongs with vowels, one must know how to classify affricate sounds in Kvāri. Do they form one single phoneme or are they consonant clusters?

| plosive | + | fricative | or | affricate? |
|---------|---|-----------|----|------------|
| [t]     | + | [s]       | or | [ts]       |
| [d]     | + | [z]       | or | [dz]       |
| [t]     | + | [ʃ]       | or | [tʃ]       |
| [d]     | + | [ʒ]       | or | [dʒ]       |

As stated before, there are neither initial nor final consonant clusters in Kvāri and the pair of phones presented in the chart above can be found in any position in Kvāri (see 3.3.6). The phones are therefore affricates and not clusters. Moreover, through a comparison with other languages such as Hindi and Sanskrit, we can clearly observe that several palatal fricatives present in Hindi do become depalatalized in Kvāri while others are kept as palatals.

Let us compare:

|                | Hindi          | Kvāri         |
|----------------|----------------|---------------|
| De-palatalized | <i>cappal</i>  | <i>čappal</i> |
|                | <i>jagah</i>   | <i>dzaga</i>  |
| Palatals       | <i>cācā</i>    | <i>čāču</i>   |
|                | <i>pāyajeb</i> | <i>pānjēb</i> |

We have already seen that only two consonants can make a cluster in Kvāri. The word for ‘yak’ *iakčō* clearly shows a cluster following this trend. If /t+/s/ were two different phonemes, we would have had a three consonants cluster /k+/t+/s/ which is not possible in Kvāri. We have here a regular two consonants cluster /k+/č/.

Another argument to show that [tʃ] is one single phoneme in Kvāri is present in the consonant cluster [m]+[tʃ] found in the word *limči* (ant). We have already observed that triple consonant clusters do not exist in that language, hence the combination [m]+[t]+[s] is not possible. And in the case the dental stop [t] had been counted as a single phoneme, one would have found the dental nasal [n] before it and not the labial nasal [m]. Sandhi rules forbid a labial nasal together with a dental stop but a labial nasal can be put together with an affricate. As shown above in 4.7, the right combination for this word is the double consonant cluster [m]+[tʃ].

Masica wrote that “internal developments in some West Pahari languages (\*tr, t>č) have reintroduced a [č] “(Masica 94) and this trend is confirmed in Kvār where original Sanskrit clusters have become affricates just as in the word for ‘urine’ OIA. *mūtra* > Kv. *mūč*.”

## 4.8 Pitch accent & stress

This part of the essay will deal with the pitch accent in Kvāri which is different from the tonal activity (Trubetzkoy 184). Tones will be analyzed and discussed in the next chapter (4.9). Trubetzkoy defines the accent “as the *culminative prominence* of a prosodeme” and continues:

“Phonetically this prominence can be realized in different ways: by expiration increase in force, rise in pitch, lengthening, or more precise and more emphatic articulation of the vowels or consonants involved” (Trubetzkoy 188).

In a polysyllabic word, one consonant is usually more stressed or prominent than the other(s). Some languages like Latin had a regular pitch accent system depending on the number of syllables and vocalic length while others like Russian have irregular ones. The location of the stressed syllable influences greatly the utterance of a phoneme and even the whole meaning of the word. For instance in Russian the phoneme /o/ is pronounced as a /o/ when stressed and as a /a/ when unstressed: *го́род* [górɔt] and *города́* [garadá]. But in the case of vowels like /a/ and /i/ whose pronunciation do not change according to stress and have the same written form, it is particularly complex to spot the difference for an untrained ear. The classical example for this case, given by Trubetzkoi is *myka*, with one meaning ‘torture’: /mùkǎ/ and the other ‘flour’: /mükà/ (Trubetzkoy 188).

### 4.8.1 Disyllabic words

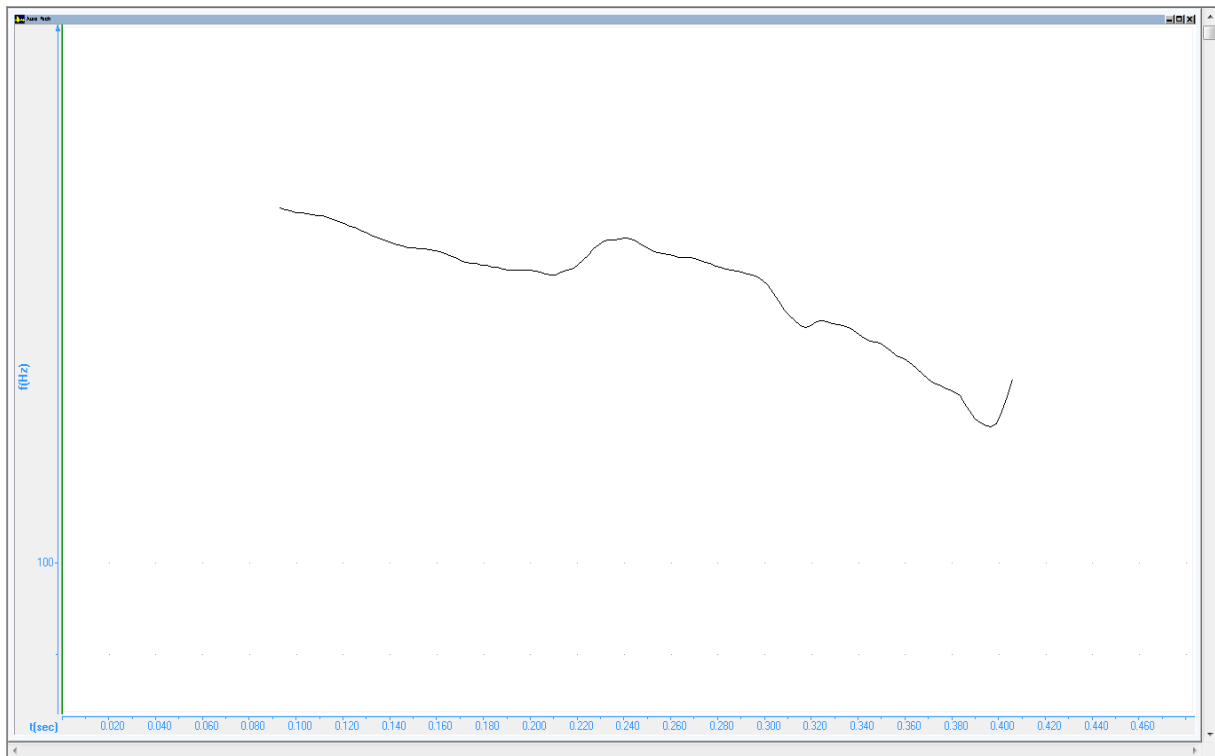
In Kvāri, the pitch accent sounds seems regular, as it is always on the first syllable for disyllabic words.

Examples of disyllabic words recorded in the middle of a sentence:

| <i>Syllabic pattern</i> | <i>Word</i> | <i>Meaning</i> | <i>Speaker</i> |
|-------------------------|-------------|----------------|----------------|
| CV.CV                   | <i>kuno</i> | corner         | Santosh        |

initial

final



The graph neatly shows us a normal pitch accent behavior for disyllabic words where the first syllable gets stressed and then falls at the end of the utterance of the word.

CV̄.CV

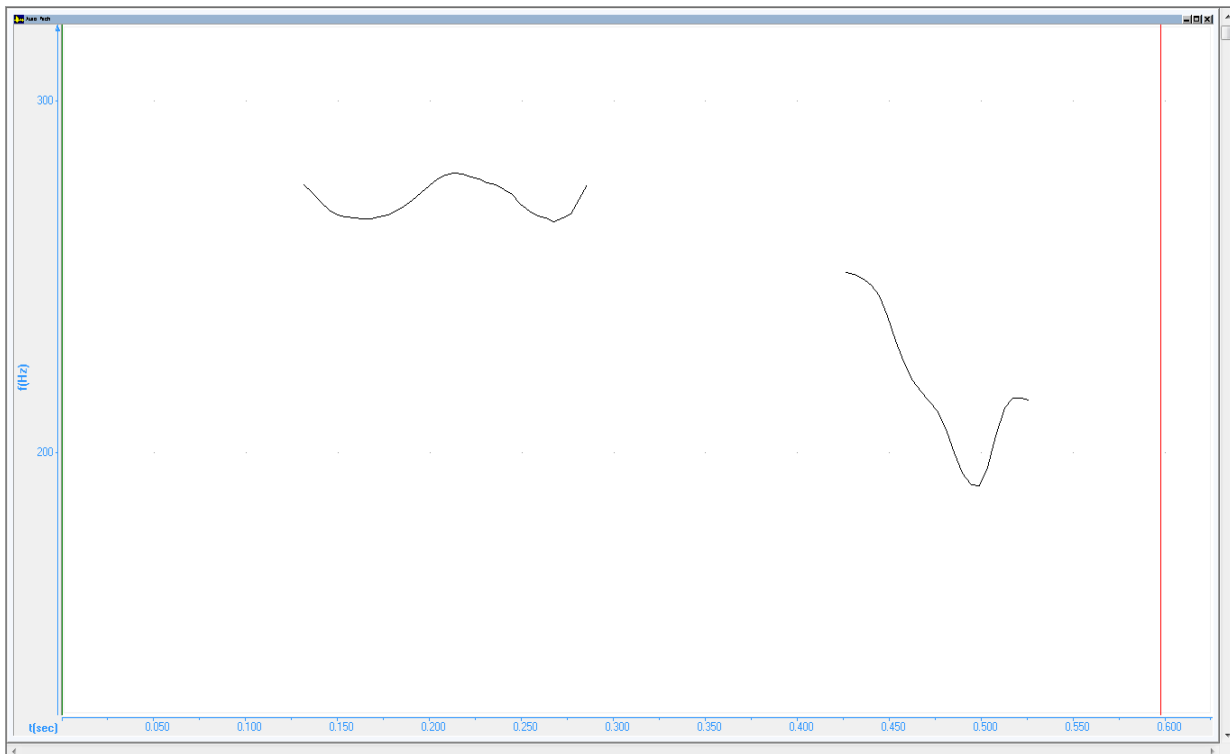
ćāću

uncle

Sandira

initial

final



The stress pattern is here the same with a long nucleus on the first syllable: the emphasis or prominence is located on the first syllable, the second sees a fall in accentuation.

On disyllabic words starting with a vowel and not a consonant V.CV, the same pitch accent phenomenon is observed with the first syllable having a higher fundamental frequency than the second one. Finally, when a disyllabic word ends with a diphthong CV.V, CV.Ũ, the pitch accent is also on the first syllable.

## 4.8.2 Polysyllabic words

The rule looks here different here: when one listens to pronunciations carefully, one can observe that words with three syllables have an even accentuation on the first two syllables and that the final one has a much lower pitch. By watching the speech analyzer picture, one sees that the first syllable is slightly more accented than the second one for words

with the same vocal lengths on the initial and medial syllables such as CV.CV.CV or C $\bar{V}$ .C $\bar{V}$ .CV.

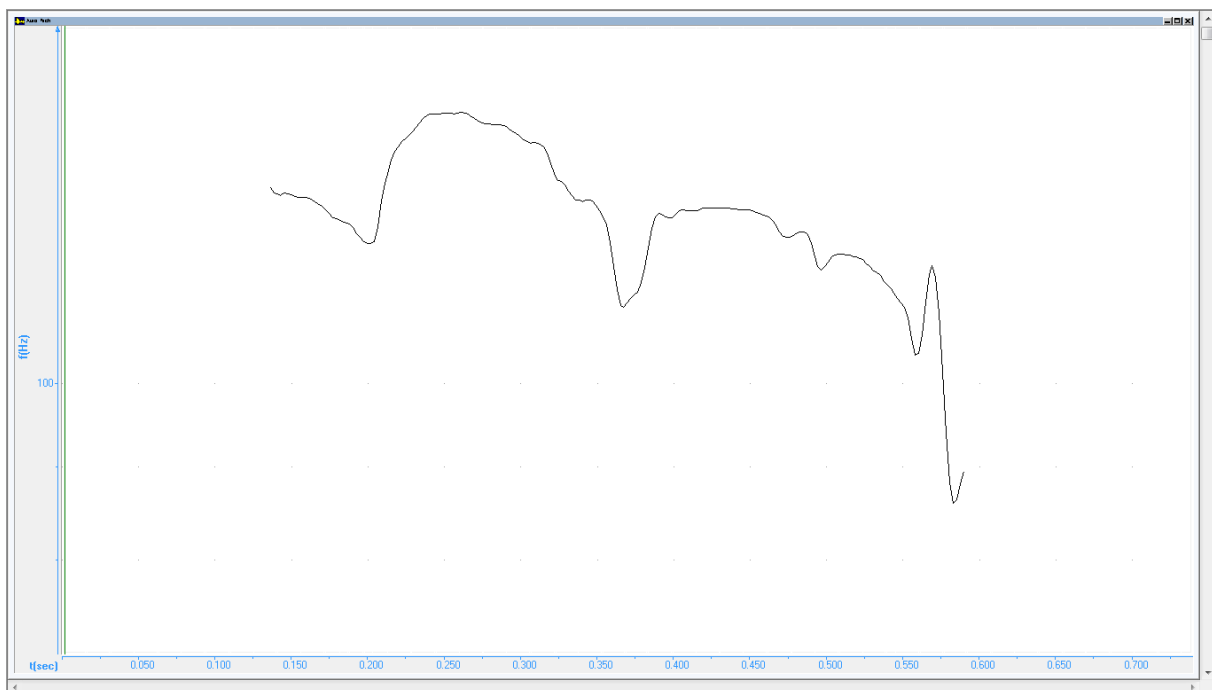
When words have different vocalic lengths on the initial and medial syllables, the tendency is to have the highest pitch on the long vowel, the final vowel being always the lowest. As written before only a very good ear and the help of the speech analyzer can lead to such a conclusion because the pitch difference between the initial and the medial syllables is so subtle that one can hardly hear it naturally.

Example with a word starting with a long vowel C $\bar{V}$ .CV.CV *gāburɔ* (lamb):

Initial

medial

final



This word is originally a disyllabic word to which a diminutive suffix *-rɔ* has been added (see Hendriksen 1986 77-8 for Kt̥g Kc and Zoller forthcoming xxi for Ba.).

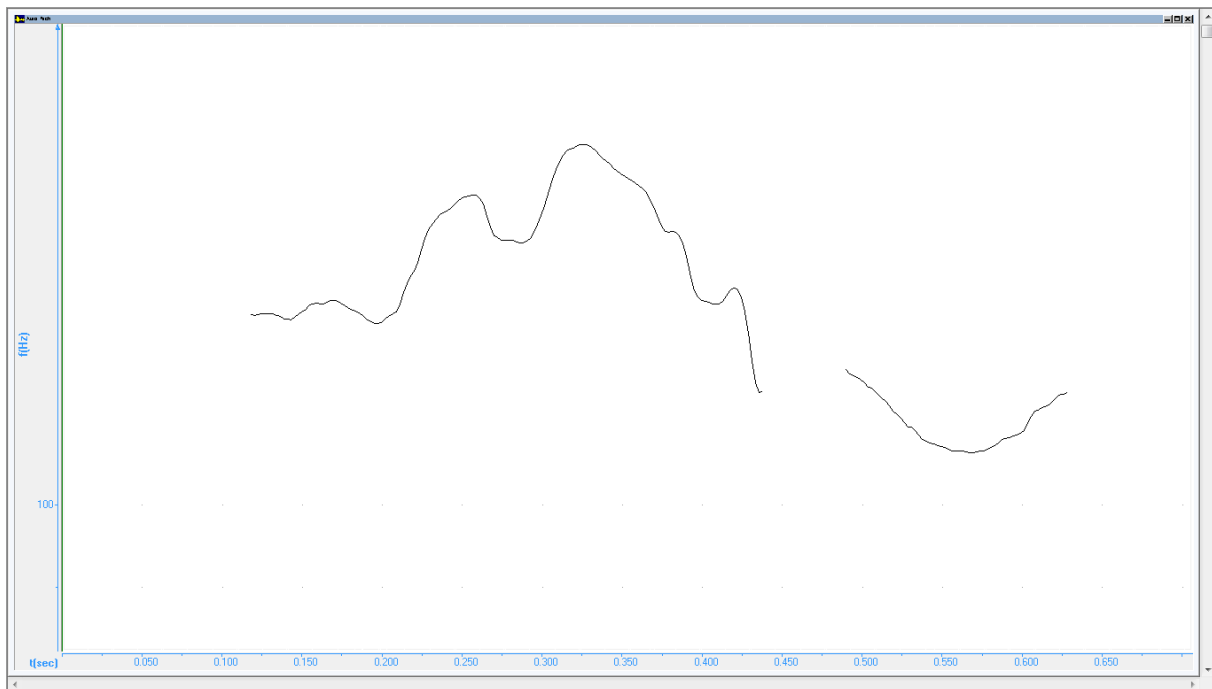


Example with a word having a long medial vowel CV.CV̄.CV *burādo* (soot):

Initial

medial

final



I would really like to make this rule an absolute rule but *burādo* is the only CV.CV̄.CV word I have been able to observe through the speech analyzer that shows a neat picture. As written before in 3.4.1, a prominent vowel is longer than the other one(s) without being necessarily long. Another option for checking whether this is true or not is to analyze the CV.CV̄.CV word *birāṭi* (cat) but the picture I get on the speech analyzer is of poor quality and lacks the part for the long vowel, the one we are precisely interested in.

### 4.8.3 Question versus answer

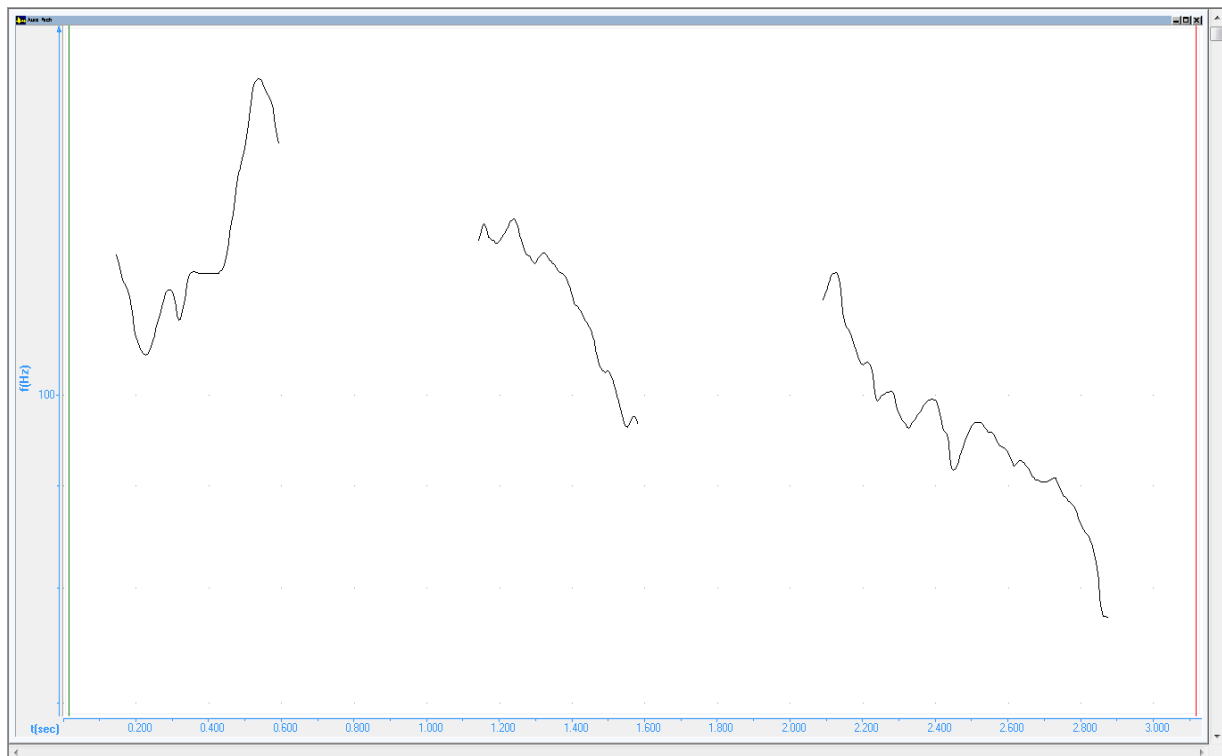
The nature of the pitch accent also indicates whether the word in itself is questioned or affirmed. In a French sentence like *c'est toi*, a rising accent on the final syllable of a sentence indicates a yes/no question while a falling accent indicates an answer or an affirmation: /se twá/ meaning: Is that you? , when /se twà/ means: That is you. On this precise point about pitch, Robert Ladd writes that: "The 'falling' pitch pattern is the one that would normally be used in a straightforward reply to a question [...] The 'rising' pattern would normally be used

to convey doubt, uncertainty, or some other ‘questioning’ modality: it could be used to ask for confirmation that the speaker has heard correctly” (Ladd 6). We have seen above the example of French sentences but I have recorded too few Kvāri sentences to describe this phenomenon. But when asked Satyanand about word translations on my list, he used to ask his colleague next to him what he thought about his translations. What I heard (and recorded) was that when the final syllable was stressed by Satyanand, he was actually asking his colleague if the translation was correct and when the penultimate was stressed and the final shown a falling pitch, it was its answer or confirmation by his colleague.

*kizrāṇi* (fetid) question-double answer:

question

answers



On the graph, the first word carrying a doubt and hence a question is stressed on its final syllable while the following word carrying the confirmation and hence the answer is regular with a final syllable that is lower than the rest of the word.

## 4.9 Tones

The question of tones is central in this thesis, its main purpose is to find out whether this language is a tonal language or not. To give a short definition of what a tone is, Trubetzkoy and his *Principles of Phonology* are the main source of information. According to him: “Distinctive oppositions of tone register are a prosodic phenomenon [...]. In languages that have such distinctive oppositions, each syllable [...] is characterized not only by its phonemes but also with by a specific relative tone or register” (Trubetzkoy 84). Tones add “musicality” to the language by the fact that a difference in fundamental frequency ( $f_0$ ) of several identical phonological units gives different meanings to this unit/word just like the same musical melody played on different keys triggers different emotions. A good definition of the fundamental frequency was given by Joann Baart:

“A periodic speech wave consists of a sequence of more-or-less similar oscillation patterns (*wave cycles*). The rate at which these wave cycles are repeated is called the *fundamental frequency* of the speech wave [...]. Fundamental frequency can be expressed in cycles per second, for which *hertz* is commonly used as a language-independent term (abbreviated *Hz*). Periodic waves are generated by means of vocal cord vibration (the repetitive opening and closing of vocal cords), and the fundamental frequency of speechwaves is associated with the rate of vibration of the cords.” (Baart 2001 65-66).

The tonal feature is particularly handy for languages with short and/or monosyllabic words like South East Asian and Chinese tongues. Tonal minimal pairs are more difficult to find and isolate than other minimal pairs. Based on my recordings, three tonal minimal pairs will be taken into consideration here. There seems to exist other tonal minimal pairs, but were not confirmed because one of the recordings has terrible sound quality, due to Bollywood music in the background (*phūl*, meaning both funerary urn and flower), and the other concerns a postposition (*ke le*, for), or according to Bailey, a case ending, with a plural substantive (*kele*, bananas) that was given to me by Satyanand after a long hesitation and that looks too close to Hindi to be a truly native word.

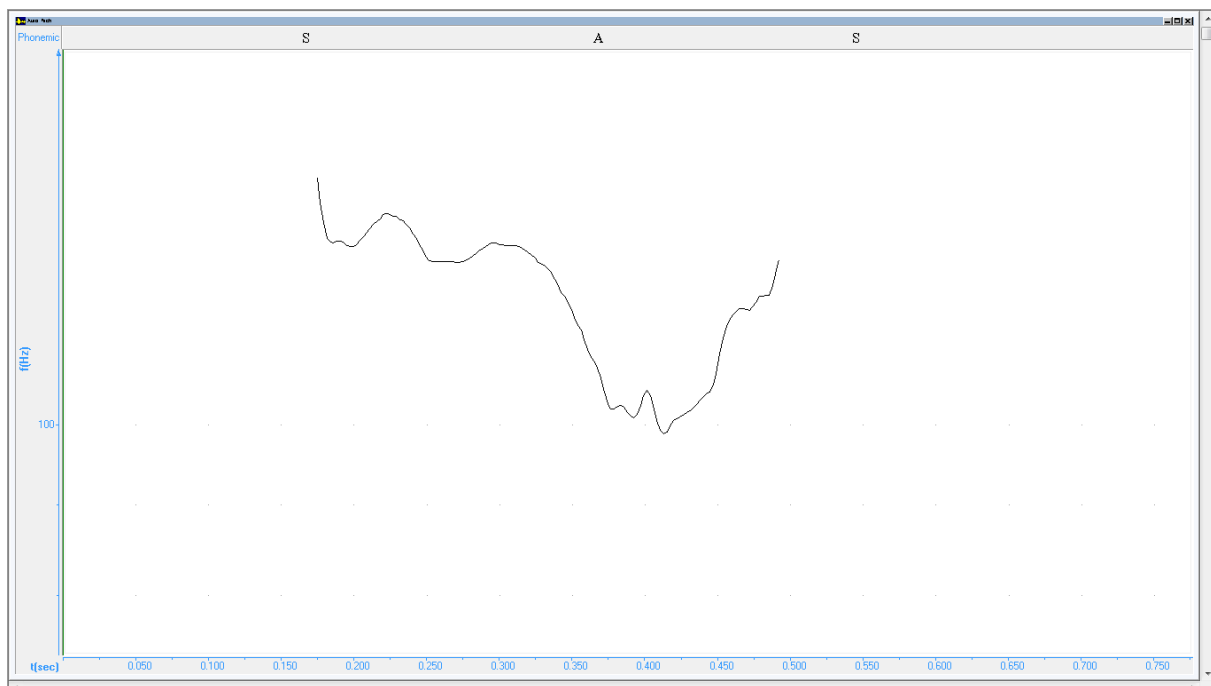
Tones are not unknown in the Himalayas or in South Asia. Tibeto-Burman languages do have tones (Abbi 2001 39) One of the most famous Indo-Aryan tonal languages that have

been studied so far is Panjābi, which uses three tones: an average or middle pitch level tone as in *cola* (cloak), a high falling tone as in *cōla* (dainty) and a low rising tone *cōla* (knapsack) (Malik 85). Tones have also been found in Dardic languages such as Kalam Kohistāni (Bart, § 5). There is a strong suspicion of a certain tonal activity in Baṅgānī (Zoller forthcoming 5), in Koṭgarhi Koci (Hendriksen 1986 37-8) and other NIA languages as well (Masica 118-20).

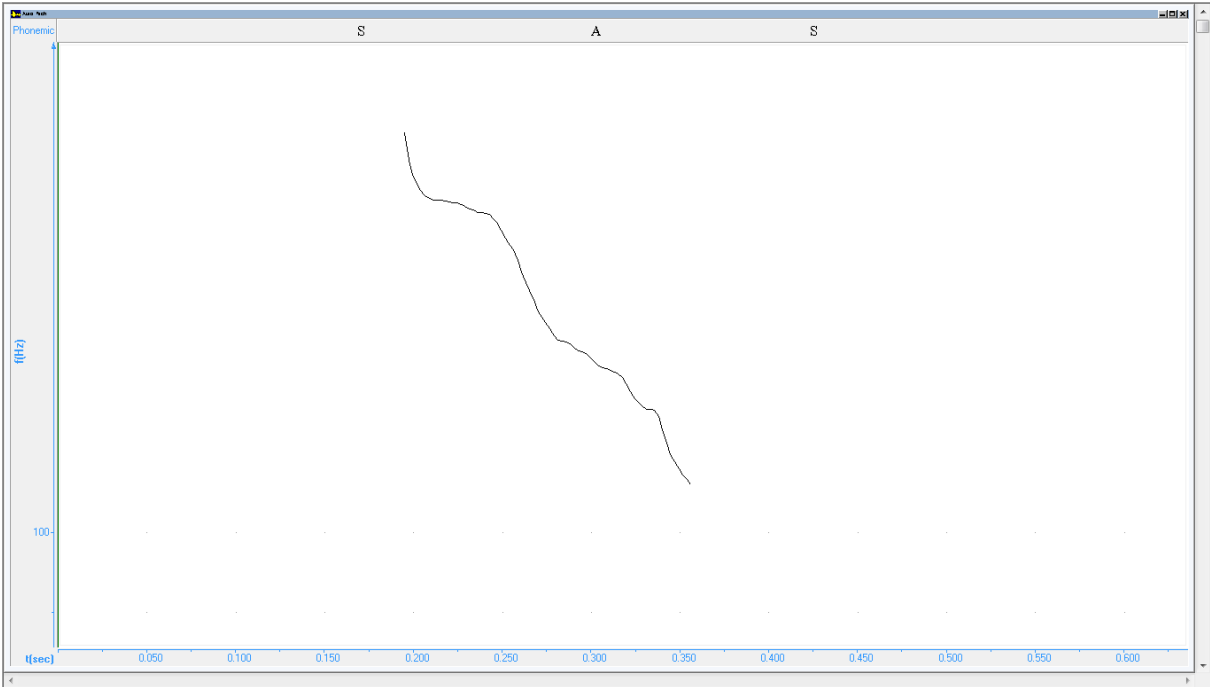
The minimal pairs in question here are *sās* (breath or sweat), *naḍ* (name or navel) and *dzɔra/dzɔɾɛ* (deer/roots). Thanks to the speech analyzer, these words will be processed and compared to see whether a difference in inflectio/intonation or fundamental frequency is decisive for the meaning of the word. Tables showing fundamental frequencies for each word are found under their respective graphs.

The first argument to prove that the first pair *sās* is a tonal one is that both words are monovocalic and have the same vowel length. They were given to me first by Santosh and were confirmed by Satyanand for two different meanings: sweat and breath. The differentiation is here made by their fundamental frequencies. When one takes a look at the speech analyzer picture of Santosh's recording, one clearly sees that the word for *sweat* has a lower  $f_0$  than for *breath* and another tonal contour.

Sweat:



Breath:



| File/vowel | Fundamental frequency (semi-tones) |        |     | Fundamental frequency (Hz) |        |     |
|------------|------------------------------------|--------|-----|----------------------------|--------|-----|
|            | beginning                          | middle | end | beginning                  | middle | end |
| Sweat /ā/  | 49                                 | 43     | 47  | 138                        | 102    | 122 |
| Breath /ā/ | 52                                 | 48     | 45  | 170                        | 130    | 107 |

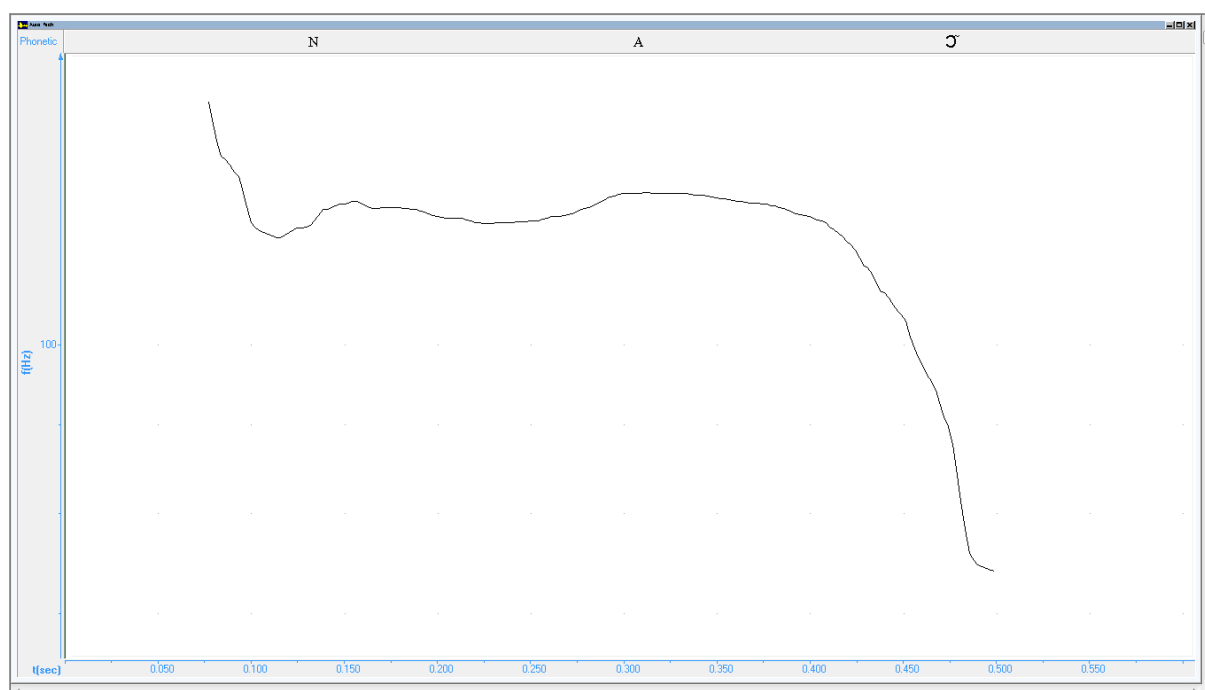
It is important to note that only the voiced sounds appear on the graphs. The  $f_0$  shown on the *sās* graphs are only for the long vowel /ā/ because its utterance involves a vibration of the vocal cords while the two consonants /s/ are unvoiced and, therefore, do not appear on the graphs.

The tonal contours look pretty different: the one for *sweat* is falling-rising and the one for *breath* is steeply and continuously falling. Figures for the semi-tones and the Hertzian frequencies confirm this observation. Another factor to ascertain that we are facing two tones here is the pitch frequency which is higher for *breath: sās* than for *sweat: sās*. The semitones

also look different: the initial and medial semitones are higher in *breath* than in *sweat* but the final semitone is higher in *sweat* than in *breath*.

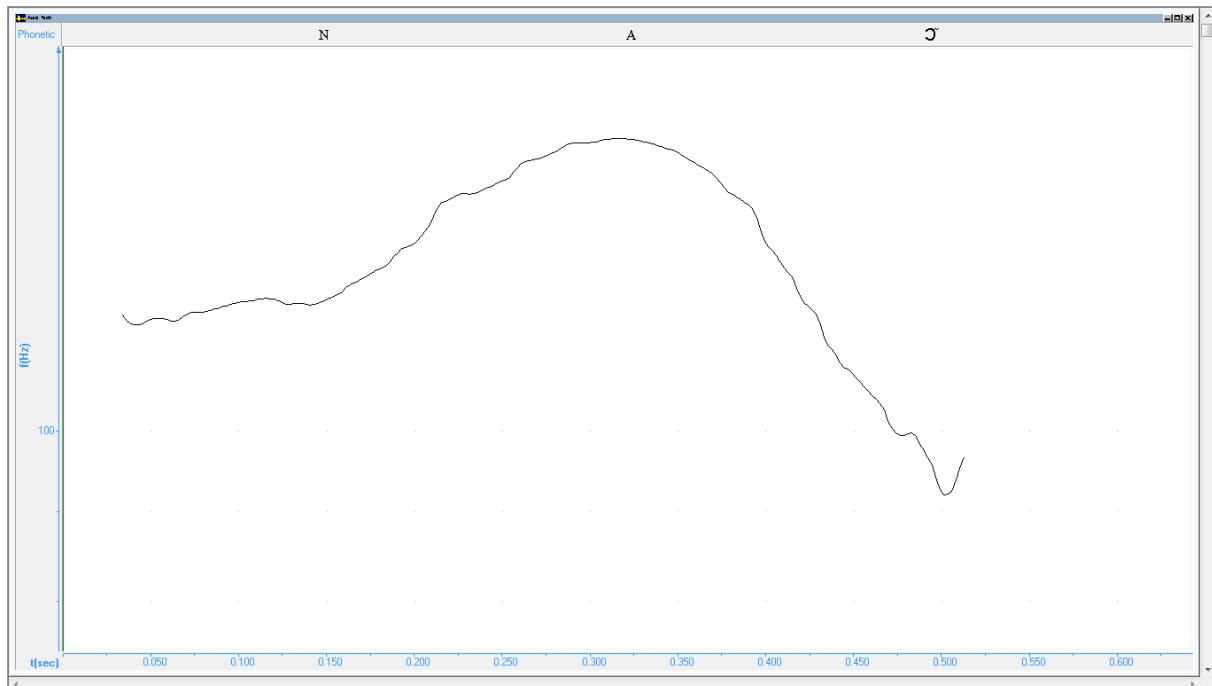
The second pair *naɔ̃* is even more interesting because we are confronted to a diphthong. In case the difference between both meanings was decided by the pitch accent (in an instance similar to the Russian example in 4.8), one would have different pitch contours for both words. But the prominent (or higher) vowel in the diphthong is the first one. The differentiation must therefore be made by another phonological process. The speech analyzer shows us here that, as well as for the first pair, both words have different  $f_0$  and a rising/falling tonal contour with the word for *navel* starting higher, descending suddenly and ending lower than for *naɔ̃* (name). On the other end, *naɔ̃* (name) starts lower than *naɔ̃* (navel), rises up on the /a/ before finally falling less steeply on the final vowel.

Navel:



It is easy to note that the utterance starts quite high on the nasal consonant /n/ and that the level of the first vowel /a/ remains even during the pronunciation before falling steeply on the last vowel /ɔ̃/ ending at a lower Hertzian frequency than in *name*.

Name:



The tone contour looks here rather different than for *navel*: the first consonant /n/ starts at a lower frequency than in *navel* and the pronunciation of the vowel /a/ shows a neat rising tone which then falls less steeply on the final /Ń/ than for *navel* where we observe an abrupt descent. The bottom of the vowel /Ń/ of *náŃ* (name) is also higher in its  $f_0$  than for *naŃ* (navel).

The last minimal tonal pair to be presented is *dzə̀ra/dzə́re* (deer/roots) pronounced by Santosh. These words are disyllabic and follow the very common CV.CV syllable pattern. One could argue that these words are not good candidates to be true tonal minimal pairs given the fact that they have different phonemic endings that might be contrastive. The fact is that the word for *roots* is in its plural form, ending with the masculine plural ending *-e* (Bailey 1975 159), and that, by comparing with Baṅgāñī and Koṭgarhi Koci, one sees that the singular nominative form for those WP varieties is *dzə́r* (Hendriksen 1976 & Zoller forthcoming). The ending *-a* is only for singular masculine words in the nominative (Bailey 1975 159). To put it in a nutshell, the syllable structure is similar for both words and the vocalic/consonantal lengths are the same, which means that these two words could easily reflect a tonal trend at least for the first syllable since *root* in the singular is monosyllabic. In Bailey's wordlist (1975 169), one encounters the word *dzə́r* for *rain* which could contrast tonally with *root* in the

singular. Unfortunately, I was not able to record the word for *rain* and cannot process it through the speech analyzer. A recording and comparison of the words for *rain* and *root* would therefore prove necessary for further investigation.

Roots:





Deer:



| File  | Fundamental frequency (semi-tones) |        |     | Fundamental frequency (Hz) |        |     |
|-------|------------------------------------|--------|-----|----------------------------|--------|-----|
|       | Beginning                          | Middle | End | Beginning                  | Middle | End |
| Roots | 48                                 | 51     | 45  | 135                        | 159    | 110 |
| Deer  | 48                                 | 46     | 42  | 135                        | 119    | 95  |

Here the picture looks quite similar to the one with *naɔ̃*, that is a word having a rising/falling tonal contour (roots), and the other one showing a falling tonal contour (deer). In *dzɔ̃rɛ* (roots), the first syllable *dzɔ̃-* is rising, starting at 135 Hz and then going above 160 Hz before stabilizing itself at around 159 Hz at the start of the second syllable *-rɛ*. The  $f_0$  then falls at 110 Hz at the end of the utterance. On the second word *dzɔ̃ra* (deer), one can observe that the first syllable *dzɔ̃-* starts at the same  $f_0$  as for *roots* (135 Hz) but falls down to 119 Hz in the middle of the word before continuing its fall during the utterance of the last syllable *-ra* and

ending at 95 Hz, much lower than for *roots*. During the pronunciation of *deer*, the fall looks quite regular, it is not steep although the picture shows a quick and abrupt falling and then rising of the  $f_0$  during the utterance of the nucleus of the first syllable -ɔ-. The tonal contours in question here show a neat difference in pronunciation between both words, a clear sign that shows that Kvāri uses several tones in its sound systems and that these tones very probably have a function in this sound system.

I can here conclude with certainty that there are at least three kinds of tones in Kvāri: a falling tone and a falling and rising tone for monosyllabic words; as well as a falling tone and a rising and falling tone for disyllabic words. The fact that two minimal pairs representing two different syllable patterns is a clear indicator that Kvāri does actually have at least a couple of tones. On the other hand, tonemes are more difficult to find, we need more tonal minimal pairs to be certain that a language purposely uses regular and systematic tonal patterns to differentiate a lexical meaning between two similar-sounding words. The difference between tones and tonemes is the same as between phones and phonemes. Tones can exist in a language but it does not necessarily mean that they have distinctive values in a given linguistic system and environment. Tones are, therefore related to phonetics and tonemes to phonology. More data and investigation is needed to make this point clear in Kvāri.

## 4.10 Summary

- Aspirated voiced consonants are extremely rare and cannot be counted as phonemes. Aspirated unvoiced consonants are common and, in some cases, contrast with their unaspirated counterparts. As a rule, only one aspirated consonant is allowed within words.
- Certain nasal consonants, [ŋ] and [ɲ] are not found in every position. The velar nasal [ŋ] is not classified as an independent phoneme.
- Compared to Hindi or Sanskrit, Kvāri depalatalizes its affricates.
- The voiced fricatives /j/ and /dz/ are not found in final positions and are two different phonemes.

- The aspirated unvoiced affricate [tʰ] is not contrastive with its unaspirated version [t]. However, the aspiration is heard clearly in some words (see 2.3.3) and the classification as a phoneme is put into parenthesis.
- Kvāri seems to prefer vowels and diphthongs rather than semi-vowels. The phoneme /v/ is sometimes rendered as its allophone [w] and its use vary from person to person.
- Devoicing of final voiced consonant occurs in Kvāri but is not contrastive.
- Vocalic length and nasalization are phonemically contrastive.
- Kvāri does not accept initial and final consonantal clusters. Clusters consist of only two consonants and are found in medial position.
- Pitch accent is on the penultimate syllable, a prominent vowel is usually longer.
- Differences in tonal contours show a high probability of the presence of contrastive tones in Kvāri. I unfortunately have too little data to find tonemes in Kvāri. Other tonal minimal pairs which are only suspected need to be recorded and analyzed.

## 5. Comparative Studies

In this chapter, I'll compare Kvāri with other Pahārī, Dardic and Nūristāni languages. This study will be divided into two parts: the first one will deal with sound systems, which includes phonetic and phonological comparisons of systems in use in Kvāri with the systems of neighboring and related languages. What are the common features and the originalities of Kvāri? The second part will deal with etymology and vocabulary. I will analyze the origin of several Kvāri words and their evolution from Old Indo-Aryan to the present. The second part will also include a comparison of the vocabulary stock in Kvāri with other Indo-Iranian languages, especially, of course, Pahārī, Dardic and Nuristāni. Did Kvāri go through the same evolution as other Dardic and Pahārī languages, or did it differ somehow? If yes, on which points precisely? How would we categorize the Kvāri vocabulary? Are there any words that are typical for this particular language?

### 5.1 Sound systems

#### 5.1.1 Eastern Pahārī

As written in the background chapter, the varieties of Pahārī spoken in the East comprise the IA languages of Nepāl and some IA languages spoken in Sikkim, Bhutan, and the northern part of the West Bengal state, also called Gorkhaland. The varieties of Eastern Pahārī which will be taken into consideration here are Nepāli and Newari, the dialect of Kāthmandu and its surrounding valley.

According to Acharya, there are five vowels in Nepāli /a, e, i, u, o/ from which only the /a/ can be long, the other ones staying short, although he writes that “/e/ /a:/ and /o/ are phonetically longer than /i/ /a/ and /u/.” (Acharya 31). In this regard, the mid-vowels /e/ and /o/ could be considered the long versions of their high-vowels counterparts /i/ and /u/, which is not the case in Kvāri, which makes a distinction between, for example, a short high back vowel /u/ and long /ū/ (see 3.4.1). Acharya also writes that all vowels, save /o/, can be nasalized resembling on this point many other IA languages.

Contrary to Kv., Ne. has a complete set of voiced aspirated stops /bh, dh, ḍh, jh and gh/ (Acharya 19) which is not the case for Kv. and many other WP varieties. One interesting point, observed by Riccardi<sup>11</sup>, is that the aspirated voiced consonants are “strongest in initial position”. We have seen that on a couple of occasions, Kv. speakers did pronounce aspirated voiced stops in initial position: *dhāl* (greetings) and *bhāṅg* (cannabis), although it is necessary to keep in mind that these two Kv. words are exceptions.

Riccardi also notes that, in Ne. like in Kv., there is “less retroflexion than for Indian languages” confirming my observations about Kv. retroflex consonants (see 2.3.4). Less retroflexion means that the tip of the tongue lies between the palate and the front teeth, while Hi. speakers pronounce retroflexes with the tip of their tongues more backwards, touching the palate.

A last word should be said about the palatals. We have seen that there is a strong tendency to depalatalize phonemes like /č/ and /j/ in Kv. (see 3.6.6). This tendency is confirmed in Ne. and Newari where Chazot (56) and Manadhar (66) both write that the actual pronunciation of these palatals lies between /č/ and /ć/, and /j/ and /dz/. Having heard Ne. speakers myself, my impression is that there is a strong tendency to pronounce these palatals as dentals affricates /č/ and /dz/.

### 5.1.2 Central Pahārī

These are the dialects spoken in the state of Uttarākhaṇḍ stretching from the Yamuna river to the Nepalese border. Garhwāli and Kumauni are the main languages in this group (Zoller 198). Literature and data available for this group is very scarce, and I will give a comparison of Kvāri with the most studied dialect of this group, viz. Kumauni.

Ku. has a set of seven vowels /i, a, u, o, ə, e, ε/ and the schwa /ə/ from which the vowels /i, a, u/ have long contrastive counterparts, a vocalic system that resembles the Kv. one. Nasalization’s function is not well shown in D.D Sharma’s book who only writes that: “Nasalization of vowels is a significant phonemic feature in Kumauni phonology.” (Sharma

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<sup>11</sup> Theodore Riccardi, Nepāli chapter p.538-80 in: *The Indo-Aryan Languages*, Routledge, London, 2003

54) without going into details. Contrary to Kv., Ku. has distinctive voiced aspirated consonants /bh, dh, jh, ḍh and gh/. Moreover, Sharma (45) mentions the existence of aspirated nasal and liquid consonants /mh, nh, rh and lh/ that are otherwise quite unusual in the majority of Dardic and Pahārī tongues. The nasal velar /ŋ/ and retroflex /ɳ/ are considered as phonemes in Ku. Sharma also writes that their status either as phonemes or allophones depends on the area in which they are spoken. The list of consonant phonemes includes also only one fricative /s/ and two palatal affricates /č and j/ that can both be aspirated (Sharma 42). However, de-palatalized affricates are absent in Ku. Finally, in the liquid sphere, there is an opposition between the trill /r/ and the flap /ɾ/ as well as between the laterals /l/ and /l̥/ like in Kv.

### 5.1.3 Western Pahārī

Zoller describes the WP group as the languages spoken “between the Chenab river [...] in the North-West and the Yamuna in the South-East” that is principally in the states of HP, Jammu & Kashmir and Uttarākhaṇḍ (Zoller 2011 196). The list of languages and dialects included in this group is long (35)<sup>12</sup>. For this group, only three well documented languages will be taken into consideration: Jaunsari, Baṅgāṇī and Koṭgarhi-Koci.

According to Satish’s list, Jaunsari has only three short vowels: /i/, /u/ and /a/ and seven long vowels: /ī, ē, ā, ū, ō, ṽ, ē/ (Satish 5). It has the same number of long vowels as Kv. but less short ones. All the vowels can be nasalized (12) while Kv. does not have /ẽ/ and only short /ĩ/ and /ẽ/.

The fundamental difference between Kv. and Jᵇ. consonants is that Jᵇ. does have contrastive voiced aspirated consonants. Moreover, Satish writes that all the four voiced aspirated /bh, dh, gh, jh/ are found in initial, medial and final position (Satish 29, 31). The nasal velar [ŋ] is listed as a phone in medial position but not as a phoneme (Satish 18), showing that it is, like in Kv., an allophone of the phoneme /n/. Jᵇ. also lacks the retroflex

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<sup>12</sup> For more details, check pages 196 and 197 in *Novoie Indoariiskie Iazyki of the Iazyki Mira* collection, Academia, Moscow, 2011.

lateral [l] while it is pretty common in Ḍoḍra-Kvār. Finally, as a difference between Jṣ. and other Pahārī tongues, the dental affricates [ts] and [dʒ] do not seem to exist at all in this language which only knows the palatal affricates /č, čh, j, jh/ (Satish 31).

For Baṅgāṇī, the vocalic system looks the same as in Kvār: a triangular one with seven-eight vowels; the eighth one being the schwa which Zoller classifies as an allophone of /ɔ/. He also states that all the long vowels contrast with the short ones and that they can be nasalized which also happens in Kvār, with a few exceptions though, and which have already been described in part 3.1. As for Kv., the approximants /y/ and /v/ are hard to categorize (semi-vowels or vowels?) and Zoller prefers putting them into parenthesis in the chart and commenting in a footnote: “da im Baṅgāṇī eine deutliche Tendenz besteht, *v* als *u* und *y* als *i* zu artikulieren”<sup>13</sup>. Ba. also seems to have an impressive set of diphthongs although no mention is made of diphthongs including nasalized vowels. From this list, one could argue that Kv. has fewer diphthongs than Ba.

The consonant chart given by Zoller looks also very similar to the Kv. one. There is an absence of aspirated voiced consonants in both tongues. The glottal fricative /h/ does not exist in Ba. and is often omitted by Kv. speakers as well (see 2.3.10). The word for ‘hand’, for instance, lost its initial fricative in Ba. and Kv.: OIA *hasta* > Ba., Kv. *āth*. Ba. usually depalatalize their affricates and /č/ and /dʒ/ are found instead of /č/ and /j/ respectively, the Hindi word *cār* (four) is said *čār* in Baṅgāṇ and Kvār. The affricate /dʒ/ sometimes becomes a voiced alveolar fricative /z/ in Kv. (see 3.3.6 and the example with the word *āz* (today)) and this trend is also present in Ba. where Zoller remarks that “Die stimmhafte dentale Affrikate dz wird im Wortin- und Auslaut in der Regel als stimmhafter Frikativ z realisiert”.

A last word can be said about consonant clusters. In the syllable list that Zoller gives for Ba., two are impossible in Kv.: CCVC and CVCC. As a matter of fact, contrary to Kv., Ba. accepts initial and final consonant clusters: Ba.: *praṇṇ* (guest) and *sṛrg* (heaven) while this is not the case in Kv. where only medial consonant clusters are allowed making the first consonant the coda of the first syllable and the second consonant the onset of the second syllable C.C.

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<sup>13</sup> c.p. Zoller. This article has not been published in German. It was handed to me personally by my supervisor Dr.Zoller. A Russian translation of this article exists in the chapter on Baṅgāṇī of the *Iazyki Mira* collection, Academia, Moscow, 2011.

The WP languages spoken in Southern HP between the Sulej and Pabbar rivers are called Kotgarhi and Koci. I will refer here to the studies made by Hans Hendriksen. The sound system of Ktg. Kc. has, in fact, more phones and phonemes than the Kv. one. Ktg. Kc. has more vowels than Kv. since /ɪ/ is classified as a phoneme contrasting with /i/, /ɛ/ and /e/ (Hendriksen 1986: 10). The schwa [ə] also exists in Ktg. Kc., it is considered as a phone, not as a phoneme and is always found in medial position (Hendriksen 1986: 14) like in Kv (see 2.2.1). The velar [ŋ] and palatal [ɲ] nasal consonants do not have a phonemic function in Ktg. Kc. and are rather neutralized by the type of consonant they precede (Hendriksen 1986: 14-15) as is the case in Kv. (see 3.3.1) for the velar nasal, the palatal nasal being absent in Kv. Ktg. Kc. presents mostly the same number of consonants as Kv. There are variations between /dʒ/ and /z/ in all positions (Hendriksen 1986: 16). In the same fashion as many WP languages, Ktg. Kc. lacks aspirated voiced consonants but, instead, has a set of voiced laryngeals /g<sup>h</sup>, j<sup>h</sup>, d<sup>h</sup>, dz<sup>h</sup>, ɖ<sup>h</sup> and b<sup>h</sup>/. They are related to tones; Hendriksen comments that: "The laryngeals (aspirations) /h/ and /<sup>h</sup>/ and their occurrence are closely connected with the tones /<sup>h</sup>/ and /<sup>~</sup>/" (Hendriksen 1986: 19).

### 5.1.4 Dardic & Nuristāni

The Dardic languages are the IA languages mostly spoken in Northern Pakistan in the Karakoram and the Nuristāni languages (also formerly called Kafiri), which, according to Morgenstierne's classification, belong to a distinct linguistic group of the Indo-Iranian family, spoken in the Nuristān province of Afghanistan in the North-Eastern part of the country between the Panshijir valley in the West and the Pakistani district of Chitral in the East. Fortunately, these languages are pretty well documented and many researches and detailed descriptions have been published both in the West and in Pakistan. I will first start with the vowels in Nuristāni and Dardic and continue with consonants in the same order.

#### 5.1.4.1 Vowels

In Nu., one can see that most dialects have a more different vowel system than Kv. According to Edelman and Strand, the Kati dialect has only five vowels and a schwa from



which only the [a] can be lengthened. The nasalization process is however ‘rudimentary’ in that language (Edelman 1983 59). In the Prasun dialect, the vocalic system is almost the same as the one in Ka.: a triangular one consisting of five vowels: /i, e, a, o, u/ and the schwa but differs in the fact that Pr. has two more vowels: [ø] and [y], unknown in IA and Dardic with the rare exception of a few occurrences in Kashmir<sup>14</sup>. Vowel length does not seem to be contrastive according to Morgenstierne even though a long [a:] clearly exists in Pr. (Morgenstierne 1953 202-03). No mention is made of nasalized vowels in Pr. The Waigali dialect has one of the largest set of vowels in Nu. The system given by Morgenstierne is quadrangular. Unknown vowel phonemes in Kv. include: /ø, ü, ä/. All the vowels can be both short and long (Edelman 1983 71) and Morgenstierne adds that “Nasalization of vowels is frequent” (Morgenstierne 1954 161). No tones have been recorded in Nu.

There are too many languages classified as Dardic and this thesis is way too short to take all of them into consideration here. I have chosen to limit myself to the five best documented Dardic languages: Shina, Palula, Khowar, Kalasha and Kashmiri. For Shina, Radloff (1999) distinguishes five different vowels /a, i, e, u, o/ (Radloff 17) that are contrastive by length and nasalization (18-9). In Pa., Lijegren makes the same observations as Radloff about the number of vowels, five, and the fact that vocalic length is contrastive in Pa. (Liljegren 63) but later on writes that a “contrast [...] between oral and nasalized vowels has not been found” (64) and continues by affirming that “nasalization seems to be a suprasegmental feature of a limited number of lexemes.” (64). The number of vowels in Kh. is the same as in many other Dardic and Nu. tongues: five. Bashir<sup>15</sup> lists three different degrees of vocalic length in Kh.: short, medium-long and long. She also writes that “Length and tone/pitch interact in phonemic contrasts. Medium-long vowels are associated with high-falling tone and long vowels with low-rising tone”(843). Length alone is not contrastive in Kh. because “Contrasts [...] can arise from suffixing a vocalic suffix to an identical word-final vowel.” (843). No mention is made of a certain kind of nasalization in Kh. In Kalasha, the vocalic system is the same as in Sh., Pa. and Kh: /a, i, e, u and o/. Each vowel “has contrastive nasalized and/or retroflexed versions”(Bashir 851) which is also probably the case in Kv. The list of vowel phonemes in Kashmiri is impressive: eight /i, e, a, ɪ, ə, u, o, ɔ/ that

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<sup>14</sup> R.L.Schmidt, Report on a survey of Dardic Languages of Kashmir, in: *Indian Linguistics*, 1981, p.17-21

<sup>15</sup> E.Bashir, Dardi chapter p.818-94 in: *The Indo-Aryan Languages*, Routledge, 2003

can all be lengthened and nasalized, save /ɔ, ā, ī/ (Wali & Koul 299). Kś. also has four central vowels /ɪ, ī, ə, ə̃/ that are unique among South Asian languages (Wali & Koul 295). However, Kś. lacks the phoneme /ɛ/ which occurs recurrently in Kv.

### 5.1.4.2 Consonants

The main difference between Kv. and Nu. is that Morgenstierne does not mention any kind of aspirated consonants in Nu. and simply states for Wa. that “Aspirates and *h* are lacking, as in other Kafir languages” (Morgenstierne 1954 159). In Pr., as in Kv., the laryngeal [h] is not counted as a phoneme but can be “heard occasionally” (Morgenstierne 1953 201). The dental retroflexes /t, d/ are common to Nu. and Kv. but other retroflexes present in Kv. are absent in Nu. and vice-versa. Retroflexed liquids /ɽ, ɻ/ do not occur in all Nu. languages, /ɻ/ is totally unknown in Nu while /ɽ/ only exists in Wa. and Aś. (Morgenstierne 1954 159 and 1928 201). Nu. has a wider set of retroflexed affricates than Kv. does. We have already seen that the retroflexed post-alveolar fricative [ʂ] is very rare in Kv. and cannot be counted as a phoneme (see 2.3.9). That particular sound (noted *ʂ* by Morgenstierne) is, nevertheless, a plain phoneme in Wa., Pr., Ka. and Aś. as well as its voiced version, noted *ʐ* by Strand and Morgenstierne. The dental affricate phoneme /č/ is also classified as a phoneme by Morgenstierne in Wa., Pr. and Aś. On all Nu. languages, Morgenstierne classifies the nasal retroflex /ŋ/ as a phoneme but considers the nasal velar [ŋ] and the nasal palatal [ɲ] to be merely phones and allophones than phonemes. The same is true for the nasal velar [ŋ] in Kv., the nasal palatal [ɲ] being, for the moment, unknown in that language.

Sh. seems to have more consonant phonemes than Kv. Some Sh. aspirated consonant phonemes are only allophones in Kv: /čh, čh/; Other phonemes such as the nasal velar [ŋ] and the retroflexed affricates and fricatives /ç, çh, ʂ, ʐ/ are either rare allophones or simply do not exist in Kv. The post-alveolar voiced fricative [ʒ] is also present in Sh. but is only treated as an allophone of the phoneme /j/ (Radloff 23) like in Kv. (see 2.3.2). Another common trait of Sh. and Kv. is the process of devoicing the final voiced consonant (Radloff 32-4). Contrarily to Kv., In Pa., the ancient OIA contrast between the three sibilants /s, ʂ, ś/ has been preserved. The three affricates /č, ç, ć/ are also present in Pa. Liljegren also considers the four different

fricatives /s, ʃ, ś, ź/ are contrastive while pointing out on the next page that “there is a close link between the affricate set and the fricative set, with some overlaps and neutralizations taking place between them” (Liljegren 61-2) as it usually happens with many Dardic-Pahārī-Nuristani languages. As is the case in Kv., the retroflex nasal /ŋ/ is a Pa. phoneme never occurring in initial position and the velar nasal [ŋ] needs to precede a velar stop to be velarized, Liljegren does not count it as a phoneme (Liljegren 59). There are several uses of liquids in Pa. The trill /r/ is encountered in initial, medial and final positions, but the flap /ɾ/ is “more restricted” (Liljegren 63) in Pa. as it is in Kv. (see 3.3.4). The retroflex lateral /l/ is not a phoneme in Pa. and only the velarized /ɭ/ is encountered as an allophone of /l/ (Liljegren 63).

The consonantal system of Kh. is richer than the Kv. one. Just like in Nu., Kh. possesses retroflex affricates and fricatives /ç, çh, j, ʃ, z/ and a contrast between /ç/ and its aspirated counterpart /çh/, suspected in Kv. too. Bashir also notes that the uvular stop /q/ and the fricatives /f, x, ɣ/ are found in both native and foreign loanwords (Bashir 844) but we know that Kv. speakers favor the unvoiced aspirated bilabial stop /ph/ instead of the fricative [f] (see 3.3.4) while the status of the other consonants q, x and ɣ is still unclear in Kv. The nasal retroflex /ŋ/ is not counted as a phoneme in Kh. while it is the case in Kv. (see 3.3.1). Kh. and Kl. do not have the retroflex alveolar lateral /l/ which is very common in Kv. (see 3.3.4) but instead use a velarized lateral /ɭ/ (Bashir 844, 851). The retroflex flap /ɾ/ is absent in both Dardic tongues but widespread in Kv. The Kl. consonant system resembles the Kh. one with the only difference that Kl. does have voiced aspirates. The voiced affricate [dz] is considered a phoneme in Kl. when its status is unclear in other Dardic and Nu. languages. In Kl., the /z/ and /j/ are two different phonemes (Bashir 851) while there is a free variation between them in Dardic, Nu. and Kv. (see 2.3.2). Contrary to other Dardic languages, Kś. only has a double contrast between its sibilants /s, ś/ and affricates /ç, çh, c, ch, j/, resembling more the EP, CP and WP systems in this regard. The only nasal phonemes listed in Kś. are /m/ and /n/, the velar, palatal and retroflex ones being assimilated with the following consonant and thus, classified as allophones of the nasal phonemes /m, n/ (Wali & Koul 296-7). Like in Kv., aspirated voiced consonants are not to be found in Kś. The voiced alveolar fricative /z/ is a plain phoneme in Kś. and the voiced dental affricate [dz] unknown in that language (Wali & Koul 296). For liquids, Kś. only has the voiced alveolar lateral /l/ and not its retroflex version [ɭ] which is rather common in Kv. and WP. Wali & Koul also say a word

about the flap /r/ which “is found mostly in rural areas” (Wali & Koul 297) but not listed as a phoneme in ‘standard Kś.’, the voiced alveolar trill /r/ being more usual. Finally, the Perso-Arabic sounds [f], [x], [q] and [ɣ] are pronounced as /ph/, /kh/, /k/ and /g/ respectively (Wali & Koul 294).

### 5.1.5 Summary

I will give here general statements about the sounds of those languages and exceptions will not be taken into consideration, I therefore chose to use the words ‘most’, ‘many’ and ‘several’ in front of the linguistic groups in question here to show the actual trend in the majority of languages/dialects of that group.

-Kv. And most WP have a seven vowels system that include open-mid vowels /ɔ/ and /ɛ/ when several EP, Nu. and Dardic languages usually have a five vowels system without open-mid vowel phonemes. Nasalization is contrastive in the majority of WP and Kv. while highly improbable in most of the Nu. and Dardic languages.

-Most Pahārī, Dardic and Nuristāni speakers prefer using /ph/, /k/ and /kh/ instead of the Perso-Arabic phonemes /f/, /q/ and /x/.

-Most Pahārī, Dardic and Nuristāni languages have depalatalized affricates /č/ and /dz/. Some languages have aspirated versions of them. Several Dardic and Nu. tongues have three sibilant phonemes /s, ʃ, ś/ and sometimes four retroflex affricate phonemes /ç, dz, č, ʃ/ that other the majority of Pahārī tongues do not have.

-Tones have been observed in several Dardic and WP languages. There are no tones in EP and the situation is unclear in Nu.

-Consonant aspiration has disappeared in many Nu. but remains in most Dardic and Pahārī. Kv., like other Dardic, WP and CP languages, does not have voiced aspirated consonant phonemes, Ne., Ku. and Jɔ. have.

-Most Pahārī languages do present a retroflex liquid /l/ which is unknown in many Dardic, Nu. and EP languages. The unaspirated retroflex flap /ɭ/ is also present in almost all of these languages save Nu. which uses the back approximant /ʁ/ instead.

-Most Pahārī, Dardic and Nu. tongues have the phones [z] and [ʒ] as allophones of /dz/ and /j/ respectively.

## 5.2 The vocabulary & Etymology

Most of the etymological suggestions refer to Sir Ralph Lilley Turner's monumental work *A Comparative Dictionary of the Indo-Aryan Languages*<sup>16</sup> and personal comments by the supervisor of this thesis Dr. Zoller. The entries in Turner's dictionary are indicated after the English translation by a T.+ entry number. The MIA words are taken from Woolner, Turner and Masica's books (see bibliography). For each section, the words having followed the normal evolution will be given first with their Hindi equivalents; the irregularities and words having undergone a different evolution and/or showing unique features will be dealt with on the second part of each section. The equivalents in other more or less closely related languages will be given after the Kv. words.

### 5.2.1 Consonantal evolution

Most Kvāri words are of an IA and IE origin and follow, to a large extent, the evolution from OIA to NIA described by Masica. Many original consonant clusters have disappeared in Kv. during the MIA stage, Masica writes that "MIA words as a rule *began* only with a vowel or a single consonant" (171), confirmed by Woolner (17). We have already seen that initial clusters are not allowed in Kv. (see 4.7) and initial OIA consonant clusters have been replaced by a single consonant, ex: OIA *grāma* > MIA *gāma* > Kv. *gaṅ*, Hi. *gāṅ* (village) T.4368; OIA *trīṇi* > MIA *tīṇi* > Kv., Hi. *tīn* (three) T.5994.

Many medial consonant clusters have also been assimilated or simplified, especially nasal consonants, ex: OIA *jhunṭa* > Kv. *dzṭ*, Hi. *jhāḍī* (shrub) T.5400; OIA *jambha* (tooth, tusk, jaws) > Kv. *dzṭbrṭ*, Hi. *jabhā* (molar) T.5137. In the second Kv. example, the initial *j*-got depalatalized, the aspiration was abandoned on the labial stop and the suffix *-ṭ* was

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<sup>16</sup>Oxford University Press, London, 1966

added. In r+C clusters, the /r/ is generally assimilated by the next consonant (Woolner 21 & Masica 176): OIA *sarpa* > MIA *sappa* > Kv. *sāp*, Hi. *sāp* (snake) T.13271.

Masica mentions also the disappearance of the sibilant preceding or following a stop in the MIA stage with subsequent aspiration of the remaining stop (p.177), a fact also observed by Woolner (p.20): OIA *aṣṭā* > MIA *aṭṭhā* > Kv. *āṭh*, Hi. *āṭh* (eight) T.940; OIA *hasta* > MIA *hattha* > Kv. *āth*, Hi. *hāth* (hand) T.14024. One of Masica's rules says that "Sequences of *two unlike* stops or nasals (-C<sup>1</sup>-C<sup>2</sup>) were reduced to *geminate of the second* stop or nasal (-C<sup>2</sup>-C<sup>2</sup>)" (174) hence: OIA *dugdha* > MIA *duddha* > Kv. *dūd* (milk) and *dūdi* (nipple), Hi. *dūdh* T.6391. One can also note that the aspiration vanished on the voiced dental stop *dh* > *d* in Kv., confirming Zoller (forthcoming) and Masica's observations (102) on the absence of voiced aspirated consonants in many Dardic and Pahārī languages.

Other MIA developments include the switch from the initial semi-vowel *y-* to a voiced palatal *j-* (Woolner 10 & Masica 169) and from the medial consonant cluster *-kṣ-* to an unvoiced velar aspirated stop *-kh-* (Woolner 20 & Masica 177) present in the name of the local deity *Jākh* that comes from OIA *yakṣa* which Turner translates with "a supernatural being" T.10395.

Another rule given by Masica says that a sibilant + r "generally gave *geminate of the first* element" (p. 174) like in: OIA *asru* > \**aśśu* > Kv. *āśu* (tear) T.919, one interesting thing here with 'tear' is the fact that Kv. and other Dardic and WP varieties have retained the original fricative /ś/: Jo. *āśu*, Kś. *ośu*, Kh. *asrū*, Ba. *asū*; other languages have reduced the former oppositions to a single sibilant /s/ instead: Hi. *āsū*, Gu. *āsu*, Ma. *asū*. On some consonant clusters involving a nasal consonant, only the nasal survived in Kv. and other languages: OIA *andhakāra* > Kv. *inārɔ*, Ba. *inārɔ*; sometimes, in other NIA languages, the aspirated dental stop was kept and the nasal was turned into a nasalized vowel, ex: Hi. *ādhērā*, Gu. *ādhārū*, Ma. *ādhār*; some Nu. languages retained the nasal and the dental stop was de-aspirated: Aś. *andarä*, Wa. *andara* (dark); in other cases, the dental stop vanished and only the aspiration stayed: Bi. *ānhar*, Pu. *anhārā* (dark) T.386.

An interesting word is the one for 'white' in which both the initial and the medial consonant clusters were simplified, either ending in a single stop or in a stop geminate: OIA *śvaitra* > Kv. *śetɔ*, Kṭg Kc. *śetto*, Jo. *śetto*, Ba. *śetɔ* (white) T.12778 with Kv. and other Pahārī varieties preserving the original initial sibilant ś-. Sometimes, the original unvoiced consonant

becomes voiced in Kv. as well as in other Dardic languages: OIA *ākāśa* (sky, ether) > Kv. *ᵛgāśᵛ* (bright), Gilgiti Sh. *agái*, Pa. *aghá*, Ba. *ᵛgaś* (sky) T.1008. A case of historical methathesis happened in the word for ‘rib’, the original OIA word being *pārśva* and the Kv. word *śāpri* T.8118: Woolner’s rule is that “in the middle of a word no group may exceed two consonants” (Woolner 18) hence, the semi-vowel –v- vanished according to Woolner’s other rule which shows that “V with a mute is assimilated” (Woolner 21). From *\*pārśa* a methathesis occurred which gave *\*śārpa*, from then, the medial cluster –rp- was reduced to the labial stop only, following the rule established by Masica who stipulates that “Stops, nasals, or sibilants preceded by r.l also generally assimilate those elements and result in geminates”, hence from *\*śāpa*, the final vowel –a is removed in the NIA stage (Masica 188) and the suffix –ri is glued to the final unvoiced labial consonant: *śāpri*. This methathesis seems to be unique for this word given the fact that most NIA languages did not experienced it: Kl. *paś*, Kh. *praś*, Kś. *pāha*, Pu. *pāssā*, Gu. *pāsũ*.

Masica mentions an internal development in WP *\*tr, t >ć* which is also a particular trait of Kv. and other WP varieties: OIA *pattra* > *\*paćća* > Kv. *pāć*, Kṭg Kc. *pāć*, Ba. *pāć* (leaf) T.7733; OIA *mūtra* > *\*mućća* > Kv. *mūć*, Kṭg Kc. *mūć* (urine) T.10234; OIA *āntra* > *\*anćća* > *\*anjja* > Kv. *āñje* (intestines, pl.) T.1182, in the last example, the palatal has become voiced *\*ć > j*. Only Ba. and Gilgiti Sh. show the same voiced palatal: Ba. *āñje* Sh. *aJulō*; in the majority of NIA languages, the original cluster either remained: Gu. *ātraṛũ*; or only the dental stop survived: Ma. *āt*; sometimes even getting voiced: Kś: *andar*.

The past participle verb *śitṇe* (cooked, boiled) has an interesting ending which does not seem to exist anywhere around Doḍra-Kvār: OIA *śra*, p.part. *śṛta* > Kv. *śitṇe* (cooked, boiled) T.12599. The origin of this past participle ending is still a mystery.

### 5.2.1.1 Depalatalization

The phenomenon has already been mentioned during this thesis (see 3.3.6 and 5.1.2). An original voiced affricate /j/ is depalatalized in Kv.: OIA *jihvā* > Kv. *dzīb* (tongue) T.5228; OIA *janghā* > Kv. *dzāḡ* (thigh) T.5082, also note the deaspiration of the final voiced velar /g/. The same is true for unvoiced affricates: OIA *chādana* (cover) > Kv. *čōṛ* (roof) T.5017; OIA *pāñcaka* (consisting of five) > Kv. *pāć* (five) T.7656. Some original unvoiced affricates have

become voiced and got depalatalized: OIA *cīvara* > Kv. *dziule* (cloth) T.4846. Few original OIA consonant compounds t + s are still in use in Kv. such as *baçuṭṭ* which comes from OIA *vatsa* (calf) T.11239 plus the addition of the suffix *-ṭṭ*. But here, the OIA compound *-ts-* turned into a palatal *-ć-* in MIA *vaccha* and got eventually depalatalized afterwards like in other Pahārī, Dardic and Nu. tongues: Kṭg Kc. *bāḥhu*, Kś. *woḥhu*, Aś. *ṣāḷā*, Wa. *wuḷāḷā*.

In medial clusters, Masica also writes that “As with initial clusters, the sequence dental + y yields palatals” (p.172) like in: OIA *satya* > MIA *sacca* > Kv. *ṣāḷṣ* (true) T.13112. Here, it is clear that a process of depalatalization *\*ć > ḷ* occurred in Kv. as well as in other NIA and Pahārī varieties (Zoller forthcoming 10 & Masica 94): Ma. *sāḷā*, WP *sāḷ*, Kṭg Kc. *ṣāḷṣ*.

## 5.2.2 Vocalic evolution

Vowels have also evolved considerably since Vedic times. The *r* has transformed itself during the MIA period, Masica writes that it has become a vowel *-i-* on the first syllable after an initial consonant (167) confirmed by the Kv. word *kimli* (ant) that originally comes from OIA *kṛmi* > MIA *kimi* (worm) T.3438. In other cases, the initial OIA *r-* changed to an initial *ri-* in MIA, confirming the rule described by Masica (168) and Woolner (25): OIA *r̥kṣa* > Kv. *rīkh*, Hi. *rich* (bear) T.2445. In the upper section on consonants, one clearly observes that a final vowel simply disappears in the NIA period (Masica 188): OIA *mukhya* > Kv. *mūkh*, Hi. *mukh* (face) T.10174. About vowel length and the change of quality, Woolner formulates the rule that in MIA “a long vowel can be followed by one single consonant, and therefore every vowel before a double consonant is short.” (26) and Masica adds for the NIA developments that “the geminates (-CC-) were reduced to single consonants with compensatory lengthening of the preceding vowel” (187) which is particularly true if one takes a look at the examples mentioned above: MIA *mutta* > Kv. *mūć*, or MIA *sappa* > Kv. *sāp*, Hi *sāp* (snake). About vowel nasalization, Masica states that “Intervocalic *-m-* was weakened to a nasalized *-ṃ-*” (183): OIA *nāman* > Kv. *naṣ*, Pa. *nōṣ*, Ku. *nāw*, Ma. *nāv* (name) T.7067. Another explanation for the appearance of nasalized vowels is that in “MIA –VNC- sequences, the vowel was lengthened and nasalized and the nasal was dropped” (Masica 188): OIA *danta* > Kv. *dāḍ* (tooth) T.6152; here, the unvoiced dental stop was voiced due to the presence of a nasal, an evolution that is typical of North-Western NIA languages (Masica 203): Pu. *dand*, Kś. *dand*,



Pa. *dándari*. Another common vocalic evolution is the switch from the OIA vowel /a/ to a /ɔ/ in Kv.: OIA *paśu* (domestic or sacrificial animal) > Kv. *pəśu* (cattle) T.7984; OIA *kukkuṭa* > Kv. *kukuṛɔ* (rooster) T.3208. The same is also true for words coming from Persian such as: *sabzi* > Kv. *səbzi* (vegetable), the /a/ sometimes even becoming an /u/ Persian *mard* > Kv. *murēd* (man).

A last word can be said about the tones. As written above, Kv. voiced consonants lost their aspirations, as well as many North-Western IA languages (Masica 102); a phonological evolution that yielded tones in the languages in question here (apart from a few exceptions). A word carrying a tone like *nañ* (navel) actually comes from an OIA word that had a voiced aspirated consonant: *nābhi* even though it is the disappearance of the aspiration on the *initial* consonant that yielded tones. For this reason, several Kv. words such as *gɔr* (house), *gɔrɔ* (horse) or *gās* (grass) would definitely need to be analyzed to see if tones can be detected, but here again, tonal minimal pairs for these words are essential to establish with certainty the presence of tones and tonemes in Kv.

## Conclusion

During the course of this work, several aspects of the sounds present in Kvāri have been described, dissected, analysed and finally discussed. The main purpose of this thesis was to find out whether Kvāri has tones or not and if the sound system of Kvāri was typical of other Pahārī varieties. After the introduction and different background information, I listed the different sounds that I was able to hear and record in that valley. Before enquiring about the sound system of a language on a deeper level, one should first have an overview of all the sounds used in a given language. This is precisely the purpose of phonetics, a science interested in the pure description of sounds *per se*. There, I described the oral production of these sounds taken individually and independently and how the ear perceives them. This stage is necessary for the analysis of the *functions* of these sounds in a language.

Then, sorting these sounds constituted another stage during the phonological process. By “sorting”, I mean differentiate the sounds that are the commonest and especially the ones that take a part in the sound system of the language. The first thing was to see which phones occurred often and in which positions they could be found within morphemes. Trubetzkoy’s method was put into practice (Trubetzkoy 46-65): when the meanings of two words are differentiated by a single different phone in each word, then one can say with certainty that these two different sounds have specific impacts on the perception of these sounds and make part of a system in that language. I then consulted my wordlist to look for such monophonic differentiations between words and tried to find minimal pairs. The first concern was to sort out the phones to see which ones could be set apart as not having a defined function in the oral system of Kvāri. Once these sounds were isolated, the work consisted of listing and categorizing the remaining phones into a phonological frame. By comparing the contrastive sounds inside minimal pairs, the remaining phones became either allophones or phonemes, the latest playing an important role in the understanding of morphological units set in a prosodic scheme. I could, for example, assume that some dental stops consonants were different from their retroflex equivalents (see 3.3.2), that aspirated voiced consonants were very rare and did not play any role in the phonological system of Kvāri or that length and nasalization of vowels were contrastive (see 3.4.1 and 3.1.1).

After that, the central issues regarding pitch accent and tones came to light. If pitch accent is not of main importance for the purpose of this thesis, the tones are. The minimal pairs in question here were hard to isolate and I found the first two (*naṣ* and *sās*) directly in

the field in HP. Both minimal pairs sounded different to my ear but it was then hard to give a written and visible description of these differences. Thanks to the speech analyser from the SIL, the picture could look clearer: the tonal contours looked very different while the phonemes were the same. This difference in tonal contours gave two different meanings to the words, a serious proof that Kvāri includes tones as a part of its phonological system. The fact that a third tonal minimal pair was isolated (*dzɔ̄ra/dzɔ̄rɛ*) is pretty significant to ascertain that this language very certainly has different tones to differentiate similar-looking words. Despite the fact that the final vowel could perhaps be distinctive in this case, the tonal contours look very dissimilar for words sharing the same syllabic structure. Moreover, Bailey gives the word *dzɔ̄r* for ‘rain’ (169), resembling the word for “root” in the singular in neighbouring WP varieties like Ba. and Kṭg Kc. *dzɔ̄r* (Zoller forthcoming 83 and Hendriksen 1976 73). It could be interesting to record both words in Kvāri to see in the speech analyser if different tones can be found. Another argument to prove that Kvāri is indeed a tonal language is that other tonal minimal pairs are strongly suspected in this language. One of them include *phūl* meaning both “flower” and “funerary urn” and the other one *kele* meaning “bananas” and “for”. Again, an audio recording of these words would be crucial to determine the presence of tones and tonemes in Kvāri. Other trips and fieldworks to Doḍra Kvār will be needed to collect more data.

Overall, Kvāri is a typical WP variety: the triangular vocalic system with four degrees of aperture is the same as the ones used in Kṭg Kc. and Bangāni (Hendriksen 7 and Zoller 221). The depalatalized affricates /č/ and /dz/ which are often heard in Kvāri are found in the Himalayas (Pahāṛī), the Karakoram (Dardic) and the Hindu Kush (Nuristāni) mountainous chains (Masica 94-95, 102). The regular occurrence of the vowel /ɔ̄/ when Hindi has /a/ makes Kvāri look close to Kṭg Kc and Bangāni. In addition to this, the fact that Kvāri does not have aspirated voiced consonants is also a strong argument to classify this language as a WP variety because Kṭg Kc. and Bangāni lack aspirated voiced consonants (Hendriksen 1986 15 and Zoller 2011 222) while EP and CP varieties such as Nepāli and Kumauni have them (see 5.1.5). Finally, the presence of tones in Kvāri shows that this Pahāṛī variety shares this feature with other WP and Dardic languages, not with CP and EP (Masica 118).

# Appendix

## Alphabetic wordlist Kvāri-English

Abbreviations:

*adj*: adjective

*adv*: adverb

*conj*: conjunction

*d.pro*: demonstrative pronoun

*di*: digit

*gen*: genitive

*imp*: imperative

*int.pro*: interrogative pronoun

*obl*: oblique

*n*: noun

*p.part*: past participle

*p.pro* : personal pronoun

*pl*: plural

*post.p* : postposition

*pro* : pronoun

*sg* : singular

*v*: verb

## A

aḍṭho [aḍṭʰo] *n.* : thumb

aḍṭhi [aḍṭʰi] *n.* : finger, toe

ākhe [a:kʰε] *n.pl.* : eyes

ājē [ã:dʒε] *n.pl.* : intestines

āṭh [a:tʰ] *di.* : eight

āḍo [ã:dɔ] *n.* : egg

āṭh [a:tʰ] *n.* : hand, arm

āṭhēli [a:tʰe:li] *n.* : palm of hand

ādmī [a:dmi] *n.* : person  
āpu [a:pu] *pro.* : self  
ām [a:m] *n.* : mango  
amε [amε] *p.pro.* : we  
ālu [a:lu] *n.* : potato  
āśī [a:ʃi] *n.* : mirror  
āśu [a:ʃu] *n.* : tear  
aśo [aʃo] *v.imp.* : come !

## I

iakčō [iaktʃō] *n.* : yak  
iō [iō] *p.pro.* : it  
iε [iε] *d.pro.* : these  
ināro [ina:rō] *adj.* : dark  
iluṛō [iluṛō] *n.* : mud

## U

undi [undi] *adv.* : down  
ubi [ubi] *adv.* : up  
umlo [umlo] *adj.* : left  
ūlṭi [u:lṭi] *n.* : vomit

## ᠋

oi [oi] *conj.* : and  
oḡāśō [oḡa:ʃō] *adj.* : bright  
oṭa [oṭʰa] *n.* : neck  
oḷko [oḷko] *adj.* : light

## O

okō [okō] *adj.* : another  
oglo [oglo] *n.* : type of buckwheat

## E

ēk [e:k] *di.* : one  
eśī [eʃi] *d.pro.* : this

## K

- kā [ka:] *int.pro.* : what  
kãgaṇi [kã:gəṇi] *n.* : ring  
kãgi [kã:gi] *n.* : comb  
kadzo [kadzɔ] *int.pro.* : which  
kaṭho [kaṭʰɔ] *adj.* : hard  
kaṇṭali [kaṇṭali] *n.* : earring in lobe  
kãṇḍo [ka:ṇḍɔ] *n.* : thorn  
kap [kap] *n.* : cup  
kãmbēl [ka:mbe:l] *n.* : blanket  
kãrgo [ka:rgɔ] *n.* : loom  
karçi [karʃi] *n.* : ladle  
kizrāṇi [kizra:ṇi] *adj.* : fetid  
kītti [kit:i] *injt.pro.* : how much/many  
kitraṇi [kitraṇi] *adv.* : never  
kīne [ki:ne] *n.* : beam  
kimli [kimli] *n.* : ant  
kuā [kua:] *n.* : crow  
kui ni [kuiʲ ni] *adv.* : no one  
kukuṭo [kukuʔtɔ] *n.* : dog  
kukri [kuk.ri] *n.* : hen  
kukruār [kuk.ɽua:ɽ] *n.* : chicken house  
kukro [kuk.ɽɔ] *n.* : rooster  
kuç ni [kuts ni] *adv.* : nothing  
kūniaiṭi [ku:niajʲti] *n.* : elbow  
kūṇ [kū:ṇ] *int.pro.* : who  
kuṇo [kuṇɔ] *n.* : corner  
kūllo [ku:l:ɔ] *int.pro.* : why  
koko [kɔkɔ] *n.* : nosering in septum  
koṭvaṛo [koṭwaṛɔ] *n.* : fence  
koṇṭēr [koṇṭe:r] *n.* : can

kōṇṇṇ [kɔ:ṇṇ] *int.pro.* : how  
kōndzɔ! [kɔndzɔ!] *n.* : ear  
kɔpā! [kɔpa:] *n.* : forehead  
kɔɾuɔ [kɔɾuɔ] *adj.* : bitter  
kō!ɔ [kɔ:ɔ] *n.* : soft  
kōslōḍɛ [kɔ:slōḍɛ] *n.* : armpit  
koiɛ! [koiɛ!] *n.* : cuckoo  
ko!ɔ [ko!ɔ] *n.* : nest  
kōkɛ [ko:kɛ] *int.pro.* : where  
koṭhār [koṭ<sup>h</sup>a:r] *n.* : granary  
ke le [kele] *post.p.* : for

## **KH**

khaṭɔ [k<sup>h</sup>aṭɔ] *n.* : sour  
khāl [k<sup>h</sup>a:l] *n.* : skin, bark  
khilkɔ [k<sup>h</sup>ilkɔ] *n.* : shirt  
khūn [k<sup>h</sup>u:n] *n.* : blood  
khur [k<sup>h</sup>ur] *n.* : hoof  
khuśpu [k<sup>h</sup>uʃpu] *n.* : perfume  
khɔkɔṭɔ [k<sup>h</sup>ɔkɔṭɔ] *n.* : cheek

## **G**

gai [gai] *n.* : cow  
gairɔ mōsaḍ [gairɔ mōsaḍ] *n.gen., n.* : beef  
gāṭɔ [ga:ṭɔ] *adj.* : tight  
gāndɔ [ga:ndɔ] *adj.* : dirty  
gāburɔ [ga:buɾɔ] *n.* : lamb  
gās [ga:s] *n.* : grass  
gilās [gila:s] *n.* : glass  
gurdɔ [gurdɔ] *n.* : kidney  
gukti [gukti] *n.* : wild pigeon  
gudēr [gude:ɾ] *n.* : waistcloth  
gulo [gulo] *n.* : knee

guśā [guʃa:] *n.* : cowshed  
gɔŋɔ [gɔŋɔ] *adj.* : thick  
gɔdilo [gɔdilo] *n.* : mat  
gɔnno [gɔn:ɔ] *n.* : reed  
gɔŋɛ [gɔ:ŋɛ] *n.pl.* : ornaments  
gɔr [gɔr] *n.* : house  
gɔrēt [gɔre:t] *n.* : grinder  
gɔri [go:ɹi] *n.* : steed  
gɔrɔ [go:ɔ] *n.* : horse  
gɔlēt [gɔle:t] *adj.* : wrong  
gɔlɔ [gɔlɔ] *n.* : throat  
gɔrui čever [go:rui tʰevɛɹ] *adj., n.* : pregnant woman  
gɔrēd [go:ɹe:d] *n.* : ravine deer  
geũ [geũ] *n.* : wheat

## Ć

ćā [tʃa:] *n.* : tea  
ćācu [tʃa:tʃu] *n.* : maternal uncle  
ćāju [tʃā:dʒu] *n.* : spider  
ćīni [tʃi:ŋi] *n.* : sugar  
ćuno [tʃuno] *n.* : lime  
ćūza [tʃu:za] *n.* : chick

## Č

čāual [tʃa:ual] *n.* : rice  
čāti [tʃʰa:ti] *n.* : chest  
čappal [tʃap:al] *n.* : sandal  
čār [tʃa:r] *di.* : four  
čɔ [tʃʰɔ] *di.* : six  
čɔĩ [tʃɔĩ] *n.* : roof  
čɔkuri [tʃɔkuri] *n.* : fowl  
čōti [tʃʰɔ:ti] *n.* : lip  
čɔtri [tʃɔtri] *n.* : umbrella  
čɔlāk [tʃɔla:k] *n.* : slick



čēturo [tse:tuɔ] *n.* : kid

čever [tʰevɛɹ] *n.* : woman

## **J**

jao [dʒao] *v.imp.* : go !

jānvar [dʒa:nvar] *n.* : animal

jũ [dʒũ:] *n.* : body louse

jūs: [dʒu:s] *n.* : juice

jōg [dʒo:g] *n.* : brass water jar

jogon [dʒogon] *n.* : firefly

jorāng [dʒoɹa:ŋg] *n.* : body

## **DZ**

dzāg [dʒā:g] *n.* : thigh

dzaga [dʒaːga] *n.* : place

dzādzi [dʒā:dzi] *n.* : comb

dzā! [dʒa:] *n.* : web

dziu [dʒiu<sup>w</sup>] *n.* : heart

dziule [dʒiule] *n.* : cloth

dzīb [dʒi:b] *n.* : tongue

dzibri [dʒibɹi] *n.* : chin

dzobrɔ [dʒobrɔ] *n.* : molar

dzòra [dʒòɹa] *n.* : deer

dzóre [dʒóɹɛ] *n.pl.* : roots

dzōt [dʒo:t] *n.* : shrub

## **Z**

zađ [zađ] *post.p.* : towards

zāda [za:da] *adv.* : very, much

zāli [za:i] *adj.* : false

## **T**

tālo [ta:lɔ] *n.* : lock

tōtōri [tɔ:tɔ:ɹi] *n.* : necklace

topeɹa [topeɹa] *n.* : cap

tēṇũ [tɛ:ṇũ] *n.* : chick

## **ṬH**

ṭhīk [tʰi:k] *adj.* : right, correct

## **D**

ḍaṅk [ḍaṅk] *n.* : sting

ḍokhrɔ [ḍokʰrɔ] *n.* : field

ḍeṅṭhɛ [ḍeṅṭʰɛ] *n.* : stalk

## **T**

taḍ [taḍ] *p.pro.sg.obl.* : you

titar [titar] *n.* : partridge

tīn [ti:n] *di.* : three

tīndɔ [ti:ndɔ] *adj.* : wet

tū [tu:] *p.pro.sg.* : you, thou

tumɛ [tumɛ] *p.pro.pl.* : you

tɔua [tɔua] *n.* : griddle

tɔluaĩ [tɔluaĩ] *n.* : sole

toi [toi] *n.* : kind of frying pan used to make roṭi bread

tōta [to:ta] *n.* : parrot

teśi [teʃi] *d.pro.* : that

## **TH**

thūk [tʰu:k] *n.* : sputum

## **D**

dāgɔ [da:gɔ] *n.* : thread

dāgōṭi [da:go:ṭi] *n.* : bracelet

dāḍ [dā:d] *n.* : tooth

dān [da:n] *n.* : paddy

dār [da:r] *n.* : door

daṛi [da:ṛi] *n.* : beard

dāre [dʰa:re] *adj.* : striped

dāl [dʰa:l] *n.* : hello

daś [dəʃ] *di.* : ten  
dimāg [dima:ḡ] *n.* : skull, brain  
dilo [dilɔ] *adj.* : loose  
dui [dui] *di.* : two  
dukharo [duk<sup>h</sup>aɾɔ] *adj.* : painful  
dūd [du:d] *n.* : milk  
dūdi [du:di] *n.* : nipple  
dūre [du:rɛ] *n.* : spindle  
ḍokēṇ, ḍaḍkhi [ḍɔke:ṇ], [ḍaḍk<sup>h</sup>i] *n.* : ladle

## **N**

na [na] *adv.* : not  
naī [naī] *adv.* : no  
náḥ [náḥ] *n.* : name  
naḥ [naḥ] *n.* : navel  
nāk [na:k] *n.* : nose  
nāt [na:t] *n.* : nosering in septum  
nas [nəs] *n.* : blood vessel  
nō [nɔ:] *di.* : nine  
noḡ [no'g] *n.* : fingernail  
neoḷ [neo'ɭ] *n.* : mongoose

## **P**

pākeru [pāk<sup>h</sup>eru] *n.* : bird  
pākhɔ [pa:k<sup>h</sup>ɔ] *n.* : feather  
pāgrɔ [pa:ḡɾɔ] *n.* : turban  
pāc [pa:ʃ] *n.* : leaf  
pāc [pā:ts] *di.* : five  
pāṇi [pa:ṇi] *n.* : water  
patlɔ [patlɔ] *adj.* : thin  
pānjēb [pāṇḍe:b] *n.* : anklet  
paṛɔ [pa:ɾɔ] *n.* : female genital organ  
piāz [pia:z] *n.* : onion

pinjarə [piˈndʒərə] *n.* : cage  
piśu [piʃu] *n.* : flea  
pundzuʔə [pundzuʔə] *n.* : tail  
pətpəʔə [pətpəʔə] *adj.* : faded  
pəʔə [pəʔə] *n.* : plant  
pəraː [pəraː] *n.* : rice straw  
pəʔə [pəʔə] *n.* : bed  
pəʃ [pəʃ] *n.* : shell  
pəʃu [pəʃu] *n.* : cattle  
poita [poita] *n.* : dal, lentils  
pəgā [pəgaː] *n.* : wall  
pəʔə [pəʔə] *n.* : butterfly  
pəʔ [pəʔ] *n.* : stomach  
pəʔ [pəʔ] *n.* : plant  
pəʃāph [pəʃaːpʰ] *n.* : urine  
pəʔə [pəʔə] *n.* : tree

## PH

phaprə [pʰaprə] *n.* : millet  
phīm [pʰiːm] *n.* : opium  
phū [pʰuː] *n.* : flower  
phənnə [pʰənːə] *n.* : shoulder  
phəʔ [pʰəʔ] *n.* : fruit  
phəʔləʔə jūs [pʰəʔləʔə dʒuːs] *n.gen., n.* : fruit juice  
phəʔriəʔ [pʰəʔriəʔ] *n.* : upper back  
phəʔə [pʰəʔə] *n.* : heel

## F

fərai pān [fərai paːn] *n.* : frying pan

## B

bakhra [bakʰra] *n.* : billy goat  
bakhri [bakʰri] *n.* : goat  
bāg [bʰāg] *n.* : cannabis

bāg [ba:g] *n.* : tiger  
baṅg [baŋg] *n.* : leg  
bāju [ba:dʒu] *n.* : arm  
baćuṭṭṭ [batsʊʔtʊ] *n.* : calf, colt  
bāt [ba:t] *n.* : road  
bāt [ba:t] *n.* : rice  
bāndēr [ba:nde:r] *n.* : monkey  
bārgṭṭ [ba:rgṭṭ] *n.* : lower back  
bāl [ba:l] *n.* : hair  
bija [biʒa] *n.* : seed  
biću [bits<sup>h</sup>u] *n.* : scorpion  
bīṅ [bi:ŋ] *post.p.* : without  
bitarē [bitərə] *adv.* : inside  
birāṭi [bira:ṭi] *n.* : cat  
bīṛ [bi:ɹ] *n.* : sheep  
bīs [bi:f] *di.* : twenty  
buṅgu [buŋgu] *n.* : owl  
buṭṭ [buṭṭ] *n.* : male genital organ  
butēl [bute:l] *n.* : bottle  
bunne [bun:ɛ] *n.* : embroidery  
burādṭṭ [bura:dṭṭ] *n.* : soot  
buṛṭṭ [buṛṭṭ] *adj.* : bad  
bṭṭēd [bṭṭe:d] *n.* : bull  
bṭṭni [bṭṭni] *n.* : eyelash  
bṭṭ [bṭṭ] *n.* : floor  
bośo [boʃo] *v.imp.* : sit !  
belri [belri] *n.* : maize

## M

mākhi [ma:k<sup>h</sup> i] *n.* : fly  
maćṭṭ [matsṭ] *n.* : mosquito  
māći [ma:tsi] *n.* : fish  
manu [maˈnu] *n.* : frog

mīṭhō [miṭʰɔ] *adj.* : sweet  
mū [mū] *p.pro.obl.* : me  
mū̃ [mū:] *n.* : mouth  
muktō [muktɔ] *adj.* : sufficient  
mūkh [mu:kʰ] *n.* : face  
mūgri [mūgri] *n.* : earring in upper ear  
mūc [mu:ʃ] *n.* : urine  
mūcē [mu:tsʰɛ] *n.pl.* : moustache  
mutkhē [mutkʰɛ] *n.* : head  
munāḷ [muna:l] *n.* : pheasant  
murēd [mure:ɖ] *n.* : man  
muśō [muʃɔ] *n.* : rat  
musul [musul] *n.* : pestle  
mō̃ [mō:] *n.* : honey  
mō̃si [mō̃ʃi] *n.* : buffalo  
mō̃gō [mō̃:gɔ] *adj.* : expensive  
mōcē [mōʰtsɜ] *n.pl.* : chillies  
mōsaḍ [mōsaḍ] *n.* : flesh, meat  
mesāle [mesa:lɛ] *n.pl.* : spices

## **R**

rā̃g [rā̃:g] *n.* : color  
rāt [ra:t] *n.* : night  
rāti [ra:ti] *n.* : morning  
ras [rəs] *n.* : sap  
rīkh [ri:kʰ] *n.* : bear  
rui [ruiʲ] *n.* : cotton  
rōṭ [ro:t] *n.* : food  
rosuigōr [rosuigōr] *n.* : kitchen

## **L**

lauḷ [lau] *n.* : vine  
lākṛō [la:kṛɔ] *n.* : wood

lā|ε [la:|ε] *n.* : saliva

līmçi [li:mtsi] *n.* : lizard

luṅṭo [luŋṭo] *n.* : salt

luše [luʃε] *n.* : earthworm

## L

lō [lo:] *n.* : flame

## Ś

śag, śurua [ʃaːg], [ʃurua] *n.* : soup

śāṭo [ʃā:ṭo] *n.* : branch

śāpṛi [ʃa:pṛi] *n.* : rib

śāśu [ʃa:ʃu] *n.* : daughter in law

śiṅgaṇo [ʃiŋgaṇo] *n.* : nasal mucus

śiāl [ʃia:l] *n.* : fox

śiṅg [ʃiːŋg] *n.* : horn

śitōne cāual [ʃitōne tsa:ual] *p.part., n.* : cooked rice

śimi [ʃimi] *n.* : husk

śuīṇ [ʃui:ṇ] *n.* : broom

śuko gās [ʃuko ga:s] *adj., n.* : hay (lit. dry grass)

śūr [ʃu:r] *n.* : underground gallery

śokōṭo [ʃokōṭo] *n.* : beehive

śogakṛo [ʃogakṛo] *n.* : pumpkin

śośiṇ [ʃoʃiṇ] *n.* : oil

śeto [ʃeto] *adj.* : white

śēr [ʃe:r] *n.* : lion

## S

sāt [sa:t] *di.* : seven

sāti [sa:ti] *adj.* : together

sāp [sa:p] *n.* : snake

sāph [sa:pʰ] *adj.* : clean

sābin [sa:bin] *n.* : soap

sās [sà:s] *n.* : breath

sās [sǎ:s] *n.* : sweat

sindūk [sindu:k] *n.* : box

sivēṇ [siwe:n] *n.* : needle

sukhi [suk<sup>hi</sup>] *adj.* : pleasant

suṅguṭṭ [suṅgu<sup>ṭṭ</sup>] *n.* : pig

sumlṭ [sumlṭ] *adj.* : right

sūr [su:r] *n.* : beer

sṭ [sṭ] *p.pro.* : he

sṭṭ [sṭṭ] *adj.* : true

sṭbzi [sṭbzi] *n.* : vegetable

sṭstṭ [sṭstṭ] *adj.* : cheap

sṭ [sṭ] *d.pro., p.pro.* : those, they

sṭ [sṭ] *p.pro.* : she

## H

haũ [haũ] *p.pro.* : I

harkuṛi [harku.ṛi] *n.* : bone

hoi [hoi] *adv.* : yes

hṭṣīte čāual [hṭ:ṣīte tsa:ual] *v.p.part., n.* : uncooked rice





The lower part of Kvar



The mela (fair) at the main temple of Kvar  
©Suraj Chita

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