

# Encoding of Ol Chiki in Universal Character Set

## *Putting Santali Language Into the Computer*

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### Synopsis :

This exploratory proposal has been planned to be submitted to Unicode & ISO/IEC for consideration of encoding of Ol Chiki in BMP(Basic Multilingual Plane) of Universal Multiple-Octet Coded Character Set - ISO/IEC 10646 . In order to provide maximum information about the Ol Chiki script as well as about the Santal community who use it extensively, the proposal has been divided into three parts. First part deals with general information about the Unicode and its utility. For further details about the Unicode, readers are suggested to visit the website of Unicode <http://www.unicode.org/> . Second part deals with the activities of wesanths E-group for standardisation and computerisation of Ol Chiki. Third part gives the core part which is the revised proposal to be submitted to UTC & JTC1/SC2/WG2<sup>3</sup> . It contains brief report for naming of Ol Chiki letters, about Ol Chiki and its present status of implementation. The main objective of this draft is to solícite opinions, comments and corrections, if any, from scholars, writers and academicians of Santal community. There is also a need to put up a few references as it has been felt appropriate to include them in the final proposal, even though it is not mandatory.

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- 1 The Unicode Technical Committee is the primary decision making body within the Unicode Consortium, and is responsible for the development and maintenance of the Unicode Standard.
  - 2 International Organization for Standardization(ISO) - a worldwide federation of national standards bodies from approximately 130 countries, one voting representative from each country. International Electro-technical Commission(IEC) - the international standards and conformity assessment body for all fields of electro-technology.
  - 3 JTC1/SC2/WG2 is the international standardization working group for the coded character set UCS - the Universal Multiple-Octet Coded Character Set - ISO/IEC 10646. The scope is to develop a universal multiple-octet coded character set that encompasses the world's scripts. .

## **Part – I**

### **General Information about Unicode**

A bird's eye view of Unicode

#### **Why a Unicode standard for Santali, and why now ?**

The aim of Unicode is to have a unique representation in the computer for every character symbol of all languages of the world. This would greatly facilitate the processing of information in different languages, and exchange of information between different languages using the same software. As Santali is one of the languages of the world which is used by more than 10 million people (according to recent estimates), there is a need to encode the Ol Chiki script (in which Santali is mostly written) in Unicode. The standardisation process in Unicode has been going on for quite some time, and most of the major languages of the world already have a place in the BMP. The proposals for many of the lesser known languages like Santali have not been accepted as they were proposed without adequate evidence. The aim of this proposal is to provide sufficient evidence to the proposer who should be a member of the Unicode working committee (In case of Ol Chiki, the proposer is Michael Everson).

#### **Who does the Unicode standardisation ?**

Unicode standardisation is done by the Unicode Consortium which is a non-profit organization founded in 1991 to develop, extend and promote the use of Unicode standard. The membership of the consortium represents a broad spectrum of corporations and organizations in the computer and information processing industry.

#### **What is Unicode ?**

Unicode provides a representation for every character symbol of the world using a unique integer number, no matter what the platform, or the program, or the language is. Fundamentally, computers just deal with numbers. They store letters and other characters by assigning a number for each one of them. Before Unicode was invented, there were hundreds of different encoding systems for assigning these numbers to characters. No single encoding could contain enough characters: for example, the European Union alone requires several different encodings to cover all its languages. Even for a language like English, no single encoding was adequate for all the letters, punctuation, and technical symbols in common use. These encoding systems also conflict with one another. That is, two different encodings can use the same number for two different characters, or use different numbers for the same character. Any given computer (especially servers) needs to support many different encodings; yet whenever data is passed between different encodings or platforms, it always runs the risk of corruption. This problem becomes more imperative after the introduction of many Asian languages into computer and their different standards.

#### **Do Indic scripts use Unicode ?**

Yes, currently all recognized Indic scripts have already been encoded in Unicode and some of them are also shipped with Windows XP (for example, Devnagari, Gujarathi etc.). Naturally, we also do not want to lag behind in this race. That is why effort is being made from wesanthals e-group to get the Ol Chiki script encoded in Unicode. If we succeed, Ol Chiki script will appear in the version 4.0 of Unicode standard which is due to be released in the early half of next year.

#### **Where is the space for Ol Chiki in Unicode ?**

The proposed space for encoding of Ol Chiki script in Unicode is U+2D80 – U+2DAF in the Basic Multilingual Plane (decimal value: 11648 to 11696). Its implementation level is 2 because of its nature of combining characters.

**Is there any Indian standard ?**

Yes, all major Indic scripts have been encoded in the standard in 1988 and they were later revised in the version entitled Indian Script Code for Information Interchange – ISCII (IS 13194:1991). Unfortunately, this standard does not address the issue of Ol Chiki script and is not included in the standard.

**Does Unicode conform to ISO ?**

Yes, In fact Unicode is implementing ISO 10646 (ISO - International Organization for Standardization) through its already developed standard methods. So, once Unicode standardise Ol Chiki, it will automatically conform to ISO.

**What information do we need in support of encoding Ol Chiki in Unicode ?**

The following two information need to be presented unambiguously to Unicode working committee in non-technical/general part of proposal. For details, please refer to the revised proposal ( Part III ).

- ❖ Unique sorting order for words written in Ol Chiki.
- ❖ Proper naming of letters of Ol Chiki.

In addition, we also need to provide evidence in support of the fact that the Ol Chiki script is in current use. In this part, effort has been made to take opinion of our people working in the field of Santali language and Ol Chiki promotion on the above mentioned issues.

**What are the benefits of encoding Ol Chiki in Unicode ?**

- ❖ We would be able to use all the future text/word processing software that would be developed for processing Unicode text. Using these softwares, we would be able to create multilingual text using Ol Chiki along with **any other language**. Writing dictionary is one such example. Without encoding Ol Chiki in Unicode, we will not be able to take advantage of these softwares.
- ❖ All software applications that use Unicode will also be able to use Ol Chiki. Again, this would not be possible without encoding Ol Chiki in Unicode. There will be a large number of software applications in future that would use Unicode. Some of these applications are databses, e-mail, web site, and so on.

## **Part- II**

### **Activities on Computerisation of Ol Chiki in Wesanthals E-group**

A brief report about these acitivites in wesanthals e-group

**Who will do the task of submitting proposal for Ol Chiki in Unicode ?**

The proposal for encoding of Ol Chiki in Unicode was originally presented to Unicode consortium by Michael Everson some time back in 1999. Michael Everson is a member of ISO/IEC working committee from Ireland and one of the editors of Unicode consortium. He has been involved in a project<sup>4</sup> whose aim is to make lesser known scripts into Unicode with active funding from the Department of Linguistics, University of California, Berkeley. The

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4 “**Script Encoding Initiative**”, the project is being led by Dr. Deborah Anderson, a Researcher in the Department of Linguistics, in conjunction with Unicode Vice President, Rick McGowan whose aims is to make lesser known script into Unicode. The questions may be directed to Dr. Deborah Anderson at the below address or by email, This Script Encoding Initiative, c/o Deborah Anderson, University of California, Berkeley, Department of Linguistics, 1203 Dwinelle Hall #2650, Berkeley, CA 94720-2650 USA  
E-mail to: [dwanders@socrates.berkeley.edu](mailto:dwanders@socrates.berkeley.edu)

revised draft proposal for Ol Chiki has been prepared in consultation with Michael Everson and he would probably present it to the Unicode technical committee in its next meeting in November and ISO working committee on December.

**What is Wesanthals E-group ? Who are we ?**

This internet-based non-profit group of Santal community people came into existence on 11.11.2000 and now it has over 100 members residing in all parts of India and abroad, and having diverse professional backgrounds like engineers, doctors, army officers, bureaucrats, academicians etc. This group was formed to make Santals in different professions aware of various Santal-related problems and to discuss their potential solutions. Recently, in one of the many discussions, it was found that currently available commercial Ol Chiki fonts are out of reach for most of our Santal people due to their high cost. So, initiative has been taken from wesanthals e-group to bring out free Ol Chiki fonts for all purpose. Within one month, it has been possible to realize five different types of good quality Ol Chiki fonts that can be used with any word processing software. Work has not stopped here, but it is still in progress to bring out very good quality Ol Chiki fonts. During this development, it has been found that there is an urgent need for standardisation of Ol Chiki in Unicode. Hence, this revised proposal has been prepared.

**How can I get these fonts/ softwares ?**

Wesanthals e-group has already developed five types of Ol Chiki fonts that can be used free of cost for any commercial/personal purpose. To download these fonts, please visit the website: <http://wesanthals.tripod.com>. We have arrived through meticulous discussions at a keyboard mapping for Ol Chiki which is implemented in these fonts. It has been designed based on two principles, viz., ease of use and ease of remembrance via phonetic and shape. The website contains details of all information about the installation and use of these fonts. If you have any further queries, please do not hesitate to ask us. You can reach us via Email or via website feedback form.

**What softwares do I need to use these fonts ?**

These fonts can be used in any word processing software. Currently, most popular word processing commercial software is Microsoft word. Anyone can use Ol Chiki fonts to write any text in Ol Chiki using MS word. If one cannot afford to buy commercial software, do not worry. There are equally good word processing softwares developed by group of philanthropic volunteers worldwide to provide these softwares free of cost to all. Two such softwares are OpenOffice.org® and Abiword®. These word processing softwares include fairly good features. If one has any question regarding them, please contact us.

**Can I view Internet pages having Ol Chiki without using Ol Chiki fonts ?**

Web-based fonts have been developed to display the Ol Chiki script in the Internet. Using web-based font, it is not necessary to have Ol Chiki font to view an article written in Ol Chiki script in the Internet. An Internet-based bilingual magazine is in pipeline and it is due to begin its publication in the later half of this year.

**Can I send an E-mail in Ol Chiki ?**

Yes. Currently, some of our member, sometimes, use Ol Chiki fonts to communicate via E-mail and take part in discussion. Web-based e-mail can be used for the same. However, one needs to install the Ol Chiki fonts in his/her computer.

**Can I use spell checker in word processing software ?**

This can be developed only after Ol Chiki script is fully encoded in Unicode. We need to wait till it is fully encoded or at least accepted in Unicode.

**Part – III**

A revised proposal of N1956 for encoding of Ol Chiki in BMP( Basic Multilingual Plane) of UCS

ISO/IEC JTC1/SC2/WG2 N1956  
**Universal Multiple-Octet Coded Character Set**  
**International Organisation for Standardisation**

This report is intended to obtain information about the Ol Chiki script from scholars, writers and academicians of Santal community. This proposal should be correct in all respects and it should contain as maximum information as possible about the linguistic properties of Ol Chiki. If one finds errors or omissions in this proposal or alternatively if one has some suggestions to improve the clarity of the proposal, please let us know. One's name will be referred to in the reference as a member of user community in the scholar category.

**I. New Script ? Name ?**

Yes. Ol Chiki

**II. Number of Characters:**

47 (30 letters + 6 diacritics + 10 digits + one punctuation mark )

**III. Naming of “ Ol Chiki ” Characters:**

The naming of Ol Chiki alphabets has been done in accordance with ISCII, 1988 transliteration rules.

**Letters( 30 ):**

ᱠ	ᱡ	ᱢ	ᱣ	ᱤ
A	AT	AG	ANG	AL
ᱥ	ᱦ	ᱧ	ᱨ	ᱩ
AA	AAK	AAJ	AAM	AAW
ᱪ	ᱫ	ᱬ	ᱭ	ᱮ
I	IS	IH	INY	IR
ᱯ	ᱰ	ᱱ	ᱲ	ᱳ
U	UCH	UD	UNN	UY
ᱴ	ᱵ	ᱶ	ᱷ	ᱸ
E	EP	EDD	EN	ERR
ᱹ	ᱺ	ᱻ	ᱼ	ᱽ
O	OTT	OB	OV	OH

**Daicritics( 6 ):**

◌̇	◌̈	◌̉	◌̊	◌̋	◌̌
MU TTUDDAG	GAHLA TTUDDAG	MU-GAHLA TTUDDAG	RELA	PHARKA	AHAD

**Digits(10) :**

0	1	2	3	4
5	6	7	8	9

**Punctuation ( 1 ):**

Punctuation marks: "l" is called "Muchad"

**IV.Introduction:**

The Ol Chiki script was invented by Pandit Raghunath Murmu in the first half of the 20<sup>th</sup> century . The meaning of Ol Chiki is “writing symbol” or “writing script”. This script is also known as “Ol Cemet”, “Ol script”, “Ol ciki Script” and also “Ol”. In Santali, “Ol” means “writing” and “Cemet” means “learning” . So, “Ol Cemet” means “The learning of writing”. “Ol Cemet” is the title of the book, written by Pandit Raghunath Murmu for teaching the Ol Chiki to the beginners. Santali is a language with its own special characteristics, and has a literature which dates back to the beginning of the 15th century( Murmu, 2002) and since then, it has been in various phases of its development in the subsequent centuries. Language is an instrument of group culture and identity. The script is a mechanism to propagate and preserve a language, which is necessary for the very survival of cultural communities. Naturally, he felt that Santals with their rich cultural heritage and tradition, also need a separate script to preserve and promote their language. Towards this goal, he wrote over 150 books covering wide spectrum of subjects such as grammar, novels, drama, poetry, and story in Ol Chiki as a part of his extensive programme for culturally upgrading the Santal community. “Darege Dhan”, “Sidhu-Kanhu”, "Bidu Chandan" and "Kherwal Bir" are among the most acclaimed of his works.

Ol Chiki is alphabetic, and does not share any of the syllabic properties of the other Indic scripts. It is used for writing Santali which belongs to the Munda group languages of the Austro-Asiatic family (Majumder, 2001). One of the interesting feature of the Ol Chiki script is that it makes use of signs and symbols long familiar to the Santals. The very ingenuity in shaping the symbols of the letters and arranging the letters in the script has been greatly helpful in transmission of the script. A large number of words in the Santali language are derived from natural sounds. Letters of Ol Chiki script are also derived from the physical environment and what surrounds the people - hills, rivers, trees, birds, bees, plough, sickle - the list is endless (Mahapatra & Mohapatra, 2001). Zide in his work(Zide, 1996) says, “The shapes of the letters are not arbitrary, but reflect the names for the letters, which are words, usually the names of objects or actions represented—in conventionalized form – in the pictorial shape of the characters. ” For example, the word “At ” means earth and the shape of letter O (AT ) derived from the round shape of earth. Similarly “Ud ” means mushroom and so is the shape of the letter ☉ (Ud' ) .



Figure 1. Pictorial origin of the letters in the Z(e) row of Ol Chiki (Zide, 1996)

Explanations for the pictorial origin of the letters in the Z(e) row are as follows: Z (e) “swelling”; U(ep): “to meet, collide”; O (edd) “to point out a place”, a symbols (previously) used to “meeting place”; E(en) “to thrash grain” derived from a picture of two leg thrashing; A (err) “to avoid” derived from a picture of a path that turns to avoid an obstruction or a danger(Zide, 1996).

On commenting about Ol Chiki, Zide (1996) observes, “**One ingenious - “scientific” – and unique feature of Ol Cemēt’ that certainly increases the efficiency of writing Santali is the deglottalizing “ohot”**□. This neatly preserves the morphophonemic relationship between the glottalized and the voiced equivalent: The former occurs in words at certain word-internal preconsonantal junctures, whereas the latter occurs prevocally, but never morpheme-initially in these alterations. Thus *ok’* is the name of a letter that represents both [k’]and [g]. Two further diacritics include a horizontal loop added at the top right of the character for aspiration of consonants, and a raised dot for vowel nasalization.”

“Santali” which literally means ‘the language of the Santals’ is spoken by the Santals who are also one of the oldest ethnic group in South Asia. Anthropologists tend to identify the Santals in the racial category of proto-Australoid (Majumder, 2001). They are numerically the largest ingenious group in India having homogeneous characteristics and a total population of over 10 million (according to recent figures). The Santals are mostly concentrated in the Indian state of Jharkhand, Orissa, West Bengal and Assam, but they are also spread over sparsely in the neighboring country of Bangladesh and Nepal. Presently, the Santals have a high degree of bilingualism as they also speak the language of the majority population<sup>5</sup>(viz., Assamese, Bengali, Hindi, and Oriya as the case may be) besides Santali.

Santals refer to the members of their own tribe as “*Hor*” which means “our men”, and to the others as *Diku*, which means the “alien”. Santals are divided into 11 clan each having own surname, and each surname has its own legacy. But, sometimes, Santals prefer to put their surname as “*Majhi*” which means “headman”. This is to signify that they are part of the headman clan.

In earlier times, all Santali writings were in Bengali, Devnagari, Oriya or Roman script. Although there have been impressive works by foreigners and non-Santal writers on dictionary, collection of folklore etc., their work is mostly confined to research. Meanwhile, Roman script was in extensive use for writing of Santali and several books in Santali have been published using Roman script. But most of the creative writings were written by the native speakers in Bengali, Devnagari or Oriya scripts. The use of different scripts for Santali has hindered the development and utilisation of Santali language. This, in turn, has effectively mirrored the progress of Santali language in several fields such as philosophy,

5 They are Indo-Aryan languages and official languages of Assam, West Bengal, Jharkhand and Orissa states respectively of Indian Union.

history, religion, drama, novels, songs and stories. The problem of using different scripts for the same language had necessitated the invention of new scripts for Santali, and it finally led to the invention of Ol Chiki by Pandit Raghunath Murmu.

## **V. Ol Chiki and its Status :**

Zide in his work(Zide, 1996) says, “When, thirty years ago, I asked knowledgeable people in Bihar and Orissa what they thought of the chances of a wide – if not pan-Santal – acceptance of Ol Cemet’, almost all were sceptical. The competition of Oriya, Devnagari, etc was too powerful. But, in fact, Ol Cemet’ has become more and more widely accepted. Official recognitions have been made. Pandit Raghunath Murmu has been honored by the Orissa Government.....”

This indeed is an outstanding remark concerning the development of Ol Chiki. The level of penetration of Ol Chiki among the rural Santal community is unbelievable in spite of the fact that low level of literacy and poor living conditions are widespread. Private initiative of average Santals, co-operation and active support of various units of ASECA(Adivasi Socio-Educational and Cultural Association), a Santal organisation, made amazing inroads into rural Santal community for Ol Chiki and made considerable place for it among them. The footprints of proliferation of Ol Chiki among the Santals can be observed even in the remote village of Nepal, far away from Santal heartland (The Kathmandu Post, dated January, 15 2001, Kathmandu). New era for Ol Chiki started after getting early recognition from the Govt. of West Bengal way back in 1979(Appendix A). Recently, the Govt. of West Bengal in its extraordinary resolution published in the Calcutta Gazette dated 5<sup>th</sup> March 2001(Appendix B) has constituted a committee<sup>6</sup> “to study the feasibility and possibility of teaching Santali language using Ol Chiki script and to introduce it in various syllabus/curriculum starting from the primary school level up to the university level”. Few days back, it is the Jharkhand Government which gave green signal for teaching all tribal languages in their own script(if any)(Appendix C) as a separate subject starting from the primary school level up to the university level. Prof. Digamber Hansdah([d\\_hansda@rediffmail.com](mailto:d_hansda@rediffmail.com)) is in charge of preparing these books for Santali language from class I to class V in Ol Chiki script. Apart from these developments for Ol Chiki, the Govt. of Orissa also recognises it for teaching Santali language in Ol Chiki in certain selected schools at the primary level, and for providing financial help to the ASECAs for imparting primary level and adult education in Ol Chiki.

The status of Ol Chiki in higher education is also equally good. Bihar Secondary School Examination Board, Patna and Jharkhand Secondary School Examination Board, Ranchi have accepted Santali Language/Literature as optional paper at the Matriculation level. The Bihar Public Service Commission also offers Santali Language/Literature as optional paper for its competitive Examination. In West Bengal, the renowned Vishwa Bharati University, i.e., Shantiniketan has been imparting education in Santali language for the last 24 years or so. The Universities of Jharkhand and Bihar, viz., Ranchi University, Ranchi, Vinoba Bhave University, Hazaribagh, Sidu Kanhu University, Dumka, and Baba Tilka Majhi University, Bhagalpur offer courses in Santali language/literature at the Post-Graduate level(Murmu, Ganesh, 2002), and also conduct examinations for the same. Appendix D gives a partial list of people who works in Santali language at the University/College level and also belong to the Santal Community.

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<sup>6</sup> According to a section of news paper report that this committee has already submitted the report to Government of West Bengal and based on its recommendation, a training program of Ol Chiki for the teachers has completed in Birbhum District and it is now planned to cover other Santal populated districts of West Bengal state.



Santals, in general, are very good writers. It is mostly due to their way of life. Archer (1974), who made an extensive use of the Santal sung-poetry to understand the life and culture of the Santals observes:

“Santhal<sup>7</sup> poetry is Santhal life;  
Santhal life is Santhal poetry”

After the invention of Ol Chiki, a large number of books have been written by various authors in Santali using Ol Chiki script. Types of books include (i) novels and short stories, (ii) poetries, songs, and religious sermons, (iii) books on Santal society, (iv) primary books for learning Ol Chiki, (v) books for learning primary mathematics, (vi) books on Santali grammars and related topics, and (vii) books on great tribal persons. Santali magazines in Ol Chiki are also being published regularly. A partial list of such books and magazines is given in appendix E as a bibliography. Sample of a front page of a magazine is given in appendix F. With the availability of free fonts for Ol Chiki, a sharp increase in the publication of books and magazines in Santali on various subjects is expected to take place.

## **VI. A Brief Description of Ol Chiki:**

### **Vowels:**

- ❖ Ol Chiki character set gives six vowels, viz., ʒ(A), ʒ(Aa) , ʒ(I), ʒ(U), ʒ(E), ʒ(O). All are voiced vowels.
- ❖ ʒ is pronounced as in ʒʒʒ(rod), ʒ as in ʒʒʒ(car), ʒ as in ʒʒʒ(bit), ʒ as in ʒʒʒ(cool), ʒ as in ʒʒʒ(cat), and ʒ as in ʒʒʒ(door).
- ❖ Additional vowels are generated from these basic vowels using diacritics as described later in this section.

### **Consonants :**

- ❖ O(t), ʒ(g'), ʒ(ng), ʒ(l), ʒ(k), ʒ(j'), ʒ(m), ʒ(w), ʒ(s), ʒ(h), ʒ(ny), ʒ(r), ʒ(ch), ʒ(d'), ʒ(nn), ʒ(y), ʒ(p), ʒ(dd), ʒ(n), ʒ(rr), ʒ(tt), ʒ(b'), ʒ(v) are the basic consonants that are used in Ol Chiki for writing Santali.
- ❖ When these consonants are followed by a vowel, they are pronounced as in the word given in the same row of the first column after the column having the character. If these consonants are not followed by any vowel or the character ʒ(Oh), they are pronounced as in the word given in the same row of the second column after the column having the character. The pronunciation of a word is given alongside, and the meaning(if any) is given just below it.

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<sup>7</sup> Santals are also known as Santhals.

୦	ଠିଠି(Sita)	ରଠିଠି(Rajat)	ଠ	ଠଠ(cheap)	ଠଠଠ(peach)
ଠ	ଠଠ(good)	ରଠିଠି(rag') <sup>§</sup> (cry)	ଠ	ଠଠ(this)	ଠଠଠ(eye) <sup>§</sup> (eye)
ଠ	*	ରଠିଠି(ring)	ଠ	*	*
ଠ	ଠଠଠ(lid)	ଠଠଠ(cool)	ଠ	ଠଠଠ(yam)	ଠଠଠ(boy)
ଠ	ଠଠଠ(cat)	ଠଠଠ(book)	ଠ	ଠଠଠ(pick)	ଠଠଠ(tip)
ଠ	ଠଠଠ(jar)	ଠଠଠ(muj') <sup>§</sup> (ant)	ଠ	ଠଠଠ(dim)	ରଠିଠି(rod)
ଠ	ଠଠଠ(moon)	ଠଠଠ(dim)	ଠ	ଠଠଠ(no)	ଠଠଠ(moon)
ଠ	ଠଠଠ(wash)	ଠଠଠ(now)	ଠ	*	*
ଠ	ଠିଠି(Sita)	ଠଠଠ(this)	ଠ	ଠଠଠ(took)	ଠଠଠ(get)
ଠ	ଠଠଠ(hot)	ଠଠଠ(pooh)	ଠ	ଠଠଠ(book)	ଠଠଠ(ub') <sup>§</sup> (hair)
ଠ	*	*	ଠ	*	*
ଠ	ରଠିଠି(rich)	ଠଠଠ(car)			

- ❖ \* means that example is not given as it was not clear how to write its pronunciation correctly in English.
- ❖ ଠ(g'), ଠ(j'), ଠ(d'), and ଠ(b') are semi-consonants, Also, since no English words corresponding to these sounds are available, they have been illustrated using Santali words only, and their meaning is given in the bracket below.
- ❖ Additional consonants are generated from these consonants using diacritics as described later in this section.

**Diacritics:**

- ❖ There are five basic diacritics in Ol Chiki, viz., *Mu Tudag*(◌◌), *Gahla Tudag*(◌◌), *Rela*(◌◌), *Pharka*(◌◌) and *Ahad* (◌◌). In Ol Chiki, diacritics have nice and interesting properties, and this is specially true with *Ahad* (◌◌).
- ❖ The combination of *Mu Tudag* and *Gahla Tudag* results in *Mu-Gahla Tudag*(◌◌) which is also treated as a separate diacritic, and therefore it is represented separately.
- ❖ The use of diacritics is described in the following sections.

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§ The phonetics of ଠ, ଠ, ଠ, and ଠ of these letter in this junctures, given in Campbel's Santali-English Dictionary (Campbell, 1988), are [k'], [c'], [d'] & some cases [t'], and [p'] respectively. But the present authors believed that more appropriate are [g'], [j'], [d'] & [b']. The accent of the letter ଠ at this juncture is typical combination of [k'] and [g'] and its sound starts with aspiration of [k'] and ends with [g']. [ The tongue position of this articulation starts with [k] position, moves slowly , and stops breathing at [g] and same is the case with other three letters ]. Similarly for the articulation of ଠ, ଠ & ଠ, they start with an aspiration of [c'], [t'] & [p'] respectively and end with [j'], [d'] & [b'] correspondingly. These distinctive & characteristic articulations occur very often in Santali Language and a bit unique to Santals. These particular articulations are spoken when these semi-consonants are not followed by any vowel, ଐ or ଠ Hence, these consonants are categorized as “semi-consonants”, and a better name can be sought if it is deemed so.

**Use of *Mu Tudag* (◌̣):**

- ❖ When *Mu Tudag* is placed next to any vowel, it indicates that the vowel is nasalized as in the word ᱠᱟᱨᱢᱟᱨ (Ranchi).

**Use of *Gahla Tudag* (◌̣̣):**

- ❖ *Gahla Tudag* is used to generate the additional vowels from the vowels ᱠ, ᱡ, and ᱢ. The following table gives the sound for the new vowels generated, and English example is given only for ᱢ as there is no equivalent sound in English for ᱠ and ᱡ, even though the ᱡ is one of the most frequently used vowel in Santali. The pronunciation of a word is given alongside, and the meaning(if any) is given just below it.

ᱠ̣̣	ᱠᱟᱨ(cot)	ᱠ̣̣.	ᱠᱟᱨᱢ
ᱡ̣̣	ᱠᱟᱨᱢ(like far) (defeat)	ᱡ̣̣.	ᱠᱟᱨᱢᱟ (collect)
ᱢ̣̣	ᱠᱟᱨ(get)	ᱢ̣̣.	ᱠᱟᱨᱢᱟ(gate)

**Use of *Mu-Gahla Tudag* (◌̣̣̣):**

- ❖ The *Mu-Gahla Tudag* indicates that the new vowel generated by the *Gahla Tudag* is nasalized as in the word ᱠᱟᱨᱢᱟᱨᱢᱟᱨ a big spherical storage for paddy.

**Use of *Rela* (◌̣̣̣̣):**

- ❖ *Rela* is used to lengthen the pronunciation of vowels, i.e., it used to generate long vowels as in the word ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ (jeewi) which means heart.

**Use of *Ahad* (◌̣̣̣̣̣):**

- ❖ The following table illustrates the use of *Ahad* (◌̣̣̣̣̣) with semi-consonants. If any of the semi-consonant ᱠ, ᱡ, ᱢ, and ᱣ is followed by *Ahad*, then they become a full consonant. The pronunciation of a word is given alongside, and the meaning(if any) is given just below it.

ᱠ̣̣̣̣̣	ᱠᱟᱨᱢᱟᱨ(dag') (water)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨ(dag)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(dagi) (marked)
ᱡ̣̣̣̣̣	ᱠᱟᱨᱢᱟᱨᱢᱟᱨ(rej') (snatch)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(raj)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(raja) (king)
ᱢ̣̣̣̣̣	ᱠᱟᱨᱢᱟᱨᱢᱟᱨ(god') (pluck)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(gidra) (child)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(gidi) (vulture)
ᱣ̣̣̣̣̣	ᱠᱟᱨᱢᱟᱨᱢᱟᱨ(ub') (hair)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(ub) (throw out from a pot)	ᱠᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨᱢᱟᱨ(bir) (forest)

- ❖ The following table gives the pronunciation for the new consonants that are obtained from the basic consonants by following them with ଐ(Oh). These are the only consonants that can be followed with ଐ(Oh). When these consonants are followed by a vowel, they are pronounced as in the word given in the same row of the first column after the column having the character. If these consonants are not followed by any vowel, they are pronounced as in the word given in the same row of the second column after the column having the character. The pronunciation of a word is given alongside, and the meaning(if any) is given just below it.

ଠ	ଠଇଠ(Thar) (Thar desert)	ଠଠଠ(rath) (Chariot)	ଠ	ଠଠଠ(dhan) (wealth)	ଠଠଠ (paddy field)
ଠ	ଠଠଠ(ghost)	ଠଠଠ(magh) (name of a month)	ଠ	ଠଠଠ(pharak) (remote)	not frequent
ଠ	ଠଠଠ(khir) (a food from milk)	ଠଠଠ(bakhra) (share)	ଠ	ଠଠଠ(dhaka) (push)	not frequent
ଠ	ଠଠଠ(jharna) (spring)	ଠଠଠ-ଠଠଠ (sujh-bujh) (understanding)	ଠ	ଠଠଠ (this side)	not used
ଠ	ଠଠଠ(Shiva)	ଠଠଠ(josh) (motivation)	ଠ	ଠଠଠ (Correct)	not frequent
ଠ	ଠଠଠ(chhutki) (second wife)	ଠଠଠ. (behind)	ଠ	ଠଠଠ(bhul) (mistake)	not frequent

**Use of Pharka (◌̣):**

Pharka is used two ways. First, it is used to separate similar paired words as in ଠଠଠ-ଠଠଠ(sujh-bujh). Second, it is also used to separate a semi-consonant from the following vowel in certain verb formations as in ଠଠଠଠଠ(ṁenag' - aa), ଠଠଠଠଠ(akad' - aa), ଠଠଠଠଠ(hijug' -- aa) etc. Without this separation, the semi-consonant would become full consonant.( This diacritic does the glottalization<sup>8</sup> of consonant)

**Features of Consonants:**

- ❖ ଠ(At), ଠ(Aak), ଠ(Uch), ଠ(Ep), and ଠ(Ott) are voiceless consonants and their combination with ଐ generate additional **voiceless aspirated consonants**.
- ❖ ଠ(Edd) are voiced consonants.
- ❖ ଠ(Ag'), ଠ(Aaj'), ଠ(Ud'), ଠ(Edd), and ଠ(Ob') a combination with ଐ generate additional **voiced aspirated consonants**.
- ❖ ଠ(Ang), ଠ(Aam), ଠ(Iny), ଠ(Unn), ଠ(En), and ଠ(Ov) are the nasal consonants.
- ❖ ଠ is called retroflex flippant consonant and it is pronounced as in the second “r” of the word “Raigarh”. It never occurs at the beginning of a word, and it is voiced.

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8 Glottalization is the phonetic feature that describes the momentary obstruction of the passage of air by the glottis and its sudden release, which creates a small explosion of air that gives the consonant a hard sound



consonants. For the sake of convenience, the combination of  $\omega(Ih)$  with *Ahad*( $\mathcal{O}$ ), i.e.,  $\mathcal{O}(Oh)$  is again listed in this list. Appendix H gives the table for the written version of Ol Chiki.

## **VII. Consent of User Community:**

This revised proposal has been prepared by the native speakers. It is also felt appropriate to consult scholars, writers and academicians of Santal community and take opinion from them. Therefore, it is planned to approach the following listed persons who are leading figures in Ol Chiki and who have been involved in one way or the other with their respective State Government in formulating the educational Curriculum/Policy of implementing Santali in Ol Chiki.

- ❖ Mr. Uday Nath Majhi(Murmu) is currently the Financial Advisor to the North-East Council, North-East Council Secretariat, Shillong, Meghalaya, INDIA. He is one of the leading person in Ol Chiki & Santali literature promotion. E-mail: [unmajhi@hotmail.com](mailto:unmajhi@hotmail.com).
- ❖ Mr. Dharendra Nath Baskey who is now the chairperson of Tribal Development Co-operative Corporation of West Bengal is a leading figure of Santali language and is a member of five member committee set up by the West Bengal Government for teaching Santali in Ol Chiki from primary level up to College level education.
- ❖ Prof. Digamber Hansdah who is the retired Principal of Lal Bahadur Shastri Memorial College, Karandih, Jamshedpur, and currently in-charge of preparing text books for the literature of Santali language in OL Chiki for primary education for the Jharkhand Government. E-mail: [d\\_hansda@rediffmail.com](mailto:d_hansda@rediffmail.com), [digamber\\_hansda@msn.com](mailto:digamber_hansda@msn.com).

(Note: A brief profile is a requisite that may include name, qualification, correspondence address, present status, details of book written in Ol Chiki, membership of any Santali Organisation, and awards( if any). Therefore, you are requested to forward us a brief profile that would be referred here as “contact with user community” under the “scholar” or “speaker” category as it deems fit. )

## **VIII. Implementation:**

There are a number of True Type implementation of Ol Chiki Script in circulation in Jharkhand, Orissa and West Bengal state of India. It is also observed that True Type Fonts have been extensively used for publishing magazines & books. According to Murmu(Murmu, Ganesh, 2002), the Ol Chiki’s DTP solution and computer application has been first developed by the *Chaichampa Sahitya Academy*, Bhubaneswar in the year 1996, and since then there are a significant number of True Types Fonts which came into existence and are in circulation. Recently, a non-profit internet-based group has developed 5 True Type Fonts for Ol Chiki which are freely available and can be downloaded from their website. <http://wesanthals.tripod.com>. The present proposal is prepared by using one of them.

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### **Acknowledgements:**

We would like to extend our sincere thanks to our wesanthals' group members, specially, Mr. Kunwar Hansdah, Jamshedpur; Mr. Salkhu Majhi, Mumbai, Mr. Sudarshan Hembram, Noida and Mr. D.C. Soren, Kerala, and Miss Jyotsna Saren, Calcutta for active support and assistance on various matters from time to time and we do appreciate their earnest effort.

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## **Appendix A**

*The Government of West Bengal Order for recognition of OL CHIKI Script*

### **The Government of West Bengal, Scheduled Caste and Scheduled Tribe Welfare Department Order No. 311-TW –Cell Calcutta on 5<sup>th</sup> July, 1979.**

The question of according to a script of the Santali language was under the consideration of the State Government for long time. After careful consideration of the question in all respects, the Governor is pleased hereby to direct that “OL CHIKI” shall be recognised officially as the script of the Santali in the West Bengal.

#### **ORDER**

Ordered that the resolution be published in the Calcutta Gazette.

Ordered also that copies of the resolution be sent to:-

1. All Department of this Government.
2. The Secretary to the Government of India Ministry of Home Affairs, New Delhi.
3. All District Officers
4. The Director of Public Instructions, West Bengal
5. The Secretary, West Bengal Board of Secondary Education, and
6. The Commissioner, Linguistic Minorities, Government of India, Ministry of Home Affairs, New Delhi.

By order of the Governor

Sd/-

M. Bhattacharya

The Secretary to the Government of West Bengal

## **Appendix B**

*Text of this notification published in the one of the leading news paper “The Telegraph” dated 19.09.2001.*

### **Committee on Santali language**

#### **Notification**

Committee on Santali Language (Constituted by West Bengal Government Resolution No. 57 CMC dated 5.3.2001 ) has begun its function at 147A Rashbehari Avenue, Kolkota - 700 029 (next to Basanti Devi Girl’s College). The committee under the Chairmanship of Professor Prabitra Sarkar, with Professor Amiya Dev, Dr. Bhakti Prasad Mallik , Sri Dharendra Nath Baske, Sri Subodh Hansda as Members and Sri Dilip Kumar Basu as Member Secretary, has been directed to examine the feasibility of teaching Santali Language and Literature in Ol



Chiki script at all levels of education in West Bengal. Questionnaires in Bengali and English are available at the above address. Persons/groups interested in the matter may collect them on (Not readable) 12.12.2001 and submit their response till 14.12.2001 between 11.30 am and 4.30 pm on Monday to Friday (holidays excluded).

Dilip Kumar Basu

Member Secretary

### **Appendix C**

*The text below is the English translation of the content of a letter written in Hindi language in Devnagari Script to Prof. Digamber Hansdah (Retired).*

Government of Jharkhand  
Department of Welfare  
Jharkhand Scheduled Tribe Research Institute  
Ranchi – 8

Ref. No.: 431 Ranchi,

Dated: July 7<sup>th</sup>, 2002

From: Director  
Dr. Prakash Chandra Oraon

To: Prof. Digamber Hansdah  
President, Santal Sahitya Academy  
Disom Jaher, Karandih  
Jamshedpur (Jharkhand)

Subject: Meeting for printing of literature books in tribal languages and scripts

Dear Sir,

Regarding the above mentioned matter, under the direction of the Secretary to Primary, Secondary and Mass education, Department of Human Resource Development, Government of Jharkhand, Ranchi, a meeting has been arranged on July 24<sup>th</sup>, 2002, for printing of literature books for class I to class V in tribal languages and scripts. Before this, in order to take stock of the situation, the Institute has called for a meeting of specialists/writers of Santali, Kurukh, Mundari, and Kharia languages on July 7<sup>th</sup>, 2002 at 11:00 am.

Therefore, you are requested to attend the meeting as a specialist/writer with the manuscripts on the pattern of [N.C.E.R.T.](#) (National Council for Educational Research and Training) for literature books of your language for class I to class V.

Yours truly,

Sd/-

Prakash Chandra Oraon, Director



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**Appendix F**

Image of first page of Magazines “Sarjam Baha”, “Kherwar”, “Santal Gira” and “Nawa Sagen Sakam” would be included here.

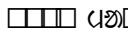
**Appendix G**

The image of glossary of words listed taken from the book “Darege Dhan” written by Pandit Raghunath Murmu

**Appendix H**

The Glyphs of handwriting for Ol Chiki script.

				
A	AT	AG	ANG	AL
				
AA	AAK	AAJ	AAM	AAW
				
I	IS	IH	INY	IR
				
U	UCH	UD	UNN	UY
				
E	EP	EDD	EN	ERR
				
O	OTT	OB	OV	OH
				
AG +AHAD	AAJ+AHAD	UD+AHAD	IH+AHAD <sup>¥</sup>	OB+AHAD

¥ Soren (2000) observed in the book  (Chiki Mchet) that 𑌑(Oh), may be considered as a combination of 𑌑, and 𑌒. Hence, In all probability, it can be believed, the filling up the last row of handwriting glyphs might be the rationale for the replicate of this glyph.