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To the Hon. Edward Johnson
with kind regards
from the Author,

SOUNDS
AND /-F
THEIR RELATIONS

A Complete Manual of Universal Alphabets;

ILLUSTRATED BY MEANS OF

VISIBLE SPEECH:

AND EXHIBITING THE

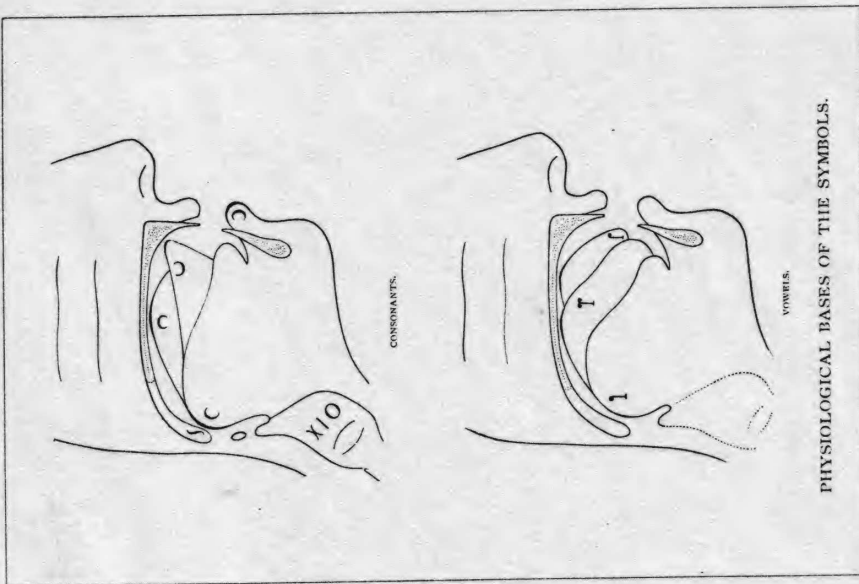
*Pronunciation of English, in Various Styles, and of
other Languages and Dialects.*

BY ALEX. MELVILLE BELL, F.E.I.S., &c.

SALEM, MASS.:

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1881.



DEDICATION

TO

ALEXANDER JOHN ELLIS, ESQ., F. R. S.

*

Dear Sir:

You were among the earliest to put the system of "Visible Speech"—then unpublished—to a series of practical tests; and your name—that of the highest authority on phonetics—in endorsement of the claims of the System, at once sufficed to bring it into notice. In expression of my grateful recollection of your kindness, and impartiality of judgement, I desire to dedicate to you this new exposition of Visible Speech, and manual of "Sounds and their Relations."

With much respect,

I am, Dear Sir,

Yours very truly,

THE AUTHOR.

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PREFACE.

THE Inaugural Edition of "Visible Speech" was not intended, or adapted, for the popular introduction of the System, but for the use of the comparatively limited class of Students of Philology.

Visible Speech has now been brought into such wide practical applications—not only in this field of scholarship, but in the work of foreign Missions; in the treatment of Impediments and Defects of Speech; in teaching Articulation to the Deaf; in facilitating the acquisition of Foreign Languages; in the teaching of Elocution; and in the training of Common School Teachers—that a simpler and more practical Manual of the System was urgently called for. "SOUNDS AND THEIR RELATIONS," which could not be exemplified by means of ordinary letters, are here exhibited in the symbols of Visible Speech. This Work thus serves the double purpose of teaching the varieties and relations of all Linguistic Sounds, and, at the same time, presenting

the entire details of the system of Visible Speech, with simplicity and clearness. A largely extended sphere of utility will, it is hoped, be opened for the system by the publication of this popular manual, and by this application of the symbols to the exhibition of familiar and other "SOUNDS AND THEIR RELATIONS."

88 FAYETTE STREET,
WEST WASHINGTON, D. C.
September, 1887.

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⇒ SOUNDS AND THEIR RELATIONS ⇐

INTRODUCTION.

ALL attempts to show the phonetic elements even of a single language by means of ordinary letters require the use of key-words, diacritic signs and arbitrary distinctions to a very inconvenient extent; and after all has been done that can be done, the result is imperfect, complex, and difficult of application; while the extension of the scheme to other languages is impracticable.

By means of the system of Visible Speech, all possible phonetic elements, and all the organic, mechanical and other relations of sounds, are expressed by symbols which have an absolute and uniform value in every context, so that speech of any variety is made legible in *fac simile* by readers in all countries. Those to whom the language is vernacular, and foreigners who have never heard the spoken tongue, must pronounce its Visible Speech transcript exactly alike.

The principles of Visible Speech are sufficiently simple for popular apprehension and application; and this work is designed to familiarize them to English-speaking readers. The entire system is here presented. Linguistic sounds of every variety — native, foreign, dialectic, etc. — are defined and exemplified; and “English as Spoken” — as well as the vocabulary pronunciation in- definitely indicated in dictionaries — is fully illustrated. This cosmopolitan scheme of speech-symbols cannot be

2 *INTRODUCTION.*

better propagated than by its application to exhibit the pure phonetics of the language of the two foremost nations in the world — Great Britain and America.

The explanation of Visible Speech symbols contained in the next section should be carefully perused, to enable the reader to profit by the unique property of the letters, in facilitating the acquisition of foreign sounds. The correlation of symbols to sounds will be found to be so close and obvious, that when the elements of any one language are learned, the pronunciation of any other language, will, through its Visible Speech letters alone, be mastered with ease and certainty.

The organic basis of the symbols is exhibited in the Frontispiece.

SECTION FIRST.

EXPLANATION OF THE VISIBLE SPEECH SYMBOLS AND CLASSIFICATION OF ELEMENTARY SOUNDS.

Here, every eye distinguishes at once the vowels from the consonants, and also perceives at a glance the number of syllables in each word, as every vowel forms a syllable.

Further, the ascent or descent of the vowel lines expresses a corresponding difference in the organic formation of the sounds. High lines denote sounds modified by a high position of the tongue; low and intermediate lines denote sounds modified by relatively lower positions of the tongue. Thus the reader sees that the vowels are all high in the words

αβγδεζηθικ
visible speech;

and that the first vowel is low, and the other vowels are intermediate, in the word

λωξηελο
alphabet.

Straight Lines and Curves.

IN connection with the preceding explanation of high and low lines, the reader will now note the principle that all vowel symbols consist of straight lines, and that all consonant symbols consist of curves.

The physiological bases of this principle of symbolization are:

- I. The linear form which the aperture of the glottis assumes in vocalization; for which reason a *straight* line is the sign of *voicc*.

II. The lines of curvature of the tongue and the lips in forming the different consonant elements (the face being turned to the right); on which account a *curve*, according to the direction in which it is drawn, is the sign of all the organs of *articulation*. Thus:

C ʁ ʊ ɔ ɔ̃
Back (of tongue). Top (of tongue). Point (of tongue). Lip.
[See *Frontoplane*]
Right and Left Signs.

AMONG ordinary letters, some have their distinctive parts on the right side, and some on the left, as:

b e f h k p r, etc.; a d j q y, etc.;

but the difference conveys no meaning. In Visible Speech letters, right and left have a distinct organic signification. All curves turned to the *right* represent consonants modified by the *lips*, as:

(Lip) ʁ ʃ ʒ ɔ̃ ɔ̃̃

All curves turned to the *left* represent consonants formed by the *back* of the tongue, as:

(Back) ʁ̃ ʃ̃ ʒ̃ ɔ̃̃̃

On the same principle "mixed" letters—combining one of the curves as primary with its opposite as secondary—show that the phonetic effect of the primary curve is modified by that of its opposite. Thus:

(Back-mixed) ʁ̃̃̃ (Lip-mixed) ʁ̃̃̃̃

In vowel letters, distinctive signs on the *right* side

of the straight line denote sounds modified by the front of the tongue, as:

(Front) **l l l l l** **f f f f f**

Distinctive signs on the left side of the straight line denote sounds modified by the back of the tongue, as:

(Back) **l l l l l** **j j j j j**

On the same principle, vowel letters which combine right and left signs denote elements that are modified simultaneously by both the back and the front of the tongue, as:

(Mixed) **l l l l l** **i f f f f**

Upward and Downward Curves.

IN accordance with the principle of symbolization explained at page 7, all upward curves represent consonants which are formed by the arched middle or top of the tongue, as:

(Top) **o ʊ ɔ ɑ**

All downward curves (the ends of which are turned upwards) represent consonants which are formed by the raised point of the tongue, as:

(Point) **u ʉ ɔ ɔ**

"Mixed" curves denote elements in which the effect of the primary curve is modified by that of its opposite, as:

(Top-mixed) **ɔ ʉ** (Point-mixed) **ʉ ɔ**

Divided Lines.

DIVIDED, or indented, curves denote consonants which have lateral or interstitial apertures for the emission of the breath, as:

(Divided) **ɛ ɛ ʉ ʉ ɔ ɔ ʒ ʒ**

The corresponding primary (or centre aperture) consonants are:

(Primary) **c c ɔ ɔ ʉ ʉ**

Divided, or barred, vowel lines denote sounds which have a double modification, being "rounded" by the lips as well as moulded by the tongue. Thus:

(Labialized or "Round" Vowels) **i i i i i** **f f f f f**

Closed Curves.

ALL open curves (C ʉ ʉ ʒ etc.) denote consonants in forming which the breath (modified by the symbolized organs) is freely emitted. Closed curves denote that the breath is stopped and shut in by the symbolized organs. Thus:

(Shut) **q ɛ ɔ ʉ ɔ ɔ** **g (back-top shut) t** **d p b**
p-t, ʒ

Vocalized Consonants.

THE difference between non-vocal and vocal consonants is uniformly expressed by a straight line

Throat Consonants.

BESIDES the consonants formed by the tongue and the lips, a few have their seat farther back—in the throat. These are:

- "Aspirate;" a simple and neatly silent aspiration. = h.
 0 "Throat;" a rough aspiration—the throat contracted = whisper.
 θ "Throat-voice"—the same, vocalized = hoarseness.
 X "Catch;" a stoppage of the breath by closing the throat = cough.

Modifiers.

THE normal alphabet of Visible Speech includes fifty-two consonants and thirty-six vowels; but these numbers are susceptible of indefinite increase by means of modifying signs to denote slight differences in the formation of the elements. Thus:

- { "Inner;" element formed farther *back* than the normal position.
 } "Outer;" " " " *forward* " " " "
 A "Closer;" " " " *more closely* " " " "
 Y "Opener;" " " " *openly* " " " "

These modifiers are rarely needed in the writing of languages, but they give a desirable power of minute accuracy, when it may be necessary. One common peculiarity of English utterance requires the use of the "outer" modifier; this is the formation farther forward than normally, of *k* and *g* in the words *kind*, *guard*, etc. The ordinary representation of this effect (*kec-kind*, or *kyind*), is an exaggeration.

EXPLANATION OF VISIBLE SPEECH SYMBOLS. 13

There is no *e* or *y* in the sound, but merely an anterior formation of the *k* or *g*. Thus:

○ k i n d

○ j y ɔ
 guard

Glides.

THE elements of speech include, besides vowels and consonants, a class of intermediate transitional sounds denominated "glides." In the syllables *day*, *air*, *die*, *boy*, *now*, *know*, etc., glides are heard as the second elements of diphthongs.

The principal glides are indefinite sounds of *y*, *w*, and *r*, as heard in the above words; but almost every vocal consonant may have its own approximating glide. A simple "voice-glide," without consonant approximation (I)—a non-syllabic effect of the vowel I—is very common in some dialects; as also the same element rounded (I); and a simple breath-glide (>)—a transitional breathing—is a characteristic of Irish utterance. The "breath-glide" differs from the aspirate *h*, in being an emission from a consonant position, and not directly from the throat.

Glide symbols are formed by combining a voice-line with the appropriate consonant curve. Thus:

y glide. r glide.

γ glide. w glide.

Clicks, &c.

The symbol < ("suction") denotes that the preceding element is formed with in-going air. Thus:

ɔ< sipping. ɔ< snuffing. O|<O| yawning.

The symbol · ("stop") denotes that the breath is held in while the organs retain the position for the preceding element. Thus:

ɔɔ|ɔ. stop (with the ɔ unfinished).

The symbol ◀ ("suction stopped") denotes an effort of suction, but without inhalation. Thus:

ɔ◀ vexation. ɔ◀ kiss.

The symbol ▶ ("emission stopped") denotes an effort of expiration, but without emission from the throat. Thus:

ɔ▶ smoker's puff.

The symbol | denotes lateral openings (or | a single lateral opening), after a shut position. Thus:

O| / finished by removing the sides instead of the point of the tongue. O| / finished by removing one side of the tongue. O|◀ driver's click to a horse.

The symbol } denotes vibration. Thus:

θ} Throat vibration—epiglottal trill. C} Back vibration—uvular trill. U} Point vibration—lingual trill. O} Lip vibration.

The symbol > denotes hiatus, as in separating the two words in the compound *bed-time*.

The symbol ' denotes abruptness.

The symbol † denotes the *holding* of a sound, or of an organic position. Thus:

(Long vowels) I† I†
" " "

(Held consonants) D†I O†J:W
" p u t d o w n (stammering ɔ and ɔ')

The symbol e ("to back") denotes that the tongue is inverted to the back of the mouth. Thus:

Oe◀ a click from the soft palate.

The symbol o ("to lip") denotes that the tongue is protruded to the lips. Thus:

O>O blowing an object from the point of the tongue.

The symbol + ("plus") denotes that the elements between which it is placed are pronounced simultaneously. Thus:

ŵ+ɔ / pronounced with the lips contracted.

ŵ+C / modified gutturally.

A symbol for "whistle" (⊖) and "vocalized whistle" (⊕) complete the scheme of organic modifiers.

The symbol ' ("stress") denotes an accented syllable; and the same sign inverted (˘), denotes an emphatic word. The stress symbols are placed on

SECTION SECOND.

PHONETICIZING.

THE various vowel and consonant symbols define fine positions of the tongue, lips, etc., and an outward effort of breath, or of voice, is *implied*, to phoneticize the symbols.

The following illustrations include all the elements in the Visible Speech universal alphabet.

PART FIRST.—CONSONANTS.

1. *Lip Consonants.*

THE symbol O ("lip") implies that the breath is compressed by passing between the approximated lips. The phonetic effect is that of

O *blowing to cool.*

Maintain the same position and sound the voice, and the effect will be that of "lip-voice."

O *w* (German).

Maintain the "lip-divided" position and draw back the tongue, (as for D) and

D is modified into..... D

D " " (gutturalized variety of f and v)..... D

Allow the lips to close entirely, and the effect will be that of "lip-shut."

D final D .

The sign D after a final D shows that the lips separate after closure, to give the consonant an audible completion. Thus:

D final D .

While the lips are closed endeavour to sound the voice—only a momentary murmur can be made—and the effect will be that of "lip-shut-voice."

D D final.

D D final.

Close the lips as before and allow the breath to escape through the nose, and the effect will be that of "lip (shut) nasal."

D non-vocal m .

Maintain the same position and sound the voice through the nose, and the effect will be that of "lip (shut) nasal-voice."

D m .

Maintain the same position and draw back the tongue, so as to form a cavity between it and the teeth, and the effect will be that of "lip-mixed."

D w/h .

Maintain the same position and sound the voice, and the effect will be that of "lip-mixed voice."

D w .

Adjust the labial aperture so that the breath is obstructed at the centre while it escapes at the sides, and the effect will be that of "lip-divided."

D f .

The normal mode of forming "lip-divided" is by placing the lower lip on the edges of the upper teeth; but the phonetic effect is almost the same if the centre of the lower lip is applied to the upper lip instead of to the teeth. This peculiarity would be represented by the sign D ("to lip") after the D .

The effect of "lip-divided" is also producible by placing the lower teeth on the upper lip. The modifier D "outer" after D would indicate this ungainly formation.

Retain the (normal) position for D and sound the voice, and the effect will be that of "lip-divided voice."

D v .

2. Back Consonants.

Approximate the back of the tongue to the soft palate, so as to squeeze the breath in the narrow guttural passage, and the effect of the "back" consonant will be heard:

C . . . *ch* (German *nach*, and Scotch *loch*).

The normal position of the tongue for C is at the middle of the soft palate; but the tongue may be depressed to the edge, or elevated towards the top, of the velum. These varieties are indicated by modifiers. Thus:

C_i "inner," or low formation.

C normal.

C_o "outer," or high formation.

Retain the position for C and sound the voice, and the effect will be that of the "back-voice" consonant.

€ $\left\{ \begin{array}{l} g \text{ in } \textit{auge} \text{ (German).} \\ r \text{ "grasseye" (French).} \\ r \text{ "burred" (Northumberland).} \end{array} \right.$

When the guttural *r* is trilled, its notation is:

€_i *r* (rough burr.)

The sound of € has the same varieties of high and low formation as that of C.

While sounding C or € allow the lips to approximate, and the effect will be heard of the "back-mixed" consonant.

C *gh* in *sough* (Scotch);

or of the "back-mixed voice"

€ labialized burr.

In forming the "back-divided" elements, the high back of the tongue intercepts the breath by pressing on the top of the soft palate, while emission takes place over the sides of the root of the tongue. The non-vocal form is:

€ hiss of water-fowl.

The vocalized form is:

€ *l* in *laugh* (Gaelic).

The "back-divided" position is difficult to unaccustomed organs; but the modification of a common *l* by guttural compression (the mixing of ω and C) is much easier, and in phonetic effect is almost the same. Thus:

$\omega + C$ nearly equal to €.

The "back-divided" consonants labialized are €_i; €_o. These do not occur as linguistic sounds.

Put the back of the tongue in close contact with

the soft palate, so as to stop the breath, and the effect is that of the "back-shut" consonant:

- Q.....k.
- Q>.....final k.

Maintain this shut position and endeavor to sound the voice (only a momentary murmur will result) and the effect is that of the "back-shut voice" consonant:

- Q.....g in go.
- Q>.....final g.

These "back-shut" elements have the same varieties of "inner" and "outer" formation as the primary back consonants. Thus:

- Q<..k "inner" or low. Q<..g "inner" or low.
- Q.....k normal. Q.....g normal.
- Q>..k "outer" or high. Q>..g "outer" or high.

Maintain the "back-shut" position and allow the breath to escape through the nostrils, and the effect is that of "back (shut) nasal."

- Q.....non-vocal ng.
- Maintain the same position and sound the voice through the nose, and the effect is that of "back (shut) nasal voice."

- Q.....ng

Differences of high or low formation of Q make scarcely any appreciable difference in phonetic effect. The Q in QfQ (sing) is naturally high, to assimilate with the high vowel f; and the Q in QfQ (song) is naturally low, to assimilate with the low vowel f. Differences dependent on such assimilations do not require to be written.

The normal position of Q and Q before J, J or I would be mid or low; but an Anglican peculiarity results from the use of high consonants before low vowels, as in QJkQ (kind), QJvQ (guard), QJw (girl), etc.

3. Top Consonants.

THE symbol O implies that the tongue is arched, the point depressed, and the top approximated to the roof of the mouth, while the breath is compressed between the tongue and the palate. The effect is that of the "top" consonant:

- O..... } ch in ich (German).
- } h in hue.

Maintain the same position and sound the voice, and the result is the "top-voice" consonant.

- Q.....y in ye, yet, you, etc.

"Inner" and "outer" varieties are formed by placing the top of the tongue backward towards

the commencement of the soft palate (Ō, Ō₁); or forward towards the upper gum (Ō, Ō₂).

While sounding Ō allow the fore part of the tongue to rise a little, so as to direct the breath forwards, and the effect will be that of the "top-mixed" consonant.

Ō..... { s/h. / ch (French).

Maintain the same position and sound the voice and the result will be the "top-mixed-voice" consonant.

Ō..... { (zh) in azure, measure, etc. / j (French).

"Inner" and "outer" positions affect the quality of these elements by approximating Ō to Ō₁ (Ō₁), or to Ō₂ (Ō₂).

Apply the top and front of the tongue to the roof of the mouth and the front wall of the palatal arch,—while the point is depressed behind the lower teeth,—and squeeze the breath over the high sides of the tongue, and the effect will be that of the "top-divided" consonant:

Ō.....defective form of s.

Maintain the same position and sound the voice and the result will be the "top-divided-voice" consonant.

Ō..... { g' in g'li (Italian). / i in colleen (Irish).

Apply the fore part of the tongue (between the middle and the point) to the rim of the palatal arch, and force the breath over the level sides of the tongue, and the hissing effect will be that of the "top-mixed-divided" consonant:

Ō.....ll (Welsh).

Maintain the same position and sound the voice and the result will be the buzzing sound of the "top-mixed-divided-voice" consonant:

Ō.....dhl (Zulu).

Apply the arched top of the tongue to the roof of the mouth so as completely to stop the breath, and the effect will be that of the "top-shut" consonant:

Ō..... { "cerebral" r (Sanskrit). / thick r.

Maintain the same position and endeavor to sound the voice (only a momentary murmur can

over the tip only, and the effect will be that of the "point" consonant.

o { non-vocal r.
 { r in *theatre* (French).

Maintain the same position and sound the voice, and the result will be the "point-voice" consonant.

o r in *ray, read, ride*, etc.

The passage of the breath over the end of the tongue produces more or less of a flutter of the organ. When this amounts to a trill, the sign of vibration is added. Thus:

o trilled r.

The phonetic quality of ω is greatly affected by "inner" and "outer" positions of the tongue. These are:

ω tip within the palatal arch.

ω (normal) tip pointed to rim of "

ω tip flattened towards upper gum.

Even the deformity of protruding the tongue to the upper lip in forming r (ω) is sometimes met with.

The sound of ω or ω is often substituted for that of ω ; and more frequently the "mixed" sound $\omega + \omega$ is heard instead of r. But the latter should be purely lingual, and without any modification from the lips.

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be made) and the result will be the "top-shut-voice" consonant:

o { "cerebral" d (Sanskrit).
 { g in *Magyar* (Hungarian).
 { thick d.

The audible removal of the tongue in pronouncing a final o or o is indicated by > after the consonant.

Apply the top of the tongue to the roof of the mouth as for o, and pass the breath through the nostrils, and the effect will be that of the "top (shut) nasal" consonant.

o "thick" n (non-vocal).

Maintain the same position and sound the voice and the result will be the "top (shut) nasal-voice" consonant.

o { gn in *Boulogne* (French).
 { thick n.

4. Point Consonants.

RAISE the point of the tongue towards the rim of the palatal arch and allow the breath to pass

30 SOUNDS AND THEIR RELATIONS.

While sounding O allow the front of the tongue behind the tip to become slightly convex, throwing the breath directly forward between the broadened point and the upper gum, and the effect will be that of the "point-mixed" consonant.

Os.

Maintain the same position and sound the voice, and the result will be the "point-mixed-voice" consonant.

Oz.

No elements are more affected than these by slight changes of organic adjustment. The principal varieties are:

- O_1, O_2 , close position, almost stopping the issue of breath.
- O_3, O_4 , open position, allowing too much breath to escape.
- O_5, O_6 , "inner" position, causing the sound to be approximated to O .
- O_7, O_8 , "outer" position, bringing the tip of the tongue too near the teeth.

Place the point of the tongue in contact with the rim of the palatal arch, leaving free passage for the breath, without friction, over the sides of

the tongue, and the effect will be that of the "point-divided" consonant:

O $\left. \begin{array}{l} \text{non-vocal } l. \\ l \text{ in } \textit{table} \text{ (French).} \end{array} \right\}$

Maintain the same position and sound the voice, and the result will be the "point-divided-voice" consonant.

O l .

The lateral apertures for O are so large, that the voice has almost the purity of a vowel; whence this element has been called a "semi-vowel." The nasals M (m) N (n) and Œ (ng) equally deserve that name, as the voice, in forming them, is unaffected by friction in the nostrils; but r , which is always fricative or vibratory before a vowel, has been wrongly included in the same category. The English custom of softening final r into a "glide" may have misled grammarians into the classifying of consonant r with l , as a "semi-vowel."

The "inner" and "outer" varieties of O are:
 O_1the point of the tongue within the palatal arch.

O_7the point of the tongue on the teeth.

Apply the edges of the tongue, all round, to the teeth, leaving only interstitial apertures for the breath over the sides of the tip, and the effect

will be that of the "point-mixed-divided" consonant.

ʒ.....*th* in *thin*.

Maintain the same position and sound the voice and the result will be the "point-mixed-divided-voice."

ʒ.....(dh) *th* in *then*.

[In the Inaugural edition of Visible Speech the symbols ʒ ʒ ʒ were associated with the sounds now assigned to ʒ ʒ ʒ, and vice versa. Experience has shown that the present arrangement is preferable.]

Apply the edges and point of the tongue to the rim of the palatal arch, so as entirely to stop the breath, and the effect will be that of the "point-shut" consonant.

ʒ.....*t*.

Maintain the same position and endeavour to sound the voice (only a momentary murmur can be produced) and the result will be the "point-shut-voice" consonant.

ʒ.....*d*.

The audible removal of the tongue from the palate to complete these elements when final is indicated by > after the ʒ or ʒ.

Apply the tongue to the rim of the palate, as for ʒ, and pass the breath through the nostrils and the effect is that of the "point (shut) nasal" consonant.

ʒ.....*n* (non-vocal).

Maintain the same position and sound the voice, and the result is the "point (shut) nasal-voice" consonant:

ʒ.....*n*.

"Inner" and "outer" varieties of ʒ ʒ ʒ are formed by applying the tongue to the front wall of the palatal arch (ʒ', etc.); or to the teeth (ʒ', etc.).

PART SECOND.—VOWELS.

ALL persons can pronounce separately the "long" or "name-sounds" of the common vowel letters,

A, E, I, O, U;

but few persons can, with the same definiteness, sound independently the so-called "short" vowels:

æ, ê, î, ô, ü.

This power should be acquired in reference to all vowels. It will be found the readiest means of cultivating the ear and organs of speech, for the recognition and reproduction of foreign sounds.

Local habit associates certain peculiarities of "quantity" or "quality" with familiar elements; but these characteristics should be lost sight of in the attempt to individualize the vowels of the Visible Speech scale. "Long" O and A, for example, are diphthongal in English usage; but the reader must learn to detach the radical vowel from its "glide" termination, and to pronounce the former by itself. This is often difficult at first, but facility of analysis will result from practice.

The difference between vowel sounds separately pronounced, will sometimes appear so slight that the ear may be perplexed to discriminate them; but in the compounds of speech the minutest shades of elementary variety create unmistakable distinctions.

Each of the vowels in the following series should be made the subject of exercise, until it can be pronounced "long" or "short" in quantity, and unchanged in quality.

I. *Front Vowels.*

"*High-Front*" I. The position of the tongue for this vowel is the same as that for the "top" consonant Ө. The phonetic difference between I and Ө is, that, for the vowel, the voice is unaffected by friction in the oral aperture; while, for the consonant, the vocal sound is modified by friction or buzzing in the oral aperture.

This vowel is always long in English accented syllables. It is the alphabetic, or name-sound of the letter E.

I.....(long) *ee* in *feel*.

I.....(short) *i* in *fille*. (French)

"*High-Front-Wide*" I. The position of the tongue for this sound is almost the same as that for I. The phonetic difference arises chiefly from the

addition of "wide" formation (explained at p. 10) which has the effect of *dulling* the quality of primary vowels.

This vowel is always short in English. It is the regular sound of "short I."

ɪ.....(long) *i* in *ill* (American).
 ɪ.....(short) *i* in *ill*.

"*Mid-Front*" ɪ. In forming this vowel, the aperture between the tongue and the palate is farther back than for ɪ, and the cavity in front of the tongue is, in consequence, enlarged.

In English accented syllables this vowel is always followed by the *y*-glide (ʏ), forming the diphthong ɪʏ, as in *day*, *name*, *late*, *aid*, etc. The diphthong ɪʏ is never pronounced before *r*. ɪʏ is the alphabetic name-sound of the letter A.

ɪ.....(long) *a* in *day* (Scotch).
 ɪ.....(short) *e* in *est* (French).

"*Mid-Front-Wide*" ɛ. The dulling effect of "wide" formation is very manifest in this, as compared with the primary element. This sound is used instead of the preceding, before *r* (*r*-glide), as in *care*, *air*, *bear*, etc.; but many speakers pronounce the broader ɛ in these cases. ɛ is also heard instead of ɪ, in the unaccented syllables *-er*,

-ence, *-less*, *-ment*, etc. This is the regular Scotch sound of *i* in *ill*, *him*, etc.

ɪ.....(long).
 ɪ.....(short) *i* in *ill* (Scotch).

"*Low-Front*" ɛ. The aperture between the tongue and the palate for this sound is farther back than for the "Mid-front" vowels, and the cavity in front of the tongue is consequently larger. This is the regular sound of "short E" in English.

ɛ.....(long) *é* in *bête* (French).
 ɛ.....(short) *e* in *let*.

"*Low-Front-Wide*" ɛ. The formative aperture of this vowel is about the same as of the preceding, with the addition of a wide pharyngeal cavity. This is the regular sound of "short A" in English.

ɛ.....(long) { *a* in *half* (Irish).
 ɛ.....(short) *a* in *man* (American).
 ɛ.....(short) *a* in *hat*.

2. Back Vowels.

"*High-Back*" ɔ. There is no occurrence of this sound in English, but its "round" or labialized form is the common sound of *oo* in *room*. En-

deavour to pronounce this sound of oo, without using the lips, and the "High-Back" vowel will be heard. In this way, an unfamiliar and unknown elementary sound will be at once, and with uniformity, obtained from every mouth.

There is, however, a possibility of imitating "round" quality without using the lips (as practised by ventriloquists) and it will be well, therefore, in order to prevent involuntary inner rounding, to delabialize oo, etc., by spreading the lips with the fingers, during early experiments.

- 1. (long) ao in *laogh* (Gaelic).
- 1. (short).

"High-Back-Wide" 1. Endeavour to pronounce the sound of oo in *good*, without using the lips, and the "High-Back-Wide" vowel will be the result. The sound will be observed to resemble u in *up*; and Cockney speakers always pronounce this "wide" sound for "short U" (instead of J) even in accented syllables. Unaccented ü—as in the terminations *-tion*, *-tions*, *-gious* etc.—usually takes "High-Back-Wide" quality.

Pronounce the terminations *-tion*, *-tions*, etc., in contrast with similar syllables under accent, and the resemblance and slight difference will be appreciated. Thus:

᠋᠋᠋᠋ ᠋᠋᠋ ᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋
 passion shun; valour lurks;

᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋
 honour's nurse; labour burdened;

᠋᠋᠋᠋᠋᠋ ᠋᠋᠋᠋᠋᠋ ᠋᠋᠋᠋᠋᠋ ᠋᠋᠋᠋᠋᠋ ᠋᠋᠋᠋᠋᠋ ᠋᠋᠋᠋᠋᠋
 perillous lustre; courageous justice.

- 1. (long) u in *turn* (Cockney).
- 1. (short) ou in *-ous* etc.

"Mid-Back" J. This is the regular sound of "short U" in English, as in *up*, *turn*, *come*, etc. Those who find a difficulty in pronouncing the vowel by itself will obtain it unconsciously by endeavouring to form the sound of "long O" without using the lips.

- J. (long) { u in *turn*.
- J. (short) u in *up*. (American).

"Mid-Back-Wide" J. The precise quality of this vowel will be obtained by endeavouring to pronounce o in *ore* (ð) without using the lips.

The sound resembles ah, but is not so deep in formation. It is heard in English chiefly before the double consonants *ss*, *sk*, *sp*, *st*, etc., as in *pass*, *task*, *clasp*, *fast*, etc.; but is not uniformly associated with any orthography.

Note the different vowels in the following words:

᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋ ᠋᠋᠋᠋
 glass, gas; path, hath; aunt, ant.

Unaccented *a* as in *abode, sofa*, etc., takes this sound in careful utterance; but the less definite sound *ɪ* (see "Mid-Mixed-Wide") is more usually heard in these cases.

Jɪ.....(long) *a* in *path*.
J.....(short) *a* in *pathetic*.

"Low-Back" *J*. This deep hollow sound does not occur in English. It is the regular sound of "short U" in Scotch, as in *up, come*, etc. The "round" or labialized form of this vowel (*ʏ*) is the common English sound of *æw* in *law, a* in *all*, etc. Endeavour to pronounce the word *awe, without using the lips*, and the "Low-Back" vowel will be the result.

This sound is difficult to unaccustomed organs, but by the above analytic experiment it will be obtained at once from any English speaker.

Pronounce the following contrasts:

ɔɪə ɪɔ (Cockney).
ɔɪə ɪɔ (normal English).
ɔɪə ɪɔ (Scotch).
Jɪ.....(long) *u* in *ugh* (Scotch).
J.....(short) *u* in *up* (Scotch).

"Low-Back-Wide" *J*. This sound—the broadest of all vowels—is heard chiefly before *r* and silent *l* in English, as in *arm, alms* etc. It occurs also in *father*, and only a few other words.

The "round" form of this vowel is the sound of *ø* in *on, order*, etc. Endeavour to pronounce the latter vowel, *without using the lips*, and the "Low-Back-Wide" vowel will be the result.

Jɪ.....(long) *ah*.
J.....(short) *man* (Scotch).

3. Mixed Vowels.

The term "Mixed" means that the qualities of "Back" and "Front" vowels are combined in the intermediate or "Mixed" varieties. Thus: endeavour to modify the "Mid-Front" (*æ*) by simultaneously sounding the "Mid-Back" (*ʏ*), and the result will be the "Mid-Mixed" vowel—the sound of "e mute" (French) as in *dé, lé, que*, etc. Thus:

Jɪ+l=ɪ

The "Mid-Mixed-Wide" vowel is the central or neutral point in the vowel scale, being the sound that is naturally produced when the organs are perfectly at rest. The ordinary English pronunciation of the Article "*a*" exemplifies this neutral sound.

"High-Mixed" *I*. This vowel is never heard in English, but is characteristically American, being the regular sound of *e* and *i* in *her, sir* etc. By "mixing" the "High-Front" (*ɛ*) with the "High-

Back" (delabialized oo), the "High-Mixed" sound will be produced.

The process of "mixing" is not so easy at first, as that of "rounding" or "unrounding;" but after a little practice, the effort to blend the two vowels will be successful in evolving the appropriate "mixed" quality. Thus:

1+I=I
I+.....(long) i in *sir* (American).
I.....(short).

"High-Mixed-Wide" I. This vowel will be produced by "mixing" the "High-Front-Wide" (i) with the "High-Back-Wide" (delabialized oo in good). The sound is very common in English unaccented syllables, although it has never been recognized by orthoepists. The High and Mid-Front vowels (unaccented) all tend to this sound in careless utterance; as in *return*, *limit*, *saint* Paul's, *captain*, *there* is, etc. If a score of persons were asked to pronounce the Article "the" by itself—or to sing it—they would probably illustrate half the gamut of High and Mid vowels; yet nineteen of the twenty would pronounce the word with hardly a shade of difference as an unaccented particle in a phrase, as:

W I ʒ W W I ʒ W W I ʒ W W I ʒ W
the one, the man, the thing.

This habitual pronunciation of unaccented "the" illustrates the "High-Mixed-Wide" vowel.

The plural termination -es,—as in *laces*, *leases*, *ashes*, etc.—has the same sound, but -es as part of a verb does not exhibit this tendency, being generally pronounced with "Mid-Front-Wide" vowel. Thus:

(nouns) D W [ʌ] I ʒ W ʒ I ʒ W ʒ I ʒ W ʒ I ʒ W
places, wishes, watches.
(verbs) D W [ʌ] I ʒ W ʒ I ʒ W ʒ I ʒ W ʒ I ʒ W

The word "pretty"—marked "pritty" in pronouncing dictionaries—is more usually heard with the "High-Mixed-Wide" vowel. Thus:

D W I ʒ I
pretty.

The tendency of all unaccented vowels is from strong to weak, (i. e., from "primary" to "wide") and from definite to neutral (i. e., from "Front" or "Back" to "Mixed"); also from lower to higher. Under the influence of these tendencies, the "High-Mixed-Wide" is one of the commonest vowels in speech.

I+.....(long).
I.....(short) *the*.

"Mid-Mixed" I. This is not an English sound, but it is very common in the dialects of Ireland, being given to almost all unaccented vowels indiscriminately, as in *genuine*, *reply*, *ordinary*, *average*, *wickedness*, *entice*, *elephant*, etc.

lips. Ventriloquists form their *o* and *oo* in this manner.

The possibility of an inner "rounding" is to be borne in mind in making the experiments on "unrounding," as directed under the head of "High-Back" "Low-Back" etc.

All Round-vowel letters have divided, or barred, stems (F), to denote the double modification of the sounds.

Every lingual vowel may be rounded; but the "Back"-vowels furnish the only English elements of this class. Some of the "Mixed" series occur as unaccented sounds.

The "Front-Round" vowels are common in French and German.

The degree of labial contraction corresponds with the aperture of the lingual vowel as modified by the high, mid, or low position of the tongue. Thus "high" vowels are rounded by a *close* position of the lips; "mid" vowels by an *intermediate* position; and "low" vowels by a *broad* labial aperture; as in:

<i>close</i>	<i>middle</i>	<i>broad</i>
oo,	oh,	aw.

1. Back-Round Vowels.

"High-Back-Round" ɔ̄. This is the sound of "long Oo" in English, as in *oese*, *fool* etc. U in German, (as in *huck*), and *ou* in French, (as in *toijours*), have the same sound.

Note that the "name sound" of the letter U is a compound of Y and oo, =yoo. At the beginning of a word or syllable, the y-sound is definitely consonantal, as in ʉhʉʉʉʉ (union); but otherwise the y is frequently softened into a "glide," as in ʉhʉʉʉʉ (tune).

When writers use the article *an* before "long U" they are misled by the vowel *letter*. The initial sound is a consonant, and *a* should be written, as in *a unit*, *a usage*, *a universe*, etc. We might as well write *an joke*, *an year*, as *an union*.

ɔ̄.....(long) oo in *foad*.
 ɔ̄.....(short) oo in *foad* (Scotch).

"High-Back-Wide-Round" ɔ̄. This is the sound of "short Oo" in English, as in *foot*, *good*, *put*, etc. *Oo* before glide *r*, as in *poor*, *sure*, etc. has the same quality. In such words as *poorer*, *fury*, etc. a "voice glide" is interpolated between the vowel and the consonant *r*. This Anglican peculiarity occurs wherever consonant *r* follows a long vowel; as in:

ʉhʉʉʉʉ ʉhʉʉʉʉ ʉhʉʉʉʉ ʉhʉʉʉʉ
 nearest, vary, glory, fury, moorish
 ɔ̄.....(long).
 ɔ̄.....(short) oo in *foad*.

"Mid-Back-Round" ɔ̄. This is the sound of "long O" in Scotch; as in *go*, *old*, etc. In Eng-

lish accented syllables this vowel is always diphthongal, by the addition of the "w-glide." Thus:

ʒ	ʒw	ʒw	ʒw	ʒw
{ O.	{ no.	{ bold,	{ groan,	{ grow.
{ Oh.	{ know.	{ bowled.		

In America this vowel is generally used without the final glide.

ʒ̄.....(long) o in *note* (Scotch).
 ʒ̄.....(short) o in *note* (Scotch).

"Mid-Back-Wide-Round" ʒ̄. This sound is used before *r* in English instead of the preceding diphthongal *ē*; as in:

ʒ̄r	ʒ̄r	ʒ̄r	ʒ̄r
{ oar,	{ soar,	{ pour,	{ door.
{ ore.	{ sore.	{ pore.	

Unaccented O, as in *eloquence, political*, etc., takes the same quality in careful utterance; but the less definite ʒ̄ is the common colloquial sound of unaccented *o*.

Distinguish between the following words:

Dissyllables:	ʒ̄rʒ̄r	ʒ̄rʒ̄r	ʒ̄rʒ̄r
	mower,	lower (adj.),	sower.
Monosyllables:	ʒ̄rʒ̄r	ʒ̄rʒ̄r	ʒ̄rʒ̄r
	more,	lore.	sore.

In America this "wide" *ō* is not used, but the

words *old* and *ore* are pronounced with the same vowel.

ʒ̄.....(long) o in *ore*.
 ʒ̄.....(short) o in *opinion*.

"Low-Back-Round" ʒ̄. This is the deep broad sound of *a* in *all, aw* in *law*, etc.

ʒ̄.....(long) a in *all*.
 ʒ̄.....(short) a in *what*.

"Low-Back-Wide-Round" ʒ̄. This is the regular sound of "short O" in English, as in *on, off, or*, etc. The same sound is usually heard in *was, wash, want, what*, etc.; but many speakers give the stronger quality of the preceding vowel in these words.

ʒ̄.....(long) o in *on* (American).
 ʒ̄.....(short) o in *on*.

2. Front-Round Vowels.

THIS series of vowels is altogether wanting in English, although very common in other languages, as in French, German, Greek, etc. Early English was, however, familiar with some of the Front-Round vowels. In Mr. A. J. Ellis's reproduction of Shakespearian pronunciation, the letter *u* in

"*attribute*" (noun) is sounded like the German *ü*. Thus: **ʃʊʋfəfio**.

The "Mid-Front-Round" vowel is one of the most prominent sounds in lowland Scotch, as in *gude* (good), *soon*, *moon*, etc., pronounced:

əfʊ ʋfʊ ʋfʊ etc.

"*High-Front-Round*" **ɤ**. This sound will be produced by pronouncing *ɛ* through the labial aperture of *oo*. The result will be the regular sound of *ü* in German.

ɤ.....(long) *ü* in *über* (German).
ɤ.....(short) *ü* in *glück* (German).

"*High-Front-Wide-Round*" **ɤ̄**. This sound will be produced by similarly contracting the lips while the vowel *ɛ* is pronounced. It is the sound of *u* in French, as in *une*, *du*, etc.

ɤ̄.....(long).
ɤ̄.....(short) *u* in *une* (French).

"*Mid-Front-Round*" **ɛ̄**. This sound will be produced by contracting the lips as for *ɛ̄* while the vowel *ā* is pronounced. It is the sound of *u* in French, as in *dū*, *būt*, etc. This is the Scotch vowel referred to above.

ɛ̄.....(long) *u* in *būt* (French).
ɛ̄.....(short) *u* in *gude* (Scotch).

"*Mid-Front-Wide-Round*" **ɛ̄**. This variety is not definitely associated with any orthography, but it is frequently heard from individual speakers of French and German. An exact analysis of the pronunciation of these languages—corresponding with what is here done for English—would no doubt reveal established discriminations in practice between shades of "Front-Round" vowel quality which are now confounded under representative forms.

ɛ̄.....(long).
ɛ̄.....(short).

"*Low-Front-Round*" **ɛ̄**. This sound will be produced by rounding the lips as for *aw* while the vowel *ɛ̄* (as in *ell*) is pronounced. This is the sound of *eu* in French, and of *ö* in German.

ɛ̄.....(long) { *eu* in *peur* (French).
ɛ̄.....(short) { *ö* in *schöne* (German).

ɛ̄.....(short) { *eu* in *jeune* (French).
ɛ̄.....(short) { *ö* in *stöcke* (German).

"*Low-Front-Wide-Round*" **ɛ̄**. This sound will be produced by adjusting the lips as for *ɛ̄* (in *on*) while the vowel *ā* (in *an*) is pronounced. This vowel occurs as a Cockney substitution for the

diphthongal sound of *ou*, *ow*, (ʒ) as in *out*, *now*, etc. Thus:

ʋɪʋ ʋɪʋ ʋɪʋ ʋɪʋ
round, about, town.

3. Mixed-Round-Vowels.

THE "Mixed-Round" vowels never occur as accented sounds in English, but they are very commonly used in place of the more definite "Back-Round" vowels in unaccented syllables.

"High-Mixed-Round" ɪ. This sound will be obtained by "mixing" ɪ (# Ger.) and ɪ (oo); or by sounding oo and at the same time raising the front of the tongue. The latter will be the easier mode for English learners. The result is a vowel commonly used instead of oo in the North of Ireland. It has also been identified as the sound of *u* in Swedish.

ɪ.....(long) oo in *too* (North Irish).
ɪ.....(short) oo in *look* (North Irish).

"High-Mixed-Wide-Round" ɛ. This sound is colloquially heard in English instead of oo in unaccented syllables, as in *awful*, *fissure*, *nature*, *fortune*, etc.; pronounced:

ɛɪʋ ɛɪʋ ɛɪʋ ɛɪʋ

This vowel will be separately produced by sounding oo (as in *good*) and at the same time slightly raising the front of the tongue.

ɪ.....(long).
ɪ.....(short) u in *awful* (Colloq.).

"Mid-Mixed-Round" ɔ. This sound will be produced by mixing ɔ (ø) and ɔ (# Fr.); or by sounding ø and at the same time slightly advancing the tongue. The vowel is heard in dialects, as in *come* (Yorkshire), *Dublin* (Irish), and in *homme* (French).

ɔ.....(long) u in *Dublin* (Irish).
ɔ.....(short) ɔ in *homme* (French).
ɔ.....(short) ɔ in *come* (Yorkshire).

"Mid-Mixed-Wide-Round" ɔ̄. This sound will result from "mixing" the qualities of ɔ (o in *ore*) and ɔ (labialized a in *air*); or it will be produced by pronouncing o (in *ore*) and at the same time slightly advancing the tongue. The vowel, while destitute of any marked quality, is sufficiently suggestive of o to satisfy the ordinary ear in unaccented syllables, as in *eloquence*, *philosophy*, *opinion*, etc. Careful speakers, however, give the more definite ɔ̄ in such cases.

SECTION THIRD.

RECAPITULATIVE TABLES,

ENGLISH ALPHABETIC TABLES,

AND

ELEMENTARY EXERCISES.

SECTION THIRD.

RECAPITULATIVE TABLES, &c.

Table of Consonants.

THE fifty-two consonants of the Universal Alphabet are collected in the following Table for convenience of reference.

NON-VOCAL.			
Primary.	Mixed.	Divided.	Shut. Nasal.
Throat	O	0	.....X.....
Back	C	.....E.....	.....G
Top	.....Q.....	.....N.....	.....D.....
Point	.....V.....	.....W.....	.....D.....
Lip	.....S.....	.....Z.....	.....D.....
VOCALIZED.			
Throat	.....e.....	.....	.....
Back	.....e.....	.....e.....	.....e.....
Top	.....e.....	.....e.....	.....e.....
Point	.....e.....	.....e.....	.....e.....
Lip	.....e.....	.....e.....	.....e.....

Table of Vowels.

THE Vowels of the Universal Alphabet are collected in the following Table for reference and exercise. Other possible shades of vowel sound may be expressed, for experimental purposes, by means of the modifiers { } ^ v; but the thirty-six normal vowels will be found amply sufficient for all linguistic uses.

	PRIMARY.			WIDE.		
	Back.	Mixed.	Front.	Back.	Mixed.	Front.
High	ɪ	ɪ̃	ɪ̂	ɪ	ɪ̃	ɪ̂
Mid	ɛ	ɛ̃	ɛ̂	ɛ	ɛ̃	ɛ̂
Low	ɔ	ɔ̃	ɔ̂	ɔ	ɔ̃	ɔ̂
High	ɪ	ɪ̃	ɪ̂	ɪ	ɪ̃	ɪ̂
Mid	ɛ	ɛ̃	ɛ̂	ɛ	ɛ̃	ɛ̂
Low	ɔ	ɔ̃	ɔ̂	ɔ	ɔ̃	ɔ̂

Table of Glides.

THE phonetic value of the Glides is illustrated by key words in the following Table.

Breath..... >	as in D-ſe, Nig (Irish).
Voice..... 1	ʒiʋſ, vary; ʒiʋſ, weary.
Round..... †	ʋiʋ new (Cockney).
Throat..... ‡	ʒi are
Back..... ‡	ʒi " (Varieties of
Back Round ‡	ʒi our } smooth Burr.)
Top..... ‡	ʋiʋ die, ʋiʋ boy, ʋiʋ day.
Top Round ‡	ʋiʋ new (North Irish).
Point..... ‡	ʒi are, ʒi or, ʒi our.
Point Round ‡	ʒi our (Common).
Lip..... ‡	ʋiʋ lui (French).
Lip & Back ‡	ʋiʋ new, ʋiʋ know, no.

Table of Modifiers, Etc.

Inner..... {	Inverted..... c	Hiatus..... >
Outer..... }	Protruded..... >	Abrupt..... †
Close..... †	Stop..... †	Holder..... †
Open..... †	Suction..... <	Accent..... †
Trill..... }	Emission..... >	Emphasis..... †
Nasal..... }	Suction stopped..... <	Whistle..... o
Side open... }	Emission "..... >	Voiced do... o

SECTION FOURTH.

ENGLISH AS SPOKEN,

AND

MISCELLANEOUS ILLUSTRATIONS.

SECTION FOURTH.

ENGLISH AS SPOKEN.

THE most cursory perusal of the preceding scheme for the analysis and representation of sounds will, at least, have communicated to the reader a knowledge of many elementary distinctions and relations, of which ordinary letters could have conveyed no idea. Students of Phonetics will recognize the completeness of the system and the simplicity of the symbols; and they will appreciate the practical assistance to be derived from letters of absolute phonetic value, and of self-interpreting correlation to sounds. Nothing less than a thorough study of the Universal Alphabet, and its hearty adoption, may be expected from this class of readers.

Among the following illustrations will be found specimens of English pronunciation: first, in vocabulary style; and, second, in colloquial style; besides passages in dialects and in French and German.

No better proof could be furnished of the lin-

guistic importance of Visible Speech than its power of representing the nice shades of sound which the ear distinguishes in English unaccented syllables.

The common Roman alphabet is too imperfect for phonetic purposes. Spelling reformers meet with insurmountable opposition in their efforts to phoneticize orthography. The primary source of the difficulty lies in the insufficiency of the alphabet. For many of our consonant sounds we have no letters, and for all our vowel sounds we have but five letters. The consequence is that individual letters have to be associated with a variety of sounds, and that combinations of letters have to be used for simple sounds. The letters of a word thus form an ideographic picture, and the change of a letter, or the omission, or addition, of a letter, alters the familiar outline, and the word—however phonetically improved—looks strange, uncouth, or comical. There can be no satisfactory spelling reform without an amendment of the alphabet.

Let this system of VISIBLE SPEECH be adopted as an *interpreter* of common letters, and the two modes—the ideographic and the phonetic—may be used together. Children would be taught to read from the phonetic characters in fewer days than Roman letters require months; and,—this power once acquired,—the historico-pictorial representation of words by Roman letters, would be

introduced without confusion; and would then be learned with facility and pleasure. Good spelling would become the rule, not the exception, among children—for the memory for spelling lies altogether in the eye:—and the double process of learning to read phonetically and romanically, and to spell well, would not occupy half the time now required to make bad readers and worse spellers.

The illustrations in preceding sections will have familiarized the eye with the forms of Visible Speech letters, so that interlinear transliteration might now be dispensed with; but, as the object is to make the reader expert in the use of the symbols in as short a time as possible, the ordinary letters are interlined throughout the subsequent Exercises.

Phonetic *syllabication* is shown in the Visible Speech portion of the next illustration. Let the reader try to divide the romanically printed words in the same way, and he will prove experimentally that common orthography cannot be used phonetically.

I. Vocabulary Style.

MEANS OF ACQUIRING DISTINCTION.—Sydney Smith.

to be able to do so is natural in every man to wish for distinction; and the praise of those who can confer honor by their praise, is, in spite of all false philosophy, sweet to every human heart; but, as eminence can be only the lot of a few, patience of obscurity is a duty, which we owe not more to our own happiness than to the quiet of the world at large. Give a loose, if you are young and ambitious, to that spirit which throbs within you; measure yourself with your equals, and learn from frequent competition the place which nature has allotted to you; make of it no mean battle, but strive hard: strengthen your soul to the search

of truth, and follow that spectre of excellence which beckons you on, beyond the walls of the world, to some thing better than man has yet done. It may be you shall burst out into light and glory at the last; but if frequent failure convince you of that mediocrity of nature which is incompatible with great actions, submit wisely and cheerfully to your lot; let no mean spirit of revenge tempt you to throw off your loyalty to your country, and to prefer a vicious celebrity to obscurity crowned with piety and virtue. If you can throw new light upon moral truth, or by any exertions multiply the comforts or confirm the happiness of mankind, this same guides you to the true ends of your nature; but, in the name of heaven, as you tremble at retributive justice;

ually joined to a word beginning with a vowel; as *for ever, prefer it*, etc.

These points will be found illustrated in the following Examples of the Colloquial style. The passage already given to illustrate the Vocabulary Style is repeated, in order the better to exhibit the differences by comparison.

MEANS OF ACQUIRING DISTINCTION.—*Sydney Smith.*

It is natural — in every man — to wish for distinction; — and — the praise — of those who can confer honor by their praise — is, — in spite of all false philosophy, — sweet — to every human heart; — but, — as eminence — can be only the lot of a few, — patience of obscurity — is a duty — which we owe — not more to our own happiness — than to the quiet of the world at large. — Give a loose, — if you are young and ambitious: — to that spirit — which throbs within you;

measure yourself — with your equals, — and learn — from frequent competition — the place — which nature has allotted to you; — make of it no mean battle, — but strive hard; — strengthen your soul — to the search of truth, — and follow that spectre of excellence — which beckons you on, — beyond the walls of the world, — to something better — than man has yet done. — It may be — you shall burst out — into light and glory — at the last — but — if frequent failure — convince you — of that mediocrity of nature — which is incompatible with great actions — submit — wisely and cheerfully — to your lot; — let no mean spirit of revenge — tempt you — to throw off your loyalty to your Country, — and to prefer a vicious celebrity — to obscurity — crowned with piety and virtue. — If you

idea that I was doing so. I was very sorry for it afterwards. Will you shake hands?"

"Shake hands!" cried the good humored Yorkshireman; "ah that I weel!" at the same time he bent down from the saddle, and gave Nicholas's fist a huge wrench. "But what be the matter wi thy feace munn? it be all broken loike."

"It is a cut," said Nicholas, turning scarlet as he spoke,— "a blow; but I returned it to the giver, and with good interest too."

"Nos, did ee thought?" exclaimed John Browdie. "Well deane! I loike 'un for that."

"The fact is," said Nicholas, not very well knowing how to make the avowal, "the fact is that I have been ill treated."

"Nos?" interposed John Browdie in a tone of compassion;

for he was a giant in strength and stature, and Nicholas very likely, in his eyes seemed a mere dwarf; "dean't say that."

"Yes, I have," replied Nicholas, "by that man Squeers, and I have beaten him soundly, and am leaving this place in consequence."

"What!" cried John Browdie with such an ecstatic shout that the horse quite shied at it, "Beaten the school-measter! who ever heard o' the loike o' that noo? Give us thee hond agen, youngster. Beaten the schoolmeaster! Dang it, I loov thee fort."

With these expressions of delight, John Browdie laughed and laughed again—so loud that the echoes, far and wide, sent back nothing but jovial peals of merriment—and shook Nicholas by the hand, meanwhile, no less heartily.

SECTION FIFTH.

SUPPLEMENTARY REVIEW

OF THE

ESSENTIALS OF ARTICULATION.

THE various workings of the mouth exhibited by different speakers, and the violent efforts of tongue, jaw, and head displayed in cases of stammering, show that no clear idea is generally entertained as to the efficiency or otherwise, of certain organic actions in the production of speech. When one person pushes out the lips where another keeps them quiescent; when one closes the jaws where another widely opens them; when one thrusts out the tongue where another keeps it invisible, there can be, manifestly, but little positive knowledge of the essentials of articulation.

The mouth, so far as speech is concerned, is properly to be considered as a mere tube, or funnel, for the delivery of vocal sounds. The sounds themselves are formed in the throat, and the propulsive power is exerted from the diaphragm at the base of the lungs. The cavity of the mouth-

92 tube is susceptible of a great variety of minute modifications which affect the quality of the issuing sounds, but the mouth as a whole, however modified in its channel, is almost passive to the flow of speech.

Let the stammerer carefully note this principle. When fully apprehended it will give complete control over his wayward organism. It is, in fact, the one principle on which success depends in the removal of impediments of speech.

The mouth serves other purposes than those of moulding sounds. Its massive lever—the jaw—with the attached cutting edges, and grinding surfaces—the teeth—belong to the masticating and not the speaking apparatus. We eat with the jaw in mastication is from open to close positions; in speaking, its motion must be—simply to keep it out of the way—from close to open.

Mistaken ideas as to what are, and what are not, organs of speech are not confined to stammerers and merely instinctive speakers. Even students of Phonetics seem to participate in error on this point. Thus, some have added to the Visible Speech Symbols signs for parts of the mouth—such as the teeth—which are not separately represented in the original scheme. The physiological function of the teeth has been referred to: the statement must now be added that the teeth are

93 not essential to the articulation of any element. The so-called "dentals" really result from a definite adjustment of the plastic parts of the mouth, and can be satisfactorily produced by one "without a tooth in his head." When a sound is said to be modified by the "back," the "top," or the "point" of the tongue, the palate against which the tongue necessarily acts is implied without notation. The fixed parts of the mouth, which the speaker has no power of moving, are thus unrepresented by special symbols. The teeth are fixed to the jaws, and the only articulative action of the movable jaw is to keep itself out of the way of the issuing sounds. Only the modifications of the lips, and the soft organs within the mouth, require to be symbolized in order to the reproduction of a sound from the writing. The symmetry of the system of Visible Speech is needlessly disturbed by the introduction of arbitrary signs. This would be a minor consideration were such signs of practical importance; but the fact is that the sound has yet to be uttered which cannot be expressed by the ordinary symbols of Visible Speech so as to be reproduced from the writing by any competent reader of the system.

The essential organs of speech are the diaphragm and lungs—the larynx—the pharynx and soft palate—the tongue—and the lips. The proper management of these requires skill, and their misman-

agement involves discomfort, inefficiency, and often more serious consequences.

The healthful inflation of the lungs should expand them in all directions, but principally downwards; and the expansion of their base should perceptibly flatten the diaphragm. The walls of the chest—the ribs—should contract but little, even in strong expiration, but the diaphragm should press the lungs upwards to give impulse to the breath in speech. The lungs should be frequently and noiselessly replenished, and they should never be pressed to exhaustion before replenishment.

The larynx—the organ of voice—should be free to rise or fall without affecting, or being affected by, the "pillar-muscles" of the neck. For this purpose the neck must be firm, and the chin held horizontal. These conditions are important in cases of weak voice, and most important to stammerers, to check the rolling and upward motion of the head which accompanies their efforts to speak.

The pharynx is the expansible cavity above the windpipe and at the back of the mouth, into which—behind the soft palate—the nasal passages open. Any obstruction of the breath within the mouth,—as in forming *p*—*b*, *t*—*d*, etc.—should expand the pharynx, so that when the obstruction is removed a degree of percussiveness should be perceptible from the point of obstruction. The same effect, in a less degree, is heard from good speakers, in

pronouncing *s*, *f*, *l*, and other continuous consonants. The soft palate should completely cover the inner end of the nostrils, except in forming nasal sounds. The firmness of the neck before referred to is necessary to give effective play to the muscles of the pharynx.

The most important agents in the moulding of articulate sounds are the tongue and the lips. The configurations of the mouth-channel resulting from the positions of these organs can only be understood in connection with the Visible Speech symbols. A brief supplementary review of the leading consonant formations will assist the student in mastering the relations between sounds and symbols.

The normal positions on the palate for positions of the "back," "top," or "point" of the tongue are those which are directly opposite to the same parts of the tongue while the latter lies at rest. Thus:

- Back normal position*—centre of soft palate.
- Top* " " —centre of palatal arch.
- Point* " " —upper gum.

The signs for posterior formation (1) and for anterior formation (2) have then the following values:

Back { *posterior*—edge of soft palate.
anterior—junction of soft and hard palates.

Top { posterior — between centre of palatal arch and junction of hard and soft palates.
 anterior — between centre of palatal arch and front wall of palate.

Point { posterior — front wall of palate.
 anterior — teeth, or edge of gum.

The above are the positions for consonants both of centre-aperture (C U O) and of shut formation (Q D Q G, etc.).

The normal positions for the "mixed" consonants are the following:

Top-mixed (Ω) — Top position combined with elevation of the edges of the tongue to the side gums.

Point-mixed (Ω) — Point position combined with convexity of the forepart of the tongue towards the front wall of the palate.

The positions for consonants of "divided" formation are the following:

Back-divided (E) — Back position combined with division of the breath by contact of the middle of the tongue with the palate.

Top-divided (O) — Top-shut position combined with emission of the breath between the high sides of the tongue and the back gums.

Point-divided (ω) — Point-shut position, combined with emission over the whole of the free sides of the tongue.

Top-mixed-divided (O) — Top-mixed position combined with contact of the point of the tongue on the upper gum, and emission between the sides of the tongue and the teeth or gum.

Point-mixed-divided (Ω) — Point-mixed position combined with contact of the tip of the tongue on the teeth, or on the edge of the gum, and emission at the sides of the tip.

The preceding descriptions all refer to tongue-consonants. To complete the review, the following descriptions of lip-consonants are added;

Lip (O) — Contact of the sides of the lips, with centre emission.

Lip-shut (D) — Complete contact of lips.

Lip-divided (Z) — Central contact with side emission.

A lip-divided formation may be made either by contact of one lip on the opposite teeth, or of one on the other lip. The easiest and most usual formation is selected for the normal one; namely, contact of the edge of the lower lip on the upper teeth, or, in the absence of teeth, on the upper gum. Contact of teeth (or gum) on the inner surface, instead of the edge, of the lip may be noted by the sign of posterior formation (Z); and the ungainly position of upper lip on lower teeth may be indicated, when necessary, by the sign of anterior formation (Z). Divided contact of lip on lip may be written by the diacritic "to lip (>), thus, Z>.

The lip-mixed, and back-mixed consonants, combining positions of such independent organs as the lips and the back of the tongue, scarcely need to

be included in this review; but for completeness they are added.

Lip-mixed (ϯ) — Lip position combined with a loose formation of the Back position.

Back-mixed (ϣ) — Back position combined with a loose formation of the Lip position.

The mouth-channel is about the same for both these elements, but the fricative—or articulative—effect is heard only from the lips in the one case and from the back of the tongue in the other.

Lip-mixed-divided (ϣ) — The Lip-divided position combined with a loose formation of the Back position.

Back-mixed-divided (ϣ) — The Back-divided position combined with a loose formation of the Lip position.

These elements do not occur in ordinary speech: they are simply available for use in the favourite and crucial tests to which Visible Speech has been often subjected—the expression of peculiarities of utterance.

All the descriptions in this Section apply equally to the vocalized forms of the several consonants illustrated.

The only drawback to a detailed investigation of such elements is that the student is apt to make too much of the consonants, relatively to the beautiful vowel material of speech. In many cases the consonants owe all their audibility to the vowels

which they begin or end; and yet while thus phonetically subordinate, consonants are found to be the more stable elements in words that have passed from language to language, or from age to age.

A good speaker will give to every element in a syllable its appropriate effect, of sound or motion, recognising that both classes of elements, whether principal or subordinate, are mutually related, and equally Essentials of Articulation.

and the symbol J (ah) is to be introduced: the latter should be practised in connection with each of the known consonants. Thus:

DJ OJ CJ OJ OJ OJ OJ OJ OJ
 JO JO JO JO JO JO JO JO JO JO
 JOJ JOJ JOJ JOJ JOJ JOJ JOJ JOJ JOJ JOJ

When any sound thus produced happens to be, *approximately*, that of a *word*, a new interest will be given to the lesson by illustrating the meaning of the word. Thus:

DJ, OJ, CJ, OJ, OJ, OJ, OJ, OJ, OJ, OJ.
 Pa, Ta, car, Ma, far, ark, arm, half.

Each vowel will, in this way, furnish a number of words to enliven the lesson. For example I will yield:

IO, OI, OI, OI, OI, OI, OI, OI, OI, OI.
 eat, pea, tea, key, me, knee, neat, meat, mean.

Sufficiently near to the sounds of the indicated words will be such compounds also as:

OIJ, OIJ, OIJ, OIJ, OIJ, OIJ, OIJ, OIJ, OIJ, OIJ.
 tear, near, fear, pie, tie, my, fie, fire, appear.

The attempt to join two elements with syllabic closeness will be unsuccessful at first; but, in the quickest utterance, apparent junction is merely *sequence*; and the slowest sequence will suffice until practice gives facility.

The first point to be aimed at is the power of

APPLICATION OF VISIBLE SPEECH TO THE TEACHING OF ARTICULATION TO THE DEAF.

TO THE DEAF.

THE minutiae of "Sounds and their Relations" do not require to be taught to the deaf, in the initiatory stages of instruction. The unmodified sign of "voice" (t) may for a time be used to represent any vowel. Thus *papa*, *mamma*, may be taught from the writing Di OI, OI OI. When a few consonants have been learned, the "Round-voice" sign, unmodified, (t) may be introduced, and such words as *no*, *go*, etc., may be taught from the writing OI, OI, etc. As power over the organs of speech increases, the pupil may be made acquainted with a few distinctive vowel symbols, such as J, ah; I, e; I, a; I, oo; I, o; etc., but minor discriminations should be deferred until facility is gained in the use of a small number of elements. Only one new sound should be taught at a time. Thus, suppose the pupil to know the consonants

O (p), O (t), O (k), O (m), O (n), O (f),

controlling the organs of speech. Accuracy may be left to be acquired by slow degrees. Intelligibility may be attained with comparative ease.

The use of Visible Speech symbols makes initiatory progress a matter of certainty with all pupils; and with every new element that is added, subsequent difficulties grow less and less. The ultimate effects that may be attained will depend on the teacher's skill and patience, as well as on the aptitude of the pupil. But the result of careful effort will undoubtedly be that, with a greater or less amount of accuracy, sufficient intelligibility will be obtained in the speech even of the congenitally deaf.

THE END.

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