IPA Braille
An Updated Tactile Representation of the International Phonetic Alphabet

Second Edition 2025

Edited by
Robert Englebretson, Ph.D.

Published by
The International Council on English Braille

Contents

Changes from the 2008 Edition

The 2025 edition of *IPA Braille* is a revised version of the 2008 edition with improved tactile graphics and less explanatory text. Most importantly, there are no changes to the IPA Braille code itself. All of the IPA Braille symbols defined in the 2008 edition remain unchanged. Other than a change to the temporary code-switch indicators for passages and the addition of a word-level switch indicator (see Section 9.3), no symbols have been changed or added. The 2025 edition will not prove disruptive to anyone who already knows IPA Braille, and existing braille tables for Liblouis, the Duxbury Braille Translator, and other software likewise can remain unchanged. Following is a list of changes from the 2008 edition:

- The 2025 edition is formatted into a single volume instead of two.
- Raised tactile versions of the print IPA glyphs are now incorporated directly into the tables themselves.
- Swell-paper glyphs have been replaced by embossable braille graphics.
- Introductory text and background information has been reduced and edited.
- The Transcriber's Index has been removed.
- Table columns that listed braille dot numbers for each IPA Braille symbol have been removed, and the dot locator has been included on each of the symbols in the braille edition instead.
- The “IPA Number” column has been removed from all tables.
- At the time of the 2008 edition, some of the newer print IPA symbols still had PUA (Private Use Area) Unicode numbers associated with them. These numbers have been removed, and all Unicode numbers now refer to the official, standardized Unicode codepoints.

- Sections and subsections have been renumbered.
- The temporary code-switch indicators out of IPA Braille have been better aligned to parallel how typeform indicators work in UEB at the character, word, and passage level.

Acknowledgements

The 2025 update to IPA Braille has benefited immensely from the involvement of numerous individuals and organizations. From the International Council on English Braille, I am especially grateful to Judy Dixon, James Bowden, and Jen Goulden. I simply could not have done this without your expertise, brainstorming, and problem solving. Thank you for helping me stay focused on this task and for pushing me to consider new ideas that were ultimately better than the old ones. I learned a lot from each of you and have thoroughly enjoyed working together.

Thank you to Matthew Horspool for the tips about embossing PRN files, which solved a significant problem of graphics incompatibility and led to the files we are posting for Index and HumanWare embossers.

Many thanks to Andrew Flatres of HumanWare for providing a license of TactileView software to ICEB for use in this project. All graphics in the braille versions of this volume were created using TactileView.

My deep appreciation and thanks to Dan Gardner at ViewPlus for the temporary loan of a Columbia Embosser that enabled us to prepare the ViewPlus-compatible files we are posting.

To all of the students and instructors who have used IPA Braille over the past 17 years, I have appreciated your emails and comments.

I would like to again acknowledge those individuals who contributed time, expertise, and resources to the development and publication of the 2008 edition. These include: the late Jean Obi, and the members of the Unified English Braille Linguistics Group; the late Warren Figueiredo; the late Martha Pamperin; Sheri Wells-Jensen, Katherine Crosswhite,

Alysha Jeans, Elizabeth Gentry, and Carlos Nash; Stephen Phippen; CNIB staff and volunteers; and Darleen Bogart.

The sample IPA passages in the Appendix are reprinted with the consent of the International Phonetic Association and by the kind permission of Cambridge University Press (reproduced with permission of the Licensor through PLSclear). These passages may not be further reproduced except by written permission of Cambridge University Press.

Finally, I wish to acknowledge the huge debt of gratitude that I and other blind linguists owe to W. Percy Merrick and W. Potthoff for designing the first braille version of the International Phonetic Alphabet published in 1934, upon which many of the symbols in the current publication are based. These two pioneering individuals opened doors to literacy for blind people in phonetics and related fields, and I feel privileged to keep this work moving forward nearly 100 years later with the publication of this 2025 edition of IPA Braille.

Foreword to the 2025 Edition

By Judith Dixon, PhD.

President, International Council on English Braille

It is my pleasure to write the foreword to the second edition of IPA Braille. Once again, ICEB is indebted to Robert Englebretson, Ph.D. who has continued his work on IPA Braille and has produced an outstanding document. We hope that this version will reach even more braille readers who use the International Phonetic Alphabet in their study or work.

A major change since 2008 has been the technology used to create this document. The first edition of IPA Braille presented the tactile graphics in a separate supplement. They were designed to be produced on swell paper. While this solution worked for some users, it had significant disadvantages. Swell paper is quite expensive and machines to produce such documents are not widely available, especially in developing countries.

Now, seventeen years later, we have approached this project with the goal of having the tactile graphics produceable on widely available braille embossers. With the generous contributions of HumanWare for a TactileView license and ViewPlus Technologies who loaned us a Columbia embosser, we were able to produce the second edition in a manner that is much more likely to benefit the blind students and professionals for whom it is intended. ICEB sincerely appreciates the support of the companies who share our hopes of making braille an even more valuable tool for enhancing literacy and increasing employment opportunities for blind people throughout the world.

Foreword to the 2008 Edition

By Fredric K. Schroeder, PhD.

Then-President, International Council on English Braille

The International Phonetic Alphabet (IPA) is a standardized representation of the sounds of spoken language. The general principle of the IPA is to provide one symbol for each distinctive speech sound: consonants, vowels, diacritics that slightly modify the pronunciation of those sounds, and suprasegmentals, which indicate such qualities as length, tone, stress, and intonation. It is used by linguists, speech pathologists and therapists, foreign language teachers and students, singers, actors, lexicographers, and translators.

So, how do we represent the IPA in braille so that blind professionals and students in the language sciences can have full access to this critical system of phonetics? The answer is held in the pages of this publication. With the dedicated work and collaboration of several individuals, most notably the editor of this body of work, Dr. Robert Englebretson, currently Assistant Professor of Linguistics at Rice University, Houston, Texas, I am delighted to present the IPA Braille Code. Heartfelt thanks to Dr. Englebretson for his thoughtfulness and determination in unifying the disparate braille IPA codes previously used in the member countries of the International Council on English Braille (ICEB), and for presenting an up-to-date and consistent system which not only remains true to the print IPA, but also provides flexibility for current and future technologies. These are no small tasks to accomplish, and ICEB is grateful for his commitment to the project.

This endeavor was initiated by the Unified English Braille Linguistics Working Group, chaired by ICEB Secretary Jean Obi of Nigeria, and special thanks must go to Jean and her Group for their persistence and dedication in seeing this project to completion. The revision

in draft form has had many tributes from linguistics teachers and students alike, lending credibility to our project and the years of work that so many individuals have contributed.

Thanks also to CNIB (Canadian National Institute for the Blind) for producing the Braille edition including tactile representations of the glyphs.

On behalf of the International Council on English Braille, I am pleased to make this very important body of work available to professionals and students in phonetically-oriented fields of all types, providing a universally accessible format to working with the International Phonetic Alphabet.

Acclaim for IPA Braille (2008 Edition)

By Martha Pamperin

Then-Chair, BANA (Braille Authority of North America) Literary Technical Committee

I first learned something about the International Phonetic Alphabet (IPA) in the early 1960's when I was a graduate student with an interest in linguistics. I remember sitting in class, becoming more and more excited as I heard the instructor describe and illustrate the IPA. What a wonderful system, I thought, for transcribing the living sounds of language. As a single, blind, young woman, I was struggling to find a realistic career path. Maybe, I thought, this was it. Using my slate and stylus, I began making up braille symbols for the various IPA characters discussed, but I soon realized there were going to be too many IPA symbols to fit into the little spur of the moment system I was creating. Later, I spent some time trying to devise a sensible braille IPA code. However, I had neither the time nor the knowledge base that such a job would require. Because I had no way to read or write the IPA symbols, the door to any career path requiring use of IPA slammed shut. I am delighted that the braille readers of today and tomorrow now have this critical tool for the study of language. A path closed to me is now open for them because they have IPA Braille at their fingertips.

Introduction

This publication presents the current braille notation for the International Phonetic Alphabet (IPA Braille). It is designed for use by students and professionals in linguistics, speech and hearing sciences, lexicography, vocal pedagogy, and any other field or application related to spoken language. IPA Braille provides comprehensive access to the symbols of the official IPA chart at https://www.internationalphoneticassociation.org/content/full-ipa-chart as published and maintained by the International Phonetic Association.

The first braille version of the IPA was compiled by Merrick and Potthoff (1934) and published by what is now the Royal National Institute of Blind People in London. (See the References section for full citations.) This pioneering work promoted braille literacy in linguistics and opened up career possibilities for blind students and professionals in speech-related fields that rely on the IPA. The Merrick and Potthoff notation became the basis of the braille IPA systems promulgated throughout the 20th century by braille authorities in Germany, France, and English-speaking countries. However, revisions to the braille version did not keep pace with the numerous major updates to the official print IPA over the course of the 20th century, and by the 1990s had become largely obsolete. Under the auspices of the International Council on English Braille, the 2008 IPA Braille publication presented a fully updated system, unified the various IPA Braille symbols that had arisen separately in English-speaking countries, and returned the consonant and vowel symbols to the principles of the original Merrick and Potthoff notation as much as possible. In addition, the 2008 update completely reworked the braille representations of diacritics and modifiers. These were updated to the official print version and made more systematic. In order to facilitate computer entry and automated print-to-braille forward- and back-translation, braille diacritics and modifiers were aligned to match the composition of Unicode combining

diacritics. More information concerning the historical development of IPA Braille, examples of specific changes, and a discussion and overview of the development of the 2008 revision is found in Englebretson (2009). The braille symbols of the 2025 edition are identical to those found in the 2008 publication and have undergone no changes.

The International Phonetic Association may occasionally add or modify phonetic symbols in line with new research findings about the sounds of the world's languages, articulation, and acoustics. The most recent phonetic symbol added to the IPA is the labiodental flap [ⱱ] approved in 2005. As the International Phonetic Association publishes future updates and revisions to the IPA, the editor of IPA Braille will likewise continue to make recommendations to ICEB so as to keep IPA Braille current to the official print chart.

The braille versions of this volume contain tactile drawings of each IPA glyph alongside the corresponding braille symbol and typographic and articulatory descriptions. These tactile graphics are crucial for enabling students who are learning IPA Braille to communicate easily with sighted classmates and instructors and to be fully informed about the shape and composition of each symbol. These graphics can be embossed using most of the currently available models of embossers that support braille graphics. The list of supported embossers, the corresponding IPA Braille files, and instructions for embossing them are maintained on the ICEB web site at https://iceb.org/icebipa.htm. This list will be updated as new embosser models become available. In addition to the print (PDF) version and the braille versions with tactile graphics, there is also a plain BRF (Braille ready Format) version without graphics that can be downloaded to a braille notetaker, read using a braille display, or embossed on paper.

Organization of Sections and Tables

This volume is divided into sections corresponding to the sections of the official print IPA chart (https://www.internationalphoneticassociation.org/content/full-ipa-chart): Consonants (Pulmonic), Consonants (Non-Pulmonic), Other Symbols, Vowels, Diacritics, Suprasegmentals, and Tones & Word Accents. Each section begins with a description of the physical layout of the corresponding section of the print IPA chart, as this is essential information for students learning the symbols of the IPA. In the official print IPA chart, tables are formatted spatially to provide easy look-up of phonetic symbols based on articulatory features. IPA Braille does not aim to capture the spatial layout of the print chart, which is too large to reproduce in braille and would be opaque to users with little to no background in phonetics. (For a print version of the standard-format IPA chart with braille symbols, see the appendix in Englebretson, 2009.) Instead, the IPA Braille publication maintains the sections of the print chart, but presents the data on the tables of each section in a linear-table format. This method enables the presentation of all of the information in verbal rather than spatial terms, and allows for the addition of typographic descriptions and Unicode values for each symbol—features that are not present in the official print chart.

Each table row contains the print IPA glyph (in print in the PDF version, and as a tactile graphic in the braille versions) followed by the IPA braille symbol (in SimBraille font in the print version, and preceded by the dot locator in the braille versions), the Unicode value for the IPA glyph, the typographic description of the glyph, and the meaning or articulatory description of the sound represented by the symbol. For diacritics and some other modifiers, an additional field in the table entry shows an example of the diacritic combined with a base glyph in order to illustrate the position of the diacritic in print along with its representation in braille. The IPA Braille tables are modeled after the tables in Appendix 2 of the official IPA Handbook (International Phonetic Association, 1999).

The next section of the volume presents the IPA Braille symbols for phonetic and phonemic enclosures, followed by a section of IPA Braille symbols for frequent non-IPA glyphs widely used in phonetics and linguistics materials. The final section of the body of the volume presents symbols unique to IPA Braille, namely transcriber-defined symbols and code-switch indicators.

The volume concludes with an Appendix of five sample passages illustrating IPA Braille in use, as transcribed from the *Handbook of the International Phonetic Association* (1999). These five passages were chosen to highlight many of the consonant and vowel symbols of IPA Braille, combining diacritics, tone letters, and symbols for length, stress, and intonation. These passages illustrate IPA Braille in use and can serve as examples for students learning to use the system.

1. Consonants (Pulmonic)

Pulmonic consonants are speech sounds that use air flowing out of the lungs (a pulmonic egressive airstream), which is then partially or fully blocked by the articulatory organs of the oral and nasal cavities. Pulmonic consonants are described in terms of three features: voice—whether the vocal folds of the larynx are vibrating (voiced) or not vibrating (voiceless); place of articulation—the point in the vocal tract where the airstream is blocked; and manner of articulation—the degree of airstream blockage.

The eleven places of articulation that form the column headings in the standard print IPA consonant chart are as follows: Bilabial, Labiodental, Dental, Alveolar, Postalveolar, Retroflex, Palatal, Velar, Uvular, Pharyngeal, and Glottal.

The eight manners of articulation for pulmonic consonants that comprise the rows of the standard IPA chart are as follows: Plosive, Nasal, Trill, Tap or Flap, Fricative, Lateral Fricative, Approximant, and Lateral Approximant.

Table 1: Pulmonic Consonants

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
p	⠏	U+0070	lowercase p	voiceless bilabial plosive
b	⠃	U+0062	lowercase b	voiced bilabial plosive
t	⠞	U+0074	lowercase t	voiceless alveolar plosive
d	⠙	U+0064	lowercase d	voiced alveolar plosive
ʈ	⠹	U+0288	right-tail t	voiceless retroflex plosive
ɖ	⠽	U+0256	right-tail d	voiced retroflex plosive
c	⠉	U+0063	lowercase c	voiceless palatal plosive
ɟ	⠚	U+025F	barred dotless j	voiced palatal plosive
k	⠅	U+006B	lowercase k	voiceless velar plosive
ɡ	⠛	U+0261	lowercase script g	voiced velar plosive
g	⠛	U+0067	lowercase g	voiced velar plosive (alternate glyph)
q	⠟	U+0071	lowercase q	voiceless uvular plosive
ɢ	⠩	U+0262	small capital g	voiced uvular plosive
ʔ	⠦	U+0294	glottal stop	glottal plosive
m	⠍	U+006D	lowercase m	voiced bilabial nasal

Glyph	Braille	Unicode	Typographic Desc.	Articulatory Desc.
ɱ		U+0271	left-tail m (at right)	voiced labiodental nasal
n		U+006E	lowercase n	voiced alveolar nasal
ɳ		U+0273	right-tail n	voiced retroflex nasal
ɲ		U+0272	left-tail n (at left)	voiced palatal nasal
ŋ		U+014B	eng	voiced velar nasal
ɴ		U+0274	small capital n	voiced uvular nasal
ʙ		U+0299	small capital b	voiced bilabial trill
r		U+0072	lowercase r	voiced alveolar trill
ʀ		U+0280	small capital r	voiced uvular trill
ⱱ		U+2C71	right-hook v	labiodental flap
ɾ		U+027E	fish-hook r	voiced alveolar tap
ɽ		U+027D	right-tail r	voiced retroflex flap
ɸ		U+0278	phi	voiceless bilabial fricative
β		U+03B2	beta	voiced bilabial fricative
f		U+0066	lowercase f	voiceless labiodental fricative
v		U+0076	lowercase v	voiced labiodental fricative
θ		U+03B8	theta	voiceless dental fricative
ð		U+00F0	edh	voiced dental fricative
s		U+0073	lowercase s	voiceless alveolar fricative
z		U+007A	lowercase z	voiced alveolar fricative

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ʃ		U+0283	esh	voiceless postalveolar fricative
ʒ		U+0292	ezh	voiced postalveolar fricative
ʂ		U+0282	right-tail s (at left)	voiceless retroflex fricative
ʐ		U+0290	right-tail z	voiced retroflex fricative
ç		U+00E7	c cedilla	voiceless palatal fricative
ʝ		U+029D	curly-tail j	voiced palatal fricative
x		U+0078	lowercase x	voiceless velar fricative
ɣ		U+0263	gamma	voiced velar fricative
χ		U+03C7	chi	voiceless uvular fricative
ʁ		U+0281	inverted small capital r	voiced uvular fricative
ħ		U+0127	barred h	voiceless pharyngeal fricative
ʕ		U+0295	reversed glottal stop	voiced pharyngeal fricative or approximant
h		U+0068	lowercase h	voiceless glottal fricative
ɦ		U+0266	hooktop h	voiced glottal fricative
ɬ		U+026C	belted l	voiceless alveolar lateral fricative
ɮ		U+026E	l-ezh ligature	voiced alveolar lateral fricative
ʋ		U+028B	script v	voiced labiodental approximant
ɹ		U+0279	turned r	voiced alveolar approximant
ɻ		U+027B	turned r, right tail	voiced retroflex approximant
j		U+006A	lowercase j	voiced palatal approximant

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ɰ	⠸⠷	U+0270	turned m, right leg	voiced velar approximant
l	⠸	U+006C	lowercase l	voiced alveolar lateral approximant
ɭ	⠹⠷	U+026D	right-tail l	voiced retroflex lateral approximant
ʎ	⠸⠽	U+028E	turned y	voiced palatal lateral approximant
ʟ	⠳⠷	U+029F	small capital l	voiced velar lateral approximant

2. Consonants (Non-Pulmonic)

Non-pulmonic consonants are speech sounds with an airflow mechanism other than the lungs—i.e., they are produced by using the glottis or velum to create differentials in air pressure. These include implosives, clicks, and ejectives. Implosives and clicks each have their own set of glyphs, categorized by place of articulation as above. Ejectives do not have unique IPA glyphs associated with them, but are indicated by placing the apostrophe diacritic immediately after the homologous pulmonic consonant, as illustrated in the standard IPA chart and explained after the table of implosives and clicks below.

Table 2: Non-Pulmonic Consonants

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ɓ	⠸⠃	U+0253	hooktop b	voiced bilabial implosive
ɗ	⠸⠙	U+0257	hooktop d	voiced dental/alveolar implosive
ʄ	⠳⠚⠹	U+0284	hooktop barred dotless j	voiced palatal implosive

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ɠ	⠸⠻	U+0260	hooktop g	voiced velar implosive
ʛ	⠸⠴⠻	U+029B	hooktop small capital g	voiced uvular implosive
ʘ	⠻⠻	U+0298	bull's eye	bilabial click
ǀ	⠻⠸	U+01C0	pipe	dental click
ǃ	⠻⠳	U+01C3	exclamation point	(post-)alveolar click
ǂ	⠻⠹	U+01C2	double-barred pipe	palatoalveolar click
ǁ	⠻⠻	U+01C1	double pipe	alveolar lateral click

As in the print IPA, ejectives in IPA Braille do not have unique glyphs. Rather, they are notated by placing the IPA apostrophe diacritic ⠴⠄ (dots 5-3) immediately after the homologous pulmonic consonant:

p’ ⠏⠴⠄ ejective bilabial plosive

t’ ⠞⠴⠄ ejective dental/alveolar plosive

k’ ⠅⠴⠄ ejective velar plosive

s’ ⠎⠴⠄ ejective alveolar fricative

3. Other Symbols

This section of the standard print IPA chart consists of pulmonic consonants which are co-articulated or produced simultaneously. It also includes the epiglottal consonants, whose place of articulation is not generally listed on the pulmonic consonant chart itself.

Table 3: Other Pulmonic Consonants

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ʍ	⠒⠓	U+028D	turned w	voiceless labial-velar fricative
w	⠓	U+0077	lowercase w	voiced labial-velar approximant
ɥ	⠒⠗	U+0265	turned h	voiced labial-palatal approximant
ʜ	⠢⠗	U+029C	small capital h	voiceless epiglottal fricative
ʡ	⠦⠃	U+02A1	barred glottal stop	epiglottal plosive
ʢ	⠢⠃	U+02A2	barred reversed glottal stop	voiced epiglottal fricative
ɧ	⠦⠛	U+0267	hooked heng	simultaneous voiceless postalveolar and velar fricative
ɺ	⠦⠇	U+027A	turned long-leg r	voiced alveolar lateral flap
ɕ	⠦⠉	U+0255	curly-tail c	voiceless alveolopalatal fricative
ʑ	⠦⠵	U+0291	curly-tail z	voiced alveolopalatal fricative
ɬ̃	⠒⠃	U+026B	lowercase l with tilde	velarized voiced alveolar lateral approximant

In the print IPA, affricates and double articulations may sometimes be represented as two symbols connected by a ligature or tie bar. When this occurs, IPA Braille uses ⠒ (dot 5) between the glyphs being joined. This symbol should be used to indicate any of the print ligatures or ties. For example:

k͡p ⠅⠒⠏

t͜s ⠞⠒⠎

The braille representation of common (non-IPA) symbols for affricates and other sounds not shown here will be discussed below in Section 9.1.

4. Vowels

Vowels are speech sounds produced by modulating the airflow based on the shape of the oral cavity. The three articulatory features used in the description of vowels are: height—the relative height of the tongue and/or openness of the mouth; advancement—the relative position of the tongue toward the front or the back of the mouth; and lip rounding—whether the lips are rounded or unrounded. The four height positions that comprise the row headings in the standard print IPA vowel quadrilateral are: Close, Close-mid, Open-mid, and Open. The three positions of tongue advancement that make up the column headings in the standard print IPA vowel quadrilateral are front, central, and back. (Some phonetic traditions may categorize vowels based on other features such as ‘tense’, ‘lax’, etc. The ones given here are the official terms used by the International Phonetic Association.)

Table 4: Vowels

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
i	⠊	U+0069	lowercase i	close front unrounded vowel
e	⠑	U+0065	lowercase e	close-mid front unrounded vowel
ɛ	⠡	U+025B	epsilon	open-mid front unrounded vowel
a	⠁	U+0061	lowercase a	open front unrounded vowel
ɑ	⠑	U+0251	script a	open back unrounded vowel
ɔ	⠡	U+0254	open o	open-mid back rounded vowel
o	⠕	U+006F	lowercase o	close-mid back rounded vowel
u	⠥	U+0075	lowercase u	close back rounded vowel
y	⠽	U+0079	lowercase y	close front rounded vowel
ø	⠹	U+00F8	slashed o	close-mid front rounded vowel
œ	⠩	U+0153	lowercase o-e ligature	open-mid front rounded vowel
ɶ	⠩⠕	U+0276	small capital o-e ligature	open front rounded vowel
ɒ	⠱	U+0252	turned script a	open back rounded vowel
ʌ	⠡	U+028C	turned v (caret)	open-mid back unrounded vowel
ɤ	⠱	U+0264	ram's horns	close-mid back unrounded vowel
ɯ	⠳	U+026F	turned m	close back unrounded vowel
ɨ	⠬	U+0268	barred i	close central unrounded vowel

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
ʉ		U+0289	barred u	close central rounded vowel
ɪ		U+026A	small capital i	near-close near-front unrounded vowel
ʏ		U+028F	small capital y	near-close near-front rounded vowel
ʊ		U+028A	upsilon	near-close near-back rounded vowel
ə		U+0259	schwa	mid central vowel
ɵ		U+0275	barred o	close-mid central rounded vowel
ɐ		U+0250	turned a	near-open central vowel
æ		U+00E6	ash	near-open front unrounded vowel
ɜ		U+025C	reversed epsilon	open-mid central unrounded vowel
ɚ		U+025A	right-hook schwa	r-colored mid central vowel
ɞ		U+025E	closed reversed epsilon	open-mid central rounded vowel
ɘ		U+0258	reversed e	close-mid central unrounded vowel

5. Diacritics

Diacritics are symbols that indicate subtle modifications in the pronunciation of a consonant or vowel. In the standard print IPA, combining diacritics may take three positions relative to a base glyph: above (either directly above, or superscript after), at the same level (either superimposed on the base glyph, or immediately after), or below (either directly underneath, or subscript after).

In IPA Braille, the combining diacritic symbol always comes after the base glyph being modified. The first cell of the braille combining diacritic is a placement indicator, representing the level of the diacritic by using one of the three dots in the right-hand column of the braille cell. ⠈ (dot 4) indicates that the diacritic appears above the base glyph—either directly above, or superscript after. ⠨ (dot 6) indicates that the diacritic appears below the base glyph—either directly beneath, or subscript after. ⠐ (dot 5) indicates that the diacritic is on the same level as the base glyph—either superimposed through the center of the glyph, or immediately after it. Because there are only three same-level IPA diacritics (⠐⠶ 'superimposed tilde' to indicate velarization/pharyngealization, ⠐⠷ 'right-hook' to indicate rhoticity, and ⠐⠄ 'apostrophe' to indicate an ejective), dot 5 also indicates the tie bar or ligature, and is placed between the two base glyphs which are tied or ligatured together for which there is no IPA symbol uniquely defined (see Section 9.1 below).

In addition, other IPA modifiers (see Sections 6 and 7 below) are non-combining, meaning that they do not combine with a base glyph in any of these positions, but instead function as if they were letters. IPA Braille uses ⠸ (dots 456) as the first cell of most non-combining modifiers, including tone bars, intonation arrows, and prosodic grouping symbols illustrated below in Sections 6 and 7.

Some combining diacritics may occur at all three levels, and the level of the diacritic will determine its articulatory meaning. For example, the ~ (tilde) diacritic (written in IPA Braille as ⠈⠶, ⠐⠶, or ⠨⠶, depending on its position with respect to the base character) may occur at any of these three levels. When it occurs above a base glyph, e.g., [ã] ⠸⠶⠁⠈⠶⠸⠶ it indicates nasalization; when it is superimposed through a base glyph, e.g. [ŧ] ⠸⠶⠞⠐⠶⠸⠶ it indicates velarization or pharyngealization; and a tilde below a base glyph, e.g. [a̰] ⠸⠶⠁⠨⠶⠸⠶ indicates creaky voice.

Other combining diacritics may be placed either above or below the base glyph, depending on whether that glyph has a descender in print. For example, the ̥ (ring) diacritic (written ⠈⠶ or ⠐⠶ in IPA Braille, depending on whether it is positioned above or below the base glyph, respectively) indicates that a voiced sound is being pronounced as voiceless. It occurs below print glyphs that do not have descenders, e.g. [ḁ] ⠈⠶⠰⠁⠐⠶, and it occurs above print glyphs that have descenders, e.g. [ŋ̊] ⠈⠶⠰⠝⠈⠶.

Note that IPA Braille diacritics are explicitly defined as multi-cell, composite characters, including the placement indicator (dot 4, 5, or 6). This is crucial for two reasons. First, as just discussed, the initial dot shows the vertical position with respect to the base glyph. Second, the initial dot clearly indicates that the braille symbol represents a combining diacritic, rather than a consonant or vowel that may happen to have the same IPA Braille dot configuration. For instance, as shown in the pulmonic consonant chart in Section 1, the IPA Braille symbol ⠰⠶ represents the voiced velar nasal ŋ (eng), and the IPA Braille symbol ⠸⠶ represents the voiced dental fricative ð (edh). In the above examples, the ~ (tilde) and ̥ (ring) diacritics are clearly distinct from the consonants [ð] and [ŋ], respectively, because of the initial placement dot that marks them as IPA Braille combining diacritics. This is true of many symbols in the following table, whose dot configurations may indicate a consonant or vowel if not preceded by a diacritic placement dot.

For purposes of consistency, the roots of many of the IPA Braille combining diacritics are identical to those defined in Unified English Braille (UEB), specifically the UEB symbols ⠘⠶ ‘acute accent’, ⠨⠶ ‘grave accent’, ⠸⠶ ‘tilde’, ⠤⠶ ‘umlaut’, ⠈⠶ ‘circumflex’, and ⠐⠶ ‘circle’. However, unlike their UEB counterparts, in IPA Braille the combining diacritic always comes after the glyph that it modifies, and always includes the IPA Braille placement dot to indicate its position relative to the base glyph as described above.

When a base glyph combines with two or more diacritics, IPA Braille transcribes them in order from lowest to highest level, followed by any non-combining modifiers. For example, the IPA segment [r̩̂ː] (lowercase r with vertical stroke below and circumflex above followed by a length mark) would be transcribed in IPA Braille as ⠘⠷⠗⠠⠆⠈⠩⠒⠘⠾, beginning with the base glyph, followed by the bottom-most combining diacritic, moving upward to the top-most combining diacritic, and then followed by the non-combining modifier. Similarly, the IPA segment [ɯ̥̃] (the close back unrounded vowel with ring below and tilde above) would be transcribed in IPA Braille as ⠘⠷⠖⠥⠠⠫⠈⠻⠘⠾. (These two examples come from the Croatian and Portuguese sample IPA passages presented in the Appendix. See the Appendix for more examples.)

Note that the 'Example' column in the following table serves to illustrate diacritic placement. These examples are for illustrative purposes only, as each of these combining diacritics may occur with any number of base glyphs besides the one in the example.

Table 5: Diacritics

Glyph	Braille	Unicode	Typographic Desc.	Meaning	Example
ʼ	⠐⠄	U+02BC	apostrophe	ejective	tʼ ⠞⠐⠄
̥	⠠⠫	U+0325	ring below	voiceless	b̥ ⠃⠠⠫
̊	⠈⠫	U+030A	ring above	voiceless	g̊ ⠛⠈⠫
̬	⠠⠦	U+032C	wedge below	voiced	t̬ ⠞⠠⠦
ʰ	⠈⠓	U+02B0	superscript h	aspirated	tʰ ⠞⠈⠓
̤	⠠⠒	U+0324	umlaut below	breathy voiced	b̤ ⠃⠠⠒
̰	⠠⠻	U+0330	tilde below	creaky voiced	ḛ ⠑⠠⠻

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	MEANING	EXAMPLE
̼	⠠⠯	U+033C	seagull below	linguolabial	t̼ ⠞⠠⠯
̪	⠠⠹	U+032A	bridge below	dental	t̪ ⠞⠠⠹
̺	⠠⠖⠹	U+033A	inverted bridge below	apical	t̺ ⠞⠠⠖⠹
̻	⠠⠶	U+033B	square below	laminal	r̻ ⠗⠠⠶
̹	⠠⠕	U+0339	right half-ring below	more rounded	e̹ ⠑⠠⠕
̜	⠠⠪	U+031C	left half-ring below	less rounded	o̜ ⠕⠠⠪
̟	⠠⠬	U+031F	plus below	advanced	o̟ ⠕⠠⠬
̠	⠠⠤	U+0320	minus below	retracted	e̠ ⠑⠠⠤
̈	⠈⠒	U+0308	umlaut above	centralized	ë ⠑⠈⠒
̽	⠈⠭	U+033D	over-cross above	mid-centralized	e̽ ⠑⠈⠭
̘	⠠⠱	U+0318	advancing sign below	advanced tongue root	e̘ ⠑⠠⠱
̙	⠠⠎	U+0319	retracting sign below	retracted tongue root	e̙ ⠑⠠⠎
˞	⠐⠗	U+02DE	right hook	rhoticity	e˞ ⠑⠐⠗
ʷ	⠈⠺	U+02B7	superscript w	labialized	eʷ ⠑⠈⠺
ʲ	⠈⠚	U+02B2	superscript j	palatalized	tʲ ⠞⠈⠚
ˠ	⠈⠨⠛	U+02E0	superscript gamma	velarized	tˠ ⠞⠈⠨⠛
ˤ	⠈⠖⠆	U+02E4	superscript reversed glottal stop	pharyngealized	eˤ ⠑⠈⠖⠆
̃	⠈⠻	U+0303	tilde above	nasalized	ẽ ⠑⠈⠻
ⁿ	⠈⠝	U+207F	superscript n	nasal release	dⁿ ⠙⠈⠝

Glyph	Braille	Unicode	Typographic Desc.	meaning	Example
ˡ	⠈⠇	U+02E1	superscript l	lateral release	tˡ ⠞⠈⠇
◌̚	⠈⠙	U+031A	corner above	no audible release	t̚ ⠞⠈⠙
◌̴	⠐⠻	U+0334	superimposed tilde	velarized or pharyngealized	t̴ ⠞⠐⠻
◌̝	⠠⠜	U+031D	raising sign below	raised	e̝ ⠑⠠⠜
◌̞	⠠⠣	U+031E	lowering sign below	lowered	e̞ ⠑⠠⠣
◌̩	⠠⠆	U+0329	vertical line below	syllabic	m̩ ⠍⠠⠆
◌̯	⠠⠾	U+032F	arch below	non-syllabic	n̯ ⠝⠠⠾
◌͡◌	⠐	U+0361	top tie bar	affricate or double articulation	g͡b ⠛⠐⠃

6. Suprasegmentals

Suprasegmentals refer to features that go on top of (supra-) the consonants and vowels (segments) of spoken language. Suprasegmental signs are generally used to notate the prosody of speech sounds, syllables, words, or phrases, and indicate features such as stress, length, syllable breaks, and timing. IPA Braille precisely follows the standard print IPA in the placement of these symbols. In other words, glyphs having to do with segment length come after the affected segment in braille, just as they do in print, glyphs indicating stress come before the affected syllable in braille, just as they do in print, and the symbols for major and minor intonation groups occur at the end of phrases, just as in print. See the sample IPA passages in the Appendix for specific examples.

Table 6: Suprasegmentals

Glyph	Braille	Unicode	Typographic Desc.	Meaning	Example
ˈ	⠒⠆⠒	U+02C8	vertical stroke (superior)	(primary) stress	
ˌ	⠒⠖⠒	U+02CC	vertical stroke (inferior)	secondary stress	
ː	⠤	U+02D0	length mark	long	eː ⠢⠤
ˑ	⠢⠔	U+02D1	half-length mark	half-long	eˑ ⠢⠢⠔
◌̆	⠈⠘	U+0306	breve above	extra-short	ĕ ⠢⠈⠘
.	⠲	U+002E	period	syllable break	
|	⠒⠒	U+007C	vertical line	minor (foot) group	
‖	⠒⠒	U+2016	double vertical line	major (intonation) group	
◌͡◌	⠒⠆⠒	U+203F	bottom tie bar	linking (absence of a break)	

7. Tones & Word Accents

This section of the IPA chart consists of symbols to represent tone (the relative pitch on which a syllable is pronounced) and other features of lexical and phrasal intonation. The print IPA provides two equivalent sets of symbols for indicating tone. One set consists of combining diacritics placed above the syllable nucleus, and the other consists of ‘tone letters’

placed immediately after the relevant syllable. IPA Braille provides representations for both methods.

Print tone letters consist of two lines: one line is vertical, providing a reference frame, and the other line intersects it, depicting the relative height and level or contour of the tone. The IPA Braille tone letters likewise capture the shape of the print tone bar glyphs as far as possible (although the order of vertical and intersecting lines is reversed). Each braille tone letter begins with ⠸ (dots 456) both to indicate a non-combining modifier, and also to represent the vertical reference bar in the print symbol. The remaining cell(s) of the braille tone letter represent the height and shape of the pitch. Note that in the typographic descriptions of these tone letters, the numbers in parentheses indicate the commonly-used descriptions of these symbols based on a series of numbered pitch registers, where the digit 5 refers to the highest pitch register and the digit 1 to the lowest. In other words, the number "55" indicates a level tone that starts at the highest pitch register (5) and remains there, the number "13" refers to a contour tone that starts at the lowest pitch register (1) and rises to the mid register (3), and so on.

As with the suprasegmental symbols presented in the previous section, IPA Braille precisely follows the print placement of these diacritics and modifiers: placing upstep and global intonation symbols before the affected segment, syllable, word, or phrase, placing a tone bar either before or after the syllable it modifies (depending on the print text) and by using ⠈ (dot 4) to indicate a tone diacritic combined above a base glyph. See the sample IPA passages in the Appendix for specific examples.

Table 7: Tones and Word Accents

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	MEANING	EXAMPLE
◌̋	⠈⠠⠌	U+030B	double acute accent above	extra high level tone	e̋ ⠑⠈⠠⠌
˥	⠸⠈⠉	U+02E5	extra-high (55) tone bar	extra high level tone	
◌́	⠈⠌	U+0301	acute accent above	high level tone	é ⠑⠈⠌
˦	⠸⠉	U+02E6	high (44) tone bar	high level tone	
◌̄	⠈⠉	U+0304	macron above	mid level tone	ē ⠑⠈⠉
˧	⠸⠒	U+02E7	mid (33) tone bar	mid level tone	
◌̀	⠈⠡	U+0300	grave accent above	low level tone	è ⠑⠈⠡
˨	⠸⠤	U+02E8	low (22) tone bar	low level tone	
◌̏	⠈⠠⠡	U+030F	double grave accent above	extra low level tone	ȅ ⠑⠈⠠⠡
˩	⠸⠠⠤	U+02E9	extra-low (11) tone bar	extra low level tone	
◌̌	⠈⠦	U+030C	wedge above	rising contour tone	ě ⠑⠈⠦
˩˥	⠸⠌	U+02E9 + U+02E5	rising (15) tone bar	rising contour tone	
◌̂	⠈⠩	U+0302	circumflex above	falling contour tone	ê ⠑⠈⠩
˥˩	⠸⠡	U+02E5 + U+02E9	falling (51) tone bar	falling contour tone	
◌᷄	⠈⠊	U+1DC4	macron-acute above	high -rising contour tone	e᷄ ⠑⠈⠊
˧˥	⠸⠊	U+02E7 + U+02E5	high-rising (35) tone bar	high-rising contour tone	
◌᷅	⠈⠔	U+1DC5	grave-macron above	low-rising contour tone	e᷅ ⠑⠈⠔

Glyph	**Braille**	**Unicode**	**Typographic Desc.**	**Meaning**	**Example**
˩˧	⠸⠔	U+02E9 + U+02E7	low-rising (13) tone bar	low-rising contour tone	
◌᷈	⠈⠲	U+1DC8	grave-acute-grave above	rising-falling contour tone	e᷈ ⠑⠈⠲
˨˥˨	⠸⠲	U+02E8 + U+02E5 + U+02E8	rising-falling (151) tone bar	rising-falling contour tone	
↓	⠸⠮	U+2193	down arrow	downstep	
↑	⠸⠫	U+2191	up arrow	upstep	
↗	⠸⠙	U+2197	upward diagonal arrow	global rise	
↘	⠸⠴	U+2198	downward diagonal arrow	global fall	

8. Phonetic and Phonemic Enclosures

The International Phonetic Association recommends, and it is conventional in professional contexts, to always enclose IPA material in square brackets for phonetic transcription, and to enclose IPA material between forward slashes for phonemic transcription. This separates passages of IPA from standard orthography, and indicates to the reader the level of phonetic detail being represented. The IPA Braille equivalents of these symbols are as follows:

Table 8: Phonetic and Phonemic Enclosures

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	MEANING
[	⠨⠣	U+005B	left square bracket	begin phonetic transcription
]	⠨⠜	U+005D	right square bracket	end phonetic transcription
/	⠨⠌	U+002F	slash	begin/end phonemic transcription

As in print, these symbols should always be used in braille to indicate that the enclosed material should be read as IPA Braille and to indicate whether the material is of a phonetic or phonemic nature.

9. Non-IPA Symbols

The tables in Sections 1-8 have presented IPA Braille equivalents for all of the symbols currently on the official IPA chart (including phonetic and phonemic enclosures). In addition to the glyphs presented above, students and professionals in the language sciences will undoubtedly encounter many more phonetic symbols that are not officially endorsed by the International Phonetic Association, and thus are not listed in the above tables. For a full overview of many of these print phonetic symbols, see Pullum and Ladusaw (1996). The current section offers recommendations for ways of dealing with non-IPA glyphs, including: using the existing resources of IPA Braille to represent them (Section 9.1), using a set of document-specific, transcriber-defined symbols (Section 9.2), and using temporary switch indicators to incorporate symbols such as punctuation and numerals from another braille code (Section 9.3).

9.1. Common Phonetic Symbols and Punctuation

Because IPA Braille includes a robust system for dealing with diacritics and modifiers, many of the frequently-encountered non-IPA symbols can nonetheless be easily represented. For instance, one widely-used system of transcribing postalveolar fricatives and affricates (especially in Americanist and Slavicist linguistic traditions) places the hacek ('wedge') diacritic over a base consonant. IPA Braille easily accommodates this by using the equivalent IPA Braille diacritic ⠈⠩ 'wedge above'. The IPA Braille representations of these consonants are therefore as follows:

Table 9.1: Non-IPA Symbols for Postalveolar Fricatives and Affricates

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
š	⠩⠈⠩	U+0161	s wedge	voiceless postalveolar fricative
ž	⠵⠈⠩	U+017E	z wedge	voiced postalveolar fricative
č	⠉⠈⠩	U+010D	c wedge	voiceless postalveolar affricate
ǰ	⠚⠈⠩	U+01F0	j wedge	voiced postalveolar affricate

Another set of non-IPA symbols that can easily be accommodated by the existing resources of IPA Braille are the ligatured affricate symbols—previously used in the standard print IPA, but now withdrawn in favor of non-ligatured affricates consisting of two glyphs. Using the 'tie bar' symbol ⠈ (dot 5), to indicate the ligature, the IPA Braille representations of these glyphs are therefore as follows:

Table 9.2: Non-IPA Symbols for Ligatured Affricates

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	ARTICULATORY DESC.
t͡s	⠞⠒⠎	U+02A6	t-s ligature	voiceless alveolar affricate
d͡z	⠙⠒⠵	U+02A3	d-z ligature	voiced alveolar affricate
t͡ʃ	⠞⠒⠩	U+02A7	t-esh ligature	voiceless postalveolar affricate
d͡ʒ	⠙⠒⠚	U+02A4	d-ezh ligature	voiced postalveolar affricate
t͡ɕ	⠞⠒⠉⠈	U+02A8	t-curly-tail-c ligature	voiceless alveolopalatal affricate
d͡ʑ	⠙⠒⠉⠵	U+02A5	d-curly-tail-z ligature	voiced alveolopalatal affricate

IPA Braille defines the following punctuation symbols, which may be useful in the transcription of some phonetic and phonemic passages. (Note that the period is an official IPA symbol and was already listed in Table 6. It is repeated here for convenience.)

Table 9.3: Non-IPA Symbols for Punctuation

GLYPH	BRAILLE	UNICODE	TYPOGRAPHIC DESC.	MEANING
.	⠲	U+002E	period	syllable break/period
,	⠂	U+002C	comma	pause/comma
-	⠤	U+002D	hyphen (dash)	morpheme break/hyphen
→	⠳⠕	U+2192	rightward arrow	rewrite arrow (is realized as)

Other punctuation symbols not specifically defined in IPA Braille must be either represented using a transcriber-defined symbol (see Section 9.2) or incorporated from another braille code using temporary switch indicators (see Section 9.3).

9.2. Transcriber-Defined Symbols

If a braille equivalent cannot be constructed for a non-IPA phonetic glyph using the existing resources of IPA Braille, the following transcriber-defined, document-specific symbols may be used instead. Each symbol consists of dots 46 followed by the lower-cell letters a-j. These symbols are available for use by transcribers on an ad-hoc, case-by-case basis when a symbol is used in print that has no defined equivalent in IPA Braille. If a transcriber uses any of these symbols, a note must be included at the beginning of the document to state which print symbols they represent. The meanings of transcriber-defined symbols are only valid for the document in which they are defined. They may occur as listed here if they are representing letter-like symbols, or they may be used as combining diacritics by preceding them with the appropriate placement indicator (dot 4, dot 5, or dot 6) as discussed in Section 5. In other words, if a transcriber-defined symbol is being used to

represent a combining diacritic, then it must be preceded by ⠈ (dot 4) to indicate that the diacritic appears above the base glyph (either directly above, or superscript after), ⠐ (dot 5) to indicate that the diacritic is on the same level as the base glyph (either superimposed or immediately after it), or ⠨ (dot 6) to indicate that the diacritic appears below the base glyph (either directly beneath, or subscript after). On the other hand, if it is being used as a consonant, vowel, or non-combining modifier, the two-cell symbol (dots 46 followed by lower-cell a-j) needs no placement dot.

Table 9.4: Transcriber-Defined Symbols

BRAILLE	MEANING
⠈⠐	Transcriber-defined symbol 1
⠈⠠	Transcriber-defined symbol 2
⠈⠰	Transcriber-defined symbol 3
⠈⠸	Transcriber-defined symbol 4
⠈⠄	Transcriber-defined symbol 5
⠈⠤	Transcriber-defined symbol 6
⠈⠼	Transcriber-defined symbol 7
⠈⠦	Transcriber-defined symbol 8
⠈⠂	Transcriber-defined symbol 9
⠈⠆	Transcriber-defined symbol 10

9.3. Temporary Code-Switch Indicators

The official print IPA does not include symbols for digits, upper-case letters, or most punctuation. IPA Braille likewise makes no provision for these symbols, as they are rarely intermingled with IPA in print. In cases where such symbols do occur within print phonetic transcription, IPA Braille offers temporary switch indicators for just this purpose, to indicate to the reader a temporary switch from IPA Braille into the primary braille code of the document, whatever language or braille code that may be. If a transcriber uses temporary switch indicators, a note should occur at the beginning of the document, clearly stating which braille code is the default for non-IPA Braille (e.g. Unified English Braille, etc.).

Table 9.5: Temporary Switch Indicators

BRAILLE	MEANING
⠸	The following symbol is non-IPA and should be read in accordance with the primary braille code of the document.
⠸⠸	The following word is non-IPA and should be read in accordance with the primary braille code of the document.
⠸⠸⠸	The following passage is non-IPA and should be read in accordance with the primary braille code of the document. (Non-IPA passage is terminated by dots 56-23.)
⠸⠸⠄	Terminates a passage of non-IPA text (previously opened by dots 56-56-56); return to IPA Braille.

For example, if a print IPA word were to contain parentheses (to indicate an inaudible or unpronounced sound), IPA Braille would transcribe them either by using transcriber-

defined symbols (see Section 9.2 above), or with a temporary switch indicator preceding the parentheses symbols in the default braille code. In such a case, assuming, say, the default braille code is Unified English Braille, where ⠐⠣ and ⠐⠜ are the left and right parenthesis symbols respectively, then IPA [ˌdɪs(ə)ˈgɹi] (‘disagree’ with the schwa in parentheses) would be written in IPA Braille as ⠘⠷⠸⠆⠙⠌⠎⠰⠐⠣⠢⠰⠐⠜⠸⠃⠛⠼⠊⠘⠾, where the UEB symbols for the left and right parentheses are incorporated by preceding each of them with a temporary code switch out of IPA Braille. See also the American English sample passage in the Appendix for the use of a temporary switch to precede a semicolon that occurs once in that passage.

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Appendix: Sample Passages

Part 2 of the *Handbook of the International Phonetic Association* (1999) contains extensive illustrations of the IPA as applied to 29 different languages. In addition to a thorough overview of the speech sounds in each language and a discussion of the IPA conventions best suited for representing them, a brief sample passage is also presented. These samples typically consist of an IPA transcription of a recorded passage, usually a retelling of the "North Wind and the Sun" fable, recorded from a native speaker of each language.

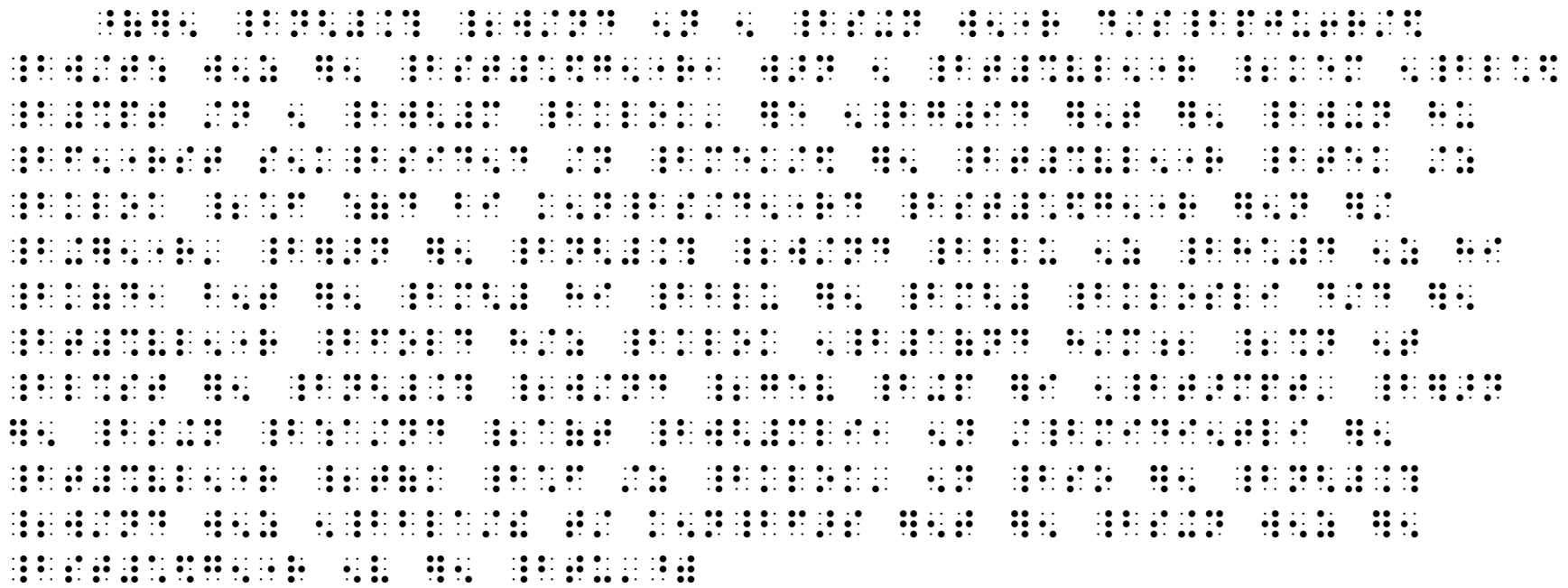
This appendix presents five of the 29 sample passages, transcribed into IPA Braille. They are reprinted here with the consent of the International Phonetic Association and by the kind permission of Cambridge University Press (reproduced with permission of the Licensor through PLSclear) from *Handbook of the International Phonetic Association,* © The International Phonetic Association 1999. They may not be further reproduced except by written permission of Cambridge University Press.

These five passages were chosen to highlight IPA Braille, including the use of most of the consonant and vowel symbols, combining diacritics, tone letters, and symbols for length, stress, and intonation. These passages demonstrate IPA Braille in use and can serve as examples for students learning to use the system.

Sample 1: American English (Narrow Transcription)

(*IPA Handbook*, page 44)

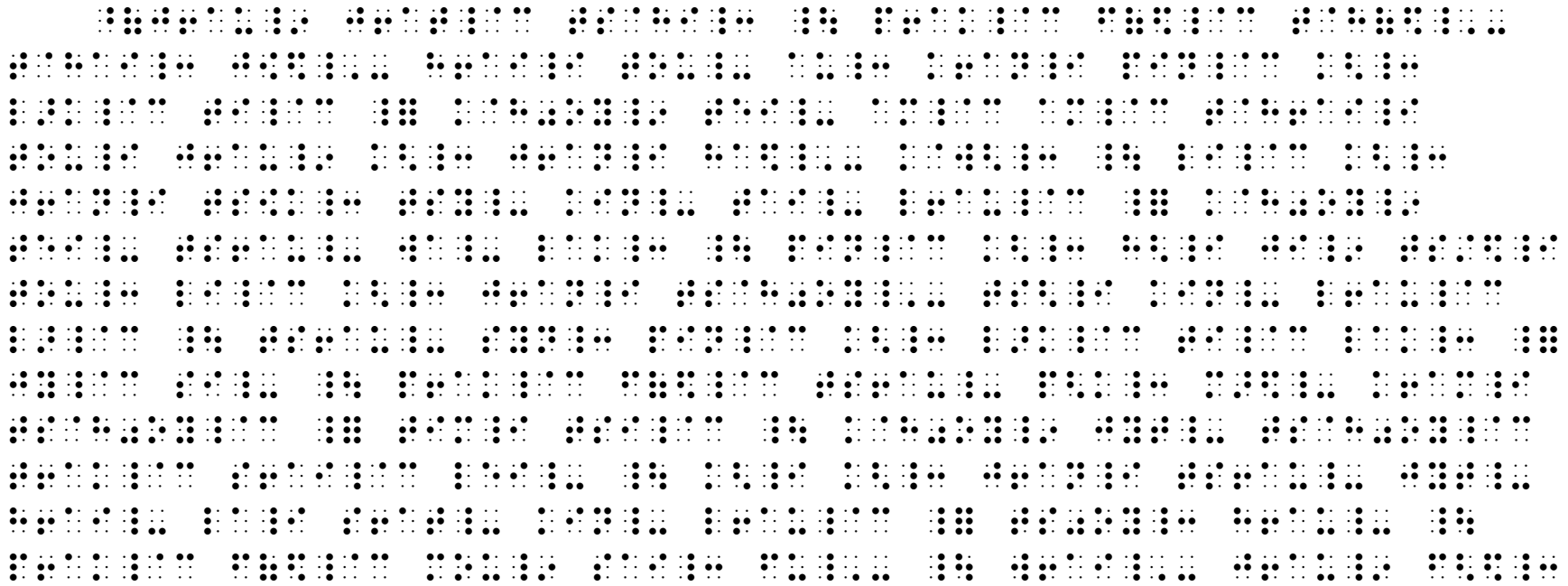
[ðə ˈnɔɹθ ˌwɪnd ən ə ˈsʌn wəˑ dɪsˈpjuɾɪŋ ˈwɪtʃ wəz ðə ˈstɹɑŋgəˑ, wɛn ə ˈtɹævləˑ ˌkem əˈlɑŋ ˈɹæpt ɪn ə ˈwɔɹm ˈklok. ðe əˈgɹid ðət ðə ˈwʌn hu ˈfəˑst səkˈsidəd ɪn ˈmekɪŋ ðə ˈtɹævləˑ ˈtek ɪz ˈklok ˌɑf ʃud bi kənˈsɪdəˑd ˈstɹɑŋgəˑ ðən ðɪ ˈʌðəˑ. ˈðɛn ðə ˈnɔɹθ ˌwɪnd ˈblu əz ˈhɑɹd əz hi ˈkʊd, bət ðə ˈmɔɹ hi ˈblu ðə ˈmɔɹ ˈklosli dɪd ðə ˈtɹævləˑ ˈfold hɪz ˈklok əˈɹaʊnd hɪm; ˌæn ət ˈlæst ðə ˈnɔɹθ ˌwɪnd ˌgev ˈʌp ði əˈtɛmpt. ˈðɛn ðə ˈsʌn ˈʃaɪnd ˌaʊt ˈwɔɹmli, ən ɪˈmidiətli ðə ˈtɹævləˑ ˌtʊk ˈɑf ɪz ˈklok. ən ˈso ðə ˈnɔɹθ ˌwɪnd wəz əˈblaɪʒ tɪ kənˈfɛs ðət ðə ˈsʌn wəz ðə ˈstɹɑŋgəˑ əv ðə ˈtu.]

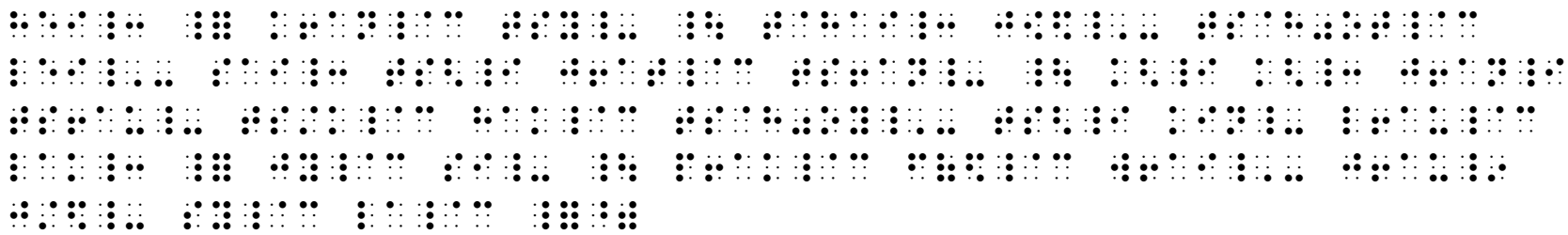


Sample 2: Hong Kong Cantonese

(*IPA Handbook*, page 60)

[jɐu˧ jɐt˥ tsʰi˧ | pɐk˥ fʊŋ˥ tʰʊŋ˩ tʰai˧ jœŋ˩ hɐi˨ tou˧ au˧ kɐn˨ pin˥ kɔ˧ lɛk˥ ti˥ ‖ kʰɵy˧ tei˧ am˥ am˥ tʰɐi˨ tou˨ jɐu˧ kɔ˧ jɐn˨ haŋ˩ kʷɔ˧ | li˥ kɔ˧ jɐn˨ tsœk˧ tsy˧ kin˧ tai˧ lɐu˥ ‖ kʰɵy˧ tei˧ tsɐu˧ wa˧ lak˧ | pin˥ kɔ˧ hɔ˨ ji˧ tsɪŋ˨ tou˧ li˥ kɔ˧ jɐn˨ tsʰɵy˩ tsɔ˨ kin˧ lɐu˥ lɛ˥ | tsɐu˧ syn˧ pin˥ kɔ˧ lɛk˥ ti˥ lak˧ ‖ jy˥ si˧ | pɐk˥ fʊŋ˥ tsɐu˧ pɔk˧ mɛŋ˧ kɐm˨ tsʰɵy˥ ‖ tim˨ tsi˥ | kʰɵy˧ jyt˧ tsʰɵy˥ tɐk˥ sɐi˥ lei˧ | kɔ˨ kɔ˧ jɐn˨ tsɐu˧ jyt˧ hɐi˧ la˨ sɐt˧ kin˧ lɐu˥ ‖ tsɵy˧ hɐu˧ | pɐk˥ fʊŋ˥ mou˧ sai˧ fu˩ | wɐi˩ jɐu˧ fɔŋ˧ hei˧ ‖ kɐn˥ tsy˧ | tʰai˧ jœŋ˩ tsʰɵt˥ lei˩ sai˧ tsɔ˨ jɐt˥ tsɐn˧ | kɔ˨ kɔ˧ jɐn˨ tsɐu˧ tsɪk˥ hak˥ tsʰɵy˩ tsɔ˨ kin˧ lɐu˥ lak˧ ‖ jy˥ si˧ | pɐk˥ fʊŋ˥ wɐi˩ jɐu˧ jɪŋ˧ sy˥ la˥ ‖]

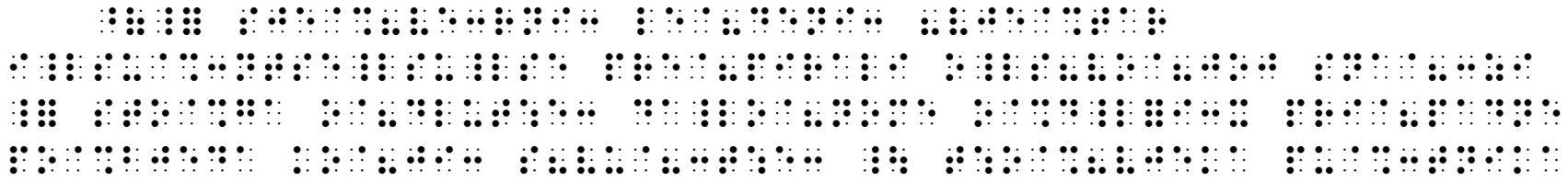


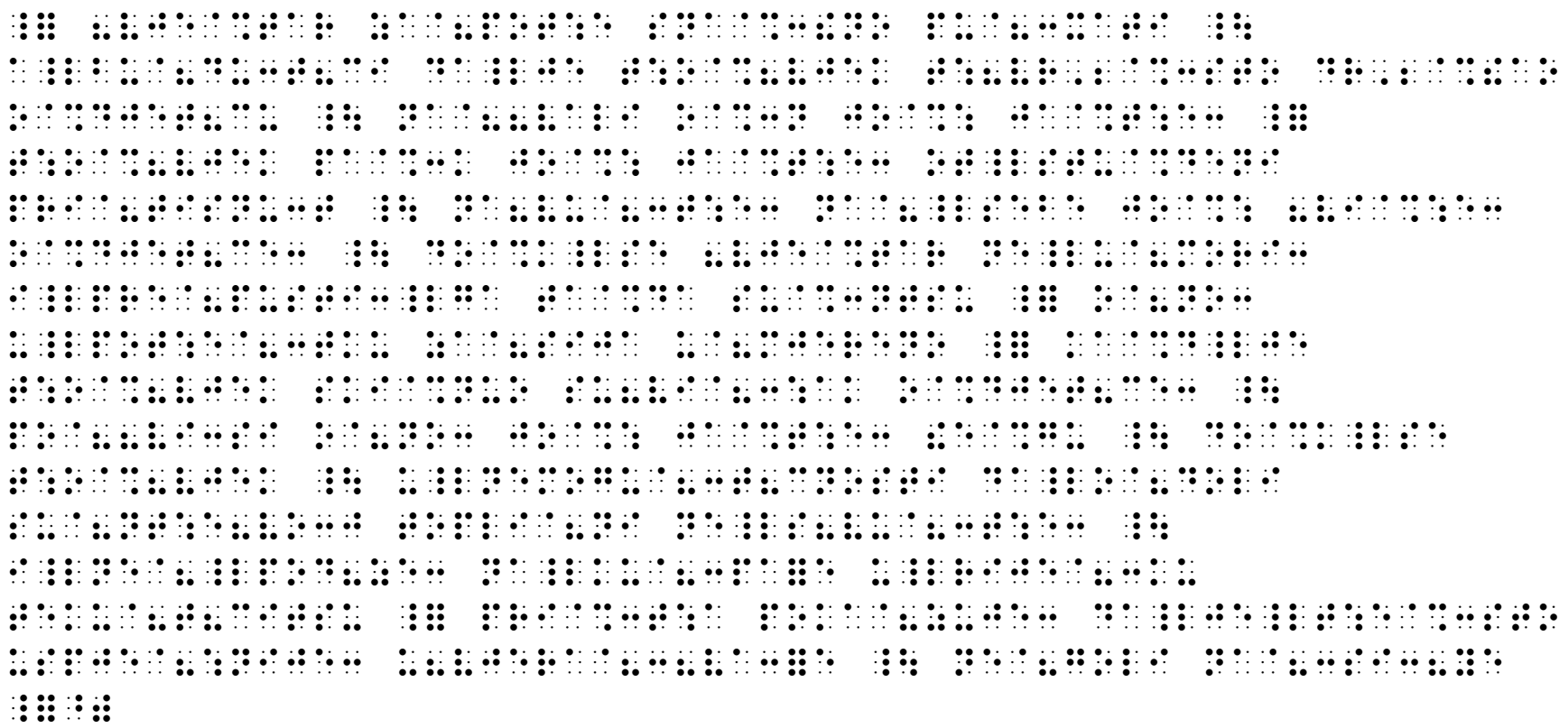


Sample 3: Croatian

(*IPA Handbook*, page 69)

[‖ sjêʊeːrniː lědeniː ʊjêtar i‿sûːntse‿su‿se prěpirali o‿sʊǒjoj snǎːzi ‖ stôga ǒdlutʃeː da‿ǒnome ôd‿ɲiːx prǐpadne pôbjeda kǒjiː sʊǔːtʃeː | tʃôʊjeka pûːtnika ‖ ʊjêtar zǎpotʃe snâːʒno pǔːxati | a‿bǔduːtɕi da‿je tʃôʊjek tʃuf̂ːsto dʃ̂ʒao ôdjetɕu | nǎʋali ôːn jôʃ jâtʃeː ‖ tʃôʊjek pâːk jôʃ jâtʃeː ot‿stûdeni prǐtisnuːt | naʊǔːtʃeː nǎ‿sebe jôʃ ʊîʃeː ôdjetɕeː | dôk‿se ʊjêtar ne‿ǔmoriː i‿prěpustiː‿ga tâda sûːntsu ‖ ǒnoː u‿potʃě:tku zǎsija ǔmjereno ‖ kâd‿je tʃôʊjek skînuo suʊǐːʃak ôdjetɕeː | pǒʋiːsi ǒnoː jôʃ jâtʃeː ʒêgu | dôk‿se tʃôʊjek | u‿nemogǔːtɕnosti da‿ǒdoli sǔntʃeʊoːj toplǐni ne‿sʊǔːtʃeː | i‿ně‿podʑeː na‿kǔːpaɲe u‿rijě:ku tekǔtɕitsu ‖ prîːtʃa pokǎzujeː da‿je‿tʃêːsto uspjěʃnijeː uʊjerǎːʋaːɲe | něgoli nǎːsiːʎe ‖]





Sample 4: French

(*IPA Handbook*, page 80-81)

The *Handbook* contains the following note preceding this transcription:

“The transcriptional style adopted in this illustration is a relatively narrow one, which reflects the particular pronunciation used in the recording of the passage made for the illustration.”

[la biz e lə sɔlɛʲ sə dispytɛ ‖ ʃakɛ̃ asyʁɑ̃ kilɛtɛ lə ply fɔ̈ ‖ kɑ̃t ilzɔ̃ vy ɛ̃ vwɑjaʒœ ki savɑ̃sɛ ‖ ɑ̃vlope dɑ̃ sɔ̃ mɑ̃to ‖ iː sɔ̃ tɔ̃be dakɔ̈ kə səlɥi ki aʁivʁe ləpɸəmje a lə lɥi fɛʁote ‖ səʁə ʁəgaʁde kɔ̈m lə ply fɔ̈ ‖ alɔ̈ la biz sɛ̨ miz a sufle də tut se fɔ̈s ‖ mɛ ply ɛl suflɛ ply lə vwɑjaʒœɣ̟ sɛʁɛ sɔ̃ mɑ̃totʊɣ̟ də lɥi ‖ finalmɑ̃ ɛl ʁənõsa lə lɥi fɛʁote ‖ alɔ̈ lə sɔlɛʲ kɔmɑ̃sa bɸije ‖ e o bu dɛ̨̃ mɔmɑ̃ lə vwɑjaʒœ ʁeʃofe ota sɔ̃ mɑ̃to ‖ ɛ̃si la biz dy ʁəkɔnɛt kə lə sɔlɛʲ ɛtɛ lə ply fɔ̈.]

Sample 5: Portuguese

(*IPA Handbook*, page 129-130)

The *Handbook* contains the following note preceding this transcription. It is included here because it nicely illustrates the use of phonetic and phonemic enclosures:

“The transcription provided below is narrow in certain respects, and includes the representation of sandhi phenomena (Herslund 1986), for example, in line 1 where [ˈɛɾɔ] is the contraction of /ˈɛɾɐ u/, and of pitch excursions. Unstressed syllables which maintain their target vowel qualities are not transcribed with a secondary stress; secondary stress is shown only with diphthongs. Upstepped syllables are followed by low or falling syllables, downstepped syllables by low or rising syllables. Since upstep and downstep do not necessarily occur on a stressed syllable, all primary stresses not indicated by a tone mark are shown in the transcription.”

[u ↑ˈvẽtu ˈnɔɾt ↑i u sɔl d̥ʃkuˈtiˌẽu ↑ku̯al duʒ doiz ↑ˈɛɾɔ maiʃ ˧fɔɾtɯ | ↑ˈku̯ẽdu susɯˈdeu pɐˈsaɾ ũ viɐ↑ˈʒẽtɯ ũ̯ɪ̥↑ˈvolt numɐ ˥˩kapɐ ‖ au ˧velu | ˈpõi↑ˌẽis diɐ□ˈkoɾdu ẽi ˈkomu ɐ↑ˈkel kɯ pɾi↑ˈmɐiɾu kõsˈgis ɔbɾiˈgaɾ u viɐˈʒẽtɯ ɐ tiˈɾaɾ ɐ ˧kapɐ | sɾiɐ kõsidɯ↑ˈɾadu u maiʃ ˥˩fɔɾt ‖ u ↑ˈvẽtu ˈnɔɾtɯ kumɯˈso ɐ suˈpɾaɾ kõ ˈmũitɐ ˧fuɾiɐ | mɐʃ ↑ˈku̯ẽtu maiʃ su˧pɾavɐ | maiz ↑u viɐ□ˈʒẽtɯ si ɐkõʃ□ˈgava suɐ ˥˩kapɐ | ɐˈtɛ ↑kiu ˈvẽtu ˈnɔɾtɯ ˥˩d̥z̥ʃtiu ‖ ↑u sɔl bɾiˈʎo ẽˈtẽu kõ ˈtodu ʃplẽ˧doɾ | i ↑imɯdiatɐˈmẽt u viɐ↑ˈʒẽtɯ tiˈɾo ɐ ˥˩kapɐ ‖ u ↑ˈvẽtu ˈnɔɾtɯ tev ɐˈsĩ dɯ ʁ̥kuɲɯ↑ˈseɾ ɐ supɯɾiuɾiˈdad ↑du ˥˩sɔl ‖]