1 Symphonetica Project

1.1 Laudosia System

1.1.1 Problem Statement

Our goal is to apply natural phonetic principles to describe pronunciation as it truly is — using phonetic transcriptions — and in its minimal form — through phonemic transcriptions. To accomplish this, we must define a compromise between the IPA (as implemented in Unicode) and other systems, mainly *canIPA*.
The IPA and ExtIPA present the following issues:

Low editability and readability: Common sounds often require diacritics that cannot be easily composed, displayed, or read. For example, General American English ‘*[ɹ]*’, a *postalveolarized prevelar slightly rounded approximant* would be rendered as ‘[ɰ̟͡ɻɹ̠˞ʷ]’, which complicates handling. In our system, the phonoid will be represented as [ɟ̑].

Functional asymmetry: Analogous sounds are represented inconsistently and follow divergent conventions. For instance, the most common general vocoid ‘*[ɑ]*’ — the most widespread vowel across the world’s languages — would need to be written ‘[a̠]’ or ‘[ɑ̟]’, while alveolar ‘*[ɮ]*’ has a dedicated symbol, many counterparts in other articulatory positions do not.

Obsolescence and typographic disharmony: Many symbols are obsolete (some for over a century) and show inconsistent typographic styles.

Extended system canIPA, on the other hand, suffers from the following limitations:

Non-Unicode encoding: Its symbols cannot be easily edited or handled due to their reliance on the Unicode Private Use Area. For example, ‘*[L]*’ is encoded as 0xE5FF.

Excessive complexity: It distinguishes between double articulations and primary articulations with secondary, semisecondary, or tertiary articulations in a way that can become overwhelming.

1.1.2 Rationale

Our aim is to develop a layered transcription system with distinct, coexisting levels:
Level 1 – Represents primary articulations with standard phonematic significance. It uses connected symbols that are editable in minimalistic environments and displayable on Unicode-aware platforms.

Level 2 – Also represents primary articulations, using connected symbols derived from Level 1.

Level 3 – A specialized, ad hoc layer employing disconnected diacritics and extended notational devices.

1.1.3 Design

The engineering process consists of several phases:
A Level 1 chart is created using IPA and ExtIPA symbols, applying universal and symmetrical principles.

Obsolete IPA and non-IPA Unicode symbols are repurposed to fill representational gaps based on functional criteria (or approximate functional equivalence), followed by graphical criteria.

Additional Unicode symbols are selected based on typographic compatibility.

Obsolete and non-standard symbols are normalized.

1.2 Phonetic Transcription Chart

1.2.1 Vocoids

	Midpalatal	Postpalatal	Prevelar	Provelar	Midvelar
	7[1],7[2]	7[4],7[5]	8[1]	8[4]	9[1]
High	[i, ɣ]	[ɻ, y]	[ɨ, ʉ]	[ɯ, ɻ]	[-, u]
Lower-high	[ɪ, ʏ]	[ɩ, ʏ]	[ɪ, ʊ]	[ɯ, ɷ]	[-, ʊ]
Higher-mid	[e, -]	[ɘ, ø]	[ə, ɵ]	[ɤ, ɷ]	[-, o]
Lower-mid	[ɛ, -]	[ɜ, ɞ]	[ɜ, ɞ]	[ʌ, ɷ]	[-, ɔ]
Higher-low	[ɛ, -]	[ɐ, œ]	[ɐ, æ]	[ʌ, ɐ]	[ɑ, ɔ]
Low	[æ, -]	[ʌ, œ]	[a, æ]	[ɑ, ɑ]	[ɑ, ɒ]

1.2.2 Contoids

	± Voicing	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Subapico-palatal	Lamino-postalveopalatal	Prepalatal	Palatal	Postpalatal	Prevelar	Provelar	Velar	Uvular	Prepharyngeal	Pharyngeal	Laryngeal
	±	0^1	1^1	2^3	3^1	4^1	4^5	$5^1,5^2$	$6^1,6^2$	$7^1,7^2$	$7^4,7^5$	8^1	8^4	9^1	10^1	11^1	11^2	12^1
N	-	[m̊]	[ɱ̊]	[(n̪̊)]	[n̊]	[ɳ̊]	[ʿn̊]	[(ȵ̊)]	[ȵ̊]	[ɲ̊]		[ŋ̡̊]		[ŋ̊]	[ɴ̊]			
	+	[m]	[ɱ]	[(n̪)]	[n]	[ɳ]	[ʿn]	[(ȵ)]	[ȵ]	[ɲ]		[ŋ̡ŋ̦]		[ŋ]	[ɴ]			
K	-	[p]	[ꝑ]	[t̪]	[t]	[ʈ]	[ʿt]		[ȶ]	[c]		[k̡]		[k]	[q]	[ꞯ]	[ʡ]	[ʔ]
	+	[b]	[b̪]	[d̪]	[d]	[ɖ]	[ʿd]		[ȡ]	[ɟ]		[g̡]		[g]	[ɢ]	[ᴐ]	[ʖ]	
KX	-	[p͡ɸ]	[p͡f]	[t͡θ]	[t͡ƨ]	[t͡ƨ̨]				[k͡ç]		[k͡x̡]		[k͡x]	[k͡χ]			
	+	[b͡ß]	[b͡v]	[d͡ð]	[d͡ƽ]	[d͡ƽ̨]				[g͡ʝ]		[g͡ɣ̡]		[g͡ɣ]	[g͡ʁ]			
KS	-			[t͡s̪]	[t͡s]	[t͡ʂ]		[t͡ʃ̡,t͡ʃ]	[t͡ş,t͡ɕ]									
	+			[d͡z̪]	[d͡z]	[d͡ʐ]		[d͡ʒ̡,d͡ʒ]	[d͡ʐ,d͡ʑ]									
KȽ	-				[t͡ɬ]	[t͡ꞎ]				[k͡ʎ̥]				[k͡ʟ̥]	[k͡ᴙ̥]			
	+				[d͡ɮ]	[d͡ɭ˔]				[g͡ʎ̝]				[g͡ʟ̝]	[g͡ᴙ]			
KŘ	-				[t͡ƻ]										[k͡ʁ̝̊]			
	+				[d͡ɼ]										[g͡ʁ̝]			
X	-	[ɸ]	[f]	[θ]	[ƨ]	[ƨ̨]				[ç]		[x̡]		[x]	[χ]	[ʜ]	[ħ]	[ϟ]
	+	[ß]	[v]	[ð]	[ƽ]	[ƽ̨]				[ʝ]		[ɣ̡]		[ɣ]	[ʁ]	[ʢ]	[Ʃ]	[ʡ]
S	-			[s̪]	[s,ş]	[ʂ]	[ʿs]	[ʃ̡,ʃ]	[ş,ɕ]									
	+			[z̪]	[z,ʐ]	[ʐ]	[ʓ]	[ʒ̡,ʒ]	[ʐ,ʑ]									
Ƚ	-			[(ɬ̪)]	[ɬɬ]	[ꞎꞎ]				[ʎ̥ʎ̥]				[ʟ̥ʟ̥]	[ᴙ̥]			
	+			[(ɮ̪)]	[ɮ]	[ɭ˔]				[ʎ̝]				[ʟ̝]	[ᴙ]			
Ř	-				[ƻ]										[ʁ̝̊]			
	+		[ⱱ]		[ɼ]										[ʁ̝]			
R	+	[ʙ]			[r]	[ɽ]	[ʿr]			[r̡]				[ʀ]				
T	+	[ᵬ]			[ɾ]	[ɽ]				[ɾ̡]				[ʀ̆]				
D	+		[v]		[ɿ]	[ɿ̢]												
L	+			[(l̪)]	[l]	[ɭ]	[ʿl]	[(ȴ)]	[ȴ]	[ʎ]		[ʟ̡]	[ʟ]	[л]				
Λ	+				[ɺ]	[ɺ̢]												
J	-	[ɸ]	[ꜰ]	[ϑ]	[ς]	[ɛ]			[ɧ,ƒ]	[ɦ̡,ʅ]	[ɦ,ʃ]	[ɧ̟,ɧ]	[ɧ,ƕ]	[ɧ,ʍ]	[ʞ,ъ]	[ʞ]		[h]
	+	[β]	[ʋ]	[δ]	[ɹ]	[ɻ]	[ʎ̆]		[ɹ,ʓ]	[j,ʒ]	[ɦ,ɥ]	[ɉ,ʮ]	[ɰ,ɣ]	[ɰ,w]	[ʁ,ᒣ]	[ʢ]	[ʕ]	[ɦ]

1.2.3 Legend

- **N** = Nasal

- K = Stop & Laryngeal stop
- KX = Slack stopstrictive
- KS = Grooved stopstrictive
- KɬL = (Uni)lateral stopstrictive
- KRx = Trilled & tapped stopstrictive
- X = Slack constrictive
- S = Grooved constrictive
- ɬL = (Uni)lateral constrictive
- Rx = Constrictive trill
- J = Approximant
- R = Trill
- T = Tap
- D = Flap
- L = Lateral
- Λ = Tapped lateral
- 0^{1}: Bilabial
- 1^{1}: Labiodental
- 2^{3}: Dental
- 3^{1}: Alveolar
- 4^{1}: (Apico-)-postalveolar
- 4^{5}: Subapico-palatal
- 5^{1}: (Lamino-)postalveopalatal
- 6^{1}: Prepalatal
- 7^{1}: Midpalatal
- 7^{4}: Postpalatal
- 8^{1}: Prevelar
- 8^{4}: Provelar

- **9¹**: Midvelar
- **10¹**: Uvular
- **11¹**: Prepharyngeal
- **11²**: Pharyngeal

1.2.4 Modifications

Example	Description
[ụ]	Unvoiced vocoids
[ã]	Nasals vocoids
[p̂, k̭]	Labialized contoids
[b̤]	Mixed phonation phonoids
[ŧ]	Uvularized and velarized contoids
[p’]	Ejective contoids
[ˈd]	Injective contoids
[ˆt]	Dejective contoids