

LB  
1633  
F6

UC-NRLF



LB 263 531



B 05053

EXCHANGE



The seal of the University of California is circular and features a central open book with a seven-pointed star above it. A ribbon scrolls across the book with the motto "FIAT LVX". The outer ring of the seal contains the Latin text "SIGILLVM · VNIVERSITATIS · CALIFORNENSIS" and the date "MDCCCLXVIII" at the bottom. The seal is set within a decorative, multi-layered border.

SIGILLVM · VNIVERSITATIS · CALIFORNENSIS  
FIAT LVX  
MDCCCLXVIII

EX LIBRIS

# SOUND AND SYMBOL

A SCHEME OF INSTRUCTION, INTRODUCTORY TO  
SCHOOL COURSES IN MODERN LANGUAGES  
AND SHORTHAND.

BY

J. J. FINDLAY, M.A., Ph.D.

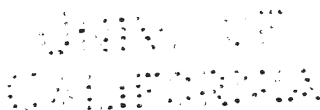
*Sarah Fielden Professor of Education in the University*

WITH

W. H. BRUFORD, B.A.

*Assistant Master, Manchester Grammar School*

WITH TWO CHARTS



MANCHESTER :  
AT THE UNIVERSITY PRESS  
12, LIME GROVE, OXFORD ROAD  
LONGMANS, GREEN & CO.  
London, New York, Bombay, etc.

1917

21 2/4 18  
L21033

**MANCHESTER UNIVERSITY**  
**EDUCATIONAL SERIES**

- No. I. **CONTINUATION SCHOOLS IN ENGLAND AND ELSEWHERE.** Their Place in the Educational System of an Industrial and Commercial State. By MICHAEL E. SADLER, C.B., M.A., LL.D., Vice-Chancellor of the University of Leeds, and late Professor of Education in the University. 8vo, 8s. 6d. net.
- No. II. **THE DEMONSTRATION SCHOOLS RECORD.** Being Contributions to the Study of Education by the Department of Education in the University of Manchester. No. I. Edited by Professor J. J. FINDLAY. 8vo, 2s. 6d. net.
- No. III. **THE TEACHING OF HISTORY IN GIRLS' SCHOOLS IN NORTH AND CENTRAL GERMANY.** A Report by EVA DODGE, M.A., Gilchrist Travelling Student. 8vo, 1s. 6d. net.
- No. IV. **THE DEPARTMENT OF EDUCATION IN THE UNIVERSITY OF MANCHESTER. 1890-1911.** With 12 Plates. 8vo, cloth, 3s. net; paper covers, 2s. net.
- \* \* *Published in commemoration of the Twenty-first Anniversary of the Education Department.*
- No. V. **OUTLINES OF EDUCATION COURSES IN THE MANCHESTER UNIVERSITY.** 8vo, cloth, 3s. net; paper covers, 2s. net. 1911.
- No. VI. **THE STORY OF THE MANCHESTER HIGH SCHOOL FOR GIRLS, 1871-1911.** By SARA A. BURSTALL, M.A., Head Mistress, Special Lecturer in Education in the University of Manchester. With 18 Plates. 8vo, gilt top, 5s. net.
- No. VII. **THE DEMONSTRATION SCHOOL RECORD.** No. II. The Pursuits of the Fielden School. Edited by Professor J. J. FINDLAY. With 8 Plates. 8vo, 5s. net.

---

**THE UNIVERSITY PRESS**  
12 LIME GROVE, OXFORD ROAD, MANCHESTER  
**LONGMANS, GREEN & CO.**  
LONDON, NEW YORK, BOMBAY, MADRAS

# Sound and Symbol

---

1. The study to be described below is the result of many years' consideration of principles involved in the improvement of language teaching, but it is the immediate outcome of work done during the last winter in an evening class of experienced teachers meeting in the University of Manchester. The aims of this study will therefore best be realised by describing what was done in this class. The subject proposed for the session was Language and the learning of Language by children. Up to Christmas we studied the problem as presented in acquiring the native tongue, and arrived at conclusions, which need not here be summarised, as to the origin and growth of speech in each individual and as to the mode by which the arts of Reading and Writing can be mastered. Our discussions sought to elucidate the actual mental processes involved in this mastery. Beyond recalling some of our own remote experiences in childhood we could only occasionally undertake practical exercises. We had to rely mainly upon our experience as teachers and upon the reports of various experimenters which are found in pedagogic literature; our conclusions as to methods of teaching had, perforce, to be based largely upon such evidence.

But after Christmas we took up a new problem, *viz.*, the acquirement of a foreign language; and here it was found possible to attack the inquiry by direct experience. Some members of the class (about nine) had never learnt

any German and were willing to be treated as learners, receiving a lesson every Wednesday evening and doing some home-work in between the lessons; three or four others were fluent in German and two or three had also studied phonetics under competent instructors; the rest of the class knew a little German and were interested to watch the proceedings. As we are living in such difficult times, I had perhaps better add that we had no sinister motive in choosing the language of our national enemy. French was out of the question, for all of us knew some French; we should have liked to experiment with Russian, but none of us knew Russian.

The peculiar value to us of such a study lay in the possibility of watching the play of cause and effect; it was open to us at any moment to interrupt the German study and ask the learner how his mind was working. For example, we could make a speaker tell us whether he had been "translating" a phrase before using it; we could watch the gradual subsidence of native equivalents below the threshold of attention.

In passing I should state that we gave these lessons on what is known as the Direct Method, *i.e.*, we established a direct and immediate relation between the new symbols of speech and the idea for which the symbols stood, without the intervention of the native tongue. This does not imply that a "native" symbol never thrust itself within the field of attention. A conflict between old and new is always going on in the beginner's mind; the teacher sometimes gains his object more speedily by mentioning the English equivalent for a foreign term. I merely note this in passing, for it is beside my present purpose to enter into a controversy familiar to all teachers of Modern Languages. Nor am I concerned to consider the value of this practical work viewed as a method of studying the psychology of language. I confine myself to one feature of the work

which promises to lead to a larger result, and will, I hope, engage the practical interest of many teachers.

2. This feature was presented by the necessity for using an alphabet to symbolise German sounds. Some may question the need for troubling about writing, since at the most our pupils would receive ten lessons. Why did we not restrict these few lessons entirely to oral treatment, and ensure a good accent by demanding a careful imitation of sounds? Most teachers when beginning a foreign language with children refrain from any attempt at writing until, as we say, the ear has got a little accustomed to the novelty; was it prudent for us to depart from this sound rule? For practical purposes we wished to start writing in German as soon as possible because we wanted our pupils to work by themselves at home; we also wanted, for our own profit, to study their reactions to the written as well as to the oral speech. But there also was a sound psychological reason for introducing writing without delay, and the sequel showed that we were justified. Most people make a very intimate association between sound and written symbol; this habit is of course not so ingrained in children as in adults, but it has already been established by the time children can write fluently, for it is our purpose when we teach reading and writing to establish this very habit. Hence, even if you confine your first lessons in a foreign language to oral exercises, your pupils will in any event make visual images of the words you use; and obviously those images will be patterned on the only available experience, *viz.*, the native spelling. For example, one of the class found difficulty because her visual imagery was more powerful than the auditory, and in one of the early lessons furtively wrote on a slip of paper "hoiter" to represent to her mind the German equivalent of "to-day." To people, whether young or

old, who have learned to write, it is not "natural" but unnatural to dispense with the pen and the eye.

Why not, then, it will be said, use the ordinary alphabetic characters common to German and to English? I need not delay to repeat the objections to such a course; they are to be found in every text-book of "reformed" teaching. A phonetic alphabet has been proved to be of very great assistance in the first months during which habits of pronunciation are being established; in face of all the evidence accumulated on this problem we were bound to provide our class, if we could, with an alphabet which was phonetically consistent; which would not in every lesson provide pitfalls leading to mis-pronunciation.

3. But when we came to consider whether we should offer our pupils the International Phonetic Alphabet, such as is printed in many beginners' text-books of French and German, we had grave misgivings. Firstly, our pupils would have at a later date to unlearn what they were being set to learn. Secondly, the symbols of the International are, most of them, of the same shape as those of the English alphabet, and each of them therefore recalls an English sound differing often from the sound which the pupil has previously attached thereto. I do not delay to illustrate these two points; everyone who has used, or has observed other people acquiring, a phonetic alphabet can provide illustrations. Scholars in Modern Languages who have a taste for letters and have got accustomed to the new alphabet are always inclined to minimise the difficulties felt by the average pupil. The transfer at the later stage back to ordinary spelling is reported frequently to embarrass the spelling of those who have been started on the International; and the psychology of the process would lead us to expect such a confusion.



But has the teacher any other alternative? True it is that the written and the auditory symbols of language are inconsistent and confusing, that they hinder mentally the acquirement of a foreign language; we have to allow that both spelling and accent are brought to confusion by the neglect of our forefathers to study phonetics at the epoch when spelling was fixed by the printing press. But these, it is said, are unhappy facts which have to be faced; if we cannot avoid them we must bow to the inevitable.

Human ingenuity, however, endeavours to get round obstacles; and for many years I have known that there was a path of escape, if we could discover the entrance to it. The "International" reformers, Passy, Vietor and the rest, were quite right in adopting an alphabet which is consistent and accurate (so far as any alphabet can be accurate!) in its representation of sounds; but they were wrong in borrowing the signs of the phonetic alphabet from the signs of an ordinary alphabet such as that employed in printing these words. One of the greatest of language scholars, the late Henry Sweet of Oxford, pointed out the right way, and invented a system of signs specially designed to be used by a phonetic student or by a beginner in a foreign language. I believe that this system of signs would have been adopted by "reformed" teachers except for a very simple business difficulty. Teaching has to be done by books; and books must be printed; the International can be easily set up from ordinary type forms, as it requires at the outside only a dozen or so new shapes to be moulded by the type founder. But if you ask the printer to reproduce a book with signs such as are printed below in this article, you involve him in great expense. (The price of this pamphlet is a case in point!)

So Henry Sweet's system (Oxford, Clarendon Press,

about 1888) has never been adopted; and yet it promised to help education in another direction to which I have not yet alluded. His alphabet was capable of being shortened, so that a pupil who acquired it first of all for purposes of pronunciation could afterwards retain it for the purposes for which people write in shorthand. He himself used his invention in this way, and so did a few of his pupils. But it appears that the symbols were not practically serviceable from this point of view and his system is obsolete. Sweet was a great phonetic scholar, but apparently he was not sufficiently expert in the requirements of Shorthand Writers. In principle, however, he was absolutely right; what was needed was to find some Shorthand which by proved use was successful as regards speed and legibility, and was also based upon faithful recognition of the relation between sound and symbol—a true Phonography in fact. Most of the current systems of Shorthand call themselves phonographic, but their pretence to scientific precision is shallow.

The reader will perceive at once that if Henry Sweet's or any other really phonetic Shorthand were available, the gain would be immense: for the learner would first use the symbols in learning his foreign language and thus secure from them all the advantages in pronunciation offered by the International; afterwards he would not discard them, but would carry them forward as Shorthand in his own language, adopting the various shortening devices of the Shorthand expert in order to secure speed. In teaching, as in all other arts of life, we have to kill at least two birds with one stone; whatever a few scholars may do, the great bulk of ordinary people cannot afford to learn an alphabet and after a few months discard it; the only way to popularise the International is *to translate it sign by sign* into a set of symbols which can be thereafter put to practical use.

To an outsider coming fresh to the problem this line of progress is so obvious that he will wonder why the effort of Henry Sweet has not been long ago followed up; and some set of symbols invented which are thoroughly phonetic and at the same time capable of adaptation to the speed tests of shorthand. As I have myself taken an interest in this reform for a quarter of a century I can offer an explanation: the Modern Language teachers and the Shorthand teachers commonly despise each other and take little interest in each other's pursuits. The Shorthand teachers take short views! they are busy fighting each other; Pitman, Gregg, Dutton, etc., all busy, each of them showing that his pupils can write quicker than those who learn a rival system; they know little of the work of the great phoneticians or of phonetics, but they are clever at inventing signs and combinations; their activities range among business schools and the like, reaping a harvest from boys and girls who are to enter offices. The Modern Language reformers, always excepting Sweet, have had just as narrow a vision; their ardent discipleship of Viator or Passy leads them to make light of the difficulties of a strange alphabet; and many of them are too engrossed in the literary aspect of their work to study the wider needs of their pupils. Shorthand may be a serviceable tool to any boy or girl whether he enters an office or a university, but this "utilitarian" outlook is far too mundane for their scholarly vision.

4. Here, then, was the position of our little class, teachers and pupils, beginning to learn German. We wanted a new alphabet and didn't know where to find it! But we had a piece of luck: one of the class, Mr. Bruford of the Manchester Grammar School, to whom I wish at once to express our indebtedness, was acquainted with various systems of shorthand, and was able to

advise us that a system known as the Oxford Shorthand was capable of adaptation to true phonetic uses. The inventor is Mr. Percy Kingsford of Herne Bay, Kent, to whom all inquiries should be addressed. For fear of misunderstanding it should be added that this course of instruction is not designed to interfere in any way either with the Oxford Shorthand or with the methods devised by Mr. Kingsford for teaching his system. He is not responsible for the modifications of the vowels, symbols and other alterations which we have made for the introductory course here advocated. This introductory course prepares the way so that pupils who so desire can commence the technique which he imparts and thus attain the speed essential to the Shorthand writer.

Our adoption and recommendation of this system, from among the various competing "Schools," is based solely on its merits as serving most readily the purposes of a true phonetic alphabet. We are compelled to adopt some system, but our sphere does not extend beyond the preliminary stage. The Oxford Shorthand has evidently succeeded where Henry Sweet failed, *i.e.*, in being widely used as a professional and business system in which high speed can be readily attained. We recognise that teachers in schools where another system is already in use will be faced with a difficulty: they will have to take up the Oxford and abandon the alphabet which they have hitherto employed. This difficulty is clearly unavoidable; we ourselves have no interest or prejudice as between the different systems which compete for favour, but every school where shorthand is taught must make a choice. We gather that expert teachers of shorthand find no great difficulty in taking up a new system.

The Oxford system has been taught with success for more than thirty years; we can therefore introduce it to our pupils with the assurance that if they learn it as an equiva-

lent of the International they need not discard it later on, either privately or in class teaching, for speed purposes.

In order to use the Oxford for the careful teaching of sounds, it was necessary for Mr. Bruford to add a number of new signs to indicate varieties of vowel sounds, also for *w* and *y*, and for various consonant sounds, not found in English; but the consonant scheme has served our purpose with very slight modification; and none of these changes prevent a pupil from going forward with the Oxford at the later stage.

Without more ado, we introduced our beginners to these symbols, and in the first half-hour, instead of writing (a) Was ist das? Das ist Deutschland, they wrote (b)

)o) ɣ) ( (o) ? (o) ɣ) ( (o) (r) o - (x

Here let me remind the unprejudiced reader that a beginner in a new language, anxious to grasp new sounds, finds it is just as easy to write (b) as (a)—in fact it is easier, for Wa recalls a sound like Wa, in Water, while )o recalls nothing except the sound which the instructor desires the pupil to associate with such symbols. Our experiment has in fact convinced me not only that a foreign language should first of all be written in these symbols, but conversely, that everyone intending to acquire shorthand should grow accustomed first of all to the symbols as a preliminary to starting on a foreign language. To this I refer again below.

From this point our lessons proceeded to cover the entire alphabet. One lesson sufficed to explain the phonetic scheme, exactly as a teacher of the International would explain it to beginners, but substituting our so-called shorthand signs for those of Vietor and Passy. We call our code a "shorthand" for convenience, but

no attempt can, or should be, made to shorten the writing while the pupil is learning to give full expression to the sounds of speech. Every sound, vowel and consonant, including even the slight glottal stop, finds its own representation. The pupil knows that these new marks may hereafter be joined up and shortened in all sorts of ways, but speed is not his present concern; all his attention is devoted to careful cultivation of his ear, to that fine discrimination of differences, which while using the native tongue and native alphabet, he has never brought into the focus of attention.

5. I will not pause to describe the measure of success which this short series of lessons achieved. We ourselves were satisfied that our pupils had made good progress; if we and they had not been satisfied, this paper would not have been written. Our desire now is to carry the work forward and to invite teachers who possess the necessary qualifications to undertake carefully planned schemes of teaching under ordinary school conditions. While conducting these lessons we discussed also the difficulties which would probably be encountered in teaching youngsters, and we came to the conclusion that the actual introduction of a foreign language should be preceded by a short course of at least twenty or thirty lessons on the organs of speech and other topics related thereto. The schoolboy on being introduced to phonetics, whether for French or for Shorthand, is invited into a strange experience which has hitherto never engaged his attention: the structure of his throat, vocal organs, nose; the distinction between sound, noise and music; the lungs and the breath. All these are matters that may be made of interest, for they are related closely to his own activities, but they need to be isolated for the time being and treated in a separate course. This can best be done by working out a special syllabus or part

of the year's programme in Elementary Science, to be taught at the age of ten to twelve in the fifth or sixth Standard of a P. E. School, or the third Form of a Secondary School, at least three months before a course in French is entered upon. Some science teachers may object to the intrusion of such work into their syllabus; but this objection is only another illustration of that isolation which, as we have seen, has hindered the alliance between the expert in Shorthand and the expert in Modern Languages. Science must be put to use; I am no advocate of theoretical plans of correlation, invented to satisfy the demands of psychology; but real correlation between empirical knowledge and felt need is everywhere in demand; if teachers wish to serve the needs of their pupils, they must co-operate. It is not necessary, however, to quarrel about epithets; I call this introductory course *Elementary Science* because I think that it can be most readily introduced into the Time Table under that title, but the instruction is not technical and can be undertaken by a teacher who is concerned from any point of view with the voice. He may care for the health of his pupils, for their singing, for improvement in dialect and speech, or for French; it matters not from what point of view he himself sets out to plan the course; his objective will be the same: to awaken in his pupils an interested conscious observation of familiar phenomena and familiar activities. This is science if you care to call it so; nature-study if you prefer that name.

6. Let us proceed to sketch the outlines of such a Course of Instruction.

## THE VOICE

### *A Course of practical lessons in Nature Study, or Elementary Science.*

**NUMBER OF LESSONS.** At least two per week, for a period of twelve weeks. If the teacher goes into more detail in dealing with musical sounds, or in dealing with hygiene, then a longer period would be required. From this point of view the syllabus might easily be planned to cover a year's scheme. If the class do homework, then practice in reading and transcribing could be undertaken after the first few lessons.

**TEXT BOOKS.** For the pupils none. The teacher, however, will enjoy acquainting himself with text books on Voice Production, and the Hygiene of the Throat and Voice, as well as with the science of Phonetics. These studies need not go to any profound depth, but they should be made as accurate as conditions will permit. I offer some suggestions, but the teachers whom I expect to join us in this work will be accustomed to hunting about for information both from books and from experts whom they can consult at first hand; I write this pamphlet to indicate the principles of pedagogic treatment; wherever there *can* be variety we should stand out for freedom. In the alphabet we must all submit to the same code of signs, but we need not all offer the same explanation of methods of breathing.

**SPEECH TRAINING.** (Report of a Conference conducted by the L.C.C. Education Committee) price 4d., published by P. S. King & Son, will be found very useful. This report expressly advises teachers "to begin with a systematic study of how the sounds that go to make up speech are formed;" "young children enjoy the



exercises required for this purpose." A distinctive system of sound representation is advocated, the preference being given to the scheme of the International Phonetic Association.

A short bibliography is appended; in addition we recommend *Ripman's* Elements of Phonetics (Dent, 2/6) or *H. O'Grady's* Classroom Phonetics (Constable, 1/3). *Passy, Les Sons du Français* (Paris, Didier).

As regards Ear Training and Singing, *Circular 873*, issued by the Board of Education, 1914 (Wyman's) and *Class Singing and Ear Training in Schools*, just published for London teachers by the L.C.C. Education Committee (P. S. King & Son, 2d.) will be found very useful.

APPARATUS. Good drawings of the organs of mouth and throat are helpful. In some cases working models may be available. I have seen an ingenious model showing how the vocal chords behave. Every pupil should have a small hand mirror in which he can see how teeth and tongue behave while uttering various sounds.

[These notes are not divided into separate lessons, but into Sections, each of which treat of a separate topic.]

## SECTION I.—INTRODUCTORY:

### PURPOSE OF THE WORK.

We are to study the sounds we produce when we breathe and speak and sing. Φωνη (phōnee) a Greek word means Voice.

*Why?* For several reasons. (1) Some people do not speak correctly, and it is important for everyone to be able to use the voice well, especially when we have to recite or speak in public. (2) Some do not breathe rightly: the throat is injured by such neglect; colds and

other illnesses are much concerned with mouth and nose and throat. (3) When you commence to learn French you will find great difficulty in producing the correct sounds unless you first learn to notice how your voice does its work. (4) We shall use a new code of signs to write down the sounds we make: they are something like the signs men use when they send messages by telegraph or wireless, or by the Morse Code. This will be something new for you to learn, but you will find it quite interesting, and afterwards, if you get to like it, you can practise it and become a rapid writer of Shorthand. Any of you who learn carefully this code, and want afterwards to become writers in Shorthand shall have the opportunity. Thus we have four good reasons for this course of lessons.

## SECTION II.—SOUND.

(a) If you can get the class to control themselves sufficiently and sit quite still, they will hear various sounds: speaking in another classroom, rain or wind, or even their own breathing. They will tell you that the flap of the ear receives the "sound," but they will not know much more of the nature of sound in itself. For our purpose study of the structure of the ear is unnecessary (*Dell's, The Gateways of Knowledge, Cambridge U. Press, 1912, supplies an interesting plan of study*), but it is important for pupils to realise that sound is the result of movements of the air. The simplest exercises found in any elementary text book of physics will serve our purpose, beginning with the oscillation of a pendulum and the vibration of a steel knitting needle clamped in a vice. The technical terms *vibration, note, pitch* will be used in a definite sense, and the distinction between noise and musical sound will become clear. Demonstrations with a tuning fork vibrating over a tumbler of water will be helpful. They will realise why

the tuning fork used in a singing lesson always gives out a note of the same pitch, and why this note is sometimes louder than at other times. Everyone should feel the vibration although one cannot see the air waves.

(b) Much time might be spent in making clear that the piano, the harp, and the violin are instruments with strings of varying quality and length; also that provision is made for collecting the air waves (re-sonance, another technical term). At this point I myself should introduce a poem, *e.g.*, Lowell, "The Finding of the Lyre."

(c) The class will know of musical instruments other than these—a Jew's harp or mouth organ may be forthcoming. The drum is a very primitive kind; the tin whistle, tabor, flute, lute ("Orpheus and his Lute;" "The Pied Piper of Hamelin") are *wind* instruments. The noise produced by wind is caused by first *compressing* a quantity of air and then exploding, *i.e.*, letting it go free—is this what happens when you clap your hands? The voice is one of the wind instruments, and is used not only for making speech sounds, but for making musical sounds.

### SECTION III.—NOTATION.

This section may be omitted, if the teacher thinks he is wandering too far from phonography, but it is important for the singing lessons, and affords a useful parallel with the alphabet which we are to learn. In music as in language we require to distinguish a variety of sounds and record these in a *notation*. It is evident that the same musical note, in length, in pitch, in volume, may be produced by any of these instruments (illustrate). Further, a series of notes, arranged according to pitch can be played or sung in sequence, until a complete *octave* is produced. (It would be too difficult to attempt to explain why modern music depends upon the octave.)

The best apparatus I have seen for this purpose is a series of brass rods such as are used as a dinner gong; these can be cut in the physical laboratory to the exact length required, and the increasing length of each rod noted, or if the teacher can use the violin he can illustrate almost equally well by showing how his fingers shorten the string.

Now in order to speak about these notes, or to write them down we must use signs. Some signs are taken from the letters of the alphabet, as in the Tonic Sol-fa Notation; in the Staff Notation the signs are placed on five parallel lines. In order to "read" a piece of music, the signs must tell you the pitch and the length of the note; if the music has to be sung to words, you read at the same time the sound and the meaning of the word written beneath the music. The class look at their music book and see how very varied is the reading which a singer has to undertake with his eyes when he sings "at sight."

#### SECTION IV.—THE HUMAN VOICE.

All animals take in breath and give it out, and therefore produce sound, for vibrations are produced by movements of air; but many of these sounds are too low for such to catch, they are not audible. Some of these sounds, *e.g.*, the song of birds, are musical, *i.e.*, they are heard as a sequence of pleasing notes of varying pitch; the same bird (when in pain) will emit displeasing sounds, a mere noise or scream. If we like we can call such sounds a language, for no doubt birds and most animals send messages to each other by sounds. Man has gone far beyond all animals in developing his powers, both for expressing music and for uttering speech. We call the whole instrument by which he exercises these powers his *voice*, which, as we have seen, may be classed among the wind instruments; although, as we shall see presently,

we possess vocal chords which, if rightly used, make our voice musical and have something in common with the strings of a stringed instrument. When air is used for speaking or singing we call it *breath*. Of course we use this breath not only to produce sounds but to keep ourselves alive, and the *same organs* (from lungs right inside the body, to the lips and nose at the outside) which control this breath and help to keep us in health are also employed to provide a great variety of sounds, thus enabling us to sing and to speak. So we must first of all consider how we breathe.

VOICE PRODUCTION. Some teachers will desire at this point, or in a later section, to give instruction in what is called Voice Production, with a view to greater purity or volume of tone in singing. It would take us beyond the scope of the course to enter upon this topic, but I must offer a word of caution. It is easily possible to injure the quality of a good voice by stimulating children to special efforts at performance, especially when parents are foolishly proud at hearing their child sing a solo. These Voice Production exercises, which are eminently valuable when taught by a competent expert in a College of Music to young men and women, may have the reverse effect when transferred to the schoolroom. It is more important, and much safer, to train children in right habits of breathing.

#### SECTION V.—BREATHING.

The class should be bidden to sit quietly, with the mouth closed for at least a minute and attend to their breathing, noticing where the breath comes from and goes to. If any have bad colds they will be in a difficulty. If they cannot give exclusive attention without closing the eyes, and sitting at attention, then they must control

themselves by such devices. These details are important, for the method throughout relies on sense-discrimination by the pupil of what happens to himself—talk, diagrams, and the like are only subsidiary to personal apprehension.

At this point the teaching can digress as far as is thought fit into the difference between fresh air and foul air: a teacher who is fond of chemistry will perhaps start a series of lessons on hygiene from this point. But for our present purpose we are only concerned with the organs:—lungs, chest, diaphragm, throat, nose and mouth, through which the breath passes. There are many books on Voice Production which treat of Breathing; some of them are far too technical. I have found Thorp, *Breathing and Breath Control* (W. Reeves, Music Primer, price 1/-, 1896) very clear and sensible.

Without digressing into chemistry a little time should in any event be spent on the breathing exercises, and here the Board of Education Syllabus of Physical Exercises may be consulted.

The class should be stripped to the slightest possible underclothing, as Fig. 62 illustrates, and feel the chest walls as the lungs expand. It is equally important that the functions of the nose should be realised.

Lessons in hygiene will not of themselves cure bad habits, but a little knowledge is not of itself a dangerous thing. So long as such instruction is based on practical experience, young children can profitably be taught something of the way in which infectious diseases, like consumption, are spread, why spitting is forbidden, and so forth. All this helps the learning of singing and of voice production, for it connects in the child's mind the entire process of which the breath is the universal agent; the child is no longer merely "doing as he is told," but becomes an intelligent co-operator.

## SECTION VI.—THE VOCAL ORGANS.

(1) We have seen that when the mouth is closed, the breath passing through the nose does not give us a language sound. So we shall not attend much to the passage of breath through the nose, but learn about all the other organs which help to produce the sounds of speech. Open your mouth fairly wide and imitate the sound I make (ah, as in rajah). If I asked you to write this sound, you would scarcely know what to write, for sometimes it is written with the first letter of the alphabet, as in *papa*, sometimes *au* as in *laugh*, *draught*, sometimes *ar* as in *large*, *hart*, sometimes *ear* as in *heart*, sometimes *er* as in *clerk*. For our work we must use a code of signs in which each sound produced by our vocal organs shall always be represented in the same way. For this, which is the simplest of those called vowels, we will make a tiny loop—*o*.

Make this sound again and notice what you do with your lips: is your mouth very wide open? Whenever I write the loop *o* on the B.B., you will, I hope, be ready to put your lips into this position and make this sound.

In addition to writing the sign on their paper, the class should be required to make the loop with the finger or hand in the air clockwise in order to secure another image of the movement. This device, which M. Montessori shows to be so important for the first steps in writing, is valuable all along, for psychologically the stroke is a stroke or a movement of muscles; if the pupil gets the images in his muscular mind, he will remember them far more easily. The loop must be made clockwise because this motion is required later on for speed when shorthand is commenced, and the right habit must be started from the first.

(2) Now close your lips, take in breath through the nose, and quickly open the lips to produce *o*; in doing

so you have produced another sound as well which is generally written as *p*, but sometimes as *pp* as in *happy* or *ph* as in *Clapham* or *gh* as in *hiccough*. We will always write it as a stroke, /; and the complete sound you have now made is /*o*.

(3) If I write /*o/o*, can you read these four signs as one word?

(4) Close the lips again and imitate me (pronouncing *ba*). You will notice that though the lips are still used in the same way as for /*o*, the beginning of the sound is different; we shall presently see what this difference arises from. It is a sound which in our ordinary alphabet is usually written *b*, sometimes *bb* as in *Webb*, or *pb* as in *cupboard*. We shall always indicate it by /.

(5) Now listen to my voice and write /*o/*; /*o/o*; /*o/o*; *o/o/*; *o/o/*. (Repeat this dictation *in the air*, as advised above.)

(6) Now let one of the class give his own dictation with these three sounds.

(7) Now each of you take the hand-mirror; watch your lips and open your mouth as the sounds are made.

In this way we are going to study, step by step, the use of the vocal organs in producing all the sounds found in speaking English; for each of these we shall adopt a convenient sign, and as each set of signs is learned we shall practise them in dictation.

## SECTION VII.

### DIAGRAM OF THE VOCAL ORGANS.

Some teachers would now introduce a complete coloured diagram, such as found in the text books of Phonetics. It is better to let the class construct their



own diagram, even if finally a fair copy is provided by the teacher. (At a later stage the phonetic chart should be treated in the same way; they can build up their own chart step by step and finally be provided with a complete plan such as is given in Plate I. below.)

**APPARATUS.** A footrule, such as each child should already be accustomed to use in his Practical Arithmetic; drawing paper and pencil; and a strip of stiff cardboard, 6 ins. by  $\frac{1}{2}$  in. We are going to make a plan of a cross section of the front part of the head, where our vocal organs are situated, supposing it to be cleft through from the top of the nose to the chest.

(1) Close your lips and place the cardboard straight up by the side of your nose from the meeting of the lips to the top of the nose. Measure this length on your footrule and draw this line on your paper.

(2) Insert the strip in your mouth, laying it on your tongue, with lips and teeth nearly closed: let it go back as far as it can without choking you. Draw as before.

(3) Under the tongue, the teeth being now wider apart:—this will be a very small length.

(4) Measure as accurately as you can and reproduce the line from the lips downwards across the chin and round the neck to the Adam's Apple.

(5) Measure the bridge of the nose.

These are all the measurements the pupil can make: the teacher supplies the measurements for the internal parts, as well as the technical terms, palate, uvula, etc. He will of course only supply those that are absolutely necessary for his purpose; he is not expounding the physiology of mouth and throat.

At this point if the teacher can procure models he will be helped by demonstrating how the uvula behaves like a valve, and how the vocal chords open and shut. When at a later stage the class attack the vowels, other diagrams will be wanted. It is an open question to what extent children under twelve can discriminate not merely the various vowel sounds (this they certainly can do for they imitate them all, if due care is taken), but how far they can distinguish and note the various positions of tongue, teeth, etc., in relation to each other. The teachers of phonetics say that this teaching is quite easy, although I am not prepared to recommend it until I have seen more direct evidence. But, in any event, I am quite sure that these lessons in voice production can best be taken quite by themselves apart from any effort to acquire French or German or to learn a rapid system of Shorthand. First get the voice-less sounds clearly distinguished—then apply your knowledge to these further purposes.

I think I need not continue these detailed notes of lessons further. The teacher must in any event make up his own plan of instruction, and with Hardress O'Grady or other book mentioned above, he will do best to follow his own course. Mr. Bruford has supplied below a complete table of the symbols, with a key to each. The sheet includes the additional symbols required in writing French and German; these would of course be omitted in this Introductory Course, but they are inserted to show how very little additional work is required when the foreign language is begun.

Week by week the class would add to their code, and at the close would make up their own chart. Mr. Bruford advises that the stops be first mastered, then the continuants. A second vowel, *e.g.*, u (*brute*), could be added, but it seems better to confine the dictations to these two vowels until the greater part of the scheme

of consonants has been mastered. Let it be remembered that there is no need for the dictation to consist of sensible words or sentences. I am certainly desirous of making instruction real, but the reality at this crisis is concerned solely with the faithful reproduction of sound. I do not want to distract my pupils' attention from the sense 'discrimination of sound (and of sight in the differentiation of the symbols) until he has got hold of a good many symbols; then he is ready to write sensible stuff and will enjoy it. The "natural" method teacher will protest; he will say that this plan is inconsistent with the way in which we encourage our children to learn to read English. Certainly it is different, for at present their interest is centred entirely on form, on subtle discrimination of sounds; if we switch off their attention by offering "sensible" dictation we divide the interest.

And the psychological situation is concerned not only with the focus and the margin of attention, but with the formation of new habits. At first as the pupil writes /, he holds *b* in the margin of consciousness; we practice him until the sign / is attached intimately to the sound for which / stands while, *b*, *bb*, *bp*, etc., fall below the margin; he is on the *qui vive* for sounds, and does not want to be crossed by wondering what the sounds may mean. Give him if you like a few real words now and then just to relieve the strain; but your success as a teacher depends upon the success with which each new symbol gets associated with its sound and transferred safely and unerringly to the automatic region.

Another point of method must not be overlooked; the pupil must have as much practice as possible in hearing his own voice: this is hard to accomplish with a large class, but the difficulty must be faced. For he will never pronounce French, or take down shorthand with precision unless his two gateways to speech, the auditory and the motor, are intimately associated. The shy and backward

pupils will always tend to rely upon inner association or visual imagery without actually framing the new sounds with their own tongue and palate. Hence as much dictation as possible must be given by these pupils instead of by the teacher. Most teachers will tend to rely too much upon the intellectual apprehension gained from the analysis of sounds, with diagram, chart, etc.; they forget that youngsters, while grateful for simple intellectual explanation, depend for progress upon direct and repeated practice of the organs themselves.

**CONCLUDING LESSONS.** As soon as the vowel chart has been introduced, and the principal consonants, the class should be set to write out in the new alphabet any scraps of poetry which they have at hand, street signs and notices, local dialect, proverbs, etc. Every now and then a sound will occur which they do not recognise; the success of the teaching will to some extent be exhibited by their refusal to put down a symbol for a sound which is strange to them, or for which a symbol has not yet been supplied. This can be tested also by giving them French or Latin or German phrases. Nonsense rhymes such as are found in Lewis Carroll will be useful. If the class is keen they will do work of this kind as a game in their spare time, and show their results to each other to be "read," *i.e.*, deciphered. I need hardly add that from the first the writing must be clear and distinctive, too large rather than too small. There must be no attempt at joining letters or at fast writing. There must be no transcription into ordinary writing; the time for that must be delayed until the writer has learnt speed in using the signs for shorthand.

**PLANS FOR FURTHER INVESTIGATION.** It is our hope that a number of teachers will think it worth while to give this syllabus a trial, beginning in August or

September. Those who are within reach of Manchester are invited to meet me at The University on Wednesday, October 17th, at 7.15 p.m.; we shall discuss the progress that one or another has made, and difficulties which have been encountered. I shall be prepared to continue such meetings fortnightly or monthly as may be desired, and, so far as my time will allow, to visit classes, where teachers are working on the scheme. Teachers at a distance who take it up are invited to write to me and I shall secure them such help by correspondence as circumstances will permit.

In the sequel I should hope, with Mr. Bruford's help, to issue a First French Reader published in this phonetic code; this would be necessary in order to enable teachers to carry through the scheme up to the point where their pupils could resort to the ordinary French alphabet, and then if desired carry on with the Oxford Shorthand.





## Note on the Writing of the Symbols

---

It is important, if the use of the symbols is to lead later to the acquirement of shorthand, that good habits should be formed at the outset in the method of making them. The following points should be noted:

1. All work should be done in ink, and the strokes should be made very lightly.

2. All those consonant strokes which are wholly downstrokes stop at the line (*e.g.*, p,b,f,v). All the rest start at the line (*e.g.*, k,g,n,m,l,r).

3. At this stage the symbols may be of any convenient size, but they must bear exactly the same proportion to each other as in the Table. For example, the signs for the unvoiced consonants should be not more than half the size of the corresponding voiced consonants, while the very small signs, like that for s, should be still smaller than those for p, f, etc.

4. The slope is that of natural longhand, and the downstrokes should be more vertical than the upstrokes.

5. Both the large and the small loop should be traced in a clockwise direction.

*Printed by S. CLARKE LIMITED,  
41, Granby Row, Manchester.*









14 DAY USE  
RETURN TO DESK FROM WHICH BORROWED

## LOAN DEPT.

This book is due on the last date stamped below, or  
on the date to which renewed.

Renewed books are subject to immediate recall.

REC'D LD

AUG 29 1962

REC'D LD

21 Nov '62 RV

NOV 14 1962

19 Nov '63 XS

REC'D LD

NOV 27 '63 - 8 AM

MAY 25 1978

REC. CIR.

MAY 18 '78

JUL 15 1962

RET'D JUL 1 1962 39

Gaylamount  
Pamphlet  
Binder  
Gaylord Bros., Inc.  
Stockton, Calif.  
T. M. Reg. U. S. Pat. Off.

377445

LB

1033

F6

THE UNIVERSITY OF CALIFORNIA LIBRARY

