The Issue of 'ai' (ஐ/அய்) & 'au' (ஒள/அவ்) in Tamil Language and Periyar's Proactiveness

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Abstract:

Tamil Script has 12 vowels & 18 consonants, out of which the two vowels ai (ஐ, அய்) & au (ஒள, அவ்) have evoked considerable interest throughout the lengthy history of Tamil language, its People and Heritage. Technically considered as Diphthongs, these two vowels – their phonetics and forms, have been analyzed and discussed at length, both in ancient grammar (tolkappiyam) and medieval grammar (nannool). Writing in Tamil language has also evolved continuously over a period of minimum 32 centuries (earliest available written account) across Tamil Nadu, Sri Lanka (ilankai) and many other lands throughout the world where the ethnic Tamil People have lived and are living today.

Dravidian Movement –a social justice and cultural renaissance movement which started in the early twentieth century in Tamil Nadu, was spearheaded by an iconic leader, Periyar E.V. Ramasamy. He was also a great publisher of rational literature. In those days of type setting and type blocks for the printing press, Periyar experimented a lot on Tamil language's orthography and came out with bold proposals of script reform, that included the type faces for the diphthongs ai (ஐ, அய்) & au (ஒள, அவ்). This sparked a huge debate in linguistic circles with many proponents & opponents for the idea. Most of his reforms were later accepted and evolved into modern Unicode standard for Tamil writing in IT systems.

This paper enquires into that evolution and establishes that Periyar did not break any grammatical rules of the Tamil language,his proposals were in fact adhering to the standards of tolkaappiyam, and his usage of அய் & அவ் is consistent with the works of the three Master Poets of Tamil – Valluvar, Ilango & Kamban.Periyar's reforms were so proactive, that we are now able to adapt our ancient system of writing to modern-day Information Technology standard – Unicode, for consistent encoding and representation.

Keywords:

Tamil, Dravidian, Grammar, Tamil Script, Diphthong, Elision, Linguistics, Phonology, Orthography, Script Reform, Unicode, Encoding, Writing System, Periyar, Dravidian Movement, Rationality.

Introduction:

Tamil (Thamizh) language is one of the very few ancient and classical languages of the world, and still surviving into modernity. Tamil can be classified into Classical, Modern and Colloquial - all three forms are still being used. Any language

starts from its people; so too Tamil. Unlike other ancient languages that have become defunct at some point of time in history, Tamil is being continuously spoken and written by its people, thanks to the People-Oriented Philosophy of its language systems and grammar.

Structures of Grammar & Linguistics evolve a bit later, after 'people-forms' of the language slowly mature. In fact, there exists a Tamil poem which sings, "There is no Grammar without Literature, as there is no oil without growing the mustard crop first" (இலக்கியம் இன்றி இலக்கணம் இன்றே; எள் இன்றியாகில் எண்ணெயும் இன்றே). [1] The best starting point to know about Tamil language, is from its earliest people-form: Sanga Tamil. It is a Corpus of Poetry & Prose, weaved on the fabric of Music & Drama, with silken threads of creativity running all over the fabric, some 3200+ years back.

Prof. A.L. Basham in his book 'Wonder that was India' comments thus on Tamil literature: "Very early, Tamils developed the passion for classification. A unique feature of Tamil poetry is the initial rhyme or Assonance (etukai/monai). The first syllable of each couplet must rhyme. This initial assonance, in some poems continued through four or more lines, is never to be found in the poetry of Sanskrit languages, or as far as we know, in that of any other language. Its effect, a little strange at first, rapidly becomes pleasant to the reader, and to the Tamils it is as enjoyable as the end rhyme of Western Poetry."[2]

The First Grammar - Tholkaappiyam:

The aforementioned Assonance is one of the many facets of the Tamil Grammar. It is a steady evolution from Literature to Linguistics. Grammar of the language evolves after People-Forms of the language evolve. Before the Tholkaappiyam evolved, there were many forms of People's Literature, which were lost as the ages passed by, but their names (Mudhu Kurugu, Mudhu Naarai, Kalariyaavirai etc.) were quoted in latter-day commentaries.[3]

Tholkaappiyam (tolkaappiyam) is the earliest available Tamil Text on Grammar for Letters, Words, Subject, Orthography, Phonology and Poetics. It is a Magnum Opus of the Tamil language dated back to approx. ~500BCE. The author Tholkaappiyar (tolkappiyar), barely hard codes the Rules for Tamil language, but enshrines flexibility for the future of the language. All Words of the World do have a Meaning![4] (எல்லாச் சொல்லும் பொருள் குறித்தனவே) That was the revolutionary outlook enshrined in Tholkaappiyam. Even a baby's blabber has some meaning, because the baby expresses its own thought via that word, irrespective of the immaturity of the word that it babbles.

Tholkaappiyar goes on to document and assemble the Grammar for Tamil Language, almost like the modern-day software developers coding their logic models via Object Oriented Programming (OOPs).

- Prototyping an Interface Template
- Building a Class
- Adding Functions to enhance value
- Polymorphism to accommodate cross-sections
- Encapsulation & Inheritance for reusability
- Even providing an Exception Path (alankatai/அலங்கடை)

Distinctions are noted between literary and colloquial usage (cheyyuL &vazhakku), implying that both the literary conventions and demographic conventions are mutually respected. He even charts out, how the language will customize itself geographically (mozhi peyar thEyam), as it grows far away from the regions of literary assemblies. The Author builds upon the best practices of his predecessors and quotes them (enmanaar pulavar). In those prehistoric non-internet & non-YouTube days, the Grammarian even provides a textual audio-visual byte on how to utter the Tamil Alphabet.

The Tholkaappiyam is a 3-part treatise of the Tamil Language!

1. *Letter (ezhuththu) – Articulatory Phonetics, Representing Sound as Letter, Aggregating the Letters, Vowels, Consonants, Diphthongs (sound combination), Elision (sound reduction), Context Sensitivities of sound, Euphony Particles & Modifiers (urubu).*

2. *Word (chol) – Word Formation and Syntax Correlation, Parts of Speech (Verbs & Nouns), Subject, Predicate, Object, Gender, Person, Number, Case, Nature, New Word Formation, and Word Dynamics.*

3. *Subject (porul) – Conveying Thoughts& Literary Subjects using the above Words, Land Types, Seasons, Time, Animal & Human Evolution, Life &Living on Earth (Personal & Social lives), Love, Feelings, Poetry, Aesthetics, Tribes and Traditions.*

Over the ages, many sequels have been written to Tamil Grammar, but many of them have stopped short of just the Letter & Word. Nobody dared to touch the third part (Subject), as it is too complex to define a Grammar for Life. Tholkaappiyar achieved this effortlessly, with sublime beauty. Verily, Tholkaappiyam is the Operating System for Tamil language, much like UNIX & Windows OS in IT.

Vowels & Consonants - Tamil Script:

People often say that the Tamil Alphabet has a whopping 247 Letters and hence it is a very enormous and difficult language. Not at all. Many falsely believe that Tamil has 247 letters in its Alphabet. But the fact is: Tamil has just 4 more letters than English. 30 Letters constitute the Basic Tamil Alphabet. [5] *(எழுத்து எனப் படுப, அகர முதல, னகர இறுவாய், முப்பஃது என்ப; Tholkaappiyam Book 1, Chapter 1)*

1. *Vowels (uyir or life) = 12*

2. *Consonants (mei or body) = 18*

3. *Special Character (-ah softening sound represented by a special letter ஃ called aaydham)*

4. *Shortened half-units of -u&-e sounds (kutRiyalugaram & kutRiyaligaram, with no letter)*

Vowels & Consonants are the core base letters. All others are derived Letters from the combo of the vowels and consonants (Alpha Syllabic- Compound letters) and few other special characters.

Many languages of the world employ the same counting approach. French has derived letters like Diacritics (à, è, ù & ë, ï, ü, ÿ) and Ligatures (œ & æ), but no one counts them as a part of the Alphabet because they are just derived letters. French has only 26 Letters.

Even Sanskrit doesn't count its whopping list of derived letters and define its alphabet to only 48 letters (or 52 as of today). Same is the case, with most languages of India including Dravidian languages. Hence, Tamil has only 30 Letters. Young Children and New Readers need not needlessly fear that Tamil is an extremely difficult language with a whopping 247 letters in its core.

The name is Sweetness. Tamil means Sweet [6] *(இனிமையும் நீர்மையும் தமிழ் எனல் ஆகும் – பிங்கல நிகண்டு). Like howour bodies are built of matter, and life sits on it, infusing the body with life, the Tamil language calls its consonants as body-letters (mei) and vowels as life-letters (uyir). This constant engagement of life over body, develops and engulfs the language and gives it a vibrant living.*

In fact, Tamil is so primordial and ancient that it lacks a few matured letters for sounds which we use today (like ja& ha). Tamil does have those sounds, but it does not assign an exclusive letter for that sound, thereby providing flexibility for context-based sounds. The Ja sound can be reproduced with letters ஞ &ச, Ha sound with letterஃ and the same

letter ச can sound 'cha' & 'sa' based on the context.

This Lean & Agile Model makes the language flexible, by NOT assigning an individual letter for every individual sound (hard coding for voiced & aspirated consonants). There are thousands of sounds in this world across many cultures, and not all sounds can be assigned a letter. That would make the language obese instead of lean & agile. Tamil is verily, Agile!

Tamil Vowels					Tamil Consonants			
	Letter	ISO				Letter	ISO	
1	அ	a	short		1	க்	k	hard
2	ஆ	ā	long		2	ங்	ṅ	soft
3	இ	i	short		3	ச்	c	hard
4	ஈ	ī	long		4	ஞ்	ñ	soft
5	உ	u	short		5	ட்	ṭ	hard
6	ஊ	ū	long		6	ண்	ṇ	soft
7	எ	e	short		7	த்	t	hard
8	ஏ	ē	long		8	ந்	n	soft
9	ஐ	ai	long		9	ப்	p	hard
10	ஒ	o	short		10	ம்	m	soft
11	ஓ	ō	long		11	ய்	y	medium
12	ஔ	au	long		12	ர்	r	medium
short = kuRil, long = nedil					13	ல்	l	medium
hard = vallinam					14	வ்	v	medium
soft = mellinam					15	ழ்	ḻ	medium
medium = idaiyinam					16	ள்	ḷ	medium
					17	ற்	ṟ	hard
					18	ன்	ṉ	soft

(Fig. 1: The Basic Tamil Alphabet as envisaged in Tholkaappiyam)

Tamil Script is based not on Alphabets like the Western languages, but on Syllables, like many other Indian languages. The full script has 30 base letters (12+18) - which are in their independent form, and 216 derived letters (12x18) - which are in their compound (combined) form.

The 216 compound letters (uyir-mei) are formed, by adding a vowel marker to the consonant. (ா, ி, ீ, ு, ூ, ெ, ே, ை, ொ, ோ, ௌ). These markers are added to the right, left, or both sides of the consonants and rarely can also form a ligature (two or more letters joined to form a single glyph).

The special character aaydham (Aaytham) is neither a consonant nor a vowel, but usually listed at the end of the vowel set. This serves as a voiceless uvular fricative, and used to soften hard consonants as shown in an example: அது (adhu) to அஃது (ahdhu).

Hence in total, 12+18+216+1 = 247 characters form the complete script. (Note: The latter-day Sanskrit infused imposition of Grantha letters added 66 additional characters taking the number to 313. Such foreign language substratum influence is NOT taken into consideration in the scope of this paper).

Tamil vowels are additionally classified into 5 short vowels (அ, இ, உ, எ, ஒ) called the kuRil (kuril), 5 long vowels (ஆ, ஈ, ஊ, ஏ, ஓ) called the nedil, and two diphthongs(ஐ, ஒள) which are also long (nedil).

Tamil consonants are also additionally classified into three categories of 6 letters each. vallinam (hard), mellinam (soft), and idaiyinam (medium).All the 6 mellinam consonants are Nasal, the remaining vallinam & idaiyinam consonants are Stop, Affricate, Tap, Trill & Approximant. The articulators of these consonants are Labial, Dental, Alveolar, Retroflex, Alveolo-palatal and Velar.
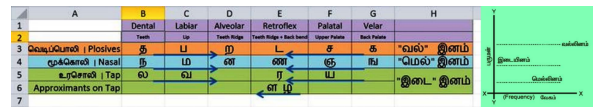
(Fig. 2: Tamil Consonants Articulation and Frequency over Syllable-Weight Axes)

Tamil Phonology:

Tamil phonology as detailed in Tholkaappiyam is both flexible & robust, and based on the unique principles of primitive sound engineering of the ancient peoples. Unlike Indo-Aryan language family, Tamil does not have unique letters for aspirated consonants. As an example, there is only ka, and no kha, ga & gha.Tamil Script also does not have unique letters for voiced/unvoiced stops, because their pronunciations depend on where the sound/letter occurs in a word. Refer the illustration below.

தமிழில் "க" ஒலிப்பு:

1.	சொல்லின் முதல் க = Ka | Kolu; Golu அல்ல:)
2.	சொல்லின் இடையில் க = Ga | ஊழகம்
3.	இன எழுத்தொடு க = Ga | நுங்கு
4.	மெய் எழுத்தொடு க = Ka | செக்ku

தமிழில் "ச" ஒலிப்பு:

1.	சொல்லின் முதல் ச = Cha | Chol; Sol அல்ல
2.	சொல்லின் இடையில் ச = Sa | இசை
3.	இன எழுத்தொடு ச = Ja | மஞ்ஜள்
4.	மெய் எழுத்தொடு ச = Cha | பிச்chai

தமிழில் "த" ஒலிப்பு:

1.	சொல்லின் முதல் த = Tha | Thevaaram; Devaram அல்ல:)
2.	சொல்லின் இடையில் த = Dha | ஓdham
3.	இன எழுத்தொடு த = Dha | கந்dhaன்
4.	மெய் எழுத்தொடு த = Tha | முத்thu

தமிழில் "ப" ஒலிப்பு:

1.	சொல்லின் முதல் ப = Pa | பம்பரம்; bambaram அல்ல:)
2.	சொல்லின் இடையில் ப = Ba | பலbaரம்
3.	இன எழுத்தொடு ப = Ba | கம்baல்
4.	மெய் எழுத்தொடு ப = Pa | செப்பு

(Fig. 3: Tamil Phonology - Pronunciations depend on the Context of the sound/letter in a Word)

There are well-defined syntax and rules for voicing stops in Classical Tamil which even continues today in Colloquialand Spoken Tamil. Stops are voiceless at the start of a word (ka, cha, tha, pa – க, ச, த, ப). They are also voiceless in a consonant cluster (kka, chcha, ththa, ppa – க்க, ச்ச, த்த, ப்ப) and also when geminated (ik, ich, ith, ip – க், ச், த், ப்). Stops are voiced only in the middle (ga, sa, dha, ba) or after a corresponding nasal (nja - ஞ). This is a character-context based model.

In fact, **Tholkaappiyar even gives an audio demo of these rules, albeit in a written form** - of how the tongue, lips, teeth & palate, work in tandem to produce these sounds [7]. There was no YouTube those days (~2500+ years back). Yet, Tholkaappiyar achieves his pronunciation instruction with ease and deft.

It's an ingenuity that both the voiceless & voice stops can be represented by the same letter in Tamil, without an iota of ambiguity. Tamil Phonology is built on a Lean & Agile Model. It makes the language flexible, by NOT assigning a specific letter for every single sound (no hard coding). There are innumerable sounds in the world - across various civilizations, and not all of those sounds can be assigned a hard coded letter in a language. That would make the language obese, instead of being agile.

Also, Tamil has a unique sound feature called Elision called as: KutRiyal / KuRukkam (குற்றியல்/ குறுக்கம்; kutriyal/kurukkam). To understand this concept, one needs to be aware of the phonological unit of time in Linguistics.

In phonology, there exists a unit called Mora that describes the syllable weight or timing of a letter. Each Tamil letter has a mora called the maaththirai (மாத்திரை / maattirai). One unit of maaththirai is defined as the time taken for a blink of the eye under normal human conditions. [8] (which is approx. 0.4 seconds). The average person blinks every 4 seconds – that is about 15 times per minute, or over 20,000 times a day[9]. Blinking cleans and lubricates the surface of the eye.Tamil takes the characteristic of an important organ of the body – the Eye and correlates that blink function to its Mora Measurements.

In Tamil, Short vowels (kuRil) have 1 maaththirai and long vowels (nedil) have 2 maaththirai. Geminated consonants have 0.5 maaththirai. The special character Aaydham also has 0.5 maaththirai.

Coming back to the sound feature: Elision, it is the reduction in sound duration of a phoneme, wherein some letters in some words, are sounded on a reduced timing, naturistically as they are spoken. Again, there are well-defined rules for Elision in Tamil Grammar. They are defined as below. Please note that in the line items #3 & #4, ஐ is also written as அய், and ஒள is also written as அவ்,and they will be of considerable interest as we progress on the scope of this paper.

1	KutRiyal ukaram (குற்றியலுகரம்)	shortened vowel u உ
2	KutRiyal ikaram (குற்றியலிகரம்)	shortened vowel i இ
3	Ai-kaarak kuRukkam (ஐகாரக் குறுக்கம்)	shortened vowel ai (diphthong) ஐ/அய்
4	Au-kaarak kuRukkam (ஒளகாரக் குறுக்கம்)	shortened vowel au (diphthong) ஒள/அவ்
5	Makarak kuRukkam (மகரக் குறுக்கம்)	shortened geminated consonant m ம்
6	Aaydhak kuRukkam (ஆய்தக் குறுக்கம்)	shortened special character ah ஃ

(Fig. 4: Tamil KutRiyal – Elision – Natural Shortening of Phonemes)

Enter: The Curious Case of Periyar in Tamil Socio-Linguistics:

E.V.Ramasamy, fondly called Periyar (meaning: Great Leader) by millions of Tamil People, was one of the Doyens of the Dravidian Movement which took shape during the 20th century in South India. The erstwhile Justice Party's cherished goals of delivering Humanism to the Society, stood at crossroads in the annals of history when Periyar arrived on the scene. Women & Feminists who appreciated his service, conferred the honorific of 'Periyar' [10] [11] which has stayed today and will stay for ever.

Periyar EVR was a free thinker even at a young age, and had the nuance of critical questioning of any information that he used to hear. Via his life-events, he got frustrated with the Hindu Religion (aka Vedic/Brahmin Religion), its hypocrisy, and its inherent Caste system - that was designed by the Brahmins as a 'divine ploy' to oppress other social classes and keep themselves at the top of the social structure.

Though EVR was born into an influential family and even held the chairmanship of the local municipal government, he was inspired by Mahatma Gandhi, and joined the Congress Party in the freedom struggle for Indian Independence. But he not only believed in Political Liberation, but also Social Liberation of the People. He advocated Reservation (Affirmative Action) for the Oppressed Classes, which the Congress refused many a time, and hence he eventually had to quit the Gandhi's party.

Periyar EVR soon realized that the main obstacle for Social Liberation, is the lack of Self-Respect amongst the oppressed classes themselves. It would be futile to fight against the oppressors, if the oppressed themselves do not feel the need for their liberation. Periyar wanted to infuse Self-Respect in People, so that they could stand up and fight for their rights. People succumb to the yokes of Religion and offer themselves to be oppressed in the name of God, cleverly manipulated by the Priestly class – the Brahmins. Hence Periyar turned towards Atheism. He advocated Rationality, so that people can question the Religion against its Doctrine of Inequalities. Two core principles of Humanism were very dear to Periyar's heart all along his life - 1) Rational Thinking & 2) Social Justice (Equality).

Many Atheists of the world choose Atheism, because of Rational thinking. But Periyar chose to be an Atheist, not only for the sake of Rationality, but also for the sake of Social Equality. The cause of the People and their Deliverance were dearer to his heart, than just theoretical philosophies. Periyar was not a Theoretical Atheist, but a Social Atheist![12]

(Fig. 5: The Thirukkural Conference 1949 - organized by Periyar along with Tamil Scholars)

Periyar started advocating the Self-Respect Movement vigorously, after he quit the Gandhian Congress. He started working with like-minded leaders in other parties like the Communist Party and the Justice Party. He also had linguistic parleys with great Tamil Scholars like Maraimalai Adigal, Somasundara Bharathiyaar, Thiru. Vi. Ka, Mozhi GnaayiRu PaavaaNar (Dravida Mozhi Nool GnaayiRu), Bharathidasan, Pulavar Kuzhanthai, C. Ilakkuvanar, Ka. Appathuraiyaar and a galaxy of Tamil Stalwarts. Periyar successfully organized a Thirukkural Conference [13] in 1949, with the full support of Tamil Scholars.

Periyar loved the Tamil language, but was pained to see the ancient language deteriorating in the shades of caste, religion and irrational themes, whereas the languages of the modern world were catching up with Science and Rationality. He was a personality of the 'practice-as-you-preach' kind, with immense Policy Honesty, and would even fore go his personal wealth for the social cause that he espoused.

When Tamil language was endangered by the compulsory Hindi language imposition of the Union Government of India, it was Periyar who immediately sprang up and came to the streets to protest [14]. He warned that the imposition of Hindi would make Tamils second class citizens, and would destroy their cultural and secular heritage. Progressive ideas that were disseminated by the Justice Party in the recent decades via Tamil language would be subdued, and Religion would start ruling again via the priestly class. Anti-Hindi Agitations were conducted all over the state, and Periyar joined hands with other leaders cutting across party lines. The Hindi imposition was eventually cancelled by the British Governor Erskine.

The already declining Justice Party needed a rejuvenation, and the Anti-Hindi Agitation brought in a new and dynamic leader in the name of Periyar. In 1938, Periyar EVR was elected the leader of the Justice Party and a new life was breathed into the Dravidian Movement. A young & charismatic student-leader by the name CN Annadurai, joined with Periyar.[15] This added strength to strength and brought in a huge exodus of Tamil youth to the movement. With impressive oratorical skills in both Tamil & English, Annadurai (fondly called Anna – meaning: Elder Brother and later Arignar Anna – meaning: Scholar Anna), became the youthful face of Periyar's Dravidian Movement.

The Justice Party evolved into Dravidar Kazhagam (meaning: Association of Dravidians), via the Self-Respect Movement in the interim. After this transition, there was no looking back. The Tamil land became a Dravidian stronghold of Social Justice till date.

- *The word 'Tamil' is an Endonym*

- *The word 'Dravidam' is an Exonym [16]*

Both words mean the same, but the latter word (Dravidam) was used by the rest of the World, with phonetic reconciliation to denote Tamil. After the evolution of other languages in the family, the word 'Dravidam' started to signify the whole of Dravidian language family as well. But a new connotation arose for the word in the 20th century. Leaders from Iyothee Thass to Periyar started using the word 'Dravidam' to also signify the fight for Social Justice against Aryan/Brahminical aggression. Thus, it stayed both in the linguistic & social parlance. Dravidam is here to stay in the true spirit of Tamil Social Justice.

The Dravidian Printing Revolution:

Periyar started a Tamil weekly called 'Kudi Arasu' (meaning: Government of the People) in 1925 and an English Journal called 'Revolt' in 1928 to propagate his thoughts& policies. He was a successful and a passionate publisher, not only in terms of financial success, but also in terms of outreach success. Periyar's Passion for Publishing was capsuled in his innate desire to educate & rationalize the masses at a very economical& affordable cost. His core journals over a lengthy period of time were the following: [17]

1. Kudi Arasu
2. Dravidan
3. Revolt
4. Puratchi
5. PaguthaRivu
6. Viduthalai
7. Justicite
8. Unmai
9. Modern Rationalist

"The purpose of wealth is to share" (செல்வத்துப் பயனே ஈதல்), so says the celebrated Sanga Tamil. Since Knowledge is the true wealth, Humanists all over the world connect on this one simple trait: Knowledge-Sharing. As Humanist Movements were springing up in South India, so were Magazines & Journals springing up, and sharing knowledge with the common folk. Almost every humanist organization at this stage ran a handout, newspaper, magazine or journal – daily, weekly, fortnightly or monthly.

Nowhere in the history of Humanism around the world, there was so much a plethora of journals dedicated to the cause of Humanism, as was in Tamil Nadu (South India). Almost 257 journals came out of the Humanism/Dravidian Movement of South India at different points of time.[18]

This Printing Revolution brought great thinkers of the world - like Buddha, Confucius, Valluvar, Socrates, Plato, Aristotle, Galileo, Bruno, Voltaire, Rousseau, Bertrand Russell, Marx, Ingersoll, Bernard Shaw and many more - to the hands of common man and woman. These simpleton folks had not even stepped out of their South Indian villages, and yet they could catch up on Global Humanism. This is a true phenomenon of Globalization of Humanism – A South Indian Case Study.

But, a Passionate Periyar faced a unique issue when it came to Tamil Type faces in Publishing.
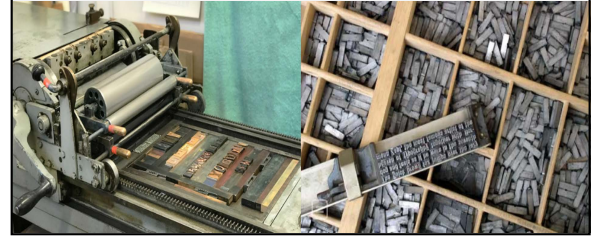
(Fig. 6: The old style Vandercook Printing Press and Type Blocks)

Those days were the good old days of thePrinting Pressand not Digital Publishing that we enjoy today. Printing was made out of impressionsby applying pressure to an inked surface (Type Block) resting on a print medium like paper. There was no offline typing on computers, but type blocks had to be pre-assembled before every printing. Each publishing house looked like a mini factory. Metal Molds have to be manufactured for the type blocks. Separate molds &letter boxes had to be made for every character: vowels, consonants, vowel markers, consonant clusters, special characters, numbers, ligatures, punctuation marks etc. They have to be maintained, cleaned, repaired and if broken, re-made rightfrom scratch. All these added to the cost of publishing, in addition to the cost of the ink and paper.

These costs were absorbed into the budget of well-funded Missionaries, who spearheaded the early Printing Press Revolution in India. But to Periyar, that was difficult because he was under a constant threat of civil arrest & incarceration owing to his social agitations. His publications were banned many a time. Still, Periyar was not working on financial profits, but knowledge profits for the Society.

Periyar had to sell his magazines at a layman-affordable price, in order to reach out to many people and kindle their self-respect. So, he was trying to figure out multiple ways, in optimizing the operational costs of his Printing Press. One of the major operational cost in running a Printing Press, was the manufacture & maintenance of type

blocks. Because Tamil Script at that time didn't have a uniform way of representing vowel markers to consonant clusters, there were too many letter-facesand type blocks, which added to the complexity of the Tamil Printing Press.

The Dravidian Experimentation in Tamil Linguistics:

In fact, Tamil was the 1st vernacular language of India to go on print, after the Western languages Portuguese, Spanish & English.

Tamil Printing Press was pioneered by the early European Missionaries starting from the 16thcentury onwards. Joao Gonsalvesis credited with preparing the first Printing TypeBlocks forTamil Script. Later new casts were made by Fr. Joao da Faria. The first book in an Indian language (Tamil) to be printedwithin India (Quilon, now Kollam) was: Henrique Henriques's 'Doctrina Christam en Lingua Malabar Tamul - Tampiran Vanakkam' in 1578. (Earlier in 1554, Cartilha em lingoa Tamul e Portugues,a Tamil-Portuguese Book was printed in Lisbon, Portugal which is outside of India and that was printed in Romanized script and not in the native Tamil Script).[19]

(Fig. 7: The First Tamil Book in Print by Henriquesand the Type Blocks of Ziegenbalg)

The Four Pillars of the Tamil Printing Press are: Henrique Henriques, Roberto De Nobili, Bartholomäus Ziegenbalg and Constanzo Beschi (Veeramaamunivar).

They were followed by Charavana Perumal (Aiyar) and Vichaka Perumal (Aiyar) of Kalvi

ViLakkam, Tiruvenkatachalam (Mudaliar) of Sarasvati Press, Umapati (Mudaliar) of Kalvi Kalanchiyam - all four from the Indian State of Tamil Nadu and then by Arumuga Navalar of Jaffna, Sri Lanka. [20]

Veeramaamunivar was one of the early pioneers of Tamil Lexicon (Tamil-Latin Dictionary) and the man who introduced ThirukkuRaL to the western world of Intellectuals. More than that, he was one of the early champions who reformed and standardized the Tamil Script in 18th century. He perfected the system of writing the long vowels (nedil) like (எ்எ)to(எ, ஏ), (ஒ்ஒ) to (ஒஓ), (கொ்கொ)to (கொ்கோ), and replacing π with ர, so that the vowel marker π can be unambiguously used for uyirmei nedils.[21], [22]

In many ways, Veeramaamunivar was a forerunner to Periyar in the Publishing field. In fact, he sowed the seeds of Script Reform in Tamil - adapting to the modern needs of Printing, which were later picked up by Periyar, and this reform went all the way up to Unicode Consortium in the IT field today.

Out of Tamil's 18 consonants and 12 vowels -13 consonants (க், ங், ச், ஞ், ட், த், ந், ப், ம், ய், ர், வ், ழ்) when compounding with 6 vowels (ஆ, எ, ஏ, ஐ, ஒ, ஓ) form a fairly consistent set of Compound Letters (uyirmei) which are truly scalable to modern needs. There were no issues with these 13x6=78 typefaces. As an example, if you take a look at the below series, you can see a consistent compound representation.

- கா, கெ, கே, கை, கொ, கோ.
- சா, செ, சே, சை, சொ, சோ.
- தா, தெ, தே, தை, தொ, தோ.
- பா, பெ, பே, பை, பொ, போ.

But there was an issue, when the remaining 5 consonants (ண், ல், ள், ற், ன்) were compounding with the same 6 vowels (ஆ, எ, ஏ, ஐ, ஒ, ஓ). The resultant representation was inconsistent and went haywire in the script layout.Please do take a look at the below chart for the oldscript consonant markers.

(Fig. 8: Old Tamil Script for the non-scalable 5 consonants marked in red, which are non-standard and inconsistent with 13 other consonants)

These 5 consonant compounding was a huge setback to standardization and caused havoc in the printing press adding to the costs of type block maintenance. They say from the old adage: "Necessity is the Mother of Invention". Verily, Periyar was faced with a compelling necessity to invent a new representation of compounding and standardize these 5 consonants in line with the remaining 13.

(Fig. 9:Periyar's Recommendations for Standardization of the Tamil Script)

Because of this standardization experiment, a total of 108 compound letters (uyirmei) became fully scalable. The 6 vowels (ஆ, எ, ஏ, ஐ, ஒ, ஓ) can now compound with all the 18 consonants to produce a consistent character set of consonant markers, added to the left or right or both sides of the consonant.

(Fig. 10: The Standardized Tamil Script after the non-scalable 5 consonants,

were made scalable and consistent with 13 other consonants)

Periyar proposed a recommendation of the above Script Standardization in his Kudi Arasu magazine (1935). He also reached out to Tamil Scholars to get their expert advice and concurrence.

Veeramaamunivar, Murugappa (Editor of the Karaikudi Kumaran Magazine),Su. Si. Subbaiya (Tamil Scholar from Singapore) and various others have already walked on this reformist path.Periyar duly acknowledged the efforts of his predecessors in this standardization exercise. It would be really worthwhile to read some sections that Periyar wrote in his epoch-making article. That would shed light on his indomitable spirit of experimentation and practical rationality.

"தமிழ்பாஷை எழுத்துக்கள் விஷயமாய் சீர்திருத்தங்கள் செய்யப்பட வேண்டும் என்பது அநேகருக்கு வெகுகாலத்துக்கு முன்பிருந்தே

ஏற்பட்டிருந்த அபிப்பிராயமாகும். தோழர் குருசாமி அவர்கள் எழுதியிருந்தது போல பெருத்த பண்டிதர்களில்கூடப் பலர், எழுத்துச் சீர்திருத்த விஷயமாய் வெகுகாலமாகவேபேசி வந்திருக்கிறார்கள்".

"தமிழ் ஏற்பட்டது இன்று நேற்றல்ல. எழுத்துக்கள் ஏற்பட்டது இன்று நேற்றல்ல. ஆனால் எழுத்துக்கள் கல்லிலும், ஓலையிலும் எழுதும் காலம்போய், காகிதத்தில் எழுதவும், அச்சில் வார்த்துக் கோக்கவும் ஏற்பட்ட காலந்தொட்டு இன்று வரை அவற்றில் யாதொரு மாற்றமும் ஏற்பட்டதாகத் தெரியவில்லை. ஆதலால் யாராவது ஒருவர் துணிந்து இறங்க வேண்டியதாயிற்று".

"இவைகள் ஒருபுறமிருக்க, இப்போது உயிர்மெய் எழுத்துக்கள் என்று சொல்லப்படும் 18 எழுத்துக்களிலும் (வரிசை), ஒவ்வொன்றுக்கும் உள்ள இகரம், ஈகாரம், உகரம், ஊகாரம் ஆகிய நான்கு சப்தங்கள் கலந்த எழுத்துகள், தனித்தனி வடிவம் கொண்டு, அதாவது கி, கீ, கு, கூ என்பது மாதிரியே 18 எழுத்துக்களும் தனித்தனி உருவம் பெற்று 18x4, ஆக மொத்தம் 72 எழுத்துகள், அதிகமாக அநாவசியமாக இருந்து வருகின்றன. இந்தத் தனித்தனி வடிவங்கள் எதற்காக இருக்க வேண்டும்? எல்லா உயிர்மெய் எழுத்துக்களுக்கும் ஆகாரம், ஏகாரம் ஆகிய சப்தங்களுக்கு ா, ே ஆகிய குறிப்புகளைச் சேர்த்து, எப்படி கா, கே என்று ஆக்கிக் கொள்கின்றோமோ, அதுபோலவே மேல்கண்டகி, கீ, கு, கூ முதலிய சப்தங்களுக்கும் ஒரு தனிப்பட்ட குறிப்பு அடையாளத்தை ஏன் சேர்த்துக் கொள்ளக்கூடாது? என்பது மிகவும் யோசிக்கத்தக்க விஷயமாகும்".

"தமிழ் எழுத்துக்களிலும் கி. கீ. கு. கூ ஆகியவைகளுக்கு ⸜, ⸝ என்பது போன்றவைகளையோ அல்லது வேறுவிதமான குறிப்புகளையோ சேர்த்தால், அச்சில் 72 தனி எழுத்துகள் தேவையில்லை என்பதோடு, பிள்ளைகள் தமிழ் கற்பதற்கும், 72 எழுத்துகளைத் தனியாக ஞாபகம் வைத்துக் கொள்ள வேண்டிய அவசியமில்லாத சௌகரியம் ஏற்படும். தமிழ் எழுத்து *Typewriting*

என்று அச்சடிக்கும் யந்திரம் செய்வதிலும், மிகுந்த சௌகரியமும், விலை சகாயமாய் செய்யக் கூடிய நிலைமையும் ஏற்படும்".

"அச்சுக்கும் 54 அறைகள் (கேஸ்கள்) இருந்தால் போதுமானதாகும். பிள்ளைகளுக்கும் இந்த 54 எழுத்துக்கள் ஞாபகமிருந்தால் போதுமானதாகும். [23]

Periyar was also a successful bargainer, an intelligent negotiator and an effective Change Agent. He knew very well that his reforms, how much ever logical they may be, would not be immediately accepted by the previous generation of scholars who are rooted in absolute traditionalism. So, to buy in universal acceptance, instead of dashingall the changes in one go, he played the incremental approach. He advocated to start with - at least 7 letters in the first phase, thus functioning like a psychologist.

"பாஷையின் பெருமையும், எழுத்துக்களின் மேன்மையும், அவை சுலபத்தில் தெரிந்து கொள்ளக் கூடியதாகவும், கற்றுக் கொள்ளக் கூடியதாகவும் இருப்பதைப் பொருத்ததே ஒழிய வேறல்ல. ஆதலால் இந்த மாற்றங்கள், நாளாவட்டத்தில் செய்யக் கூடியது என்று சொல்லுவதானாலும், ணா, ணை, லை, ளை, றா, னா, னை முதலிய 7 எழுத்துக்களைப் பொருத்தவரையில் உள்ள மாற்றத்தை, வாசகர்கள் இப்போது முதலே அனுமதிப்பார்கள் என்றே கருதுகின்றோம். இதுவரை, பல தோழர்கள் ஆதரித்ததோடு, மற்ற மாறுதல்களையும் எழுதியிருப்பதும், இப்பொழுதே செய்யவேண்டுமென்று குறிப்பிட்டிருப்பதும், நமக்குத் தைரியத்தைக் கொடுக்கின்றது. அவர்களுக்கு நமது நன்றியும் பாராட்டுதலும் உரியதாகுக". [24]

Periyar started following the new model of the Tamil Script in his Printing Press. He also encouraged other forward-thinking people in the Tamil Community to follow this new model.

During later days, Scholarslike Saalai Ilanthiraiyan, Writers like Si. Su. Chellappa and HonorableArchaeologists like Prof. Dr. Iravatham

Mahadevan also poured in their support to Periyar's Model. In 1987, Dr. Iravatham Mahadevan even advised the daily magazine Dinamani to implement the Periyar Model, irrespective of the ideologies sported by its Management Team (comprised of Brahmins).

"கணினி விசைப் பலகையில், பெரியாரின் சீர்திருத்த எழுத்துக்களை உள்ளீடு செய்வது சுலபமானது. எனவே, பெரியாரின் இந்த எழுத்துச் சீர்திருத்தங்களை ஏற்றுக் கொள்ள வேண்டியது காலத்தின் கட்டாயம்" – பேரா. டாக்டர். ஐராவதம் மகாதேவன். [25]

Periyar's Standardized Tamil Script officially came into effect on 19th October 1978 (5 years after his death), when the Government of Tamil Nadu issued an official proclamation in this regard.[26] The Government of Singapore also adopted the Model of Periyar's Standardization in 1983.

There was no global standard of Unicode then. Information Technology and Language Encoding Standards were not even in a nascent stage. But Periyar's bold experimentation has futuristically paved the way for the Tamil Unicode encoding standard.[27] The smooth ride on the Tamil Information Highway that we are enjoying now, owes its gratitude to Periyar's Proactiveness and Farsightedness.

In the above Standardization Experiment by Periyar, a total of 15 recommendations were made, out of which 13 of them got universally accepted as of today. The remaining 2 were the issues of 'ai' (ஐ/அய்) & 'au' (ஔ/அவ்) that we will continue to explore in the course of this paper.

Some people who were holding a grudge on Periyar - for his ideologies on Anti-Brahminism, Atheism and Caste Eradication - became so much allergic to this recommendation of 'ai' & 'au'. They started opposing Periyar tooth and nail in the disguise of Tamil Scholarship, unaware of the fact: that some 2500+ years back, the Father of Ancient Tamil Grammar – Tholkaappiyar, had said the same thing what Periyar had said on the Polymorphism of (ஐ/அய்) & (ஔ/அவ்).

Diphthongs (கூட்டொலி) in Tholkaappiyam:

The vowels of interest in this discussion areai (ஐ)& au (ஔ).

They are diphthongs – meaning: a combination of two vowel sounds (கூட்டொலிகள்). They are also called gliding vowels and often involve two different target sounds. The tongueand other speech organs always move during the pronunciation of the diphthong vowel, in contrast with the monophthong vowel, where the speech organ stays put and does not move. Many language families of the world contain such diphthongs in their alphabetic set. Some diphthongs are single phonemes, others are expressed as sequences of two vowelsor also as a combination of vowel and a semivowel.

As we saw in the previous sections of the paper, the letters ai (ஐ)& au (ஔ)are considered as long vowels (nedil). But only these 2 long vowels do not have their corresponding short vowels in the alphabet (unlike அ-ஆ, இ-ஈ, உ-ஊ, எ-ஏ & ஒ-ஓ). Hence these are classified as Diphthongs (கூட்டு ஒலிகள்).They are formed as a combination of two vowels and are also considered to be formed as a combination of one vowel & one consonant, based on Tamil Phonology.

Both Tholkaappiyar(author of the ancient Tamil Grammar - Tholkaappiyam) and PavaNanthi Munivar (author of the medieval Tamil Grammar - Nannool) discuss on this theory of diphthong formation in a section called போலி (alike), and set the record straight for future reformers in Tamil Grammar.

Tholkaappiyar defines the formation of these combination of vowel sounds - ai (ஐ)&au (ஔ). [28]

- அகர இகரம் ஐகாரம் ஆகும் (Book 1 Verse 54)
  Meaning:அ+இ = ஐ; a+i = ai

- அகர உகரம் ஒளகாரம் ஆகும் *(Book 1 Verse 55)*

Meaning: அ+உ = ஒள; *a+u = au*

Hence it is clear that the short vowels a & i compound to form the long vowel ai, and the shortvowels a & u compound to form the long vowel au. But Tholkaappiyar also adds an extra clause on this formation. He says that not only the two short vowels can compound, but also one short vowel & one consonant can also compound to form the same diphthongs.

- அகரத்து இம்பர் யகரப் புள்ளியும்

ஐ என் நெடுஞ்சினை மெய்பெறத் தோன்றும் *(Book 1 Verse 56)*

Meaning: அ+ய் = அய்; *a+y = ay (ai)*

Same is the case with the other diphthong au (ஒள). But Tholkaappiyar does not explicitly mention this pattern. However, commentators to Tholkaappiyar's work explicitly mention this second case[29], [30]

- *Meaning:* அ+வ் = அவ்; *a+v = av (au)* *(Book 1 Verse 56)*

மெய் பெற என்றதனான்
அகரத்தின் பின்னர்உகரமேயன்றி
வகரப் புள்ளியும்
ஒளகாரம் போலவருமென்று கொள்க.
ஒளவை அவ்வை என வரும் 4 (23) –
நச்சினார்க்கினியர்[29]

- *Meaning:* அ+வ் = அவ்; *a+v = av (au)* *(Book 1 Verse 56)*

மெய் பெறத் தோன்றும் என்றதனான்
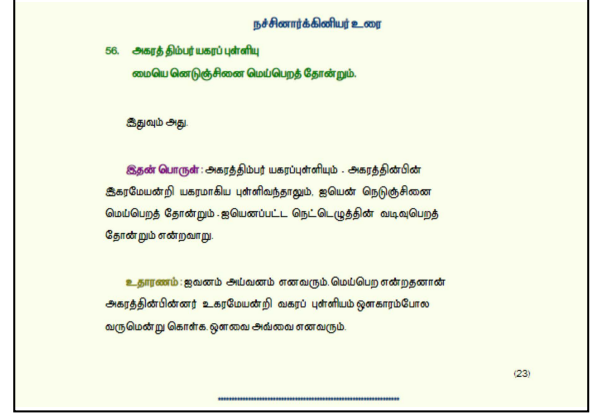அகரத்தின் பின்னர் உகரமேயன்றி
வகரப் புள்ளியும்
ஒளகாரம் போலவருமெனக் கொள்க என்றவாறு. இச் சூத்திரம், அகரத்து இம்பர் யவகரப் புள்ளியும் ஐ ஒள நெடுஞ்சினை மெய்பெறத் தோன்றும் - என்றிருத்தல் வேண்டும்.

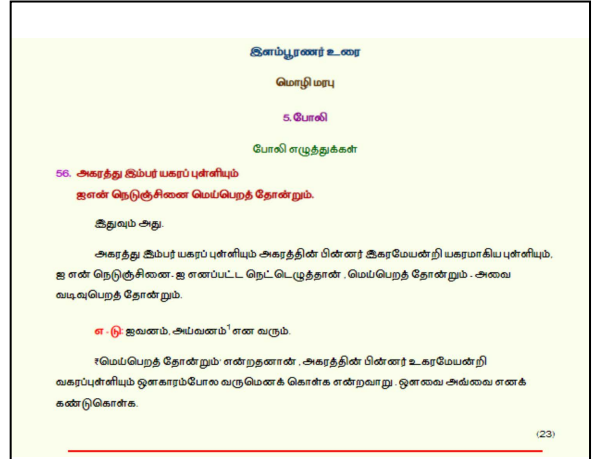உ-ம்: ஐயவி–அய்யவி, ஒளவை–அவ்வை மெய் பெறத் தோன்றும் என்றனால் அவற்றைக் கொள்க என்றவாறு (23) – இளம்பூரணர்[30]

Hence it is amply clear that the diphthong vowels ai (ஐ)& au (ஒள), can be sounded, represented and written in both forms (Polymorphism) as:

1) ஐ (ai) & அய் (ay) and

2) ஒள (au) & அவ் (av).

(Fig. 11: Tholkaappiyam, Nachchinaarkiniyar Commentary:ai(ஐ)– ay(அய்) & au(ஒள) – av(அவ்))

(Fig. 12:Tholkaappiyam, iLampooraNar Commentary:ai (ஐ)– ay (அய்) & au (ஒள) – av (அவ்))

Diphthongs (கூட்டொலி) in Nannool:

Not only the ancient grammar of Tholkaappiyam, but also the medieval grammar of Nannool (nannool) handles this Polymorphism in Tamil Phonology. The author of Nannool,

PavaNanthi Munivarstates that the diphthongs -ai (ஐ)& au (ஒள), can exist in both forms as போலி (alike) in line with his predecessor Tholkaappiyar and also in line with the ancient usage in Sanga Tamil. [31]

அம்முன் இ-கரம் ய-கரம் என்று இவை

எய்தின் 'ஐ' ஒத்து இசைக்கும்; அவ்வோடு உ-வ்வும் வ-வ்வும் 'ஒள' ஓரன்ன (நன்னூல், *Nannool - Book 1 Verse 125*)

Getting the above Nannool rules in the form of an equation, we have as follows:

- அ+இ = ஐ; $a+i = ai$
- அ+உ = ஒள; $a+u = au$
- அ+ய் = அய்; $a+y = ay (ai)$
- அ+வ் = அவ்; $a+v = av (au)$

Commentators to Nannool too have elucidated on this concept. Mayilainathar and Arumuga Navalar have written detailed commentaries to Nannool and let's take a look at their explanation.

* அகர முன் இகரமும் யகரமும் வரின், ஐகார ஓசை போல இசைக்கும்;

அகரத்தின் முன் உகரமும் வகரமும் வரின், ஒளகார ஓசை போல இசைக்கும்;

எ -று.போல விசைக்குமெனவே அவை ஆகா; போலியாமெனக் கொள்க.

வ - று. அஇவனம், அய்வனம் - ஐவனம்; மஉவல், மவ்வல் – மெளவல் எனவரும் – மயிலைநாதர்.[32]

*அம் முன் இகரம் யகரம் என்ற இவை ஒத்து எய்தின் 'ஐ' இசைக்கும்

அகரத்தின் முன் இகரமும் யகரமும் என்று சொல்லப்பட்ட இவை

தம்முள் ஒத்துப் பொருந்தினால் 'ஐ' என்னும் நெட்டெழுத்து ஒலிக்கும்.

அவ்வோடு உவ்வும் வவ்வும் (ஒத்து) ஓரன்ன (எய்தின்) ஒள (இசைக்கும்).

அகரத்தோடு உகரமும் வகர மெய்யும் தம்முள் ஒத்து

ஒரு தன்மையனவாகப் பொருந்தினால்

ஒள என்னும் நெட்டெழுத்து ஒலிக்கும்.

யகர வகர மெய்கள் நடுவிலே கலக்கும் எனக் கொள்க.

* சந்தி+அக்ஷரம்=கூட்டு எழுத்து

(ஐ=அ+இ அல்லது அ+ய்; ஒள=அ+உ அல்லது அ+வ்) – ஆறுமுக நாவலர் காண்டிகை உரை[33]

(Fig. 13: Nannool, Arumuga Navalar Commentary:ai (ஐ)– ay (அய்) & au (ஒள) – av (அவ்))

Hence it is again clear, not only from the ancient Tholkaappiyam, but also from the medieval Nannool, that the diphthong vowels ai (ஐ)& au (ஒள), can be sounded, represented and written in both forms (Polymorphism) as follows:

1) ஐ (ai) & அய் (ay) and

2) ஒள (au) & அவ் (av).

The Catch behind the Polymorphism of ai (ஐ)& au (ஒள):

Now arises a basic but an important question: So why there exists a separate letter in the alphabet for ஐ (ai) &ஒள (au), when we can very well write them as diphthongs அய் (ay)&அவ் (av)? Won't it make sense, to get rid of the redundant

alphabetsand thereby optimizing the alphabet burden?

Well, Tamil Phonology has a logical answer to this question. Tamil language is not just a set of syntax rules defined by a handful of scholars. It has evolved as a People's language throughout the ages and hence reflected the needs of its People, in its core linguistics. That's the only reason - that the classical language aged more than 30+ centuries - is still surviving and widely spoken by 80+ million peoplein the modern day - whereas many ancient & classical languages have gone extinct. Tamil has always included the People Factor in its core – be it literature or grammar. Flexibility is the key of Tamil Linguistics.

So, coming to the question of polymorphism, if we can write ஐயா as அய்யா, and ஒளவை as அவ்வை, why not we write உண்மை as உண்மய், விடுதலை as விடுதலய், and சென்னை as சென்னய்?

That's where Elision (குற்றியல்/ KutRiyal& குறுக்கம்/ KuRukkam) helps us to put things in the proper perspective. We already discussed in the previous section of this paper, the unique feature in Tamil phonology, wherein a reduction in the sound duration of a phoneme occurs, in certain letters, in certain context of some words. They are sounded on a reduced timing, naturistically as they are spoken.

- *When Elision/ KuRukkam occurs on ஐ, it is called ஐகாரக்குறுக்கம். (Shortened Ai)*

- *When Elision/ KuRukkam occurs on ஒள, it is called ஒளகாரக்குறுக்கம் (Shortened Au)*

Both Tholkaappiyam & Nannool talk on this phenomenon in Tamil Linguistics.[34], [35]

ஐ, ஒள என்னும் ஆய் ஈர் எழுத்திற்கு இகர உகரம் இசை நிறைவாகும் (தொல்காப்பியம் 42)

தற்சுட்டு அளபு ஒழி ஐம் மூவழியும் நையும் ஒளவும் முதல் அற்று ஆகும் (நன்னூல்

95)

The Grammatical text Yaapparungkalam (யாப்பருங்கலம்) is a text on Poetic Grammar that arose between the times of ancient Tholkaappiyam and medieval Nannool. It also talks on the natural reduction of sounds of the diphthongs: ஐ (ai) & ஒள (au), from 2.0 to 1.5 mora called Elision/kuRukkam.
[36]

ஐகார ஒளகாரக் குறுக்கம் ஆமாறு;
அளபெடுத்தற் கண்ணும் தனியே சொல்லுதற் கண்ணும் என
இரண்டிடத்தும் அல்லாத வழி வந்த ஐகார, ஒளகாரம் என்பன
தம் அளவில் சுருங்கி ஒன்றரை மாத்திரையாம்.
ஐகாரம் தனியே நின்று ஒரோவிடத்து ஒருபொருளைச் சொல்லுதற்கண் ஒன்றரை மாத்திரையாம். என்னை?
அளபெடை தனிஇரண்டு அல்வழி ஐ, ஒள உளதாம் ஒன்றரை தனியும் ஐ ஆகும் என்றார் அவிநயனார். (யாப்பருங்கலம், உறுப்பியல் 2)

Ai (ஐ) & Au (ஒள) when uttered standalone, they sound to their full mora (maaththirai) of 2.0. But when not during a standalone utterance i.e., when they are uttered as a part of the word, their mora (maaththirai) gets reduced to 1.5 and 1.0.

Ai (ஐ) can occur in the first, middle or last part of a word.

- *When it occurs in the first part of the word, its mora gets reduced from 2.0 to 1.5.*
- *When it occurs in the middle or last part of the word, its mora gets reduced from 2 to 1.*

Au (ஒள) can occur only in the first part of a word.

- *When it occurs in the first part of the word, its mora gets reduced from 2.0 to 1.5.*

For example: when we utter the word ஒளவை, we do not converge our lips so tight, to

utter the first letter ஔ to its full mora (maaththirai) of 2. Rather we give it a gentle pass, and pronounce to 1.5 mora,as if we see the letters அவ், as in அவ்வை (அ kuRil = 1.0 &வ் mei = 0.5). This occurs naturally to a native speaker.

Same is the case with ஐயன் too. We pronounce it to 1.5 mora, as if we see the letters அய், as in அய்யன்(அ kuRil = 1.0 &ய் mei = 0.5).

But, when we utter the words like சென்னை or விடுதலை or உண்மை, the ஐ (ai) at the last section is pronounced only to 1.0mora. Whereas, the diphthong அய், is of 1.5 mora (அ kuRil = 1.0&ய் mei = 0.5). We cannot suddenly inflate the mora from 1.0 to 1.5 because we are in a reduction mode (kuRukkam).Hence, we do NOT generally write சென்னை as சென்னய், விடுதலை as விடுதலய், and உண்மை as உண்மய்.This also occurs naturally to the native speaker.

Typically, as we begin to speak, we generally start on a higher scale and in the course of the speech the intensity drops to a lower scale. This is a natural phenomenon of human phonology. That's what we see in the above examples of the Tamil Elision (kuRukkam).

In such cases of Elision, we are free to write, the way we speak; i.e., ஐas அய்&ஔas அவ். Again, it is not a compulsion that we write, only the way we speak. It is just a natural option one can utilize.

In other speech contexts, where the full sound of ஐ&ஔ are uttered without any reduction, such Elision will not occur. Tamil Grammar talks on an amplification technique called அளபெடை/ aLapedai, where instead of reduction, the sound is amplified. Elision will not occur in such cases.

Also, in the context of exclamation, no sound reduction occurs and we exclaim in our excitement with full glee. Here too, Elision will not occur.

Additionally, there are a few words in Tamil with just a single letter (ஒரெழுத்துஒருமொழி). For example, just the letter ஐ can also denote a full

word ஐ, meaning: leader/husband. Elision does not occur in such cases too,where we fully pronounce the letter in that context.

To summarize:Elision does not occur in

• Amplification/ அளபெடை – (Example: ஔஉவெகுளல்)

• Exclamation/ வியப்பு - (Example: ஔஔஒருவன்தவம்)

• Single letter single word/ ஒரெழுத்து ஒருமொழி (Example: ஐ as in Leader)

This Elision phenomenon is well documented and explained both in Tholkaappiyam & Nannool. Such sound-alike characters are classified under the section: போலி (Poli) meaning:போல (alike). As long as the meaning of the word does not change, such போலி (alikes) are generally encouraged.

Elision is a natural human phenomenon in many languages, wherein the defined sound for an isolated alphabet, gets diluted naturistically as we speak in a continuous flow of letters & words. Tamil Linguistics included an option for this natural human behavior, in its core syntax so many centuries ago. Receptive to People's needs and their lives - is what makes Tamil young, vibrant, lean and agile.

Concordance of the ai (ஐ/அய்) & au (ஔ/அவ்) in Literature:

If the great grammarians and their commentators have dwelt on this intricacy of ai (ஐ)& au (ஔ), then it must have been prevalent inTamil society in those ancient & medieval times. We already saw in the previous section of this paperthat People's Literature arise first, and Grammar Standardization follows suit. If that's the case, then we would be able to find a plethora of occurrences of this ஐ/அய் & ஔ/அவ் usage in ancient Tamil texts. Let's explore some of that concordance in Tamil Literature.

The word பௌவம் (sea) written as பவ்வம் in Sanga Tamil:

• நிறை இரும் பௌவம் குறைபட முகந்து கொண்டு (குறிஞ்சிப்பாட்டு 47)

- பவ்வம் மீமிசைப்பாற் கதிர் பரப்பி (பொருநராற்றுப்படை 135)

The word கௌவை (rumor/disrepute) written as கவ்வை in Sanga Tamil:

- ஊரனொடு எழுந்த கௌவையோ பெரிது (அகநானூறு 186)
- பகல்வரின் கவ்வை அஞ்சுதும் (அகநானூறு 118)

The word வெளவுதல் (Capture) written as வவ்வுதல் in Sanga Tamil & Sangam Maruviya Tamil:

- யானை வவ்வின தினை என நோனாது (அகநானூறு348)
- அரிது புணர் இன் உயிர் வவ்விய நீ என (நற்றிணை 245)
- எருத்து வவ்விய புலி போன்றன (புறநானூறு 4)
- வவ்வு வல்லார் புணை ஆகிய மார்பினை (பரிபாடல்6)
- தாம் கண்டது காமுற்று, வவ்வார் விடுதல் இனிது (இனியவை நாற்பது 36)

The word ஒளவியம் (Deceit/Jealousy) written as அவ்வியம் in ThirukkuRaL:

- அவ்விய நெஞ்சத்தான் ஆக்கமும் - செவ்வியான் கேடும் நினைக்கப் படும்

(அறத்துப் பால், இல்லறவியல், அதிகாரம்:அழுக்காறாமை, குறள் 169)

The word ஒளவை(Prime Woman) written as அவ்வைin Chilapathikaaram & Manimekalai:

- அவ்வை உயிர் வீவும் கேட்டாயோ தோழீ (சிலப்பதிகாரம், வஞ்சிக் காண்டம் 29/85)
- அவ்வையர் ஆயினீர் நும் அடி தொழுதேன் (மணிமேகலை, பாத்திரம் பெற்ற காதை 11/137)

The word மௌவல் (Jasmine Flower) written as மவ்வல் in Cheevaka Chintamani:

- மவ்வல் அம் குழலினார் மணி கலம் பெய் மாடமும் (சீவக சிந்தாமணி, நாமகள் இலம்பகம்:153)

The word ஐயம்(Doubt) written as அய்யம் in Veeramaamunivar's ThembaavaNi:

- அய்யம் உற்று இவள் வினாவ அரிய மாது (தேம்பாவணி, ஐயம் தோற்றுப் படலம் 7/12)

The word ஐயா(Address of Respect/Leader) written as அய்யாin Veeramaamunivar's ThembaavaNi:

- வாய்ந்த ஆண்மையை மறுத்தனை எவன்வெலான்அய்யா(தேம்பாவணி, வளன் சனித்த படலம் 3/22)
- அய்யனை இறைஞ்சிய அமையத்து ஒண் தவன் (தேம்பாவணி, மகவருள் படலம் 10/91)
- விண்ணவர் அமரர் உம்பர் மேலினர் அமுதர் அய்யர் (தேம்பாவணி, வாமன் ஆட்சிப் படலம் 28/64)

Veeramaamunivar was a person of the reformistschool who introduced the script reformandso, maybe he would have chosen to write ஐயா as அய்யா following the Tholkaappiyam/ Nannool Elision Convention. But even long before Veeramaamunivar, the divine Bhakthi poets like Azhwars, and the Master Poet Kamban of the Tamil Magnum Opus Kamba Ramayanam, also chose to write ஐயா as அய்யா.
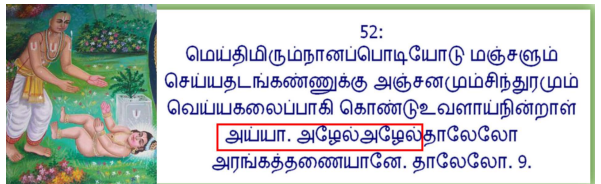
(Fig. 14: The usage of ஐ as அய், ஐயா as அய்யா, by the Divine Periyazhwar)

The word ஐயா **(Address of Respect) written as** அய்யா **in Azhwar AruLicheyal (Divya Prabandham):**

- அய்யா அழேல் அழேல் தாலேலோ அரங்கத்து அணையானே

(ஆழ்வார் அருளிச்செயல்/ நாலாயிரத் திவ்யப் பிரபந்தம் / பெரியாழ்வார் திருமொழி 52)

The word ஐயா *(Address of Respect/Leader) written as* அய்யா*in Kamba Ramayanam:*

- அய்யன் வில் தொழிற்கு ஆயிரம் இராவணர் அமைவிலர்

(கம்ப ராமாயணம், யுத்த காண்டம்: கும்பகருணன் வதைப் படலம்347)

*So, when we don't chastise Kamban for using the word* அய்யா*, why do we condemn Periyar alone?*

It's because of 'something else' (ideologies on Anti-Brahminism, Atheism and Caste Eradication) that some people don't like in Periyar, they use this garb of ஐயா/அய்யா *to condemn Periyar, not knowing that the* ஐயா/அய்யா *reform dates back to Tholkaappiyar and* ஔவை/அவ்வை *reform was used by Valluvar & Ilango Adigal themselves. Would they have the guts to condemn the Trio - Valluvar, Ilango& Kamban – The Three Master Poets of Tamil Literature?*

யாமறிந்த புலவரிலே கம்பனைப் போல்,
வள்ளுவர் போல் இளங்கோவைப்
போல், பூமிதனில் யாங்கணுமே
பிறந்ததில்லை! உண்மை, வெறும்
புகழ்ச்சியில்லை!

(Subramania Bharathiyaar, Thesiya Geethangal [22])

Toindulge in nitpicking the Reformers in Linguistics- like Veeramaamunivar and Leaders of the Dravidian Movementlike Periyar -for using the word அய்யா *instead of* ஐயா*, or using the word* அவ்வை *instead of* ஔவை*, is nothing but sheer ignorance, or inner contempt. We have to outgrow this attitude and look at the process than the person, when it comes to Literary Critique & Linguistics.*

Irrespective of these kinds of politics disguised as linguistics, both usages of the diphthongs ஐ *(ai) &* ஔ *(au) and* அய் *(ay) &* அவ் *(av) stand good in Tamil Literature &Tamil Grammar.*
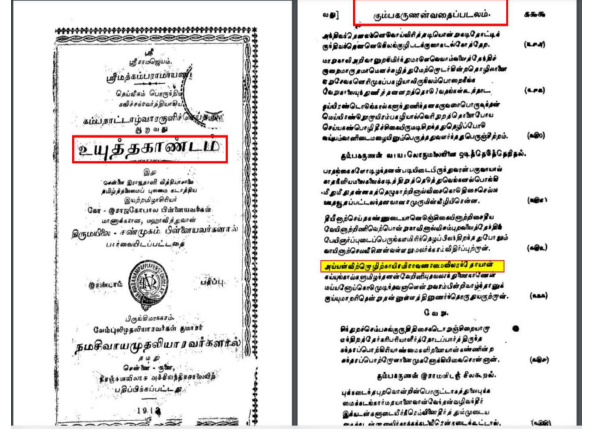
(Fig. 15: The usage of ஐ *as* அய், ஐயன் *as* அய்யன், *in the celebrated epic Kamba Ramayanam)* [37]

Contribution of the Dravidian Movement to Tamil Language:

Though we have clearly established the scope of this paper in the prior two sections, with adequate referential techniques elucidated inTamil Grammatical Texts: Tholkaappiyam and Nannool, and also with many references from Tamil Literature, it would be worthwhile to quickly glance through the other contributions of Periyar & Dravidian Movement to the Tamil language.

1. *Instilling Tamil Pride in Tamil People – Language, Land, Ethnogroup, Society, Politics, Art & Culture.*

2. *Restoring the self-respect of Tamil language (*மானத்தமிழ்*) against the Sanskrit Parasitic influx.*

3. *Democratizing and extendingownership of the language not only to Scholars, but also to People.*

4. *Rationalizing Tamil language by breaking myths and applying logic & scientific temper.*

5. *De-linking Linguistics from Religion & Dogma.*

6. *Advocating Equality in Tamil Society via Tamil language.*

7. *Establishing & nurturing the fraternity of Tamil in the Dravidian Language Family.*

8. Honoring & Assisting Tamil Scholars like V.O. Chidambaranaar, PaavaaNar, Somasundara Bharathiyaar, Bharathidasan, Pulavar Kuzhanthai, Sami Chidambaranar, Eezhathu Adigal, Perunchithiranaar &other Tamil Scholars.

9. Introducing a new form of Tamil Publishing - Oratorical Literature (80+ books of Speech to Text).

10. Redefining the Emphasis in Tamil Oratory from Hyperboles to Logic.

11. Gradual & Continuous Retirement of Parasitic Sanskrit words in Tamil Publishing & Tamil Oratory.

    (Namaskaram to Vanakkam, Sriman to Thozhar, Akrasanar to Thalaivar, Prasangam to Urai etc.)

12. Focus on Tamizh Isai (Music), Restoring Dignity to common class Musical Instruments like the Nadaswaram & Parai, and Cementing the self-respect of common class musicians like K.B. Sundarambal, Nadaswaram Artiste Ponnusamy, Dhandapani Desikar and more.

13. Inspiring to Change the outlines of Tamil Drama from Mythological Stories to Social Themes.

14. Changing the ritual services rendered in Tamilian weddings from Sanskrit to Tamil.

15. Tamil based Worship & All-caste Archakas (even though Periyar himself was a nonbeliever, he fought for the rights of the believers to conduct their own worship, in their own local language).

16. Reinforcing the Pongal Festival as a True Tamizh secular festival in Tamil communities.

17. Working with great Tamil Scholars to restore the Tamil Calendar from the clutches of Sanskrit Hegemony and establishing the Thiruvalluvar Year.

18. Tamil Script Reform - Standardization & Scalability of Script much before the Unicode encoding.

19. Popularizing Thirukkural – the Magnum Opus of Tamil Language, amongst all sections of the society. Extending the Kural Reach from Literary circles to Social Circles. Conducting Thirukkural Conferences in unison with Tamil Academia & Scholars. Critical Evaluation of Commentaries to the Kural from a Social Justice standpoint and demystifying them, Low-cost publishing of the Thirukkural as a Pocket Book to increase its outreach amongst the common public. (1953 pocket edition, Dravidian Publishing House, 6 annas, and later still reducing the price to just 5 annas).

20. Popularizing Translation in the Tamil Publishing field. Knowledge Sharing from other Languages and Societies of the World, into Tamil. (Communist Manifesto, Ingersoll, Bernard Shaw, Bertrand Russell, Bhagat Singh, Dr. B.R. Ambedkar and more).

21. Anti-Hindi Imposition Agitations to safeguard Tamil language in Educational, Governmental, Political & Social Spheres. Instead of mere lip service, involving in direct field work and courting Imprisonments for the sake of Tamil.

22. Agitating for Restoring the name of the Tamil State to 'Tamil Nadu'.

23. Continuously advocating Tamil (mother tongue based) Education and Reorienting Tamil in the path of Science & Rationality.

    (The above is only a partial list and macroscopic bullet-point view of the immense contributions rendered by Periyar and the Dravidian Movement to the cause of Tamil Language. Please

do refer to the Book: *Thamizhukku enna cheiythaar Periyar?* authored by Dr. K. Veeramani[38]and published by the Dravidar Kazhagam (DK) in 2018, for a full spectrum analysis with detailed footnotes and references on the above salient points).

Inference & Conclusion:

In this paper, we widely travelled through the topics of Phonology, Orthography, Vowels and Consonants of the Tamil language, Diphthongs, Polymorphism exhibited by the Diphthongs, their Definition and Scope in the ancient Tamil Grammatical work – Tholkaappiyam, their supplementary affirmations in the medieval Tamil Grammatical work – Nannool, Concordance of these two diphthongs in Tamil Literature ranging from Classical Sanga Tamil to Medieval Bhakti Literature, the epic Kamba Ramayanam, and the latter-day epics.

We also visited the historical backdrop of the Dravidian Movement, its contributions to Tamil language, Early Printing Press in the Tamil Publishing field and the Experimentation that Periyar did in Script Standardization, in line with many of his predecessors like Veeramaamunivar.

However, the core scope of this paper was exclusively on the issue of the two diphthongs - 'ai' (ஐ/அய்) & 'au' (ஒள/அவ்) in Tamil Language and Periyar's approach in handling and usage of those two vowels. With direct and explicit references from the two great Grammatical works - Tholkaappiyam & Nannool and also their commentaries certifying both usages of ஐ/அய்& ஒள/அவ், we confidently conclude that the Polymorphism of these two diphthongs are very valid and well attested.

Also, the Elision feature in Tamil Linguistics (குற்றியல்/ KutRiyal & குறுக்கம்/ KuRukkam) validates the usage of ஐ/அய்& ஒள/ அவ், based on the naturistic phenomenon of Human Phonology and the LinguisticContext, where these two sounds undergo a natural reduction in their mora (maaththirai). Again, this is well attested in Yaapparungkalam, in addition to Tholkaappiyam & Nannool.

We also saw nearly 20 instances of literary concordance, where ஐ is written as அய்& ஒள is written as அவ். This occurs right from the Classical Age Sanga Tamil to the Devotional Age Bhakthi Literature. Master Poets like Valluvar, Ilango and Kamban – all three certify the usage of அய் & அவ்!

Hence, there is absolutely no reason, to find fault with Periyar - on the usage of the two Tamil diphthongs அய் & அவ்.

Elision is a natural human phenomenon not only in Tamil, but in many languages, where the defined sound of an isolated alphabet, undergoes a natural reduction, as we speak in a continuous flow of letters & words. Tamil language included an option for this natural human behavior in its core syntax, even centuries back during the times of Tholkaappiyar. Periyar & the Dravidian Movement have intrinsically followed the Tholkaappiyar Model in Linguistic Reform. Receptive to Natural Phonology and People's need in Linguistics, is what makes the Tamil language young, vibrant, lean and agile.

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