Ouachita Baptist University
Scholarly Commons @ Ouachita

Honors Theses | Carl Goodson Honors Program

2003

Articulation Testing in Hindi Speech

Vinita J. Rajah
Ouachita Baptist University

Follow this and additional works at: https://scholarlycommons.obu.edu/honors_theses

Part of the Bilingual, Multilingual, and Multicultural Education Commons, and the Speech Pathology and Audiology Commons

Recommended Citation

Rajah, Vinita J., "Articulation Testing in Hindi Speech" (2003). *Honors Theses*. 148.
https://scholarlycommons.obu.edu/honors_theses/148

This Thesis is brought to you for free and open access by the Carl Goodson Honors Program at Scholarly Commons @ Ouachita. It has been accepted for inclusion in Honors Theses by an authorized administrator of Scholarly Commons @ Ouachita. For more information, please contact mortensona@obu.edu.

SENIOR THESIS APPROVAL

This Honors thesis entitled

Articulation Testing in Hindi Speech

written by

Vinita J. Rajah

and submitted in partial fulfillment of the
requirements for completion of the
Carl Goodson Honors Program
meets the criteria for acceptance
and has been approved by the undersigned readers.

Professor Nancy Hardman, CCC-SLP
Thesis Director

Professor Carol Morgan, CCC-SLP
First Reader

Professor Corliss Smith
Second Reader

Dr. Byron Eubanks
Honors Program Director

Spring 2003

R161a

The profession of speech-language pathology deals with one of the most basic functions of humanity—communication. Speech-language pathologists are trained to provide remedial services to children and adults with communication disorders in a wide variety of work settings.

Communication disorders can be broadly divided into five categories: voice disorders, fluency disorders, dysphagia, language disorders, and articulation disorders.

Before a speech-language pathologist begins speech therapy, it is necessary to perform an evaluation. Evaluation refers to the processes used to determine a diagnosis. There are two main reasons for performing evaluation tasks. First, we need to evaluate to arrive at a good understanding of a client's problem. The other reason to perform evaluation tests is to be able to monitor the client's progress in treatment and describe changes in the communication disturbances. Speech-language pathologists use standardized tests to determine the presence or absence of communication disorders. Most test currently used in speech-language pathology are based on Standard English.

The area that I have addressed is Articulation. Articulation disorders occur when a person produces sounds, syllables, or words in a way that listeners do not always understand what is being said or may be distracted by the manner in which it is said. Such disorders are most often seen in pre-school or school-age children who do not develop certain sounds at the usual age. Speech-language pathologists work with clients having articulation disorders and help them to learn proper production of speech sounds.

Indian schools teach 58 different languages. Hindi is the official language spoken by the majority of the people in India and only about 5 to 10% of the Indian population speaks English. When I return home, I will be working with predominantly Hindi-

speaking clients. The field of speech pathology in India is very new. I will have to use the knowledge I have received in English, and adapt it to the Hindi language. There are no tests that I can use while performing an evaluation in Hindi. Translating tests that are used to evaluate language, voice or fluency disorders, does not pose too much of a problem, apart from adapting them to the cultural situation, since the basic concepts are the same. But, it is impossible to take an English articulation test and translate it into Hindi, expecting it to function in the same way, which is to detect articulation errors.

The first problem associated with translation of an English test is that each language has its own specific phonemes and sound characteristics. In the English language, aspiration of phonemes is not important to most phonemes. But in Hindi, aspiration changes the meaning of the word. In the English language, aspiration of phonemes is not important, but in Hindi, aspiration changes the meaning of the word. For example, there is no difference in aspiration of the /ʧ/ sound in English, as in the word "church". Even if I said the /ʧʰ/ with aspiration, the meaning would not change. But, aspiration of the /ʧ/ sound in the Hindi word *chal*, /ʧʌl/ makes a big difference. *Chal* with no aspiration, /ʧʌl/ means "to go", *chal* with the /ʧʰ/ aspirated, /ʧʰʌl/ means to cheat. Also the phoneme /w/ does not occur in the Hindi language.

The next problem that will arise is that the set of phonemes occurring in the translated words will be different. For example, take the target word "fish", which appears on a well-known American articulation test, the Arizona 3. "Fish" is used to test for the /ɪ/ vowel sound and the /ʃ/ sound in the final position. The word when translated into Hindi becomes *machli*, /mʌʧəli/ which bears no phonetic or sound resemblance to the word "fish".

Another problem in translating an English test to another language, such as Hindi, is that some of the target words may not be culturally appropriate. For example, the target word "wagon" on the Arizona 3 to a child in America, and in most English speaking countries, is an identifiable word, since it is a common and familiar toy. But, to a child in India, it would be an unfamiliar object.

While it is impossible for me to translate these tests into Hindi, a knowledge of the working the working of English tests can be used as a base to develop a test in Hindi. I began to work on this project by studying the Arizona 3 and another well established American articulation test, the Goldman-Fristoe. I then created a basic chart of Hindi phonemes using the International Phonetic Alphabet. Nest, I developed a word list that could be used to assess the different target phonemes of the Hindi language. I narrowed down the list by eliminating the words that could not be depicted in simple line drawings. I came up with my final list once I had excluded all the words that would not be present in a child's vocabulary. The final selections can be used to detect substitution patterns. initial sound deletions and final sound deletions. After that, I created my response sheet and worked on the pictures. Time and financial constraints have prevented it from becoming a fully finished work; it is still a work in progress and a lot of work is still to be done. The test will have to be administered to a normative sample of children to further develop standardizations and scoring patterns. But, it is still in usable format; which I plan to refine and hopefully publish sometime in the near future in my country, India.

Rajah Svar Dhwani Janch

Test of Hindi Articulation

By Vinita J. Rajah, under guidance of Nancy Hardman, CCC-SLP & Carol Morgan, CCC-SLP

RESPONSE FORM

IDENTIFYING INFORMATION

Name: _____

MALE **FEMALE**

School/Agency: _____

Grade/ Educational Level: _____

Examiner: _____

Reason for Testing: _____

_____

_____

Other Test Information: _____

_____

_____

AGE CALCULATION

	Year	Month	Date
Test Date	____	____	____
Birth Date	____	____	____
Chronological Age	____	____	____

R™ 2003 Ouachita Baptist University, 410 Ouachita Street, Arkadelphia, AR-71998. This test is an original work created by Vinita J. Rajah, Department of Communication Disorders, under the Ben Elrod Honors Program. No part of this form may be photocopied or otherwise reproduced without permission.

Sound

22	यात्री	traveler	jaθri
23	राजा	king	radʒa
24	लड़का	boy	lɝka
25	वरदी	uniform	vɝði
26	हाथी	elephant	haθʰi
27	नाशपाती	pear	naʃpaθi
28	चाभी	key	tʃəbʰi
29	चूहा	mouse	tʃuhə
30	दिया	lamp	ðijə
31	घाव	wound	gʰav
32	दूध	milk	ðuðʰ
33	सेब	apple	seb
34	आम	mango	əm
35	आँख	eye	ə̃kʰ
36	चोंच	beak	tʃotʃ
37	ऊँट	camel	ũtə
38	झंडा	flag	dʒʰʌnda
39	ओखली	grinding stone	okʰli
40	कंघी	comb	kᵓʌŋg̣hi
41	कैंची	scissors	kᵓætʃi
42	मछली	fish	mʌtʃəli
43	बालटी	bucket	balti
44	मिठाइ	sweets	mitʰə̯i

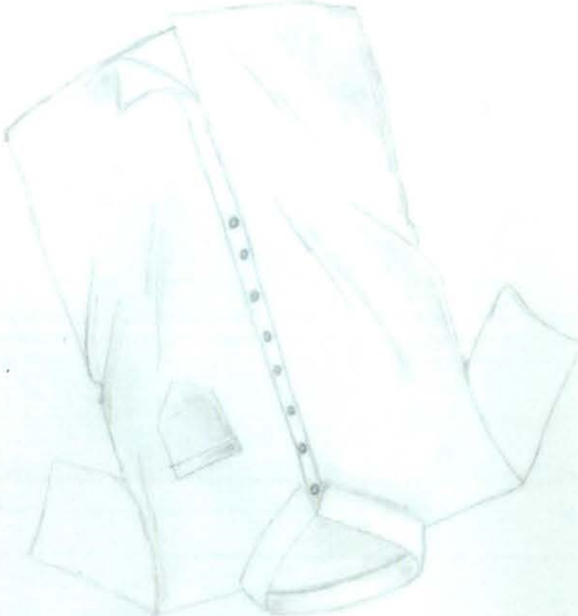
26 य jə	22	30	
27 र rə	23	9	20
28 ल lə	24	11	17
29 व və	25	18	31

Notes

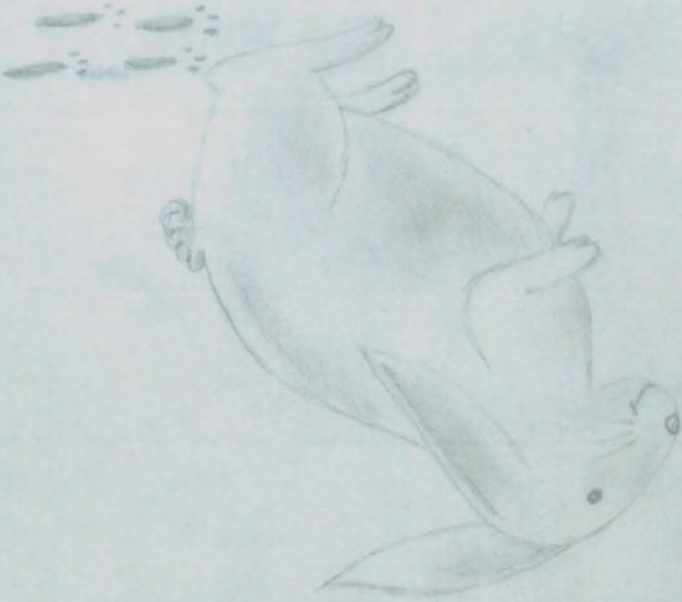
Plate-in-Words

Plate	Words in Hindi	English Translation	Phonetic Transcription
1	कमीज़	shirt	kəmiʤ
2	खरगोश	rabbit	kʰəgoʃ
3	गधा	donkey	gʌʤʰa
4	घास	grass	gʰas
5	चाँद	moon	ʧ̃aʤ̃
6	छाता	umbrella	ʧʰaɵa
7	मुह	mouth	muhə
	जीभ	tongue	ʤibʰ
	दाँत	tooth	ʤ̃aɵ
	होंठ	Lips	hʊ̃t
8	टांग	Leg	tãg
9	बरफ़	ice	bʌrəf
	ठंढा	cold	tʰʌnda
10	डफली	tamborine	dʌfəli
11	ढोलक	drum	dʰolak
12	नीबू	Lime	nibu
13	तकिया	pillow	ɵəkɪjə
14	थाली	plate	ɵʰali
15	धनुष	bow	ʤʰʌnuʃ
16	पैसा	money	pəɪsa
17	फूल	flower	ful
18	भवन	building	bʰʌvən
19	हाथ	hand	haɵ
20	शेर	tiger	ʃɛr
21	साँप	snake	sap

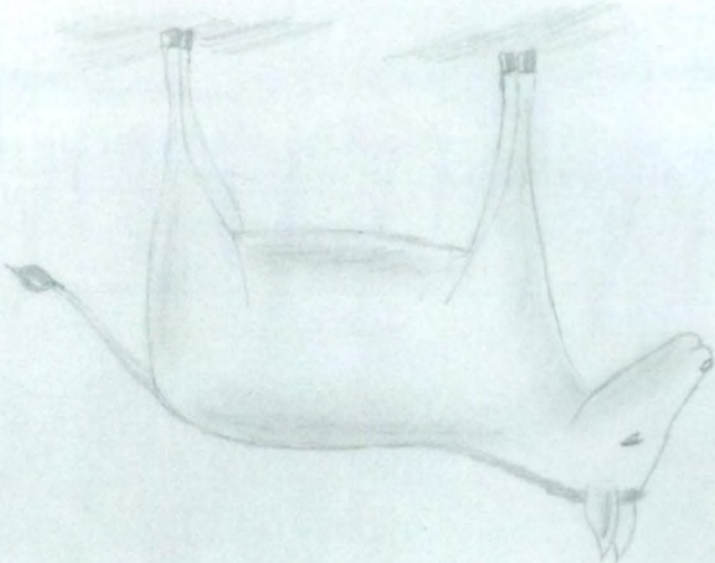
Sound	Word: Initial	Word: Medial	Word: Final
1 क kᵊə	1	24	11
2 ख kʰə	2	39	35
3 ग gᵊə	3	2	8
4 घ gʰə	4	40	
5 च ʧə	5	42	36
6 छ ʧʰə	6	42	
7 ज ʤə	7	23	1
8 झ ʤʰə	39		
9 ट tə	8	43	37
10 ठ tʰə	9	44	7
11 ड də	10	38	
12 ढ dʰə	11	9	
13 न nə	12	15	18
14 त ɵᵊə	13	6	7
15 थ ɵʰə	14	26	19
16 द ʤ̃ə	7	25	5
17 ध ʤʰə	15	3	32
18 प pᵊə	16	27	21
19 फ fə	17	10	9
20 ब bə	9	12	33
21 भ bʰə	18	28	7
22 म mə	7	1	34
23 ह hə	19	29	7
24 ष, श ʃ	20	27	2
25 स sə	21	16	4



1	[illegible]	shirt	kamidz



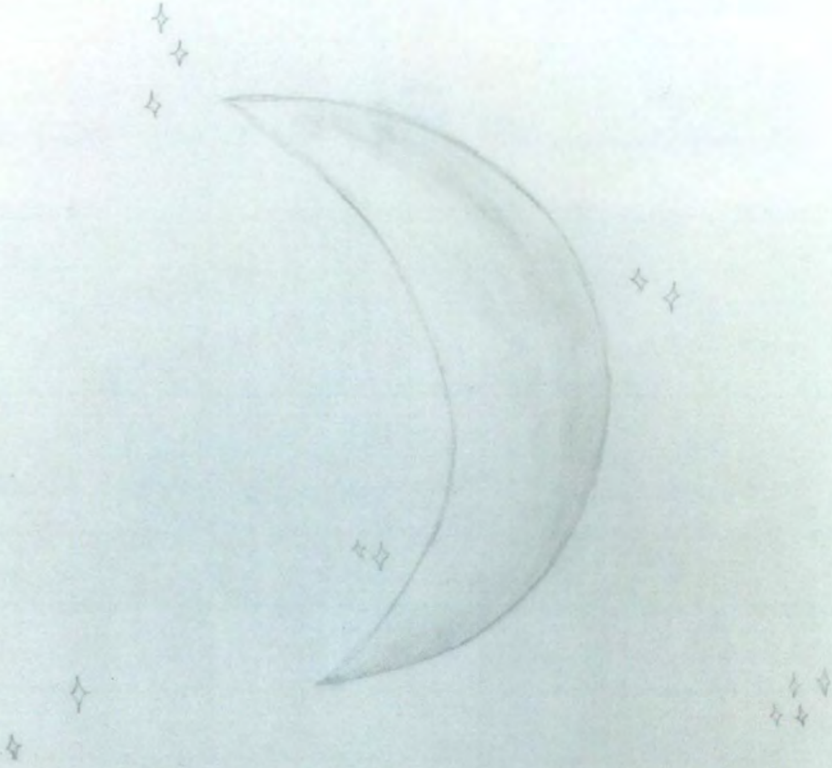
2	खरगोश	rabbit	kʰ ə g o ʃ



3	गधा	donkey	g^dha

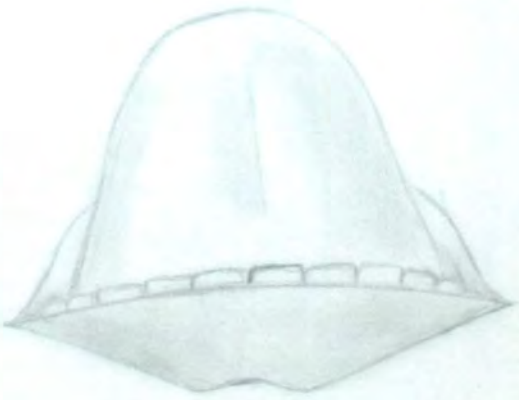
ROTHAM LIBRAR

4	घास	grass	g^h as

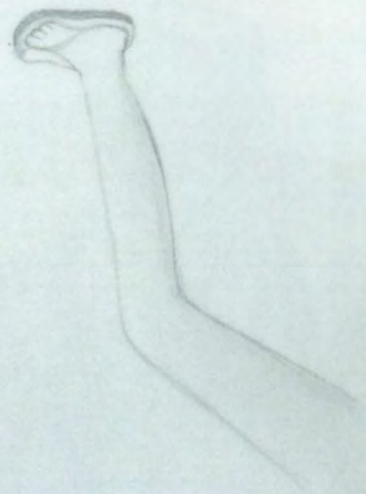


5	चाँद	moon	tʃãd

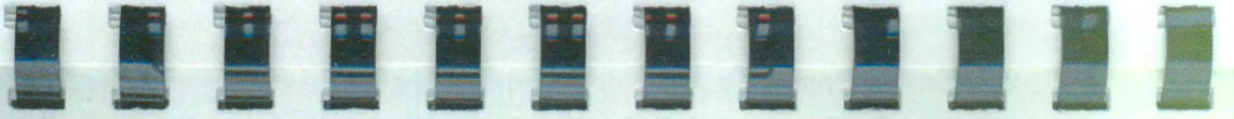
6	छाता	umbrella	tʃaʊa



7	मुख	mouth	mukh
	जीभ	tongue	jibh
	दाँत	tooth	dãt
	होंठ	lips	hõṭ

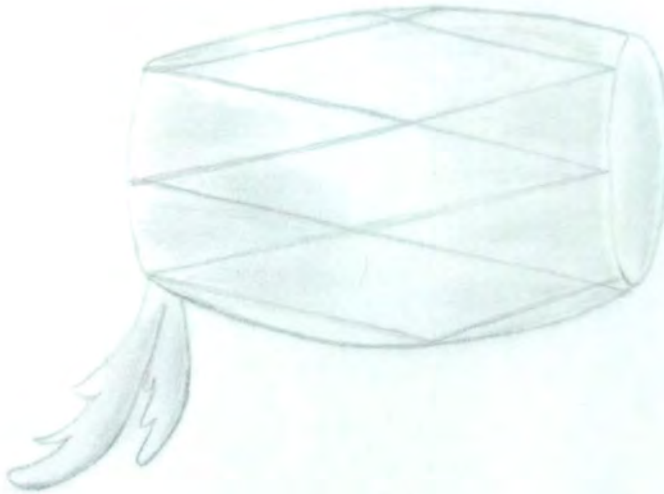


8	टांग	leg	ṭãg



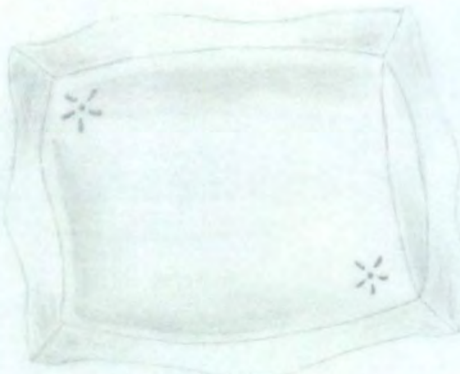
9	बरफ़	ice	bʌrəf
	ठंडा	cold	ʈʰʌnda

10	डफली	tamborine	ɖʌfəli



11	ढोलक	drum	dʰolək

12	नीबू	Lime	nibu



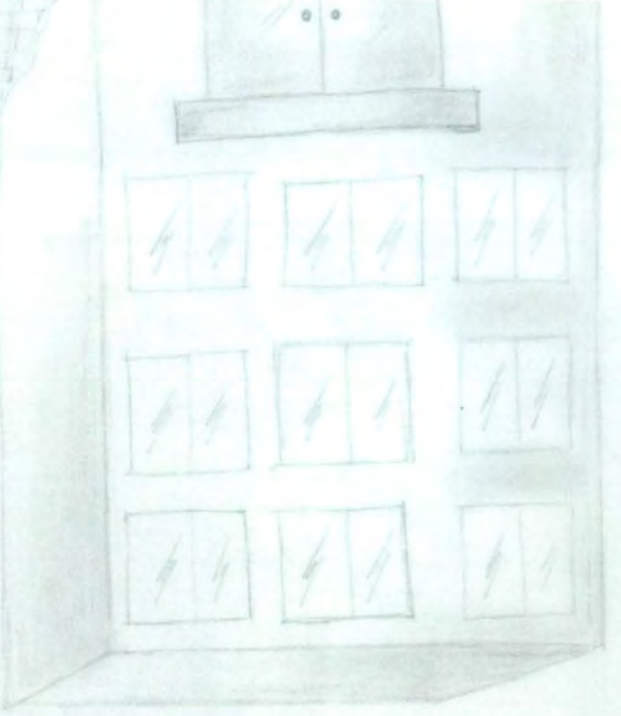
13	तकिया	pillow	θəkɪja

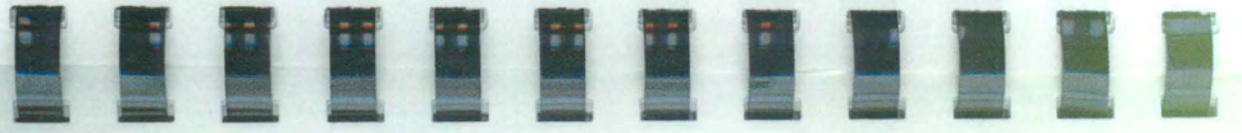
14	थाली	plate	thali

15	धनुष	bow	dʰʌnuʃ

16	पैसा	money	paysa

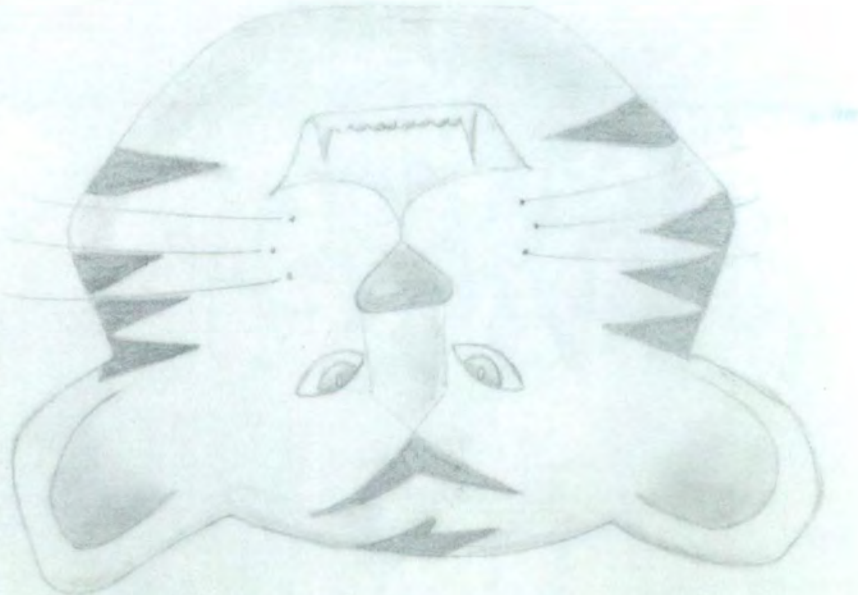
17	फूल	flower	ful



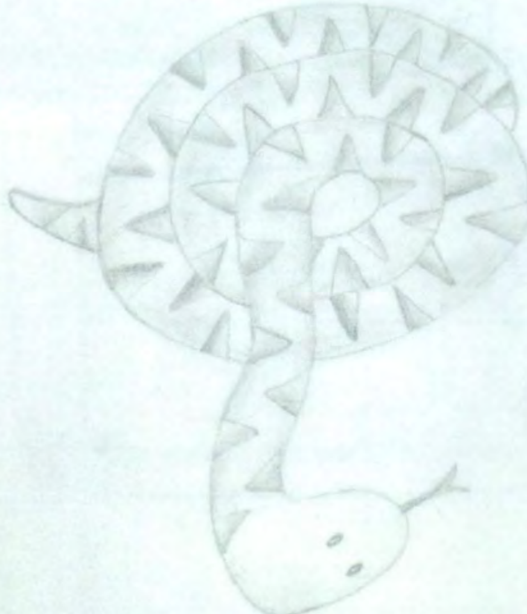


18	อาคาร	building	อาคาร

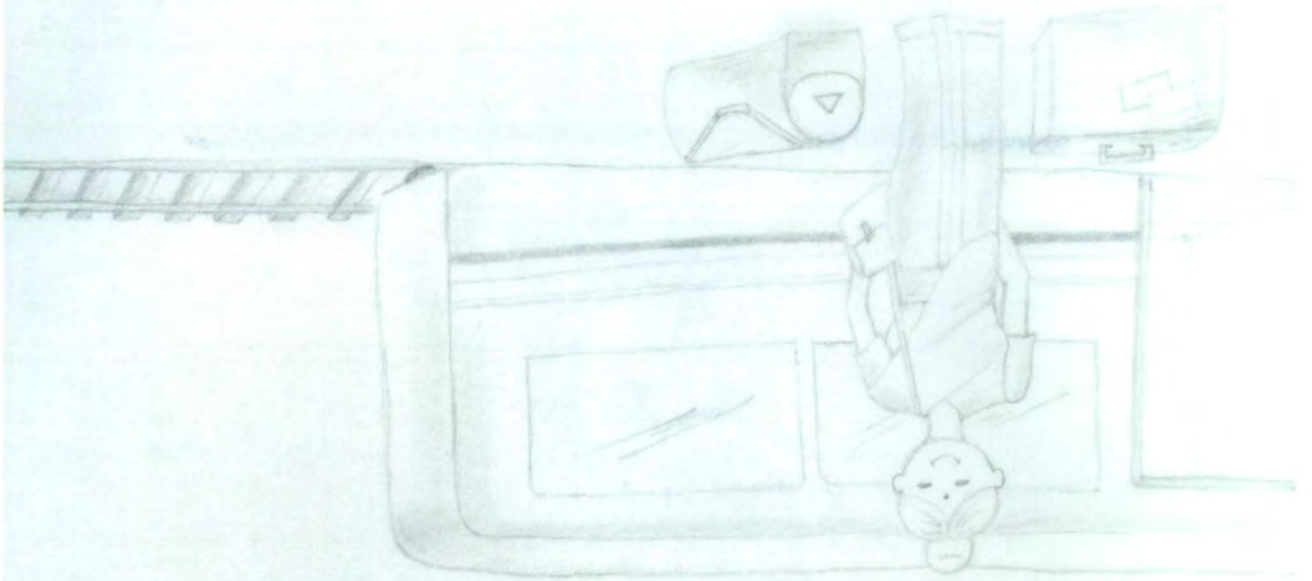
19	हाथ	hand	haθ

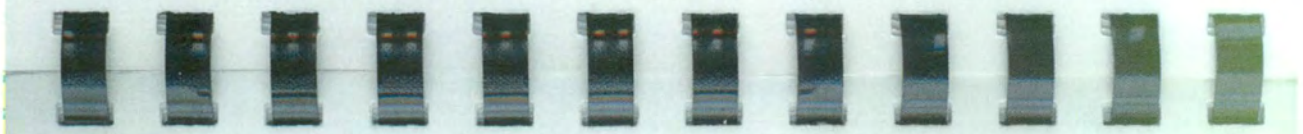


20	शेर	tiger	ʃɛr



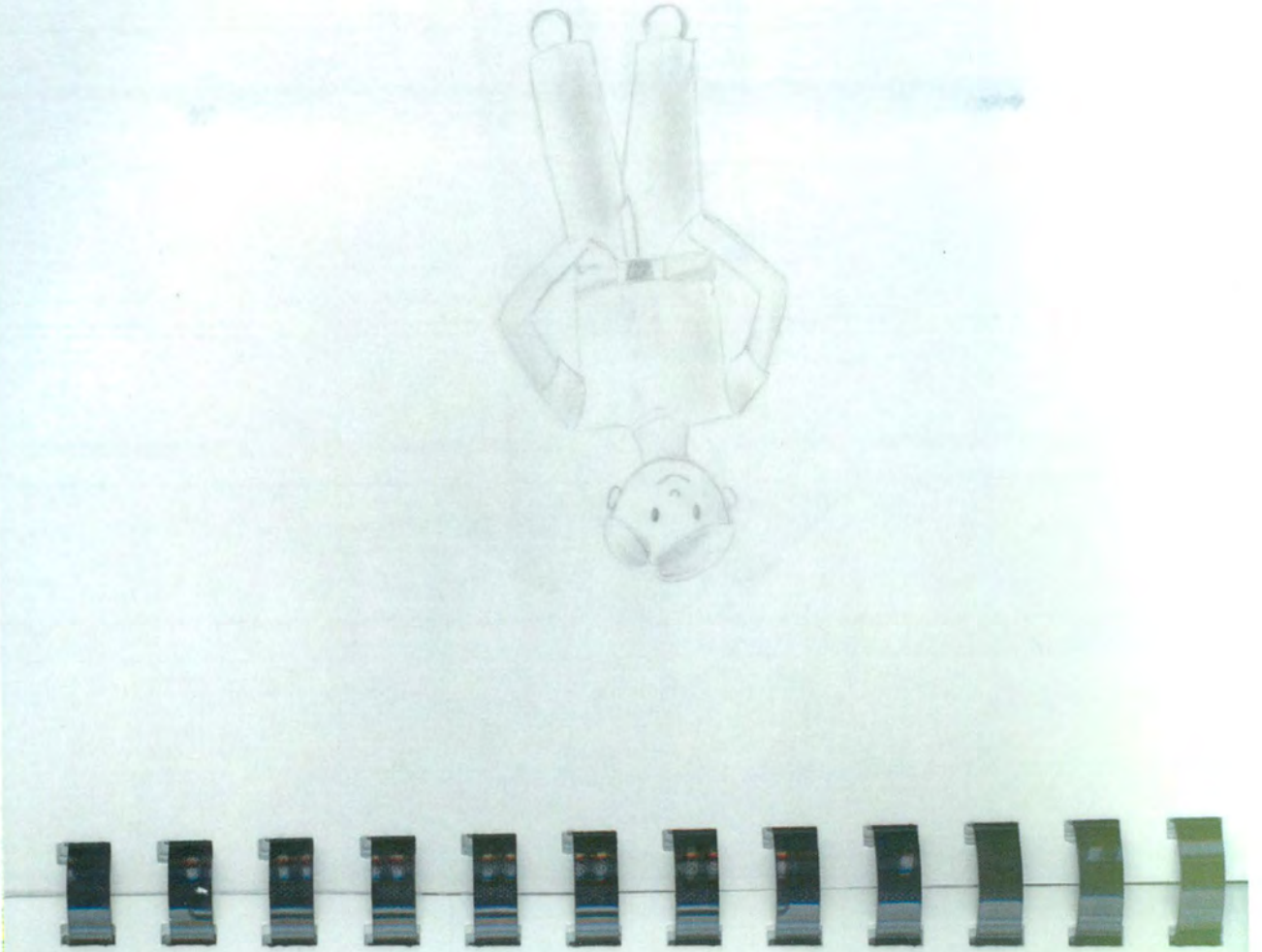
21	साँप	snake	sap



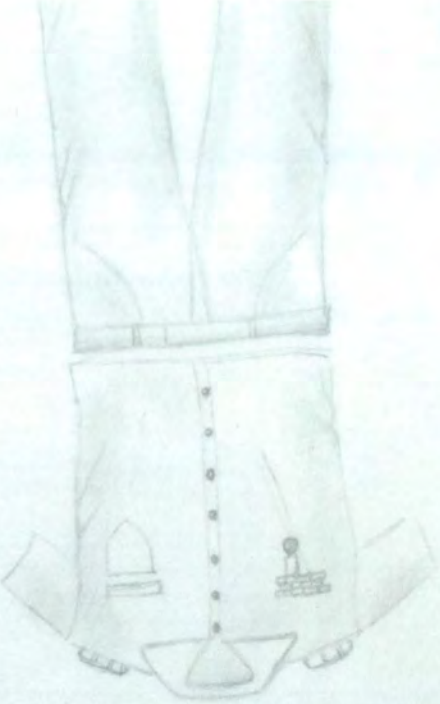


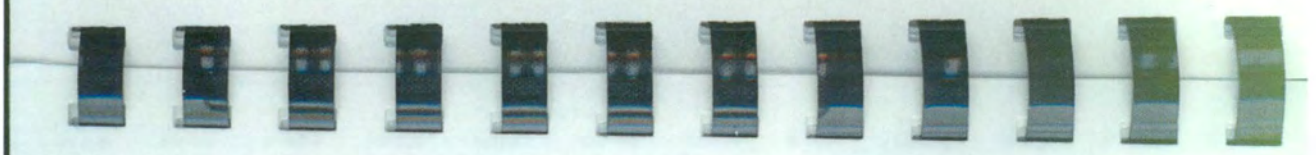
22	[illegible]	traveler	Jaθri

23	राजा	king	raʤa

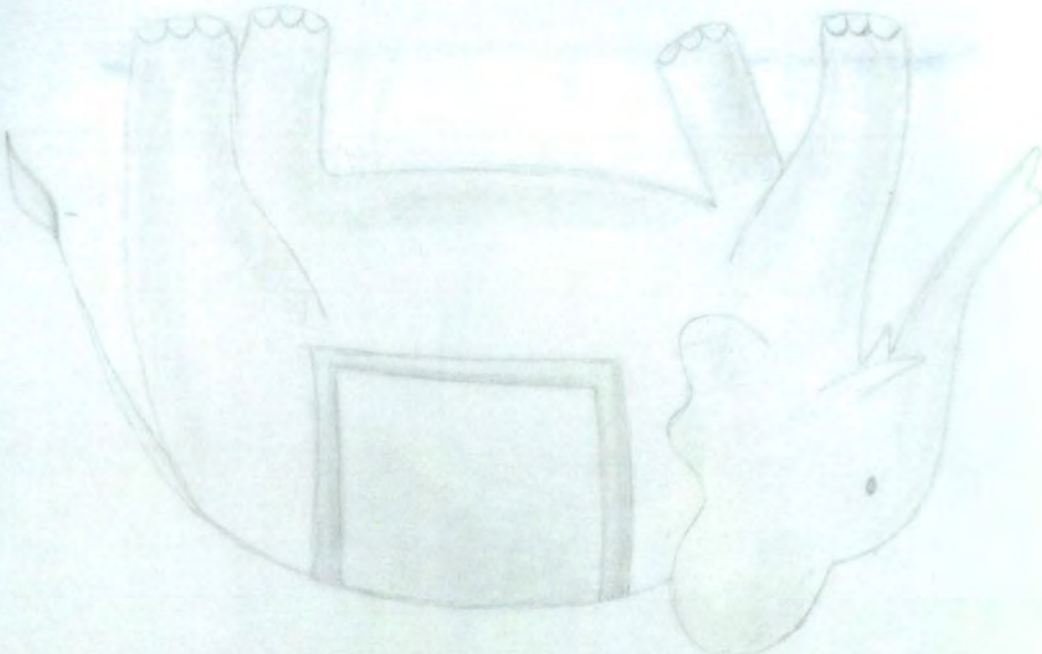


24	[illegible]	boy	[illegible]ka

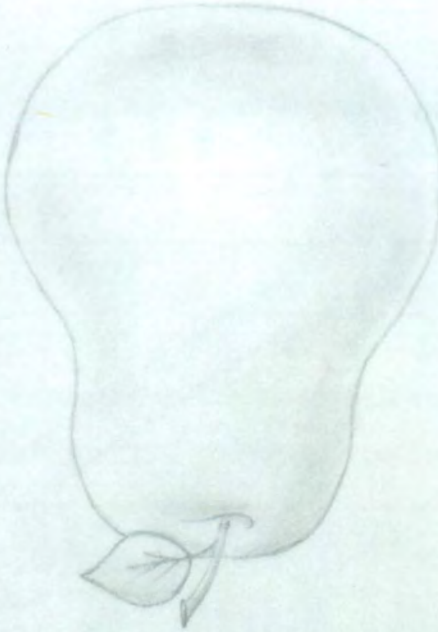




25	[illegible]	uniform	[illegible]



26	हाथी	elephant	haθʰi

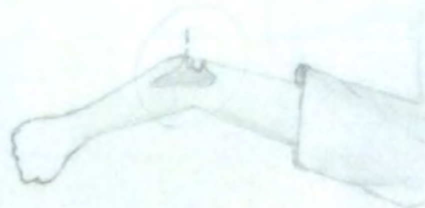


27	नाशपाती	pear	naʃpaθi

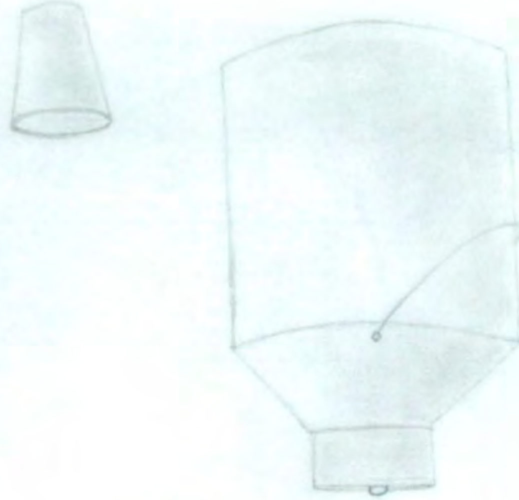
28	चाभी	key	tʃabʰi

29	चूहा	mouse	tjuha

30	दिया	Lamp	Diya



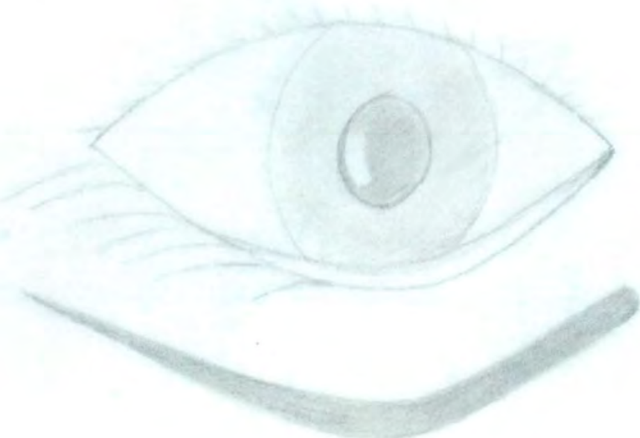
31	घाव	wound	g^hav



32	दूध	milk	ðuðʰ

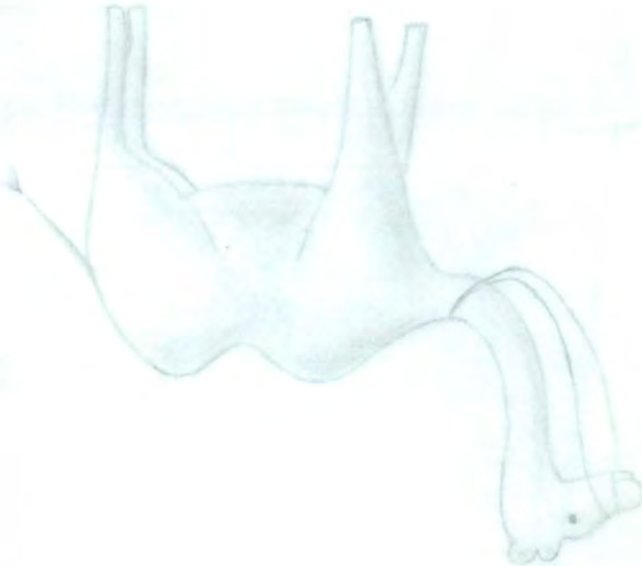
33	सेब	apple	seb

34	आम	mango	2 m

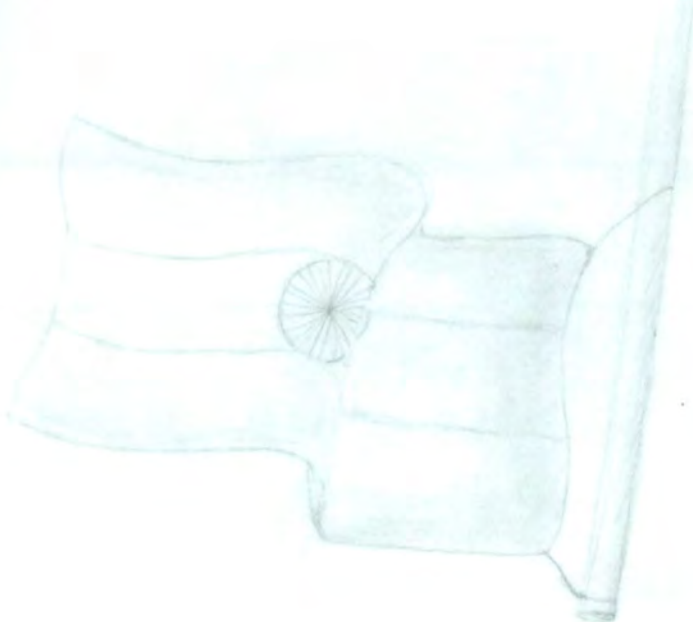


35	आँख	eye	ãkʰ

36	चोंच	beak	tʃo tʃ



37	ऊँट	camel	ũ ṭə



38	झंडा	flag	dʒʰʌnda

39	ओखली	grinding stone	okhLi

40	कंघी	comb	k^{ɔ}ʌŋghi

41	कैंची	scissors	kʰæʧi

42	मछली	fish	mʌtʃəli

43	बालटी	bucket	balti

44	मिठाइ	sweets	mithai