DLA NEWS



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**A MONTHLY OF DRAVIDIAN LINGUISTIC ASSOCIATION OF INDIA**

# 47th ALL INDIA CONFERENCE OF DRAVIDIAN LINGUISTS & INTERNATIONAL SYMPOSIUM

## on Language Endangerment

**(20-22 June 2019, Central University of Karnataka, Gulbarga)**

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## FOR THE ATTENTION OF THE SCHOLARS

Those who are desirous of attending the *47th All India Conference of Dravidian Linguists & International Symposium on Language Endangerment* may please register for the same at the earliest. The registration fee (Rs. 1,500/- for life-members of the Dravidian Linguistic Association of India and students without fellowships; Rs. 2,000/- for Ph.D. researchers with fellowships; Rs. 3,000/- for delegates from India and other SAARC countries; US$ 300/- for delegates from other countries) may please be sent to the Secretary, Dravidian Linguistic Association of India, V.I. Subramoniam Memorial ISDL Complex, St. Xavier's College P.O., Thiruvananthapuram – 695 586, Kerala by **30th May 2019**. The abstracts and papers may be sent to the Local Secretary, *47th AICDL* by **30th May 2019**. Those who are interested in becoming life-members of the Dravidian Linguistic Association of India may please send the life-membership fee (Rs. 3,000/- [US$ 450/-]) to the Secretary, Dravidian Linguistic Association of India. The registration form for attending the *47th AICDL & International Symposium on Language Endangerment* and the application form for life-membership of DLA can be obtained from our website *www.ijdl.org*.

## AN APPEAL TO THE HEADS OF DEPARTMENTS OF LINGUISTICS

The Dravidian Linguistic Association of India offers ***Mrs. S.M. Katre Memorial Prize*** for M.A. topper in Linguistics (2016-2018 batch). The mark-list of suitable candidates may please be forwarded to the Dean, Dravidian Linguistic Association of India, V.I. Subramoniam Memorial ISDL Complex, St. Xavier's College P.O., Thiruvanananthapuram – 695 586, Kerala on or before **31st May 2019**.

## TEXT ANALYTICS AND ITS LINGUISTIC APPLICATIONS

(Continued from the last issue)

The noted observed point that arithmetic progression equation can be applied as per phrase structure grammar and it is explained in the table given below.

| S 1 | John got the medicine from Lakshmi Medical Store at Pune in Maharashtra. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| S 2 | John planned to kill Sebastian at Pune in Maharashtra. | | | | | | | | | |
| Odd and even numbers in arithmetic progression equation | John | got | the | medicine | from | LMS | at | Pune | in | M |
| | 1 | 2 | 2 | 3 | 2 | 5 | 2 | 7 | 2 | 9 |
| Gramm-atical category | noun | verb | D | noun | P | noun | P | noun | P | noun |
| Odd and even numbers in arithmetic progression equation | John | planned | to | kill | S | at | Pune | in | M | |
| | 1 | 2 | 2 | 2 | 3 | 2 | 5 | 2 | 7 | |
| Gramm-atical category | noun | verb | I | verb | noun | P | noun | P | noun | |

[S = sentence, LMS = Lakshmi Medical Store, M = Maharashtra, D = determiner, P = preposition, S = Sebastian, I = infinitive]

In this table, one can see that only the consequence occurrence of difference "2" was mentioned but not the sum of "2" such as 2+2=4, 2+2+2=6. For instance, the total value of "got" and "the" will not be "4", it must be "2". In accordance with this calculation, we can find the position of "John" "medicine" "Lakshmi medical store" "Pune" and "Maharashtra". This means if we get the position of "John" from n number of data, it is easy to get the nth element, therefore, it is concluded with a derived equation of semantic logic of the above sentence with arithmetic progression equation.

a — John
Lakshmi Medical Store = John + (n-1) got, the, from, at
Pune
n

Let us consider X = John, medicine, Lakshmi medical store, Pune

n = unknown

Let us consider Y = got, the, from, at

Then the revised equation is

X

$= X1 + (n-1) Y$

n

i.e., $xn = x1+(n-1)y$

The final equation xn=x1+(n-1)y with the semantic logic explained above is enough to get the place name i.e., Maharashtra, mathematically the $n^{th}$ position (unknown), if we do not know the place name from the "n" number of data. This is simply the conceptual mathematical linguistics algorithm. Needless to say that we can make use of this algorithm in computational programme. The explanation given here is only to get the idea of the NERD extraction from the mentioned python design and its incorporation of linguistic rules with a single sentence by a simplified explanation.

**Integration of Computational and Linguistic logic**

Let us have a brief idea about the integration of computational and Linguistic logic to Indian languages especially concerned with one Indo-Aryan language "Hindi" and one Dravidian Language, "Malayalam". Since English is having a concrete Subject-Verb-Object (SVO) word order, text analytics modules such as POS and NER will be somehow easy to implement in the Engine compared with Indian Languages. Mostly, Hindi and Malayalam are categorized into Subject Object Verb (SOV) word order category. Even though, they more or less do not have a specific word order and hence can also be considered as free word order category.

Now consider the Hindi and Malayalam translated contents of the sentence "John got the medicine from Lakshmi medical store at Pune in Maharashtra". The sentences 1.1), 2.1) and 3.1) given here are the translated sentences and the alternative translations and transliterations are also given here.

1.1) जोन को लक्ष्मी मेडिकल स्टोरपुणेमहाराष्ट्र से दवा मिली।
*jooṇ ko lakṣmii meḍikkal sRRoor puṇe mahaaraaṣṭ̣ra se dava milii.*

1.3) जोन को पुणेमहाराष्ट्रलक्ष्मी मेडिकल स्टोर से दवा मिली।
*jooṇ ko puṇe mahaaraaṣṭ̣ra lakṣmii meḍikkal sRRoor se dava milii.*

2.1) ജോണിന് ലക്ഷ്മി മെഡിക്കൽസ്റ്റോർ പുണെമഹാരാഷ്ട്രയിൽ നിന്ന് മരുന്ന് കിട്ടി.
*jooṇinə lakṣmii meḍikkal sRRoor puuṇe mahaaraaṣṭ̣rayil n̲in̲n̲ə maru n̲n̲ə kiṭṭi.*

2.3) ജോണിന് മരുന്ന് ലക്ഷ്മി മെഡിക്കൽസ്റ്റോർ പുണെ മഹാരാഷ്ട്രയിൽ നിന്ന്കിട്ടി.
*jooṇinə maru n̲n̲ə lakṣmii meḍikkal sRRoor puuṇe mahaaraaṣṭ̣rayil n̲in̲n̲ə kiṭṭi.*

3.1) जोनने महाराष्ट्रातील पुण्याच्या लक्ष्मी मेडीकलस्टोअरऔषध मिळाली.
*joonne mahaaraaṣṭ̣raatiil puuṇyaacyaa lakṣmii meḍikkal sRRoor auṣadh miḷaali.*

[The explanation is given only for Hindi and Malayalam and it can be applied to "Marathi" language also. The given sentence is the translation of the source English sentence "John got the medicine from Lakshmi Medical Store at Pune in Maharashtra".]

The arithmetic progression equation i.e., xn = x1+(n-1)y is to be applied in both the Malayalam and Hindi sentences. Also, we can restrict the nth position as sentence boundary in Hindi "**।**" and initial position will be calculated from जोन-*jooṇ* and vice versa.

Computationally, if we set the delimiter as space to do the programme for a text data from online or digitally preserved Unicode data, initial and final words will be generated. Then after, the words will be tagged to generate the NER. This is the same case for set theory. We can get good accuracy for Hindi. Here, we need to care that the लक्ष्मी मेडिकल स्टोर- *lakṣmii meḍikkal sRRoor* should be tagged as single chunk; otherwise, we will not be able to get the meaning of the words. Word order may create some problem in Hindi but in context free tagging or in context free grammar, the POS is enough to generate good output.

Malayalam, due to its agglutinative nature with high inflectional and derivational process, usually makes little hurdle to make linguistic as well as computational logic compared with Hindi and English. Since only one genitive case marker occurs in proper noun of English, for instance, John's medicine, the inflectional process of proper noun and its generated word of "John" is only one i.e., "John's". It will be ungrammatical, if one tries to add any other suffixes after the inclusion of the genitive case marker in the proper noun. Other cases of English are detached from proper noun and these are placed in the sentence with space. Therefore, it is easy to get the root word "John" and computation of English sentence won't be difficult. In Hindi, postpositions having the case properties were detached from the proper noun, for instance जोन को - *jooṇ ko*. Hence, the extraction of root word जोन - *jooṇ* can be done, simply by the knowledge of linguistics and computational logic. On the contrary, Malayalam proper noun carries all the cases, some postpositions and adjectival suffixes and it will make the inflectional words like a chain. It has been observed that linguistic and its computational logic cause a little hurdle to get the root word ജോൺ - *jooṇ* compared with English and Hindi. The agglutinative or chain words having dative case marker, adjectival suffix, pronominal suffix and co-ordinative conjunction are given below.

ജോണിനുള്ള - *jooṇinuḷḷa*, ജോണിനുള്ളത് - *jooṇinuḷḷaatə*, ജോണിനുള്ളതും - *jooṇinuḷḷaatum*.

Let us consider the example in the sentence (2.1), the word ജോണിന് - *jooṇinə* has different noun generations. The word ജോൺ - *jooṇ* can create roughly around more than 1000 forms by the inclusion of case, postposition, clitics etc. This is the case for the word മഹാരാഷ്ട്രയിൽ - *mahaaraaṣṭ̣rayil*. In order to resolve the problem of getting the exact tag of these words, we can approach the Morphological Analyser to identify the root of the word and then to tag these words as proper noun ജോൺ *jooṇ* and place-noun മഹാരാഷ്ട്ര - *mahaaraaṣṭ̣ra* by Morphological Tagger. Checking the back-end dictionary to infer whether these words are in the dictionary or not is also a method which is resorted to in other languages also. As example, see Marathi (3.1). These two approaches will give good result as output.

The important point to be noted here is that the translated strings of the sentence "John got the medicine from Lakshmi medical store at Pune in Maharashtra" will be logically integrated with arithmetic progression diagram and set theory diagram which are explained in the section `Linguistic Explanation'.

Now we can look into how the translated strings are being integrated with RDR parser, customized RDR parser, POS, NER and Morphological Tagger. If the Hindi translated string passes through the customized RDR parser, the Hindi full stop "**।**" will be tagged as full stop. At the same time, the training POS corpus should be properly tagged this

type of grammatical symbol. The accuracy of the NER output depends up on the POS output. The good grammatical feature of Hindi is that the NER words are separated and case markers, post positions etc., are separated in the text and therefore the computing can be done easily when compared to Malayalam language.

While considering the grammatical features of Malayalam, we can see that the English full stop "." is same as the Malayalam full stop ".".As it is mentioned for Hindi, the same computational logic will be applied to Malayalam also. The translated strings of Malayalam will be passed over to RDR parser, Customized RDR parser, POS, NER, Back End dictionary and Morphological Analyser and Morphological Tagger. The important stage in this Engine phase is that the NER- words will undergo the process of Morphological analyser and Morphological Tagger to exact root from the words. This "root word" will be considered as the NER output.

This section is concluded with a statement that the integrated code of the above-said logic in a python, for example, NER.py and Customized RDR.py in a command line mode would generate the NER output very fast compared with the GUI mode. In addition to that, manually tagged and validated POS corpus will always increase the accuracy of Engine. It is not necessary to explain again the computational logic explained through the diagram and the integration of the computational and Linguistics logic was designed as per "Functional diagram of computational design of python".

**Applications of Text Analytics**

1) Phonetics and Forensic analysis

Phonetics is the study of speech sounds and acoustic phonetics is concerned with the analysis of acoustic properties of speech such as duration, frequency and intensity. Forensic phonetics deals with the acoustic analysis of crime speech data. Also, a speech expert or phonetician will judge the speech data to find out the criminal's voice. Phonetic analysis along with vocabulary and grammar is also used for Forensic analysis. There are other areas of application of text analytics. For example, Criminal investigation in forensic linguistics, bank fraud detection, business analytics and other areas related with speech technology especially localization, machine translation, speech-to-speech translation etc. Computer and mobile penetrations are increasing alarmingly; therefore, the applications of text analytics are growing tremendously.

2) Information extraction and information retrieval.

Text analytics is being used to extract the vital information from online documents or official or government documents. Google search engine and other government search engines usually use linguistic and text analytics methods to extract the information.

*Baneesh N.*
C-DAC, Pune

## 47th AICDL ENDOWMENT LECTURES

**Prof. V.I. Subramoniam Memorial Lecture**

***Prof. K. Karunakaran***, Former Vice-Chancellor, Tamil University, Thanjavur

**Prof. Nagamma Reddy Memorial Lecture**

***Prof. L. Ramamurthy***, Former Deputy Director, CIIL, Mysore

**Prof. Chekuri Rama Rao Memorial Lecture**

***Prof. Usha Devi***, Former Professor & Head, Department of Linguistics, Osmania University, Hyderabad

**Prof. Karunasindhu Das Memorial Lecture**

***Prof. Rajeswari Maheswaraiah***, Retired Principal, Dharwad

**Prof. Shivendra K. Verma Memorial Lecture**

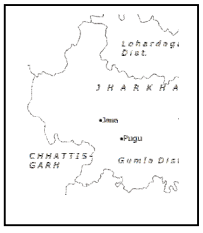
***Prof. Hemalatha Nagarajan***, EFLU, Hyderabad

**Prof. Lachhmi Jessaram Gidwani Memorial Lecture**

***Prof. Scaria Zacharia***, Former Professor of Malayalam, Sree Sankaracharya University of Sanskrit, Kalady

## KURUX STAR NAMES AND STAR-RELATED MYTHS

### 1. Introduction




There are thousands of visible stars in the sky. The Oraons, one of the Dravidian tribes who speak the Kurux language, lay emphasis on several of them, and have mythology related to them. Needless to mention the significance of star names in Dravidian studies (e.g. Parpola 2015: 281), stars are indispensable in understanding some aspects of Oraon life and rituals. This

**DERRIDA'S CONCEPT OF WORD AND MEANING: A CRITICAL ANALYSIS WITH SPECIAL REFERENCE TO THE SEMANTIC THEORIES OF SAUSSURE, ĀNANDAVARDHANĀCĀRYA AND A.R. RAJARAJAVARMA**, D. Benjamin, 2018, PB, Demy 1/8, pp. xvi + 64, Rs. 140/- (US $ 14/-).

is a report of my fieldwork about stars in two Sarnaite Oraon villages, Jana and Pugu, in Gumla District, Jharkhand.

### 2. *ugtā pagsī* or the Plough and Yokebar Constellation

*ugtā pagsī* is a name of a constellation. It means "plough and yokebar" in Kurux, and there is a story about it told among the Oraons. In olden times, human beings had no idea of livelihood. Dharmes, the supreme god of Sarnaism, wanted to show human beings how to do cultivation. He sat down under a tree, near 'the cattle path' (Kurux *ōy chour*), and told children to dig the land. While Dharmes was sitting, he started pruning a wood to make a plough of it. At that moment, a Pāṛki bird (a kind of wild pigeon) dropped excrement on his head. Dharmes got angry and threw a mallet (Kurux *mugrā*) at it, which hit its nest and smashed its eggs. That is why we still see *ugtā pagsī* (which is the plough and yoke constellation), the mallet star (*mugrā bīnkō*), and eggs of the Pāṛki bird (*pāṛkī bī*) together with the cattle path, in the night sky.

This is the story about *ugtā pagsī*. In Grignard's dictionary (Grignard 1924: 684), *ugtā pagsī* is explained as 'Orion'. However, Orion bears no resemblance to a plough, and there are no stars identifiable as a mallet or Pāṛki eggs nearby either. My informants told that *ugtā pagsī* is visible in winter at around eight p.m. With the help of a planisphere (Chandler 1998), I identified *ugtā pagsī* as the constellation Perseus, which has a slanted V shape resembling a plough. Near Perseus, there is a star cluster known as the Pleiades (Messier 45), which looks like a mallet with a short handle. And another cluster, the Double Cluster (Caldwell 14, NGC 869 and 884) near Perseus, looks very much like two shattered eggs. And the "Cattle Path" is the Milky Way, which adjoins Perseus.

### 3. *khaṭī pawā*, or the Bed Legs constellation

*khaṭī pawā* is another constellation. It means "bed legs" in Kurux. My informants told the following story about it. There was a king who had only one son. He was a generous king, and he bought up all the merchandise that was left unsold at the market of his capital. Now, a carpenter went to a mountain, and told the trees that he wants to make bed legs. He asked every tree if it would become bed legs, but no tree agreed to do so. Finally, he went to a Tenko tree, and asked it if it would become bed legs. The Tenko tree said yes, so he cut it, brought it home, and made bed legs from it. He brought them to the market, and when people asked him the price of his bed legs, he said four lakhs. Since nobody could afford them, they were left unsold, and when the king's servants came to buy unsold merchandise at the end of the day, he said again they were four lakhs. The servants got surprised and told it to the king. Feeling something auspicious, the king bought the bed legs for four lakhs, and made a bed with them. Sometime later, the king's son passed away because of someone's black magic, and the king became weak and was confined to bed. While he was lying sick, the bed legs started talking to each other about enemies entering his kingdom. One night, one bed leg said 'I will beat thieves in the east', flew there, beat the enemy, and came back, while the other three bed legs kept the bed standing. Every night, one bed leg flew away, beat the enemy, and came back. And finally, a bed leg said he would go north, because a witch stole the body of the king's son, revived him, and was controlling him. Upon hearing that, the king woke up and went north. He saw his revived son, and got him back from the witch.

This is the story about the Bed Legs constellation. *khaṭī pawā* is the quadrangular part of Ursa Major, also known the Big Dipper or Saptarishi.

[To be continued]

*Tetru Oraon*

## A REQUEST TO THE LEARNED READERS

Dear Scholars, I shall value your advice and comments on the following. I am trying to identify the differences, if any between KOMARAM and VELICCAPAD. I add a note, and shall be grateful if you confirm, add to, or deny the content. I believe ONLY the late CHUMMAR CHUNDALE had studied this in depth. Thank you sincerely:

"Note on Komaram & Veliccapad:

The Theyyam performance is totally ritualistic. The performer is known as *kōmaram* in contrast to the *veḷiccappāṭu* of Central Kerala. The difference is substantial at the levels deeper than only ritualistic i.e., at the mystical plane. Suffice it to say that while every veliccappadu or sets of them are usually specific to a unique temple, e.g., the veliccapadu of "X" shrine, komaram could be "free lance" i.e., impersonating different deities in different but limited and designated set of shrines, within a specific region. The former may be any devotee on whom the afflatus of the deity descends, sometimes to the person's own surprise, and

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**ijdlisdl@gmail.com**

is not specifically trained in any discipline of dance or performance. The latter, on the other hand, is a professional, generally born into a lineage in the Mannan (washerman caste) or a designated set of limited caste communities of the North Kerala region, hereditarily trained, by uncle to nephew because most of the lineages are matrilineal, and requiring considerable practice and study, including theoretical, before he can venture into performance. The veliccappadu may or may not be paid or may be paid only some odd and adventitious donations by the devout, not necessarily as a payment in lieu of his performance, but as an act of piety and devotion, or even charity. On the other hand, the komaram is a professional and has to be recompensed by a set of prestations including cash, clothes, toilet articles etc., predetermined according to custom."

Expecting an early response in the following email id: *dlatvm@gmail.com*

*T. Madhava Menon*

## PARALLEL SESSION ON BANGLA IN THE 47TH AICDL

It is decided to hold a parallel session on ***Socio-Cultural and Linguistic Contacts of Bangla with other Indian Languages with special reference to Dravidian*** on 22nd June 2019 along with the *47th All India Conference of Dravidian Linguists*. Those who are interested to present papers in this session are requested to contact Prof. Naduvattom Gopalakrishnan, Director, ISDL on or before **30th May 2019**.

*Naduvattom Gopalakrishnan*

## *CALENDAR OF MEETINGS*

| | | |
|---|---|---|
| **1. ISDL Governing Council** | **20.6.2019** | **4.30 p.m.** |
| **2. DLA Managing Committee** | | **5.30 p.m.** |
| **3. IJDL Editorial Board** | | **6 p.m.** |
| **4. DLA General Body** | **21.6.2019** | **5.30 p.m.** |

### LIST OF DLA LIFE-MEMBERS

**(In the Chronological Order; Continued from the last issue)**

| Name and Address | Amount | Date of Joining |
|---|---|---|
| **90. Dr. J.D. Singh**<br>267, Vidyaniketan Marg, Model Town, Rohtak, Haryana | ₹ 200 | 3-1-1974 |
| **91. Dr. C.J. Roy**<br>'Anugraha', Puthupally, Kottayam – 11, Kerala | ₹ 220 | 21-1-1974 |
| **92. Dr. R. Amritham**<br>46, Periakuttai St. Veerappan Chathram, Erode – 4, Tamil Nadu | ₹ 200 | 21-1-1974 |

[To be continued]

## CORRIGENDUM

READ the Applications invited in *DLA News* April 2019 as **International School of Dravidian Linguistics invites applications for the following various fellowships for ISDL and DTP operator (temporary) for DLA**. The last date of application for DTP operator is **30th May 2019**. Those who have applied earlier need not apply again.

### ISDL RESEARCH FORUM

**LIST OF PAPERS PRESENTED IN APRL 2019**

03.04.2019: *A Dravidian Etymological Dictionary and Malayalam*
Prof. Naduvattom Gopalakrishnan

### *NEW LIFE-MEMBERS OF DLA*

**(April 2019)**

1. **Dr. V. Deenathayali** (*Membership No. 1356/2019*)
180-I, Satchiyapuram Road, Thiruthangal, Virudhunagar District – 626 130, Tamil Nadu

Printed and published by Naduvattom Gopalakrishnan, Dean, Dravidian Linguistic Association of India, Thiruvananthapuram. Edited by G.K. Panikkar on behalf of Dravidian Linguistic Association of India. Pageset by Harikumar Basi (ISDL). Printed at Solar Offset Printers Private Limited, Manvila, Thiruvananthapuram. Published at International School of Dravidian Linguistics, V.I. Subramoniam Memorial ISDL Complex, St. Xavier's College P.O., Thiruvananthapuram - 695 586, Kerala, India.