

SCIENTIFIC AND SOCIAL PERCEPTION OF NORMAL AND ABNORMAL
VERBAL BEHAVIOR FROM THE SIXTEENTH TO THE NINETEENTH CENTURY.

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
in the Department of
Languages, Literatures and Linguistics



Terence MacNamee 1982

SIMON FRASER UNIVERSITY

April 1982

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Title of Thesis/Project/Extended Essay

Scientific and Social Perceptions of Normal
and Abnormal Verbal Behavior
from the 16th to the 19th century

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Title of Thesis:

"Social and Scientific Perceptions of Normal and Abnormal Verbal Behavior from the Sixteenth to the Nineteenth Centuries".

ABSTRACT

Changing perceptions of deviant verbal behavior are examined across four centuries of Western European history with reference to the normative attitudes toward speaking that prevailed in each period. The Renaissance ideal of the sixteenth century is one of harmony between Man and Nature in keeping with the inherited wisdom of Antiquity and the working out of this notion in humanistic and medical discussions is examined: although verbal deviance is recognised as a social problem, a system of reeducation is not as yet envisaged at this time. In the seventeenth century, the Royal Society phoneticians make great advances in knowledge of the physical basis of speech; at the same time, the twin notions (characteristic of the Age of Reason) that human linguistic capacity is both innate and learned lead to the first attempts at remediation of abnormal speech. Eighteenth-century philosophers provide a well-developed

mechanical model of speech functioning, and automatic and voluntary aspects of speech are clearly distinguished; these conceptions influence the remedial practice of the orthoepist, who becomes an important figure in the society of the time, imposing verbal norms of polite society on the rising bourgeoisie. Following on developments at the end of the eighteenth century, nineteenth-century reeducative practice first adopts a newly institutional framework and passes under specifically medical tutelage: a precise notion of speech pathology now appears, and the profession of speech therapy is born, which answers the normative requirements of modern industrial society. It is concluded that the historical development studied in the dissertation reveals a trend toward increasing institutionalisation of deviant verbal behavior; it is also remarked that with the institutionalisation and medicalisation of modern speech therapy, abnormal speech has ceased to occupy a central role in phonetic and linguistic theory.

Haec igitur ego balbus, non ut debui, circuitu tardiore
diutius explicare tentavi

Notker, "De Carolo Magno"

ACKNOWLEDGEMENTS

My thanks are due to my Senior Supervisor, Prof. C P Bouton, and to the other members of my committee, Prof. E W Roberts and Prof. B E Bartlett. The defence version of this dissertation has benefited considerably from the criticism of the external examiners, Prof. R W Rieber (New York), and Prof. G L Bursill-Hall (SFU).

CONTENTS

Chapter I: Introduction	1
Chapter II: The 16th Century	20
(1) The Gentleman-Sage.....	25
(2) The Pedant-Humanist.....	48
(3) The Philosopher-Physician.....	60
Chapter III: The 17th Century.....	80
(1) Natural Speech.....	80
(2) Emendatio Vocis.....	85
(3) The Rationale of Reeducation.....	98
(4) The Experience of the Other.....	111
Chapter IV: The 18th Century.....	141
(1) Visibilia atque invisibilia.....	141
(2) The Nervous Organisation of Verbal Behavior.....	148
(3) Speech as a Machine.....	152
(4) The Regime of Orthoepy.....	164

Chapter V: The 19th Century.....	184
(1) Compulsory Education and the Social Control of Language.....	184
(2) From Romantic Philology to Scientific Phonetics.....	194
(3) From Phrenological Classification to the Notion of Pathology.....	223
(4) Speech Therapy: From Institutionalisation to Medicalisation.....	238
 Chapter VI: Conclusions.....	 260
 Bibliography.....	 280
A. Primary Sources.....	280
B. Secondary Sources.....	296

Chapter I: Introduction

This thesis is a study of certain aspects of the perception of verbal behavior, both normal and abnormal, from the Renaissance to the beginning of the present century. As such, it is intended to contribute to the understanding of the historical dimension in which the profession of speech therapy has developed.

If we are to discover how the phenomena of verbal behavior were perceived in any given historical period, we must be prepared to investigate not one single realm of discourse but several. There is a scientific and scholarly tradition of discourse on verbal behavior, but there is also a hortatory and critical one. It is characteristic of discourse on verbal behavior that it contains both descriptive and prescriptive elements. It may seem at first sight unusual that Renaissance Italian anatomical texts should form part of the same study as an orthoepist's manual from 18th-century England, but both can be seen as different kinds of pronouncements on the phenomenon of verbal behavior. I have accordingly attempted to describe

the general perception of verbal behavior in a given period of Western society (1) with reference to a wide-ranging contemporary body of knowledge comprising not only phonetic and linguistic theory but also medicine, rhetoric and education.

The subject of this investigation, then, includes those realms of discourse that have described speech and its disorders in a scientific way, and furthermore those attempting to educate or reeducate speakers to speak in accordance with established norms, and to avoid varieties of verbal behavior that conflict with such norms. The term "verbal behavior" is to be understood as referring not merely to the production of the sounds of language, but to the global activity of speaking (2). Throughout this thesis, the terms "speech" and "speaking" will be used as synonyms for verbal behavior. This is intended to parallel the increasingly prevalent use of the term "speaking" by linguistic anthropologists (Hymes 1968; Bauman & Shertzer 1975) to refer to the totality of verbal behaviors used by speakers along with their social setting and significance. I am convinced that this wide perspective is necessary in a study that proposes to contribute to an understanding of the genesis of the helping profession we call speech therapy, for the

pathological phenomena (such as stuttering) addressed by that profession are precisely "communication disorders": that is to say, they are recognised as being disorders not only of the mechanisms of articulation but of the speaker's communicative behavior inseparable from its social setting. On the other hand, a general account of ideas about language as a whole should not be expected in this work, though some notions about language prevalent in different periods will be an important part of the argument. As I have indicated, my discussion rests on a contrast between "normal" and "abnormal" verbal behavior. "Abnormal" here refers not only to the pathological area stricto sensu (as we might wish to delimit it today) but also to any kind of deviant speaking marked by a value judgement, be it moral, aesthetic or otherwise. This general interpretation of abnormality or deviance is, I believe, historically justified and necessary, since the discussion of abnormal speech phenomena in the period under discussion, at least in the earlier part, often fails notably to distinguish what we would now call pathological deviance from the social deviance of linguistic variation. To encompass the whole of this range of verbal deviance, I have borrowed the impressionistic term "the Other" from Phenomenological discussions (3). If speaking for us is so

intimately bound up with the Same, or the known, it is also clear that the whole area of disorders, deviations and "vices" of speech makes up the Other. This thesis will aim to reveal how Western society has encountered the Other in the domain of verbal behavior during the last four centuries of its history; and it will become apparent that as the disorders of speech have been increasingly divorced in society's perceptions from the normal world of verbal behavior and have been increasingly subjected to reeducative intervention, many other non-standard varieties of speaking have been rejected from civilised experience as socially unacceptable (I am thinking here of the suppression of stigmatised dialects and languages). The Other, then, for the purposes of the present work, can be taken as a shorthand for those kinds of verbal behavior which are regarded by society as being outside the pale of normative speaking: it will thus include pathology proper, but also varieties of speaking (social and geographic) subject to condemnation and repression, and grotesque and degenerate styles of speaking. The opposite pole to this area of stigmatised deviance will be found in the rhetorical tradition, in an idea which we shall find particularly important in our account: that true eloquence is the result of congruence with truth and the reality of

personal and social experience.

The approach I shall use to investigate the varied realm of discourse on verbal behavior thus delimited, while relying on the traditional disciplines of historical research, owes much to what has become known as the "archaeological" method (4). Just as archaeology studies tools and other remains found in the earth and makes inferences about the society that fashioned and used them, the "archaeological" method in historical criticism studies the texts making up a particular discourse at a given time and makes inferences about the thinking, perceptions and attitudes of the society that produced them. The object of the archaeological method is thus, crucially, the study of texts (5) rather than of historical events; and by a careful analysis both of what the texts say and what they leave unsaid (their statements and assumptions), inferences are made about the conceptual framework within which discourse developed. Moreover, where the discourse in question involves some kind of institutional practice or intervention (be it banking, insane asylums or whatever else), a study of the texts can contribute to the understanding of the intellectual preconditions of that institutional activity: the thinking, perceptions and attitudes

which made that particular practice or that particular mode of intervention possible.

The applications of this method of investigation to the history of perceptions of verbal behavior are fairly obvious: a study of the texts from the various realms of discourse traditionally concerned with verbal behavior can result in discovery of the intellectual preconditions which made a particular kind of prescription or a particular mode of reeducative intervention possible in a given historical situation. These "intellectual preconditions" are the general perceptions of verbal behavior, of man and his language, with which this thesis is concerned. But, we may now ask, what is the nature of these perceptions, and what do these intellectual preconditions consist of? As we have seen, discourse on verbal behavior has traditionally involved both prescriptive and descriptive aspects: it contains both factual statements about speech phenomena, and statements of norms and their philosophical justifications. If we are to circumscribe the complex of thinking that gave rise to a particular mode of reeducative intervention at a given time, we must include all of these disparate elements. I will use the term "ideology of

verbal behavior" to refer to such a complex of thinking determining a mode of reeducative intervention, since in general usage "ideology" means a set of beliefs about the world, and justifications for those beliefs, used as the basis of a particular kind of political action. The various "ideologies of verbal behavior" to be investigated in this thesis will accordingly comprise key philosophical and scientific ideas about the nature of speech and language, as well as normative definitions of acceptable verbal behavior, and justifications for these in the form of general beliefs about man and society. In the course of this thesis I shall be describing successive "ideologies of verbal behavior" on the basis of an analysis of relevant texts from each period, and attempting to explain change and development in the mode of reeducative intervention by reference to change in the characteristic "ideology of verbal behavior". Thus, for example, we shall see that in the Renaissance, an ideology of classical purity and simplicity in speaking as the mark of the cultured gentleman coupled with medical doctrines of astral and environmental influences, based, in turn, on the view of Man as Microcosm, determined an educational, but not a reeducational approach to verbal behavior; and we shall find that in the 17th century, the

prescriptive notion of "natural" speech, conceived of as part of a general programme of rational discourse, based, in turn, on the notion of Human Nature, as well as the notion of speech as being acquired by repeated experience and habit, resulted in a true scheme of reeducative intervention.

The basic norms of speaking which I have identified as in each case characterising a particular period will be referred to by the terms "euphony", "orthoepy" and "orthophonie" (6). The task of this thesis will be, in one sense, the exegesis of these three terms. The term "euphonia" or "eulalia", much used by 16th-century writers, refers to a kind of preestablished harmony between the Microcosm and the Macrocosm in accordance with the wisdom of the Ancients, as recorded in their writings on language and in the very letters used by mankind to indicate the sounds of speech. In the 17th century, however, speech becomes subject to norms and constraints, and "natural" principles are inferred from vocal tract events. The 18th century establishes a regime of pronunciation to remediate, correct and instruct: orthoepy. Finally, with the coming of the new century that is still the basis of all our modern thinking, speech and its "vitia" come under the control of the medical and educational

system, becoming the object of a technology of verbal behavior, of "orthophonie", of speech therapy. This historical work will accordingly show how perceptions of normal and abnormal verbal behavior, based on general conceptions of man and society, made possible the development of particular modes of reeducative intervention. The approach I will use here is one that seeks to understand the history of a field of therapeutic intervention by reference to its broad social and intellectual context. My basic assumption is, in fact, that we cannot fully understand a given mode of therapeutic intervention or the policy that informs it without a careful appreciation of the capital of philosophical, scientific and pseudo-scientific ideas on which the policy and the action were based and within which they have their meaning. There is a growing body of scholarly work, especially in the United States and France, that uses such methods and assumptions in investigating the historical development of the helping professions and of social welfare policy. I wish to mention some of these recent works, with a view to establishing clearly the aims and scholarly context of this thesis.

Sarason & Doris (1979) have written a study on the history

of ideas about mental retardation in the United States which is a scholarly contribution of great interest for my own work. These authors emphasise the necessity of a "broadened perspective" on retardation. In the Preface to the work (1979: ix) they write that the field of abnormality which is the subject of their investigation "is not a 'thing' but an invented concept suffused with social values, tradition, intended and unintended prejudice and derogation - all reflecting the dominant characteristics of our society and its history". And they go on to say (1979: x):

"Precisely because mental retardation is a socially invented concept, the people who have 'it' have to be seen in relation to those who do not have 'it'. And to understand that relation demands that we come to terms with how we understand our society to be structured; the diverse values that power it; the ways those values are institutionalised; the cultural "shoulds and oughts" that seem so natural, right and proper (but may not be); and the threads of continuity that tie the present to the past."

The broadened perspective adopted by Sarason & Doris

involves a historical survey of the development of compulsory education in 19th-century America as a means of social control, and within that development, the emergence of "special education" for the abnormal, considered against the background of successive waves of immigration and attempts to preserve the homogeneity of Anglo-Saxon society against these new elements. I find this approach entirely convincing and successful, and I believe that, just as these authors have sought to understand the history of perceptions of mental subnormality in terms of wider norms and values and social pressures producing changes in those norms and values, perceptions of verbal deviance and strategies of reeducative intervention can best be understood in similar terms.

Lasch (1979) has made a philosophical criticism of what he calls the modern "therapeutic sensibility". The tone is polemic, but the criticism is, I think, quite important for any discussion of the social significance of the helping professions or of social welfare policy and institutions. The aspect of Lasch's polemic that is of particular interest in the present context is his discussion of the development of the educational system, the helping professions and the social services as a new

"organised apparatus of social control" in the modern state. His thesis is that the direct mode of social control by means of patriarchal authority (the family, the Church, the economic hierarchy, the ruling class) has gradually tended to be replaced by an indirect mode of social control by means of the social services and in particular therapeutic institutions, and that in this way individuals are "socialised" into conformity with the status quo and obedience to "scientifically founded" norms of behavior. This is a thought-provoking thesis, and it has exercised an influence on my interpretation of the genesis of an institutional, medically-sanctioned speech therapy in the 19th century.

Foucault (1961) has traced the development of the concept of madness in European social history from the Renaissance on. He describes the process of isolating the insane in institutions (he calls it "le grand renferment") beginning in the 17th century, which he shows to be motivated by a new ethic of moral condemnation not only of mental abnormality but also of improvidence, idleness, freethought and other deviant lifestyles incompatible with the newly developing bourgeois regime of production. He goes on to describe the gradual "medicalisation"

of madness beginning at the close of the 18th century, and the consequences of the adoption of an evolutionary theory of disease by the medical profession in the 19th: mental illness is once again linked to normality by being regarded as equivalent to an archaic stage of adaptation - which introduces the possibility of systematic rehabilitation. I have found in the course of my own research that the idea of mental abnormality being condemned together with other kinds of deviant behavior in an earlier period, and only later being completely isolated as a "pathological" phenomenon to be cured, has interesting parallels in the history of perceptions of abnormal speech, which will become apparent in later chapters of this thesis.

I believe that the scholarly approaches I have cited here add up to a significant conceptualisation and indeed reevaluation of the various related fields of therapeutic intervention in the light of their historical development. The therapeutic enterprise is seen to have acquired an important role in the apparatus of social control in modern Western society, and the making of that therapeutic enterprise is identified with the imposition of norms of behavior on historic

populations. It is in the light of this conceptualisation, this reevaluation, that I intend to study the history of perceptions of verbal behavior and the factors making possible the development of modern speech therapy in the work that follows. As far as I am aware, this kind of historical discussion has not previously been attempted in the case of speech therapy as it has, at least in part, for some of the other helping professions. I also realise that it constitutes something of a departure with regard to other works concerned with, or related to my topic. The realm of discourse that is the object of this thesis has been discussed in a fairly extensive historiographic literature dating back to the last century and for the most part written by practitioners of speech therapy (7). Even if many of the earlier contributions had a rather prejudiced view of history, "projetant dans le passe des anathemes et des eloges" (8), the facts are fairly well known and the most important texts have been identified. The present thesis is intended to contribute to the interpretation of the history of speech reeducation in terms of the intellectual preconditions - the complex of thinking, perceptions and attitudes - that made it possible. As I have emphasised, I do not believe that anything like a balanced interpretation can be attained without an

appreciation of the broader social and intellectual context of reeducative and therapeutic intervention. To make my point more explicit, let me contrast the approach I have taken in this research with another, recently published work on a similar topic. O'Neill (1980) has written a study of speech disorders from earliest times to 1600, which accordingly overlaps with my chosen period. The work offers a wealth of scholarly detail on the subject, though its focus is confined to the history of medicine and does not take account of non-medical ideas on verbal behavior. Crucially, however, it is purely descriptive and does not attempt any interpretation of the developments it describes; also, it scarcely refers to the wider sociohistorical context. I believe these two aspects are in fact related. The "broadened perspective" spoken of by Sarason & Doris (1979) is a necessary prerequisite for the task of interpretation. The example of the authors I have mentioned (Sarason & Doris 1979; Lasch 1979; Foucault 1961) clearly demonstrates, in my opinion, that the scholar concerned with the historical development of a field of therapeutic intervention must take a broad, critical approach if the origins of contemporary attitudes and policies are to be fully understood. Such is my intention in the historical work on speech reeducation presented in the chapters that follow.

Footnotes

(1) It will be apparent in the thesis that the geographical scope of my investigation mainly consists of Italy, France and England, with the inclusion of the German-speaking world in the case of the chapter dealing with the 19th century.

(2) It will thus be seen that my term "verbal behavior" is in fact a cover term for both "speech" and "language" as understood today. The use of the more general term emphasises that the modern distinctions are not observed in the discussions of earlier periods.

(3) For use of the term, see the chapter on "Existential Psychotherapy" in Hall & Lyndzey (1966).

(4) The term is used by Foucault (1966) and Donzelot (1977) in this sense. "Archaeological" historians hold that the fundamental codes of a culture (language, perceptual schemata, exchanges, techniques, values, hierarchy of practices) form a

framework for men's experience. These writers have set themselves the task of explaining the development of various scientific and social institutions since the beginning of modern Western European society in the 16th century by reference to those fundamental codes of the culture that produced them, and their changes over time. The task is called an "archaeology" rather than a "history", to distinguish it from the traditional "history of ideas" or "history of science"; its particular aim is not to chronicle, or to show how present knowledge developed out of past knowledge, but to discover the "historical a priori" that made this or that form of empirical knowledge possible at a given point in time.

(5) The centrality of texts in the approach I have adopted has dictated a greater recourse to direct quotation (including the use of terminology and characteristic word-formulas used by cited authors), rather than summary or interpretation from a contemporary scientific viewpoint, than might otherwise have been expected in a scholarly work of this kind.

(6) The term "euphony" is of course a classical term; its usage is discussed in detail by Stanford (1967). For

16th-century usage, Huguët's Dictionnaire de la langue française du XVIIe siècle gives an example from the hermetic writer Collange: "La consonance et euphonie des voix" (1561). "Eulalia" is the term used by Erasmus (1528). "Orthoepy" was also current in Antiquity, and Stanford (1967: 22) notes that it "could refer to either pronunciation or diction [i.e. the reading or "spelling out" of a written text]". The first example in English given by the OED is from Wilkins (1668: III, i, 298): "Parts of Grammar... Concerning the most convenient marks or sounds for the expression of such names or words; whether by writing, Orthography, or by speech, Orthoepy". "Orthophonie" is a modern formation; the first appearance of the term recorded by Littré is from Colombat (1874), who defines it as "une méthode... pour le redressement du bégaiement et des vices de la parole". The term has not attained currency in English, "speech therapy" being the term now generally used to designate the professional activity.

(7) The history of speech reeducation was surveyed by Hunt (1861) and Olivier (1899). There is considerable documentation in the bibliographic survey by Klingbeil (1939) and the monograph by Eldridge (1968); mention should also be made of the

article by Benton & Joynt (1960), though this is mainly concerned with the diagnosis of aphasia. Among the many recent works of interest are the article by Rieber & Whollock (1977), and O'Neill (1979) on the period up to the end of the 16th century. See now also Rieber & Vetter (1980) for a survey of the theoretical background.

(8) The phrase is taken from Lanteri-Laura's discussion of the history of neurology (1970: Pref.).

Chapter II: The 16th Century

The fundamental normative idea about speech in the Renaissance is that it should express a harmony between microcosm and macrocosm, between man and nature. This doctrine of harmony is expressed by the term "euphonia". Indeed, we find in the 16th century the beginnings of a characteristically modern "normativity" with regard to verbal behavior. There are a number of factors in 16th-century society which can be adduced as reasons for this. The principle reason is probably political: the 16th century sees the rise of the modern national state or principality, and with it modern organised systems of government. This change is reflected in a development which today we think of as characteristic of the Renaissance, namely the development of a political discourse, or "statecraft", and the proliferation of books on the art of ruling, of which Macchiavelli's "The Prince" (1516) is the most famous. The appearance of a more complex and organised political life calls for a well-educated ruling class; and there is also at this time a proliferation of books on the education of the gentleman and the accomplishments required of him, Castiglione's "Il Cortegiano" (1528) being the most famous of

these. In fact, throughout 16th-century culture there is an unmistakable tendency for men and women to become more self-conscious, more soul-searching, more aware of social dictates affecting behavior and the conduct of life in general. There can be no doubt that, in this century of Reformation and Counter-Reformation, the ongoing struggle for the minds and hearts of Europe cast a shadow over individual and social life, making men judge themselves and each other more severely, and making the sanctions of Church and State more pervasive. With the recovery of ancient Greek and Roman texts by Renaissance scholarship, and the vernacular translations of the Bible beginning with Luther's, the written Word, the Book takes on a central importance in 16th-century culture, particularly for conceptions of language. A preoccupation with correctness in usage, fortified by the recovery of ancient texts, had already begun towards the end of the previous century, notably with Lorenzo Valla's "Elegantiae linguae latinae" (1471). The printing press and the diffusion of printed books reveals a whole new set of problems to do with standardisation of written language; and this new awareness of a rational "standard" or a "norm" to be imposed on written communication was to contribute decisively to the growth of tendencies to bring the verbal

behavior of the educated in general under a system of rational centralised control invested with cultural values.

Those cultural values, those beliefs and assumptions about the nature of man, language and society seem peculiarly remote to us, and it requires a considerable intellectual effort (1) to understand their coherence; but some appreciation of them is necessary if we are to understand 16th-century attitudes to speech education and reeducation. To begin with, there is the notion of occult relations and influences, by which things in the world are thought to resemble one another, and to act and react upon one another like the strings of a musical instrument vibrating in sympathy. These hidden relations are revealed to man by a system of "signatures"(2): every instance of resemblance bears a sign that identifies it. The task of science is to discover these signatures and interpret them. Resemblance is also at work in language, for language itself - texts, the words of which they are composed, and the letters with which they are written - is thought of as part of the natural world that can be known: thus for the Renaissance scientist, the account of a thing to be found "apud veteres" is as important a part of its description as the results of

observation. Just as the signs of nature are to be deciphered, so also must the sage decipher the signs that are found in the writings of the Ancients: "divinatio" and "eruditio" are the same activity of interpretation. There is an occult correspondence between "verbum" and "res", between verbal signs and the things of the natural world they refer to. The pristine language of mankind corresponded exactly to natural relations in the world, but with the proliferation of languages after Babel, that original transparency all but disappeared - only Hebrew, language of divine inspiration, has preserved some traces of it.

The global play of resemblances and influences in 16th-century discourse is structured by the dichotomy of macrocosm and microcosm: man is perceived as a cipher for all things in the natural world, to which he is linked by a series of occult correspondences. Man's physiognomy and bodily constitution carry the "signatures" of the astral influences that rule him and the creatures of the plant and animal kingdoms and the earth itself - with all of which he shares natural characteristics. The full development of the Renaissance conception of man as microcosm is surely to be found in the humoral doctrines of 16th-century medicine, and we shall have

occasion to consider medicine in some detail with regard to the treatment of speech disorders later in this chapter. Suffice it to say for the present that knowledge of man as well as knowledge of nature in the 16th century is hermetic, in the sense that the truths of microcosm and macrocosm lie hid from common view, and only the sage who has mastered an esoteric lore can divine their deeper meaning. The world is a great Book that lies open to him who can read. But such reading knowledge is the preserve of the Few.

A polished, educated, homogeneous upper class, represented by the ideal figure of the Renaissance gentleman as described by Castiglione, Cardinal Bembo and other writers, is now called to assume responsibility for the affairs of the emerging modern state. Among this upper class are the scholars, for indeed the esoteric exclusivity of Renaissance learning sorts well with the distinction of birth and good breeding from the unlettered and ignoble folk. As we shall see, the Renaissance gentleman is distinguished by his eloquence and by the purity of his speech, which in turn is based on his knowledge of language and its secrets. In discussing the social and scientific perceptions of verbal behavior in the 16th century, we shall see that such

perception is at once aesthetic and hermetic, idealising classical beauty and simplicity, and evoking the occult verities that dominate the being of man. Speech for the Renaissance norm must be "euphonious": in following the inherited wisdom of the Ancients, it evokes a play of harmonies in the natural world.

In this chapter, I will survey normative attitudes to speech in the 16th century by focussing on the activity of three key figures or social roles in Renaissance culture, which I shall refer to as the gentleman-sage, the pedant-humanist, and the philosopher-physician.

1. THE GENTLEMAN-SAGE

"Lo artificioso parlare da arte accompagnato" ["skilled speaking aided by art"]: thus Mario Equicola (1525) describes the Renaissance ideal of human speech. The courtly speech characteristic of the accomplished gentleman is not only the result of thought and experience - as is all human speech, distinct from the cries of the brutes - but also adorned by an aesthetic element. This beauty in deportment should apply to

speech as a total bodily gesture: "Nel deprimere et elevare la voce le parole con li occhi et volto s'accompagnino" ["in lowering and raising the voice the words should be accompanied by the eyes and the face"] (1525: 300). The same author realises, however, that for many individuals this is an ideal yet to be attained, with education supplying the deficits of personal habit: "Se non ha la voce chiara et sonante, cercai modo di farla. Se la ha dissona e grossa, cerchi di migliorarla. Nel ragionare la sua naturale, non sforza perciocche la soffocara." ["If one's voice is not clear and sonorous, one should seek to make it so. If it is dissonant and thick, one should seek to improve it. In regulating one's own nature, however, one should not stifle it."]

The pleasing and effective speech regarded as a prerequisite for the Renaissance gentleman by Cardinal Bembo and by Castiglione in "Il Cortegiano" is acquired by following the inherited wisdom of the Ancients. This wisdom is embodied in the alphabet, in the writing systems of the Greeks and Romans, but especially the Hebrew Aleph-Beth, which is generally considered to be the most ancient, and to be divinely inspired. Only the sage, who has studied the lore of Antiquity, can

uncover the secret of the original alphabet: the congruence between "figura" and "potestas", between the shape of letters and the articulatory postures they represent - just as "verbum" originally enjoyed perfect congruence with "res". Thus the letters that men use to represent language are the signs of secret knowledge and power for those that can read them.

When the 16th century looked at the three writing systems that had come down from Antiquity - the Roman, the Greek and the Hebrew - it found evidence of a refined phonetic analysis. The Ancients, inventors of writing, were knowledgeable in the powers and causes of speech:

"Wherefore it shall be sufficient to understand (as experience teacheth us) that the inventors of letters whatsoever they were, had a regard to mans voyce: considering how many diuerse simple wayes he might vse his tongue and lippes with his voice in his speach, which haue bene called Elementes, and that fitly. For as the foure Elementes are the matter and substance of all things that are made in bodies and shapes, so are the simple voyces the partes, whereof the whole and round word and sentences are composed and made." (Hart 1569: 8).

The "simple voyces" spoken of by Hart in the above quotation are the various articulatory postures of the vocal organs, and the excellence of the classical writing systems is thought to reside in their assignment of one letter to each characteristic articulation. The phonetic sophistication of Antiquity which the the scholars of the 16th century so admired was familiar to them not only from the writing systems themselves but from the commentaries of such writers as Dionysius Thrax and Dionysius of Halicarnassus (whose doctrines have been carefully studied by Stanford 1967), and especially, it seems to me, Martianus Capella. But for the 16th-century scholar, there is still more. The relationship of "figura" and "potestas", like that of "verbum" and "res", takes its place in the system of "signatures". That is to say, the letters by their very shape resemble the articulations they stand for. Marzio Galeotti (1517: 56v-61v) discusses the letters of the Roman alphabet in the terms of a tradition that goes back to Martianus Capella(3). Consider, for example, his account of the form and "potestas" of the letter A (3): It consists of two lines which form an acute angle at their point of intersection, and which in this way "spiritum ab utraq. parte emanentem

indicant". The cross-line of the letter "certam mensuram hiatus ostendit, quanto opus est in huius elementi enunciatione". The two outer lines forming the letter, which meet at the apex, indicate air escape "from either side of the palate", according to Galeotti; and the middle line joining them measures the degree of aperture required for pronunciation of the vowel. The characteristic shape of the letter A, with its narrowness at one end and wideness at the other, recalls the fact that the airstream emanates from the narrow windpipe but that the mouth is held wide open for the pronunciation of this most sonorous of vowel sounds. (Martianus Capella is the authority cited for this analysis.) Indeed, Galeotti claims, all the letters of the alphabet can be "read" in this way, for the lines of which they are composed represent the obstruction or modification of the passage of air involved in each case. "...Sicut de hac litera diximus", he writes, "ita in omnibus intelligendum est, lineas scilicet ex quibus literae constant, pro spiritus conditione formari." (4) Notice how in this perspective the letters of the alphabet become geometrical figures which together provide a kind of imaginary topography of the vocal tract.

The letters possess a hidden power of evocation, not only

of the articulatory postures of speech, their "causes", but also of the human body and the natural world itself. Alexander Top (1603: B2f) writes that the distinct objects of Creation appeared out of the primal confusion ("Tohow vabohow") when God called them into being by uttering their names. The Creator, "by his diuine insight", conferred names on things that suited their various natures perfectly, establishing a perfect correspondence between "verbum" and "res" for the benefit of man, so that "both sense and vnderstanding, might (by comparing the substaunce with the portrayture) be lightned." Top goes on to remark that the number of things mentioned by Genesis as having been called into being in this way by God during the seven days of Creation was twenty-two, the number of letters in the Aleph-Beth (5). Each of the letters has a power of symbolism: they evoke the primal elements of Creation as they evoke the articulations that they represent.

Just as the relatedness of the geometrical shape of letters and their "potestas" enables the scholar to understand the workings of speech "by comparing the substaunce with the pourtrayture", so too, then, the sacred letters of the Hebrew alphabet evoke the very elements of Creation. The study of the

Cabala is the foundation of this hermetic view, which regards the Aleph-Beth as being of Divine origin, and the instrument of Creation, preexisting mere human speech (6); and it was later expressed by Robert Fludd (1659:161) - a 17th-century author who nonetheless reproduces 16th-century perceptions, for he was the last great representative of hermetic medicine in England - in the following way. All the kinds of creatures are expressed in and by the twenty-two Hebrew letters; not the letters of the Hebrew alphabet in common use among men, which are mere shadows of a celestial original, but by ineffable letters of fire which were "ingraven on the face... of the dark hyles" by God during the Days of Creation. "The language which was framed out of it was called *Lingua Sancta*, a Language, I say, much spoken of by the learned Rabbies of our age, but little known... by them."

It is the hermetic tradition of the Cabala that enables the 16th-century philosopher of language to say with Ickelsamer (1534): "Unter einem jeden Teutschen Buchstabe und Worte ist nicht weniger eine tiefe Geheimniss verborgen" ["Beneath every German letter and word a profound secret lies hidden"]. The letters and words of language are replete with hidden meaning and ancient knowledge of the things of the world. Language

guides man's thinking, but only the sage can grasp the essence of things hidden in letters and symbols.

According to Top (1603: C2v& f), it is a "currant rule for the Hebrician" that every single word in the language has a proper and distinct meaning. Every word has the power to "instruct the diligent Schollar in some natural reason of things", which, Top says, is the fundamental truth about all of language; but even if we do not grasp the "natural reason of things" that the word is revealing to us, our very use of it teaches us to "signifie by voyce" and guides our thinking unawares. The letters of the alphabet, too, are often "strangers" known to us only by sight rather than "friendes" whom we understand completely; "so, we speake abundantly, but not from the abundance of the hart: and heare diligently, but conceiue no thing." (Top 1603: C2v & f).

Language, then, and especially Hebrew, the language with an ancient pedigree surpassing that of all others, instructs the sage who studies it in knowledge of the natural world, for the distinctions of "verba" are precious indications of the distinctions of "res". Though speakers of languages use words

and pronounce letters without paying direct attention to the matter, those words and those letters are a treasury of knowledge about the world which nonetheless lies buried from a superficial view like precious metals in the earth; it is the task of the sage to mine them.

Associated with the relation of "figura" and "potestas" in Renaissance perceptions of language is a further dichotomy: "razionale" and "sensuale". Language, for the Renaissance writers, is both "rational" and "sensual". It is rational in the sense that it corresponds to the concepts of the mind, that it carries meaning; and it is sensual in the sense that it is a thing, sound produced by the voice and heard by the ear. As Dante writes, in Trissino's Italian translation (1529: I, iii), human life is ruled by reason rather than by instinct, and since human reason is at the service of man's free will, every individual has a mind of his own. Men's thoughts and motives are not transparent and predictable, as are the ways of the animals; they lie hidden in the body, and require a means of expression if they are to be understood by others. That means of expression is language. Its nature is twofold: it is "rational", because it expresses the thoughts of the mind, and

it is "sensual", because it is expressed out of the body (7).

The sensual aspect of language is often described as a kind of "envelope" of its rational meaning (Hall 1936). Trissino (1524) describes speech and voice typically in these terms: "Essendo la voce aere percosso, viene ad essere corpo; il quale ha tre dimensioni, cioe lungheza, largheza, et alteza..." ["since the voice is air struck, it takes on a bodily existence, which gives it the three dimensions of length, breadth and height"]. Indeed, comparing the kindred notions of the "potestas" of letters and the "sensual" quality of human language, we begin to circumscribe the characteristic 16th-century perception of the physical basis of speech. According to that perception, speech is a very tangible thing, and its various forms and processes have tangible explanations. The physical view is closely related to the Renaissance tendency to regard language as a part of nature (as we have remarked on at the beginning of this chapter, p. 22f). It is the basis of Castelvetro's (1563) view that the phenomenon of Articulatory Setting (Honikman 1964) is determined by environmental factors:

"Non ha dubbio che la diversita dell'aere generi diversita

di lingue ...operera che si proffereranno piu o meno addentro nella gola; e appresso che alcune consonanti si distingueranno o piu o meno l'una dell'altra; e per avventura ancora alcune vocali; e si dara il fine alle parole o piu o meno perfetto."

["There is no doubt that differences in the air give rise to differences in languages...they will come to be pronounced more or less to the back of the throat; furthermore, some consonants will be more or less distinct from one another, and possibly also some vowels, and the endings of words will be more or less complete."]

Reference to Articulatory Setting in the 16th century is bound up with the characteristic notion of language as being part of Nature. Systematic differences in pronunciation are thought to be due to climatic influences, or other occult effects of the natural environment on speakers, and the interaction of these influences with the humoral constitution of the speakers themselves (8). There is accordingly an explanation in terms of Nature itself for the variability of human language, "laquele diversite & confusion se peut a bon droict appeller la Tour de Babel" (Du Bellay 1549: 12). But just as there are two sides to language, "razionale" and

"sensuale", there are two sides to linguistic variability. Variability in the rational aspect of language - in the relationship between "verbum" and "res", and in the different versions that men have made of the Divine letters of the original Aleph-Beth - is due to what Du Bellay (1549) calls "la fantasie des hommes". That is to say, although Divine vengeance on sinful man was the original cause of the Fall and the consequent loss of the original Lingua Adamica with its perfect congruence of "verbum" and "res", and of the confusion of Babel, the words men use (whatever language they speak) are the result of human choice, rather than the promptings of nature. Rabelais (Tiers Livre, xix) states: "C'est abus dire que ayons language naturel. Les languagees sont par institutions arbitraires & convenences des peuples." On the other hand, the sensual aspect of language is physical, the result of hidden natural influences, an aspect of speaking of which men are largely unaware and which is therefore largely outside their control.

In the perspective of this physical perception of language, the letters and sounds of speech are like natural substances, which have their alchemical affinities and repulsions known to

the learned, as Ramus describes at length in the opening chapter of his "Gramere" (1572). Letters make up syllables, and syllables words, according to certain fixed rules of combination, because of the natural play of attraction and repulsion among them:

"De le lettere si fanno le syllabe, in ciascuna de le quali biscgna essere una vocale, o un diphthongo, e non piu; ma possono ben havervi appresso hor una, hor due, hor tre, et hor quattro consonanti; una come e, fa: due come e, ben; tre come e, gran; quattro come e, spron." ["From letters are formed syllables, in each of which there must be one vowel, or a diphthong, and no more; but there can be one, two, three or four consonants; one, as in "fa"; two, as in "ben"; three, as in "gran"; and four, as in "spron"] (Trissino 1524).

The phonetic metalanguage of the Ancient writers itself points to the alchemical properties of letters, explaining the mutations of linguistic forms: for example, the term "liquid". As Tory (1529: 24v-25r) expresses it: there are letters which are so flexible and "si faciles en leurs vertus" that they "melt away" and vanish in syllables where they are preceded by a mute

(i.e. a stop consonant), nor do they affect the quantity (long or short) of a preceding vowel; "& celles sont dittes en Latin Liquidæ, quia liquescunt post Mutas positæ in eadem syllaba."

In the 16th century, study of the sounds of language is an "Etymologia", not an "etymology" in the modern sense, but a science of the affinities and mutations of letters. One of its primary purposes is to unveil the hidden relations linking modern language to the languages of Antiquity, and thus to reconstruct in its full integrity the original language of creation where all things and relations are perfectly defined. He who would know the essence of the pristine letters and the art of their combination would be able to spell out all knowledge, just as the astrologer reads the text of fate in the vault of the heavens, in the Neo-Platonic doctrine of Plotinus as recalled by Cudworth (1678: 4f) in a quaint but faithful echo of 16th-century hermeticism: The motion of the stars depends on the workings of the universe as a whole, but it is also used as a tool for making predictions, since "they who are skilled in the Grammar of the Heavens may be able from the several Configurations of the Stars, as it were Letters to spell out future Events", just like in the practice of classical

augury, where the high flight of a bird, say, meant a high and noble exploit.

If knowledge is hermetic, then the language in which knowledge is expressed must itself be esoteric, to guard its secret from the many. Language in Renaissance discourse shows its power in concealing rather than manifesting the nature of things. The man of knowledge must therefore be skilled in the esoteric language arts, as Bibliander (1548: 75-80) expresses it. The production of the intimate thoughts of the mind out of the body in speech is a making manifest of hidden things; but "arcanae literae" keep esoteric knowledge for the few. Indeed Top (1603: 83f) suggests that concealment was the reason for the historical variations in the function and order of letters from the "natural" state of the original Hebrew revealed by the Almighty. All the historic alphabets, he says, are merely variations on the original one, the Aleph-Beth. If these alphabets differ from the Hebrew model in the shape of letters, or their pronunciation, or in the order of the letters, Top claims, this has been largely for reasons of state: the constantly-felt need to conceal vital information from enemies in war (9). The concealment of knowledge by and within language

is a constant theme of the 16th century; but the use of this theme by Top in the passage referred to is also interesting in view of its relation to another characteristic theme, that of human corruption being reflected in the corruption of language: the lying, dissimulation and deceit of Princes and factions has resulted in the loss of the original purity of the alphabet, just as human pride resulted in the confusion of tongues at Babel.

The letters of the Aleph-Beth, being of Divine origin, remain the source of all knowledge of the sounds of speech for the initiate. It is the "fantasie des hommes" spoken of by Du Bellay (1549: 12) which, by reason of error or conscious deceit, has given rise to the variety of writing systems and orthographies in use. Knowledge of language is an esoteric lore, but the scholar who has mastered it can use it as his title to impose norms, not only on speaking, but on writing too. There is not necessarily a conflict between the esoteric quality of his linguistic knowledge and its application to the improvement of human life. Hermetic though this body of knowledge about speech in the 16th century may be, it takes on a social dimension in the norms it imposes on verbal activity.

Associated with the requirement of correct speech in the Renaissance gentleman is an ambition to regularise written language in such a way that it will correspond to the true sounds of speech which it is supposed to represent. It is apparent in the spelling reform movement in Italy, France and England. This was an attempt to devise an orthography for the vernacular language based on the example of Antiquity, in which one symbol would mark every distinct sound in the language. The purpose of graphic symbols is to "reveal" the sound relationships present in speech. Thus Trissino (1524: 1) remarks:

"Considerando io la pronuntia italiana, e conferendola con la scrittura, giudicai essa scrittura essere debole, e manca, e non atta ad exprimerla tutta; il perche mi parve necessaria cosa aggiungere alcune lettere a l'alphabeto; col mezzo de le quali si potesse a la nostra pronuntia in qualche parte sovenire."
 ["Considering Italian pronunciation and comparing it with writing, I judged the writing system to be weak and deficient, and unable to express it completely; this is why I found it necessary to add several letters to the alphabet, by means of which our pronunciation could be in some way recorded."]

Existing orthographic systems should be reformed in such a way that every distinct sound is represented by a distinct graphic symbol. Hart (1569: 9) writes that the problem of representing distinct sounds in language was what originally led men in various parts of the world to invent writing systems containing different letters to express the different sounds. Just as, in speaking, the sounds make up a word, so also the letters should make up the word in writing, since sounds are the "Elementes" and letters are the written marks of sounds. Hart calls the letter a "manner of painting" of the sound, representing its distinctive properties, "and so the divers members of the speach ought therefore to haue eche his seuerall marke." (Hart 1569: 9)

This is not to say that the spelling reform movement in Italy, France and England did not meet with opposition. That there was considerable opposition from contemporaries is apparent from the polemical tone invariably adopted by the spelling reformers, and even more so from their lack of practical success (10). It was objected that if the writing of modern languages (especially French and English) was to be made

"phonetic" in the sense suggested, etymological relationships with the Ancient languages preserved by the traditional orthographies would be obscured. The spelling reformers replied to this kind of objection as best they could; what interests us here is not so much the details of the controversy as the assumption underlying the arguments of both sides: that that kind of writing and speaking is best which approaches the true, unimprovable, original practice of Antiquity. This assumption is further to be discovered in the other main area of controversy in spelling reform: innovation versus tradition. It was objected that the authority of the past should be respected in matters of orthography as in other matters of convention, and that in any case the mass of the literate public would be understandably loth to abandon the system that was familiar to them. But the general idea behind the movement for reform of vernacular writing systems is that the level of language communication can be improved, and that progress in language is comparable to progress in the arts and sciences. Thus Trissino (1524), in a long-winded and passionate argument of the kind that was commonly called forth by the "Questione della lingua" in 16th century Italy, accuses the champions of tradition versus innovation of ignoring the fact that all of

human culture, including the use of language, proceeds by refinement and improvement of earlier models. This process can be clearly seen, he says, not only in the arts and sciences, and in affairs of state, but also in everyday life. Trissino now recalls the various Greek legends about Cadmus, Simonides, Palamedes and Epicharmus to show that even the Greek writing system was not originally perfect but was refined and added to by numerous benefactors of humanity. Similarly, he observes that without the invention of agriculture and houses in earlier history, "forse che la generatione umana anchora habiterebbe ne le caverne, e si pascerebbe di giande" ["the human race might still be living in caves and eating raw flesh"]. The traditionalist opponents of spelling reform are out of step with the Ancients, he says, who paid the highest honours to those inventors of new things that benefited humanity (11). No doubt Trissino believed that the latter-day sage should receive a similar recompense for his labours.

Hart (1569: 11v-12r) answers his conservative critics in the following terms (12). It is obvious that all modern writing systems have degenerated from the purity and phonetic exactitude of the Hebrew alphabet. To wish a degenerate writing system to

be maintained merely in the name of tradition is to sanction human degeneracy rather than showing proper zeal for its improvement: "otherwise all sinne and vice which is naturally in the fleshe, and of longest vsed, ought not by their reason to be spoken against." (This argument linking human corruption with the corruption of language recalls that of Top (1603: 83f) quoted above, p. 39.) Men should use their God-given reason, Hart says, to produce a writing system free from error and appropriate to the realities of the spoken language. Indeed, he continues, the letters in public use should not "vsurpe others powers, or be ydle in their owne" (that is to say, one letter should not be pronounced with the sound of another, and if a letter is not pronounced in a word it should not be written), and their imperfections should be relentlessly weeded out - "the vicious parts thereof cut away, as are the ydle or offensive members, in a politike common welth". Again, this is an important theme, the theme of normativity with respect to verbal behavior that is the central contribution of the 16th century to the historical development of ideas studied in the present work: "vicious" and degenerate language communication should be corrected and expunged by men of learning, just as the State comes to require more exacting standards of behavior in its

members.

In Hart's perspective, then, the sage must use his knowledge of the true relationship between "figura" and "potestas" to redeem human speaking and writing from its "vices", its confusions and imperfections, the consequences of human sinfulness. Indeed, there is a definite notion of progress here - not progress in the modern sense, of course, but in the sense of a gradual reconstruction of an original state of human affairs in all its pristine perfection. The modern orthographies are the result of human error and deceitfulness (cf. Top 1603: 83f), and should be purified in accordance with Ancient knowledge. Again Hart (1569: 42v-43r) says, referring to his conservative critics, in terms reminiscent of Trissino's (1524, quoted on p. 43f): "These men meane to be content with Acornes as their predecessours were, contenting themselues with Hides and Felles for their clothing, and Apernes to gather their acornes in, and dwell in their dens, rather than to fell the wood, and make them houses therewith, to stocke up the rootes and make the grounde arable, to plowe the grounde and sowe and reape good corne." Therefore, he concludes, it is of no account how long our ancestors have used our traditional orthography,

since the fact remains that we are badly served by it and find "great disorders" in it (as the analyses of the spelling reformers had amply shown); we should accept an improved orthography, and put the inadequacies of the past behind us, once and for all - "for in amendment of any thing it is better late than neuer."

The 16th-century idea of progress in the arts and sciences is closely linked to the notion of harmony with nature and with the wisdom of the Ancients, as is apparent from the remarks of Vasari in the preface to his "Vite" (1550) on the historical development of the visual arts: there is a constant progress to be discerned in the arts, from the Trecentisti, who first put away Byzantine and medieval error, to the crowning achievement of Michelangelo - and Vasari sees this progress as a closer and closer approximation of art to the flawless simplicity of nature as it was understood by the Greeks.

The medium and cipher of the progress of knowledge for the 16th century is above all the printing-press. Bibliander (1543: 80-84) compares the significance of the invention of printing with that of the invention of writing. Hart (1569), too,

constantly refers to the requirements of printing in his proposals for orthographic reform. The printing-press is indeed the first mechanical exteriorisation of verbal behavior, and its influence on linguistic conceptions cannot be denied. We shall see later how the printing press becomes a metaphor for speech and language itself.

2. THE PEDANT-HUMANIST

We have seen that "euphonia", the norm of speech for the 16th century, involves harmony between man's speaking and the world of nature, in accordance with the teaching of Antiquity. It is the educator's task to impart Ancient knowledge about language to the young, and to address and reform deviations from that set of verities. Such deviations from the norm are grouped by the Renaissance under the collective term "vitia".

For the Renaissance writers on language, good speaking and studied eloquence are not only a courtly accomplishment of the gentleman, but also a necessary prerequisite for the scholar whose task it is to know and to interpret the wisdom of the

Ancients. He who cannot "spell out" (interpretatio) the classical discourse where the profundities of knowledge lie hid from common view cannot learn its meaning. Hence the importance of correct pronunciation. This is also why we find discussion of the "vitia" of speech linked to that of the pronunciation of Greek and Latin. It is not to say that there is merely a confusion - unscientific to our eyes - between artificial norms of classical pronunciation and pathology of speech. It is that, for the Renaissance thinkers, speech evokes and unlocks the secret of nature, especially through the language and thought of Antiquity, and he whose tongue cleaves to the roof of his mouth or who deforms the pure perfection of the Text cannot unlock the Macrocosm with the key of true eloquence.

The abnormal phenomena of speech are thus implicated in humanistic education in the first place. "One should also study in children the vices of pronunciation so as to correct them", says Vives in the "De Tradendis Disciplinis" (1531: 585). "Non solum id, quod recte atque ex officio faciundum est, cognoscere oportet", writes Scaliger (1540: 35), "sed etiam quod prauum est cauere".

If, however, we are to understand the meaning of "euphonia" for the 16th century, we must attempt to circumscribe the complementary notion of "quod prauum est". The "vitia" that concern the Renaissance schoolmaster are not reducible to our notion of "speech pathology". To begin with, children's speech rests on the edge of "vitium". It is a commonplace of description since Antiquity that children's speech is comparable with the vices of pronunciation, as Henri Estienne (1565: 136) observes:

"Je n'ay pas delibere d'omettre entr'autres choses, les mots des petis enfans: ie di petis enfans, ne pouuans encores former les mots, & ne faisans que begayer. Car il faut noter qu'ils begayent leur Francois en Grec, c'est a dire en mots ayans leur origine du language Grec: quand ils disent Papa, Maman, Tetai, Caca. Et mesmes quant a deux de ces mots, ils n'ont pas seulement leur origine du Grec, mais sont les mots Grecs formels, ayans garde la mesme signification avec les mesmes lettres: ie di quant a Papa, & Caca. Et (qui plus est) estoyent les mots des petis enfans de Grece, comme aujourd'hui de ceux de France."

For Henri Estienne, "vitia" are not just freaks of nature, but a general tendency in the young explained by the imperfection of their control of verbal behavior; yet it can be seen from the evidence that Estienne here adduces for his thesis of the historical "conformity" of the modern French language to Greek that for him, the innocence and simplicity of children, as yet free from any external corrupting influence, guides them to reproduce the ancient relations of letters and meanings when they "begayent leur Francois en Grec".

One reason why the discussion of "vitia" is situated in the context of correct pronunciation of Latin and Greek is that the pronunciation of the vernacular does not receive much attention in education, from a prescriptive point of view, at least in the majority of cases. Such is the discussion of Vives, Erasmus (1528) and Tory (1529). However, the texts reveal that what to our way of thinking are distinct matters - individual deviant pronunciation and national speech habits - are all part of the same normative discourse for the 16th century. Differences in the articulatory setting of various nations are revealed by variation in the pronunciation of Latin. Not only articulatory setting, however, but also language-specific processes are

discussed in terms of "vitia", such as Spanish prothesis by Scaliger (1540: 36): "Est autem excessus et ille, quam addunt literam, quemadmodum E, addunt Hispani et Vascones ipsi S, si coniunctum fit, Escribere, Esperare." Scaliger goes on to compare stuttering of initial syllables implicitly with the classical process of reduplication. "Geminant enim aut initia, sic, Popons pro Pons, aut fines, Paulala pro Paula. Hoc etiam dicitur Echismos, ab Echo".

Furthermore, dialect variation is subsumed under the heading of "vitia", as can be found in Tory (1529: XLIXr). He remarks that the letter "l" is incorrectly pronounced in Latin words by inhabitants of Burgundy, who substitute "r" for it, as he says he noticed with students from that part of France when he taught at the University of Paris. Examples of this systematic mispronunciation which Tory gives are "Mer, Fer, Animar, Arduus & Arbus", and he observes that this not only obscures meaning but also sometimes changes meaning (i.e. in the case of minimal pairs). Tory appeals to parents and teachers to guard against such tendencies in their young charges, and to inculcate correct habits of pronunciation; for, he says, "C'est vne des plusbelles vertus qui soit requise a vng

honneste homme & bon Orateur, que bien prononcer."

Dialect variation has a shifting, ambiguous status in 16th-century thinking on language. On the one hand, there is an emphasis on the use of prestige dialects such as Tuscan and Francien, and on standardised pronunciation of Latin and Greek. Vasari relates that Michelangelo was in great demand in cultivated circles in Rome to read Dante and Petrarch aloud, because of his perfect Florentine pronunciation. On the other hand, non-prestige dialects are often claimed to be "purer" and less corrupted than the standardising pronunciation of the Court or the City. For Sylvius (1531), in his treatise on French pronunciation, the regional dialects often show themselves to be the true French, because their relationship to the Latin from which they are descended is more transparent than that of the standard language of Paris (Brunot: II, 133). Thus, for example, Sylvius, himself a native of Amiens, prefers the Picard form "mi" to "moi", because he believes, like Erasmus, that the Picards have preserved Latin pronunciation more faithfully; but he also prefers the Southern form "estelle" to "estaille", because it is closer to the Latin cognate "stella" (1531: 107). Regional speech is thus not inferior to that of Paris, for to

speaking well is to speak like the Latins, "perfecte cum Latinis" (1531: 7).

The edict of Villers-Cotterets conferring a privileged status on French was a measure taken against the use of Latin in the law courts, it is true, but also to a certain extent against linguistic regionalism (Brunot: II: 30-32). Yet Francois I must be seen as acting here for political reasons, to affirm royal authority, not for "moral" reasons - as would be the case in the 18th century, with the attempts of the Revolutionaries to ban dialect from public life(13). In the 16th century, French is simply "the King's language", standing above other modes of speaking in the social hierarchy, but not denying their presence. The Other is entitled to speak.

In the same way, Hart (1569: 20v-21r) writes that, although it would not be appropriate to use regional dialect forms in books printed in London, provincial authors having their books printed "at Newcastell upon Tine, or Bodman in Cornewale" would be justified in using the forms of the local variety of English. Writing a letter to London, a provincial person would also be within his rights if he used forms spelt

according to dialect pronunciation; the London correspondent "could be no more offended to see his writing so, than if he were present to heare him speake".

The multiplicity of dialects is part of the social fabric of speaking; and the printing-press must reveal, by the orthographic conventions it employs, the full extent of this multiplicity.

In his wider capacity as social reformer and castigator of the follies of mankind, the humanist is also concerned with criticising the "vitia" of speech as they are manifested in society at large. Thus Erasmus, in his treatise on pronunciation (1528), embarks on what is in essence a social criticism of the misuses and abuses of speech, characterising the range of speech pathologies known to 16th-century observers: stuttering, cluttering, nasality, and so on. But the sweep of the humanist's criticism goes beyond the vices of pronunciation corrected in the schoolroom to encompass a characteristic assortment of deviant verbal behaviors - from the failure of attempts at learned eloquence to the crude speech of the plebs. The lower classes' speech habits have a bad effect on the

preservation of the true, original pronunciation of words (1528: 92):

"...Nunc enim tota sere pronuntiatio deprauata est, tum apud Graecos, tum apud Latinos... partim ex corruptela uulgati sermonis, partim hinc quod soni uocum scribi non queunt. Et scis quam nihil apud populum stabile, nihil diuturnum."

The lower class marker particularly stigmatised in 16th-century normative discussions is "posteriorisation" of articulatory setting. This is always compared to Jews' and Arabs' Semitic pronunciation, which is "guttural" (Vives, Erasmus, Bibliander). Henri Estienne says that the posteriorised speech of the uncouth reveals "le bas fond de notre coeur".

Wright (1604: 108f) takes an approach of social criticism in his discussion of the abuses of speech, as can be seen from the following examples. He speaks of "Taciturnitie" as being caused by a variety of factors such as natural dullness and lack of intelligence, but also "Sometimes of feare, as I have knowne in a most excellent Rhetorian in writing, yet most vnable in

speaking, for the presence of his auditors did exceedingly affright him..." Wright goes on to mention slowness in speech, by which "Some sorts of men speake very slowly, and so leisurely, that a Cart of Hay might pass almost betwixt one word and another." He cites as causes of this both "impediment of the instruments of speaking" and "a slownesse of conceiuing".

In Wright's critical descriptions too there is the underlying theme of evil and viciousness in deviant speech (1604: 111): under the heading of "Affectation in speech", he castigates those who "speake in print" and perform verbal contortions so that their conversation will sound elegant, striking and witty. In the end, he says, the only impression these speakers leave is one of inappropriate affectation and self-absorption. He describes them in this way: "these may well be compared to certaine birds which sing well, yet carie no flesh upon their backs, but are as leane as carion: they are not unlike strumpets, who veil diseased carcasses under rich attire." The thinking of such people lacks maturity and soundness, for all their mental energy goes into dreaming up clever expressions, "and that which they conceiued with great labour, they vtter with extreme difficulty, they stammer often,

and commit many discords, if they continue long in discourse; for the most part, their Epilogue consorteth not with their Exordium."

Wright's criticism in the above passages is directed both to the effects of "sottishnesse" and pretentiousness on the verbal behavior of those lacking in culture, and to the effects which "proceed from some impediment of the instruments of speaking". Indeed, the disagreeable evidence of disordered verbal behavior is seen to be related to lack of culture and gentlemanly accomplishment: "they vtter with extreme difficulty, they stammer often, and commit many discords". In a striking sexual metaphor, these speakers whose verbal communication gets into difficulties because of the lack of congruence between their words and their real thoughts and motives are likened to whores rotted with the pox. The notion of "congruence" enunciated here will assume considerable importance in 17th-century rhetorical discussions (see chapter III.4). For the moment I would wish to draw attention to the association of disordered verbal behavior in this passage with personal degeneracy, and sexual degeneracy in particular. It can be seen that the criticism of the humanist links the "vitia"

of speech to the general corruption of manners in society. Frequently, in fact, speech defects are related to evil, to sexual excess, to the dark side of man. Thus for example Galeotti (1517: 62v) connects speech pathology etymologically with evil and obscenity. In much the same vein the physician Mercurialis, in his discussion of the aetiology of speech impairments (1584), lists as causes the emotions, deep cogitations, prolonged watchfulness, sexual excesses and habitual intoxication, which injure the brain and nerves. Loose and unproductive living, the source of scandal, is thus exposed by defective speech. The 16th-century writers agree that a "vitium", if not rooted out in early youth, is "inemendabile", as Erasmus (1528: 84) states.

The connection between abnormal speech and moral turpitude flows from the exegesis of the term "vitium", and is a locus communis of Renaissance discourse. To this extent, the Other stands condemned. Yet there is not the attempt characteristic of later centuries to repress or to rehabilitate verbal deviance. Deviance is a part of the total social fabric of speech, and as such it is criticised by the humanist as part of his general criticism of the vices of society. Though the

abnormal receives attention from the pedant in the educational setting, there is as yet no reeducation envisaged.

3. THE PHILOSOPHER-PHYSICIAN

Yet there is one mode of discourse that concerns itself therapeutically with the problem of abnormal speech in the 16th century. Renaissance medicine, squarely based on the doctrine of the humours and elements, aspires to reestablish euphony in the troubled Microcosm. Mercurialis (1584), for example, gives a detailed discussion of the cause and cure of "balbuties", which term he uses to refer generally to the functional disorder of speech, "quando salua voce, sermo tamen omittitur" (1584: 58r). To understand this mode of therapeutic intervention by the physician, we must consider the state of the medical art and the anatomy and physiology of speech in the 16th century.

Just as the aim of the 16th-century theory of letters is to determine the ways in which the form of written symbols "makes visible" the actions of speech or "paints mannes voice". At the same time, the iconography of the speech organs in 16th-century

medical texts makes visible speech mechanisms to a much greater extent, and in a much newer way, than any work in previous periods. The phenomenon of speech is revealed by the study of the true form of letters, as in the work of Tory (1529), Durer (1525), and the Italian writing-masters beginning with Arrighi; by the anatomical representation of the organs of speech in motion, as in Leonardo's drawings and the work of the artists for Vesalius "De Corporis Humani Fabrica"; and by the description of speech activity in medical discourse, as in the texts of Casserio, Fabricius and Fallopius. Behind this approach to speech lies the Renaissance belief in knowledge through observation, "interpretatio naturae": the voice that spells out the letters of the book of Nature, and the hand that reproduces them for the eye and thus for the understanding.

Medical knowledge of man in the Renaissance is based on the doctrine of the four humours inherited from Antiquity. This doctrine provides at once a taxonomy of disease, in terms of "imbalance" among the humours in the human body, and a typology of personality, in terms of "preponderance" of one humour over another.

Humoral medicine is joined to the notion of man as microcosm by the discovery of correspondences between parts of the body and the four elements, just as the humours themselves in man correspond to the distribution of the elements of which the body and all things in sublunary nature are ultimately composed. As Vives explains in his *Tractatus de Anima et Vita* (1538: 1177), man's body is material, and no spiritual form can quicken it without passing through all the intermediate stages of existence. Thus man possesses not only the "anima rationalis" that makes him uniquely human, but also an "animalis" which he shares with the brutes and a "vegetalis" which he shares with the plants. In the same way, there is a natural hierarchy of the senses, which correspond to the four elements (sight - fire, smell and hearing - air, taste - water, touch - earth): any organism endowed with sight possesses all the other senses, but there are organisms endowed with touch and taste which yet do not possess sight or hearing.

Vives goes on to describe the faculties of the mind, which, exercised or not, remain as latent capacities, even if the instruments of their execution are defective. Speech is such a capacity, which may show itself defective in the execution.

vives illustrates this point with the metaphor of writing: one needs a pen to write, but one is still able to write even if one does not have a usable pen to hand.

Mercurialis, in the second book of his *De Morbis Puerorum* (1584) declares that the chief cause of "balbuties" is a moist and cold intemperament, and is accordingly to be cured by a diet of hot and spicy foods. He also records the opinion of Hippocrates that the impairment is due to dryness of the tongue, but concludes that this is the result of fevers and inflammations of the brain. A view similar to that of Mercurialis, in that it presents the alternatives of coldness or dryness, is expressed by Sir Francis Bacon (1627: IV, 386):

"Divers, we see, do stut. The cause may be, in most the refrigeration of the tongue; whereby it is less apt to move. And, therefore, we see that naturals do generally stut: and we see that in those that stut, if they drink wine moderately, they stut less, because it heateth; and so we see, that they stut more in the first offer to speak, than in the continuance; because the tongue is by motion somewhat heated. In some, also, it may be, though rarely, the dryness of the tongue, which

likewise maketh it less apt to move as well as cold; for it is an affect that cometh to some wise and great men; as it did unto Moses, who was *linguae praepeditae*, and many stutters, we find, are very choleric men; choler inducing dryness in the tongue."

Defective speech is thus typically caused by an excess of cold and wet in the body. It is also the case that children are very moist at birth, and that the maturational process involves a gradual drying-out of the brain: we will see this doctrine and its consequences on into the 17th and 18th centuries. And do not children lisp and stammer when they first learn to speak, as Henri Estienne (1565: 136, quoted on p. 50) and others observed? Furthermore, speech is produced as a result of the activity of the nerves, which find their roots in the brain. The brain itself, in Aristotelian doctrine, is cold, moist and inert, thus counteracting the vigorous heating effect of the heart as it pumps the life-giving warm blood through the body. Speech lies under the directing influence of the brain, just as the brain lies under the astral influence of the moon, waxing and waning in concert with the cold heavenly body that rules it.

Indeed, within the circular play of the elements, the

humours, man and nature and the heavenly bodies, there lies a fundamental polarity, a dichotomy in the human body between brain and heart. The heart, the masculine element, is ruled by the sun; the brain, the feminine element, is ruled by the moon. This dichotomy corresponds to Aristotle's classic distinction between voluntary and involuntary behavior, as developed by the Ancient medical writers, notably Galen and Nemesius: the heart works beyond the control of the will, obeying the natural imperative of preserving the life of the organism; the brain is the seat of will, thought and speech. Thus Fabricius (1601: 98) describes speech as a voluntary activity underpinned by muscular organisation: The human tongue "locutionem facit, ac literas profert", not because of its fleshly or nervous makeup, or because of any other bodily quality, but because of its mobility; and it is mobile, Fabricius succinctly states, because "musculus est". Speech is a voluntary act; whatever actions are performed or inhibited by our will are exercised by means of the musculature.

16th-century humoral medicine accordingly does envisage a therapeutic intervention in the case of disturbances of speech, but it is a holistic approach to reestablishment of harmony in

the body, not a speech reeducation as such. 16th-century humanistic education takes in hand the correction of speech deviance; the advent of reeducation must await new historical preconditions.

Footnotes

(1) The intellectual framework of the 16th century has been studied by Foucault (1966: chap. II). It will be necessary to give a brief summary of it here to facilitate the understanding of the background of characteristic Renaissance dichotomies such as "verbum-res", "figura-potestas" and "razionale-sensuale" (discussed on pp. 27-39). The main theme in the pursuit of knowledge in 16th-century Europe is "resemblance": four forms of resemblance (*convenientia*, *aemulatio*, *analogia*, *sympathia*) define all relations within Nature. These relations, which are hidden, are revealed to man by the system of "signatures" (see note 2 below for the source of this concept): every instance of similarity in nature bears a sign that identifies it. The task of the sciences is to discover these "signatures" and interpret them. The play of resemblances in nature, which would otherwise

be infinite, is delimited by the opposition of macrocosm and microcosm. Knowledge in the 16th century cannot be dismissed as merely an incomprehensible mixture of rationality, magic and servile adherence to the authority of the Ancients. Its whole thrust is interpretation (both "divinatio" and "eruditio"). It interprets not only the signs of nature, but also the signs which are to be found in the texts of Antiquity. Language itself is considered a natural entity; the pristine language of mankind corresponded exactly to the true relations obtaining in the world of nature, but this pristine "transparency" was lost after Babel (Hebrew still retains valuable traces of it). Finally, the preoccupation with the Text and with "reading" the book of Nature in the 16th century implies an attitude to language recognising the letter, the written word, as primary.

(2) Such is the term used by the 16th-century alchemist and physician Crollius in his "Traite des Signatures" published posthumously at Lyon in 1624. This text is constantly referred to by Foucault in his discussion of Renaissance thought (1966: chap. II, *passim*).

(3) The importance of Martianus Capella for the development

of phonetics in the Renaissance has not, to my knowledge, been noted by scholars. It is noteworthy that early 16th-century writers such as Tory (1529) and Galeotti (1517) constantly cite Martianus as their authority for phonetic statements. Martianus wrote in the 5th century A.D., and is thus one of the last Latin writers of Antiquity. He wrote a long work on the subject of the seven liberal arts entitled "De Nuptiis Mercurii et Philologiae", which contains much information on phonetics and pronunciation. See the article on him in the Oxford Companion to Classical Literature (1964).

(4) "Ex duabus lineis constat, quae suo contactu angulum constituunt acutum, spiritum ab utraq. parte palati emanentem indicant. quae uero per transuersum posita est, certam mensuram hiatus ostendit, quanto opus est in huius elementi enunciatione. non enim plus minusue patere debet hiatus ille, qm. sit interpositae lineae mensura. nam acumen anguli in summo, in imo uero linearum latum spatium, certam oris formam declarant. quandoquidem circa fauces spiritus coartatur, quia lineae spiritum ostendentes coeunt in angulo acuto, & in fine circa os dilatatio fit, cum haec litera pronuntiatur. nam ore nimis patulo, nec nimis angusto huius elementi fit sonus. ideo certa

fuit opus dimensione, quae indicatur per transuersam lineam ad pronuntiandum. quod dicente Martiano firmatur. ipse enim ait, Nang. A sub hiatu oris congruo solo spiritu memoramus. Sed sicut de hac litera diximus, ita in omnibus intelligendum est, lineas scilicet ex quibus literae constant, pro spiritus conditione formari." (Galeotti 1517: 56v-57r)

(5) "Such thinges as erst lay hid in Confusion, Rude and Vaine, Tohow vabohow, of no manner of shape or facion, might then by his Word of life, most clearly appeare and be distinguished: Not that their sundry qualities should be admirable to the outward sense onely, but that the very hart and minde of man should be mooued to consider the deapth of so strang a seperation; when euery thing was so rightly weighed by his owne poyse: and as the vpper face of any thing contented the sense, so the inward proprietie with due cogitation, should content the hart: that as well in kinds as in facions, both sense and vnderstanding, might (by comparing the substaunce with the pourtrayture) be lightned. Seeing that all thinges which the Lord wrought or commaunded in the first weeke, exceeded not the number of two and twentie, And (as I gather by the text) he delighted to rest in the most complet and correspondent summe of

the letters of this Abce... Wherefore I may conclude, that euery of these seuerall Hebrew letters, should signifie or import some speciall workmanshpy of the Lordes creation. ...God, by his diuine insight, hath diligently obserued the shapes, the figures, and the lines of euery of his workes; because he vsed to commende the perfection of them: so with his very finger hath he drawn them, and with his spirit stamped them secretly in all creatures for vs." (Top 1603: B2f)

(6) The Cabalistic tradition is clearly based on the Biblical account of creation in Genesis, and also such texts as Ps. XXXIII, 6,9, which in the Authorised Version reads: "By the word of the Lord were the heavens made, and all the host of them by the breath of his mouth... For he spake, and it came into being; he commanded, and it stood fast." The quotations from Top (1603: B2f) and Fludd (1659: 161) on p. 30, 31) give us occasion to remark that discussions of language in England at this time draw much more heavily on the resources of Judeo-Christian mythology than those, say, of their Italian contemporaries such as Trissino, Galeotti and Cardinal Bembo. I shall have occasion to draw attention to the persistence of the hermetic and Cabalistic tradition in 17th-century England, a

situation unparalleled in France or Italy, in chapter III. We might, by way of explanation, contrast the atmosphere of the religious ferment in Reformation England with the characteristic skepticism and freethought of pre-Counter-Reformation Italy; but the scope of this thesis does not permit us to enlarge on such speculation. It is important, however, I think, to emphasise the considerable intellectual common ground between the English and Italian authors, and indeed between all Western European authors in this period. In emphasising this I wish to disagree with the presentation of an otherwise interesting study of 16th-century views on language by Dubois (1970), who tries to set up an opposition between more traditional authors holding a thoroughly mythical and religious view of language and a more "progressive" group who see language as a natural phenomenon and a human responsibility. I find no evidence for such an opposition in the texts, and I think this fact emerges clearly enough from my discussion in this whole chapter. Foucault (1966: chap. II) - who is regularly referred to by Dubois (1970) - has, to my mind, shown definitively the extent of the "intellectual common ground" of the 16th century and what it consists of.

(7) "Movendosi adunque l'homo, non per istinto di natura, ma per ragione, et essa ragione, o circa la separazione, o circa il giudizio, o circa la elezione diversificandosi in ciascuno, tal, che quasi ogniuno de la sua propria specie s'allegra, giudichiamo, che niuna intenda l'altro per le sue proprie azioni, o passioni, come fanno le bestie; ne anche per speculazione l'uno puo intrare ne l'altro, come l'Angelo, senno per la grosseza, et opacita del corpo mortale l'humana specie da cio ritenuta; fu adunque bisogno, che volendo la generazione humana fra se comunicare i suoi concetti, havesse qualche segno sensuale, o razionale; percio, che devendo prendere una cosa da la ragione, e ne la ragione portarla, bisognava essere razionale; ma non potendosi alcuna cosa di una ragione in un'altra portare; se non per il mezzo del sensuale, fu bisogno essere sensuale; percio, che sel fosse solamente razionale, non potrebbe trappassare, se solo sensuale, non potrebbe prendere da la ragione, ne ne la ragione de porre. E questo e segno, che il soggetto, de che parliamo, e nobile; percio, che inquanto suono, egli e una cosa sensuale; et in quanto che secondo la volonta di ciascuno significa qualche cosa, egli e razionale." ["Since man moves not by natural instinct but by reason, and since this reason differs in everyone be it by distinction or judgement or

choice, so that almost everyone rejoices in his own kind, we can tell that none can understand another by his actions or passions alone, as the beasts do; nor can one enter into the other by speculation, as the angels do, because of the thickness and opacity of the human body; it was therefore necessary for the human race, wishing to communicate its conceptions one to another, to have a kind of sign that was both sensual and rational; because, needing to take something from the mind, and to carry it in the mind, it had to be rational; but since nothing can pass from one mind into another except by means of the senses, it had to be sensual; because, had it only been rational, it could not be transmitted, and if only sensual, it could not take from the mind or exist in the mind. All of this is an indication that the subject we are speaking of is a nobler one; for in so far as it is sound, it is a sensual matter; and in so far as it signifies something according to the will of each person, it is rational."] (Dante (Trissino) 1529: i iii)

(8) Dubois (1970: 115) quotes an interesting statement by another 16th-century author, Jean Bodin, which refers to environmental influences as the cause not only of Articulatory Settings but also of "vitia" in a more narrow sense:

"...Je ne parle pas des différences locales qu'entraîne la nature des eaux sur le larynx et sur la langue: ainsi les paysans de Lavedan en Narbonnaise et ceux du Valais non loin de Turin balbutient tous à cause d'un lambdacisme prononcé général."

This humoral conception of Articulatory Setting is briefly recalled by Bishop Wilkins (1668) in his discussion of the phenomenon, as we shall see in chapter III, section 2 (p. 87).

(9) "...In these seuerall Rewes (howsoeuer disguised) is no new thing: and...their inuentions which at this day are so famously faigned, are meerely nothing else, but counterfeiting of the Hebrew Rew; in changing their bodyes or their power, their places or their order... For what cause, vpon what deliberation, or to what end (except that Nations were wont craftily to conceale the knowledge of their Tongue from strangers) I know not: but a great cause of their metamorphosis, may be the changing of the culture and race of Wryting; which was, from the left hand to the right, being before contrary. The alteration of their power may seeme to

rise from Warfare or pollicie of Court: where, because silence will not serue, secrecie of Language should be needfull: and this (yea in the same Countrey and dialect) where Ciuill warres haue growen, men haue been forced to study and practise, least that the Watch-word either in Court or Campe be too easely apprehended of theemie, and by an vn lucky Alarme, both Policie and Armie confounded... For which cause, peradventure Kinges and Princes haue not onely endured and suffered in their litterature and language, but at their pleasure and will, haue ruined and ouerthrowen the naturall stampe & course thereof; and by preposterous order, changed the sound also." (Top 1603: 83f)

(10) In France, for example, a heated controversy opposed Meigret (1542), the champion of spelling reform, and such detractors as Guillaume des Autels and Peletier du Mans. The authors of the Pleiade approved of Meigret's programme, but the failure of Ronsard and Du Bellay to implement it in their own published works denied it a future. The controversy is fully documented by Brunot (II, II, 1); important discussions are to be found in Francois (1959) and Catach (1968).

(11)"...A quelli, che dicono, che non li piace l'innovare, dimando, se essi portano le veste, e fanno tutte l'altre cose, come facevano i padri loro; o pur vanno ogni giorno, secondo i tempi, et il bisogno, molte cose innovando; Et anchora li dimando, se sanno, che ne le loro citta molte arti, molti costumi, e molte leggi siano state alcuna volta innovate. Se adunque non solamente nel vivere privato, ma ne le arti, ne i costumi, e ne le leggi pubbliche tutto'l giorno s'innuova; perche non si dee fare questo medesimo ne la scrittura? La quale e dimostratrice, e conservatrice de i nostri concetti; massimamente in tale, e cosi evidente necessita. Non sanao eglino, che tutte le arti, e tutte le discipline sono venute a la perfectione loro per lo aggiungere, et innovare? E chi non sa, che se Palamede, Simonide o Epicharmo non havessero aggiunte altre lettere a quelle, che reco Cadmo di Phenicia in Grecia, che quella bellissima lingua non sarebbe a la perfectione, che vene, venuta. E se Cerere non avesse trovato il formento, ne Eurialo, et Hiperborio havessero mostrato il modo di fare le case di mattoni, ne Doxio di terra, ne niun'altro dopo loro avesse innovato, forse che la generatione humana anchora habiterebbe ne le caverne, e si pascerebbe di giande. Ma a questi tali non voglic molto lungamente rispondere; percio che

ogni giorno ne le cose loro innovando condannano se medesmi. E poi contra loro tutta la antiquita grida; havendo gl'inventori de le buone cose non solamente sopra gli altri homini honorati; ma per Dei alcuna volta adorati." ["To those who say that they do not like innovation, I ask if they wear the same clothes and do all other things as their fathers did; or whether they do not innovate all the time according to need and occasion; and again I ask if they are aware that in their cities many arts, customs and laws have been introduced at some time. If then not only in private life, but in arts, customs and the laws of the land there is constant innovation, why should the same thing not be done with writing? For it demonstrates and preserves our concepts, which is an evident necessity. Do they not know that all the arts and disciplines came to their perfection by addition and innovation? And who does not know that if Palamedes, Simonides and Epicharmus had not added new letters to those Cadmus brought from Phoenicia to Greece, that noble tongue would not have reached its perfection. And if Ceres had not discovered corn, nor Eurialus the means of building houses, and if no-one after them had innovated, the human race might still be living in caves and eating raw flesh. But I do not want to answer these people any further, for since they innovate in

their own affairs all the time, they are contradicting themselves. And again, all of Antiquity cries out against them; for inventors of good things were not only honoured above all other men, but at times adored like gods."] (Trissino 1524: unpaginated text)

(12) "Yet you may see, they cannot deny, but plainly confesse the vices in the corruption of the sounds of letters, which we haue in vse, for want of others to signify the full number of our voyces, and how they are but crept in amongst our predecessours, long since the first inuention of letters, which therefore may the better be spoken against: otherwise all sinne and vice which is naturally in the fleshe, and of longest vsed, ought not by their reason to be spoken against[. Y]et they may say, we haue the law of Nature in our harts, and the commaundement of God, written to teach vs what we ought to doe, and leaue vndone. So say I, that like as the law of nature in our hearts, and commaundementes of God written, doe teache vs a purenesse of life to represent the nature of God, wherfore he created vs: so ought the law of Reason which is in vs, to turn our handes to order iustly, those figures and letters which we shal make, to represent the voyces of our pronounciation,

wherefore we write them: & not to vsurpe others powers, or be ydle in their owne: or for want of better example of our predecessors, to portraict a monstrous figure, wanting such members as are manifest in the voice, for such an abused and vicious writing, bringeth confusion and vncertaintie in the reading, and therefore is iustly to be refused, and the vicious parts therof cut away, as are the ydle or offensiue members, in a politike common welth: or of trees and vines, in any mans ground: and other fruitfull and seruiceable receyued, fauoreu, and conueniently set in their places." (Hart 1569: 11v-12r)

(13) For recent discussion of Revolutionary language planning, see Balibar & Laporte (1974) and Certeau et al (1975).

Chapter III: The 17th Century

1. NATURAL SPEECH

The Age of Reason ushers in a new conception of normativity in social life, and in verbal behavior in particular. From this time also date the first attempts at rehabilitating and reintegrating those who by the abnormality of their speech lay outside the pale of prescription.

With the coming of the 17th century, the Renaissance notion of man as microcosm is supplanted by the new notion of Human Nature; but for a time the two conceptions exist side by side. The hermetic tradition of the Renaissance - the tradition of esoteric knowledge described in chapter II - lives on, especially in England. Thus in the preface to his treatise *De Motu Cordis* (1629), addressed to Charles I, Harvey refers to the heart as "the Sun of the Microcosm". In the course of his exposition, he frequently relates the movement of the blood to other circular and quasi-circular processes in the atmosphere and the heavens. Harvey's contemporary, the physician and

philosopher Robert Fludd, supported the doctrine of the circulation by saying that the movement of the blood had to be in a circle in correspondence with the sun's circular orbit around the earth. Robert Fludd has still the hermetic view of the power of letters, derived from the study of the Cabala, in his Mosaicall Philosophy (1659: 161), as we already noted in Chapter II (p. 31).

A striking mixture of Cabalism and newer approaches to the study of language is to be found in the work of F. v. Helmont, who was active in the intellectual movement in England in the 17th century, and who was the son of J. B. v. Helmont, the alchemist who is credited with the discovery of gases.

F. v. Helmont's treatise on the Hebrew letters is intended as an aid in teaching the deaf to speak, a philanthropic activity that was beginning in the 17th century in various parts of Europe (1) and would assume considerable importance for the Royal Society phoneticians. Helmont's thesis, illustrated in a series of diagrams, is that the shape of the Hebrew letters is an enigmatic representation of the articulatory posture corresponding to each one. This shows that

Hebrew writing, as well as recalling the pristine speech of mankind, and being of divine origin, is the ideal "natural" system of writing, in that it represents visibly the recurring articulatory events of human speech. This approach is exemplified by his description of the letter Aleph (1657:57E) (2). He refers to the tongue as "primo aliquantulum extolli e quiete sua"; we then see the tongue traversing the entire space of the oral cavity (the explanation for this is "quia autem haec litera Pater est reliquarum omnium, adeoque & pluribus opus habet perfectionibus"). The tongue continues its movement "debito naturalique ordine", ascending right up to the palate, and then, since it can proceed no further, it presses slightly against the palate and spreads into a curve. The shape of the letter Aleph can thus be interpreted phonetically: the midline represents the tongue ascending, the rightmost line represents it touching the palate, and the leftmost represents it returning to its original position "situ omnia naturali".

The description of the letter is in each case accompanied by a diagram in Helmont's book. As we see from the above reference, the shape of the letter(3) is thought by Helmont to represent various stages of the articulatory movement that it

signifies: within this imaginary phonetic space we see the tongue moving out of its neutral position ("e quiete sua"), forming an obstruction with a passive articulator, and thence returning to neutral position. Helmont's thesis is thus phonetically somewhat more sophisticated than that advanced by Marzio Galeotti (1517: 56v-61v), which I referred to in chapter II (p. 28f). On the other hand, Helmont, though he looks back to the hermetic tradition of the Cabala, provides a new, 17th-century perspective on speech by his notion of the Hebrew writing system as being the most perfect and the most suitable for scholarly use by reason of the perfect congruence it exhibits between "figura" and "potestas".

With the work on a Universal Language carried on throughout the 17th century, this conception of an ideal system of writing "making visible" speech events becomes very important. At the same time it should be noted that the sound system of Hebrew as enshrined in the Aleph-Beth was constantly appealed to as reflecting the original, natural organisation of speech sounds. Thus for example the basic vowels were assumed by 17th-century phoneticians to be [i], [a] and [u], and all other vowels secondarily derived from them, this assumption being based on

the "matres lectionis", namely the three Hebrew letters ׀, ׀ and ׀. In unpointed Classical Hebrew, ׀ is used to indicate the presence of a long [i], and ׀ a long [u] or [o]; ׀ is a glottal stop, actually a member of the consonant inventory, but traditional grammarians of the Renaissance and after took it to represent a syllable containing the vowel [a] without a preceding consonant. The 17th-century phoneticians saw ׀, ׀ and ׀ as the primary [a], [i] and [u], and the points for the other vowels as secondary modifications. Dalgarno, one of the earliest theoreticians of the universal language in England, refers - in his "Discourse on double consonants", appended to a longer work (1680) devoted to the teaching of speech to the deaf - to the Hebrew [a], [i] and [u] as "Cardinal Vowels"; and Wallis, in his phonetic treatise (1653), made them the basis of his taxonomic matrix of vowel articulations.

This shows the extent to which phonetic discussion in 17th-century England was still under the influence of hermetic doctrine and the study of Hebrew. Even at that stage the work on developing a universal language for "natural" and rational scientific discourse could be described by contemporary writers as "a trismegistical invention".

2. EMENDATIO VOCIS

In England, the Royal Society phoneticians were concerned with setting up universal principles of speech. Especially culminating in the work of Bishop Wilkins (1668), this search for the "natural" organisation of human speech is geared to the invention of a universal language, a language constructed on rational and natural principles more suitable for the pursuit of knowledge in scientific discourse than the inherited natural languages already in use. We shall not go into this matter, which has been the object of a recent study by Knowlson (1975), except in so far as the Universal Character project is necessary for an understanding of 17th-century ideas on speech. The approach is characteristically prescriptive, and markedly so as regards the study of speech: to contrast the "natural" set of articulations of a universal, philosophical language with the actual speech patterns found in the languages of the world. A truly philosophical phonetic notation must provide a set of symbols for all the natural articulations and for them alone, avoiding the errors of traditional orthographies; an example

often used here was that of English in writing "ng" for the velar nasal, two symbols for a single articulation, neither of which is an element of that articulation. Not only is there a scale of perfection in orthographic representations of speech, but there is an implicit hierarchy of values in the degree to which different kinds of speech approach the rational norm of philosophical phonetics. At the top of this hierarchy stands universal, natural speech, then comes the socially-determined sphere of particular languages and dialects, and finally individual speech habits, including pathological phenomena. This evaluation of speech is linked to the notion of Articulatory Setting (4). It is observed by the Royal Society phoneticians that each language, each social group is marked by the peculiarities of its pronunciation. Thus Wilkins (1668: 380f) draws attention to the fact that the "natural" pronunciation of letters varies as a result of the speech peculiarities of individuals and groups, and of nations. He acutely remarks on differences in the Articulatory Setting of different languages, and on the relationship between Articulatory Setting and phonetic inventory ("those kinds of letters which do most abound in a language"). As well as contrasting languages which have a more "forward" setting with

"deeply guttural" languages such as Hebrew, which "doth abound in some harsh consonants, Aspirations and Gutturals", Wilkins makes use of the environmental theory (as stated by Castelvetro 1563 - see fn. 3) of Articulatory Setting to explain supposed differences between the pronunciation of languages of Northern and Southern Europe: "by reason of the outward heat" Mediterranean peoples have less energy to put into articulation (5).

In a similar vein, Wallis (1653: 208ff) observes (6) that among different peoples one finds "nonnihil diversitatis inter pronuntiandum" affecting not so much individual speech sounds as what he calls "totius potius loquelae communis... affectio". The English, he says, seem to move their whole mode of pronunciation to the forward part of the mouth, and speak with the jaw loosely open, which makes for distinctness of pronunciation. The Germans, on the other hand, speak from the back of the mouth and the depth of the throat, so that their mode of pronunciation is stronger and more strenuous. The French make all their sounds close to the palate, and without opening the jaw very wide, so that their pronunciation comes out as somewhat indistinct, "et quasi admisto murmure confusa". The

Mediterraneans (Italians and Spaniards) speak "productioni tenore" in comparison with the Northern peoples. The French (and the Scots too) make the final syllables of phrases and sentences rise, whereas the English let them fall; this, Wallis comments, is a descriptive feature of the whole sentence, rather than of individual words.

The remarks of Wallis, like those of Wilkins just mentioned, reveal a wealth of observation on phenomena of Articulatory Setting. The comparison between the Settings of English, French and German would become a standard descriptive exercise for the classic phoneticians of the 19th century; Wallis also pays attention to melodic features of the utterance in this regard. It is clear from the foregoing descriptions of the phenomenon of a "loquelaee communis affectio" that the group of scholars I am referring to as the Royal Society phoneticians had a particularly sophisticated awareness of Articulatory Setting, and indeed it can hardly be denied that their phonetics was of a very high order(7). Note in particular Wilkins' insightful comparison between individual and national speech habits. The excellence achieved by 17th-century phoneticians in England is all the more noteworthy in that the impetus for their

investigations was practical, and indeed remedial, as I shall have occasion to show further on in this discussion. Helmont (1657: 3) remarks on the potential significance of Articulatory Setting for teaching lip-reading to the deaf (8). The reeducative enterprise is more likely to succeed in the East than among the peoples of Northern Europe, because in the East men speak with more vigorous breathing and open mouth and throat, "ex ipso pectore", so that all the movements of the articulators can be easily observed, whereas in England and adjoining regions men tend to speak indistinctly - "paululum saltem aperto ore vix labia moventur", he says.

It is interesting that the Dutch-born Helmont makes a criticism of English speech habits that would later become standard with Continental observers: "Their lips hardly move". He regards this matter as a disadvantage to the movement to teach the deaf to speak in England. For Holder (1669: 74-79), these general differences in articulation involve both individual anatomical peculiarities and the distribution of the universal phonetic inventory in languages. He refers to the relationship between phonetic inventory and Articulatory Setting, observing that speech sounds that are not included

among the "natural" set of articulations but are used in some languages "give a Guttural and Nasal smatch to their speaking". Also, some of the "natural" articulations are missing from the inventories of various languages. In this same context, Holder speaks of the inability of persons with certain anatomical or nervous defects to articulate some of the "natural" sounds. Again, he makes a thoroughly normative contrast between "Freedom or Apertness and vigour of pronouncing" and "Laziness of speaking" in explaining the general effects of Articulatory Setting phenomena in languages (9).

The notion of a hierarchy of Articulatory Settings emerges clearly here: Holder discusses the unusual or "marked" sounds occurring in particular languages in comparison with the peculiarities of pronunciation manifested by those individuals who, because of an anatomical defect, cannot articulate particular sounds in their own language. The range of possible articulations in languages is wide, including such segments as voiceless nasals and liquids known to the Royal Society phoneticians from Welsh (10), but these are rare because not highly adapted to speech communication. Thus Amman (1700: 61) says that notwithstanding the large number of letters possible,

those which are simple and easiest to pronounce without unduly distorting the speech organs have been generally adopted by all nations as if by a kind of international convention - "which, indeed, intimates the higher origin of them."

The less "marked" sounds, then, form the universal, natural Articulatory Setting; on the other hand, the more marked combinations of sound features are typically found in pathological speech, as Holder (1669: 55) observes:

"...M, N, Ng, V, Dh, Z, Zh, L, R, if the last six be spoken through the Nose, in such manner as we hear it done by those who (through an ill habit, or by an ill constitution or corrosion of the Uvula or Valve, which opens and shuts the passage of breath to the nose) are said to speak in the head, or Snoch."

Individual speech is the domain of greatest variation in pronunciation; this is underlined by Holder's recourse to anatomical considerations, as well as the dimension of individual experience ("ill habit"). So also Amman (1700: 37) recognises the personal, individual dimension of verbal behavior: we recognise people we know by voice even when we are

unable to see them, he says, not only by the sound of the voice itself as it is produced in the larynx, but by the particular way that the that sound is converted into speech by the movement of the articulators, for every person articulates in a slightly different way.

Thus a hierarchy of articulatory settings is recognised by the Enlightenment phonetician, from the most neutral, universal and rational to the purely individual. The universal phonetic metalanguage is based on a taxonomy of the visible. Thus Amman (1700: 66f) proposes that, after the general division of the letters into vowels, semi-vowels and consonants, they should be subdivided according to the three parts of the mouth (the lower part of the throat, the palate and teeth, and the lips) as is justified by visual inspection. Each of these three major classes contains a set of about half a dozen sounds, which Amman proceeds to enumerate as follows: guttural - a, n (velar nasal), ch, g, k; dental - i, e, n, s, z, t; labial - o, u, v, m, f, p. Unless this division of classes is borne in mind, Amman says, we cannot explain why a child afflicted with a speech impairment so that it cannot pronounce u, n (velar nasal), r or k will not just substitute another sound at random,

but will use the corresponding dental of the same rank: l for r, n for ng, t for k, and o for u.

As Amman here shows, the place of articulation parameter provides not only a principle of phonetic classification of speech sounds, but also an explanation for pathological phenomena: speech defects are explainable in terms of visible processes.

Like the project of "surdus loquens", the whole idea of a Universal Character is to represent the movements of the speech organs by "making visible" those organs and movements. This can be seen not only in the early attempts of F. v. Helmoat described earlier, but also in the universal phonetic description of speech proposed by Bishop Wilkins in his "Essay towards a Real Character" (1668). This conception of phonetic representation may be seen as analogous to the earliest work in the microscopic anatomy of the vocal organs which was being done around this time, by Malpighi (1651) and Steno (1664). Both in the notation and in the microscopy of speech, there is a precise and detailed exploration of the topography of the vocal tract and of the movements and interactions of the articulatory

organs. Thus F. v. Helmont gives a description of the tongue and its articulatory movements that emphasises the visible physical reality of speech (1657: 21f): that the tongue might be able to change itself into many Protean shapes and respond to many different kinds of motive impulse, the Almighty fashioned it with a wealth of fine muscular structure, and endowed it with the capacity to take on different "figurae", sometimes round, sometimes long, sometimes shorter, sometimes thinner or thicker, raised or flat, and to move in all directions, forward, back, up, down, right or left (11).

This description is striking for its dynamic view of the wide range of articulatory possibilities which the human oral anatomy and physiology provides. It reveals a characteristic belief that the basic understanding of speech comes from visual observation of the vocal organs. For the Royal Society phoneticians, freedom from pathological habit or defect is to be found in knowledge of the "natural" articulations and of the visible movements of the organs in articulating speech. Thus Wallis recounts (1653: 116) that he had been able to apply the fruits of his research on the formation of speech sounds to practical problems: not only had he succeeded in teaching

native English speakers "sonos praesertim aliquot literarum seu haesitantes, seu balbutientes" to pronounce those sounds clearly and without difficulty, but he had also taught foreigners to pronounce easily various English sounds which they had hitherto thought impossible to acquire. His method in the case of the foreigners learning English was "monstrato tantum, quo organorum positu, proferri debeant soni"; and in the case of impaired English speakers, "corrige, quam sive organorum vitio sive prava consuetudine contraxerant, haesitantia".

Here we see that Wallis regarded speech disorders as the same kind of problem as that of learning to pronounce a second language correctly: both problems can be solved by making the subject physically aware of the workings of his vocal apparatus. This conception of remediation lies at the heart of the approach of the Royal Society phoneticians. The stimulus for the work of Holder and Wallis was, at least in part, the problem of teaching the deaf to speak. This problem was to be solved by making the subject aware, by the use of the mirror and the touch of his own fingers, of the manner in which he might bring his vocal organs to the exercise of speech, as Holder describes in the "Appendix concerning persons deaf and dumb" to his 1669 work. Since

speech could be explained in terms of visible organs and movements, it could be learned by the deaf with the visual sense taking over from hearing.

It is to be noted that in the 17th century, as still in the 18th, it is the phonetician who speaks with authority on the matter of reeducation, rather than the medical man. Thus Dalgarno (1680: Introduction) remarks that since the soul of man depends in its operations upon the bodily organs, when these are impaired the mind is also affected, "as at least to be hindered in her external functions". Since this is what happens in the case of deafness or speech defect, Dalgarno says, "I will leave it to the skilful Physician, to discourse of the causes and cure of the disease, as it concerns the Body, and will apply my self to consider of the means, to cure the better part of the man, which is the proper work of a Grammarian."

The phonetician concerns himself with the personal psychological well-being of the patient and with his social integration. 17th-century medicine, still attached to its humoral basis, continues to seek "the causes and cure of the disease" in a holistic approach to brain functioning, as can be

seen from the discussion of Antoine Menjot, whose explanatory model for speech pathology depends on "pituita quae neruos rigat loquelaе consecratos" (1662: 216). He sees the aetiology of "balbuties" in a debilitating imbalance or dysharmony of function (1662: 209). The causes of "balbuties" are varied, he says, but the chief one is an impairment of the muscles of the tongue that is not so much a cessation of movement altogether as a "tremor, perquem non plene absolutur loquutionis integritas, at identidem interturbatur."

Menjot's prescriptions (1662: 213) recall the earlier pronouncements of Mercurialis and Sir Francis Bacon (see pp. 63, 64) on the subject: a moderate intake of wine will help the stutterer speak more fluently by counteracting the frigidity of the tongue with its natural warmth; "sic picae & sturni loquaciores sunt, si offam vorent, vino madefactam."

Reeducation becomes the prerogative of the 17th-century phonetician as part of his programme to bring the faculty of speech to perfection, to free it from irrationality and error, to purify it for an ideal philosophical discourse - a programme which we might term "emendatio vocis" by analogy with Spinoza's "emendatio intellectus".

3. THE RATIONALE OF REEDUCATION

Let us now examine more closely the configuration of knowledge and belief that made the reeducative enterprise possible in the 17th century. The rationale of speech reeducation, which as such now appears for the first time, depends, I suggest, on the twin aspects - both of them equally valid for the 17th century - of language considered as part of the definition of Human Nature: language as gift of God (12), as an innate prerogative of man; and language as a product of society, that is acquired by the experience of the senses.

"Car c'est une chose bien remarquable qu'il n'y a point d'hommes si hébétés et si stupides, sans en excepter même les insensés, qu'ils ne soient capables d'arranger ensemble diverses paroles, et d'en composer un discours par lequel ils fassent entendre leurs pensées; et qu'au contraire il n'y a point d'autre animal, tant parfait et tant heureusement né qu'il puisse être, qui fasse le semblable. Ce qui n'arrive pas de ce qu'ils ont faute d'organes: car on voit que les pies et les

perroquets peuvent proférer des paroles ainsi que nous, et toutefois ne peuvent parler ainsi que nous, c'est-à-dire en témoignant qu'ils pensent ce qu'ils disent; au lieu que les hommes qui, étant nés sourds et muets, sont privés des organes qui servent aux autres pour parler, autant ou plus que les bêtes, ont coutume d'inventer d'eux-mêmes quelques signes par lesquels ils se font entendre à ceux qui étant ordinairement avec eux ont loisir d'apprendre leur langue." In this well-known passage of the "Discours de la Methode" (1637), Descartes remarks on the system of hand-gestures spontaneously developed by the deaf as a means of communication, a "langue" (as Descartes terms it), amongst themselves, and concludes that the linguistic faculty must be a constant attribute of human nature, since even those who are "privés des organes" find a way to communicate. One feels, in this passage, the extent of the isolation of the deaf from normal speaking society that lasted on into the 17th century. An appreciation for the ingenuity of the deaf in their use of non-verbal resources similar to that of Descartes, but coupled with an ambition to integrate the deaf into normal society, is found in the "Philocophus" (1648) of the English physician and rhetorical theorist John Bulwer, who writes in his Dedication, addressed to the deaf, that although

they cannot express their thoughts "in those verball contrivances of man's invention", they can use their whole body to communicate. Gesture, which Bulwer refers to as "the generall and universall language of Humane Nature", is the tongue through which they make themselves understood not only to each other but also to the hearing. Gesture is indeed a common language among all men, whether deaf or hearing, and the hearing use it to add life and vigour to the spoken word, replacing words completely with gesture when a solemn situation requires a nod or other such "Naturall signs" alone.

At the same time, however, the idea was gaining ground that the deaf should be taught the understanding and use of the vocal organs for a fully human participation in social life. Rejecting the Aristotelian notion of Renaissance medicine that the organs of hearing and speech are linked by an occult "sympathia", Menjot (1662: 206) affirms the possibility of rehabilitating the deaf: "...Si propter aurium cum lingua sympathiam ex eiusdem nervi communione, surditas innata, loquendi adunamian secum adducit, vicissim qui a natura muti sunt, necessario surdos fore, contra fidem experientiae."

His account of the absence of speech in the congenitally deaf (1662: 204f) is particularly illuminating in the present context, and Menjot's argument is indeed a crucial one for our present discussion. He emphasises that vocalisation, which he regards as a manifestation of the capacity to speak ("vis loquendi"), is universally present in human beings, but that articulate speech itself arises from imitation of the speech of others, just as marble awaits the sculptor's chisel to give it a form. The tongue is, as he puts it, "sine doctore mobilis", but its use in speaking has to be learned by experience; and even infant babbling is a crude imitation of the adult speech that small children hear around them. Again, man's capacity to speak must indeed be a Divine endowment: for if men learn to speak only by imitation, how could any man have invented it? All this shows that the deaf - like the legendary "wild men" who grow up without benefit of human society - remain mute only because they cannot hear the speech of others and are therefore deprived of the opportunity to imitate it. They are in the same situation as the young of songbirds, which, if they are taken from the parents' nest, never learn to sing by themselves: even in the animal world, where characteristic behavior is prompted by instinct, learning by imitation is a necessary factor (13).

Compare a similar argument advanced by Sibscota (1670: 22f), in which he distinguishes the "faculty of Sermocination", which is an innate attribute of Human Nature, from actual human languages, which are acquired through social experience: It might be claimed that if the deaf had in them a natural ability to speak from birth, they would invent some natural language of their own "which Nature their School-Mistress should instruct them"; for since language is "essential to Man", one would imagine that where the organs are available, language will have to manifest itself. The answer to this argument, according to Sibscota, is that it is true that the faculty of speaking is given in all men; "yet the names of things, and so consequently the Languages themselves, or the Idioms of Speech are not to be learned by nature, but by instruction, exercise and custome... Therefore as Nature made Man without Knowledge; that he might be capeable of all Arts; it must necessarily follow, that she Created him without any Language, that he might learn them all."

The faculty of speech, then, is "Dei donum", but it is also the case that speech has its perpetual origin in human society, and is, as Locke (1693: 273) put it, "to be learned by roate, custom and memory". Like the birds themselves in the natural

world spoken of by Menjot in the above-quoted passage, man can come to the faculty of speech only in a world of social experience. "We do not speak from a certain innate knowledge of things, but as we have learned from our parents and others" (Amman 1700: 19). The deaf can be rehabilitated for the speaking community, as the Royal Society phoneticians in particular demonstrated, by providing them with speech input through an extraordinary perceptual mode: the visible.

Thus it can be seen that the reeducative enterprise in the 17th century is linked with the aspect of learning, memory and habit in perceptions of the phenomenon of speech. It is in this sense that we can interpret Locke's statement, referred to in the last paragraph,, that "languages, being to be learned by roate, custcm and memory, are then spoken in greatest perfection, when all rules of grammar are utterly forgotten", as enunciating the 17th-century view of the linguistic faculty. But there is more. A sphere of human experience is delimited in which speech is in fact mechanical, habitual and infra-conscious. Renaissance medicine had distinguished two complementary spheres of the Microcosm, presided over by the heart and the brain; the 17th century identifies a sphere of

"automatic" behavior to be distinguished from the sphere of the voluntary, the creative, the higher areas of human nature. Cudworth (1678: 162), in opposition to Cartesian dualistic mechanism, identifies what he calls a "Plastick Nature", a kind of Aristotelian essence or organic form which assures life support systems and habitual behavior. He argues (1678: 157) that the existence of a purposive natural force which is itself unaware of its purposes is demonstrated by the phenomenon of habits, "particularly those Musical ones, of Singing, Playing upon Instruments, and Dancing". Cudworth shows that these highly complex skills are automatised, and organised into series of motions, and he gives an acute description of the musician's behavior in these terms (14). What Cudworth has described here is the experience of performing a train of skilled actions, acquired by imitation and habit, without the performance of each action being separately "willed" by the subject or entering discretely into his consciousness. The phenomenon of musical performance (15), as much as the phenomenon of speech itself, reveals the presence of a "Plastick Nature", an automatic, holistic organisation of behavior coexisting with voluntary consciousness in the being of man. Cudworth derives this idea from Harvey, whose Aristotelian interpretation of the movement

of the heart had led him to the discovery of automatic behavior (16), as we see from Harvey's macaronic lecture-notes (1627: 146):

"Motus acquiritur et ab anima et appetitu concitatur, ut playing of the lute, dancing, speaking: partim one finger, one foote, one letter, deinde coniungit et tanquam unum imperat et ultro tanquam signo dato."

Cudworth describes this phenomenon characteristically by analogy with the mechanical work of the printing-press (1678: 162), when he declares that Nature may as well act "Regularly and Artificially" without any consciousness of its own, as type set "may print coherent Philosophick sence" though there is no human intelligence involved in the impression of the type onto the page.

Comenius in a famous passage of the "Didactica Magna" (chap. VIII) makes extensive use of the printing metaphor: man at birth is like a blank page, and the task of education is to imprint on his mind the words of truth. And like all the copies of one book, the imprint of education is normative and

standardised in every individual who has been schooled.

The metaphor of the printing-press as used in 17th-century discourse thus points to a domain of automatic or habitual behavior associated with human learning. v. Helmont (1657: 20) speaks in these terms of the acquisition of speech and its subsequent automatisisation: The articulatory movements which we learned to fashion in infancy after "ideam materni sermonis" are never afterwards present to our consciousness although we may repeat them countless thousands of times in speaking; for the articulations are always carried out at great speed, "unae quicquid in illis latet miri atque magni, plerisque ignotum est."

The strange and wonderful domain of habitual, automatic verbal behavior spoken of here by Helmont is lost to everyday consciousness ("plerisque ignotum est"), and so it may give rise to peculiarities of speaking that lie outside the pale of controlling rationality. The habit-governed rapidity of articulatory movements in speech gives rise to characteristic errors - under which heading Menjot subsumes the most systematic "vitium", the articulatory setting peculiar to a dialect, using

the classical example of the "broad" Doric with the predominance of the vowel alpha in its words (1662: 206f): since the movements of the tongue in the production of speech are so varied and difficult to grasp, many errors are likely to occur, so numerous in fact as to defy description - every people has its "vernaculum elocutionis vitium", according to Menjot, just as the Dorians were called "platystomi" by the other Greeks because of their characteristic drawl (17).

It is also remarked by 17th-century writers that the pathology of speech involves a disturbance of the automatic, unreflecting flow of speech. Menjot (1662: 210) thus characterises "balbuties" in an insightful comparison: it is not that the volubility of the tongue causes speech to break down by deforming the words, but rather that the succession of syllables is interrupted; "quemadmodum enim praerapide currentes, in alium motum difficiliter flectuntur; si concitata lingua, vni syllabae diutius insistit, vixque diuertit ad alteram."

This description presents the image of the speech organs losing their rhythm and getting stuck at one point in the stream

of speech. In a further simile (1662: 211), he recalls the common theme of the rapidity of thought outstripping speech (18); if thinking is confused and disordered, then speech, which is the representation of thought, will lose its smoothness and coherence. "Balbuties" may appear as a result of an uncontrollable flood of thoughts, as is observed in the delirious. This is compared to the confusion of a servant receiving several orders at once from his master: "nam quemadmodum seruus vtvv dicto audiens, molesto domino plura simul imperanti praesto ad omnia esse non potest: sic lingua quantumvis agilis atque explanata, confertis nimium atque volucris mentis conceptibus exprimendis impar est, sed in praeceptis delapsa turbide ac adhaese loquitur."

For the 17th-century writers, then, the sphere of habit, learning, imitation, "roate, custom and memory" is implicated in the understanding of "balbuties" to the extent that the latter characteristically involves a breakdown of the automatic flow of speech that is accomplished without conscious reflection or voluntary exertion in the normal process of verbal communication. But again, just as speech is acquired by habit, so also is defective speech - at least, that defective speech

that is not acquired "organorum vitio", but "through an ill habit" ("prava consuetudine"), in the terms used by Wallis (1653: 116) and Holder (1669: 55) in their discussions quoted on pp. 91, 94f. Now if defective speech is acquired by habit, it follows that remedial intervention must involve the substitution of new speech habits, better adapted to established norms of verbal behavior, for old, pathological habits. This is precisely what we find in the reeducative practices described by Amman (1700: 120), who instituted a regimen of speech exercises and repetitive drills for those who sought his expert advice. He recommended to persons suffering from impaired speech to read a lot of material aloud in a distinct and loud voice, to recount what they had read to a friend, to memorise something daily and to repeat it frequently, and always to speak with slowness and premeditation. "In the meantime I frequently practise them in the pronunciation of the explosive letters, combined in all possible ways, tak, tek, tik, pek, pik, kuyt, tuyt, &c. In this manner I cure stammering."

Amman is a highly important figure in the historical development of the reeducative enterprise which we here begun to describe; Rieber, in his Introduction to the 1965 reedition of

Amman's major work, places him at "the beginning of a scientific period in the history of Logopedics" (p. v). The earlier 17th-century authors on speech, notably the Royal Society phoneticians whose work, in which there is so much to admire, we discussed in the previous section of this chapter, all engaged in reeducative activities; but unlike the orthoepists of the 18th century, who would carry out their activities in the context of a quasi-institutionalised professional role, they appear in their writings as gentlemanly dilettantes rather than as members of a profession. Amman's, however, emerges as a fully-fledged rational scheme of therapeutic intervention which he invokes upon a succession of well-born patients. Might we regard Amman as the first orthoepist? Perhaps; but he still belongs very much to the 17th-century group, being a physician who occasionally intervenes in cases of speech defect beyond the traditional bodily realm of medicine to "cure the better part of the man" (Dalgarno 1680: Introduction), rather than a professional speech teacher charged with upholding the verbal norms of polite society. The professional speech teacher would not come into his own until the 18th century; but the concept of "polite" society and its norms and sanctions in matters of language use in particular were already developing in the 17th -

particularly in France, where the foundation of the Academie francaise by Richelieu in 1635, and the influence of the salons, notably those of the Marquise de Rambouillet (1588-1665) and Madame de Scudery (1607-1701), contributed each in its own way to standards and self-consciousness, if not self-criticism, among French speakers.

The theme of automaticity in speech, of speaking as a manifestation of unconscious habit, which is seen to be so crucial for what I have termed "the rationale of reeducation", will be further developed by the speculative neurophysiology of the 18th century, and will become the key element in a regime of verbal hygiene. This development will be considered in Chapter IV of this thesis. But prior to that, I shall go on to consider somewhat further the place of abnormal and deviant speech in 17th-century society.

4. THE EXPERIENCE OF THE OTHER

Language in the Age of Reason must be transparent, the speaking of "verbum" leading to the clear conception of "res".

Anything abnormal or pathological in language draws attention to language itself, and language becomes opaque. This would remain largely true for the 18th century: as Lord Monboddo observed, in rhetoric, "the attention of the hearers must not be drawn to words from things" (1792: xxv).

It is difficult to circumscribe the manner in which the Other is experienced by thinking on language in European society in the 17th and 18th centuries, for that opaque speaking is rejected to the edge of scholarly discourse. What is for the 19th century a phenomenon of pre-socialised behavior to be linked to, and educated to normality, is for the earlier period still a fall from reason and its norms. In the 17th century we see the beginning of a moral view of language that condemns the abnormal, the Other, and denies its right to speak. However, we do find indications as to the manner in which the Age of Reason perceived abnormal speech at the frontiers of the social universe: in the description of the language of the native peoples of the New World, and in the stock characters of the *Commedia dell'Arte*.

The tradition of rhetoric to which Lord Monboddo's remark

belongs, a tradition which established itself and found its most characteristic expression in 17th-century philosophical discussions on the nature of Eloquence (19), emphasises transparency and the notion of truth in speaking. Thus Cordemoy (1668) (20) says that untruth takes away from the excellence of verbal communication by the speaker. He puts forward the proposition "Que le mensonge est oppose a la veritable Eloquence" (1668: 246), and goes on to explain that it is best to think of lying as the one thing that is most injurious to true Eloquence. Since eloquence is a means not only to express our thoughts but also to convince others to share them, it should always be used to make truth manifest, or to lead others to the truth.

Expressing a similar point of view, Reynolds (1640: 512) says that speaking becomes unnatural and abhorrent when it is used to conceal the truth rather than making it manifest. Even the technically polished use of rhetorical ornament will not save speaking from that severe judgement: "...There is one thing which seemeth to be the most proper Corrupter of this Ornament of Speech, and that is a Lye." Just as a thing is most perfect when it retains the purity of the purpose for which it

was made, it is most depraved when it deviates from that original purpose. A picture is still called "true", even if it has been damaged in some way by tears, cracks or discoloration, as long as it still bears a lively resemblance to its object; whereas if the resemblance is false and deceitful, it is a "false" picture, no matter how much skill or ornament the artist has expended upon it. It is the same with the speech of man: "though of never so great weakness and insufficiency in other respects; yet if it retain that one property of shaping itself to the Concepts of the Mind, and make level and proportionable the words with the thoughts, it may still be said to be (though not a good) yet in some respect a Regular Speech", in that it conforms to the purpose for which man was endowed with the faculty of speech; but if it is "a false Image of our Intentions" it must be condemned as a depravation of the faculty of speech.

According to this 17th-century rhetorical theory we are endeavouring to circumscribe here, not only is untruth to be condemned from a moral point of view, but it leads to a loss of eloquence. Reynolds, in the discussion quoted above, has emphasised that if the God-given power of speech is used to

conceal rather than to reveal the truth, "Nature is diverted from her prime End, and the Faculty quite depraved"; this is because the speaker has perverted the ideal congruence and transparency between "verbum" and "res", whereas his speaking should properly "make leuell and proportionable the words with the thoughts". Cordemoy, in his discussion, goes further, making the important point that in cases of falsehood "the Faculty quite depraved" results in the loss of eloquence itself. He explains (1668: 247) that an orator who says the opposite of what he knows to be true is unlikely to find words to express it as easily as he would if he were telling the truth. Cordemoy continues: "si celuy qui n'est pas homme de bien, veut exciter dans les autres des mouvemens & des passions, qui ne sont pas veritablement en luy, ce sera toujours froidement qu'il exprimera ces passions etudiees." If the orator, realising this dilemma - which always appears when one tries to inhibit one's natural movements so as to feign some other movements - wishes to suppress any expressions and slight movements by which his face might belie what he is saying, he will have to make such great efforts that not only will he lose that grace "sans laquelle on ne scauroit ni plaire ni persuader", but he will repel his hearers. "En un mot, il est evident, qu'il y a

naturellement un tel rapport entre les sentimens des hommes, & les signes ou les paroles, dont ils se servent pour les exprimer, que jamais une personne ne scauroit de si bonne grace dire un mensonge qu'une verite."

Note here the clear relationship established between lack or failure of eloquence and deceit and moral turpitude: the bad speaker is an unsuccessful orator because he "n'est pas homme de bien". The self-conscious inhibition of the individual's natural thoughts and motives results in a loss of natural grace in speaking. The speaker who says things he does not believe, or who feigns emotions he does not feel, must repress his real feelings; again, the lack of congruence between the words and the thoughts of the speaker - and specifically here between the emotions of the speaker and his verbal behavior - makes his language opaque. Truth is linked with the virtues of spontaneity, sincerity and commitment. Amman (1700: 57f) observes that there is as great diversity among orators as among their hearers. Some speakers put no life into their words, and others cannot express what they really want to say. The essential difference is between someone who "utters words fresh and spirited from the warm feelings of his heart", and someone

who "speaks from custom only, concerning things of which he is himself doubtful, and the truth of which he does not feel."

The centrality of speech in the self-revelation of man is emphasised by Amman in similar terms (1700: 8f): men express their innermost feelings most adequately by the spoken word, because speaking not only expresses the contents of mind and heart but also is produced by the action of the body, so that it is the most personal and intimate kind of expression possible. That is why one feels such great relief, in times of emotional distress, from putting the feeling into words and expressing it to others in this way (21).

If moral excellence attaches to eloquence in the 17th century, impaired communication is stigmatised as a sign of moral turpitude. Falsehood and loss of eloquence come to be profoundly connected; one implies the other. The abnormal speaker shows by the disorder of his communication that it is somehow "untrue". As Harvey tells us in his manuscript notes (1627: 148):

"Et defectus harmoniae et rithmi in loquela et incessu et

apparatu falaciam indicat homine, id est iudicium. Ubi enim aliquod praeter rationem significat vel defectum vel incontinentiam vel vitium et pravus habitus [sic]."

The extreme "loss of eloquence" of the impaired speaker is clearly seen to be due to the kind of contradiction between emotion and verbal expression discussed by Cordemoy in the passage cited extensively above. There is also clearly a parallel between this perception and Menjot's (1662: 211) notion of the faculty of speech unable to keep up with "confertis nimium atque volucris mentis conceptibus", so that it "in praeceptis delapsa turbide ac adhaese loquitur" (we discussed Menjot's text in the previous section of this chapter, on p. ..). The condemnation of the abnormal speaker is a moral one in the 17th century, for the overriding view of language is a moral one: moral judgements preside over verbal behavior. As Renolds (1640: 512) expresses it, "Nature hath guarded and compassed in the Tongue with the lips, like a folding Gate, and with the Teeth like a double Hedge, that wee might be admonished to weigh and ponder our words before we produce them."

From the 17th century on, abnormal speech is brought to the

stage by the Italian comedy. The stock character Dottor Graziano, related to the "senex" of Roman comedy, is an object of ridicule mainly by reason of his pompous style of speech and frequent unwitting slips of the tongue; and in the 18th century there develops the character Tartaglia ("stammerer"), usually a notary who draws out and confuses the proceedings by his speech defect. These characters of the Commedia can be regarded as the counterpart in popular culture to the critical activity of the phonetician, the orthoepist, the rhetorician, in upper-class society. Both hold up deviations from speech norms to the light of reason, either for correction or for ridicule (22).

European attitudes to language and speech can also be clarified with reference to the descriptions of the speech habits of native peoples in the New World. The great 17th-century documentation for this is the "Relations des Jesuites", the successive compilations of mission records in New France published by the Society of Jesus. The perception of autochthonous language is ambivalent: on the one hand, the observers are impressed with the phonetic and grammatical complexities of the languages and with the ease with which the Indians manipulate them; and on the other hand, they are struck

by the lack of equivalents to European abstract and moral terms in these languages.

"Ils ont vne lettre dont nous n'avons point la pareille, nous l'exprimons par Khi, l'usage en est commun aux Montagnes et Algonquins. Ils ne cognoissent point de B. F. L. M. P. X. Z. & iamaïs I. E. V. ne leur sont consonnes. La plus part de leurs mots sont composes de voyelles" (1636: 117). The Indians have no labial sounds, the writer continues, for they open their lips so awkwardly that they can scarcely be understood when they whisper or speak in a low voice. Since they have no real notion of virtue, religion, science or politics, they lack simple words to express such concepts.

Another instance (1612: 12): "...Il est assure qu'encore mesme enhanee, cette miserable nation demeure touiours en une perpetuelle enfance de langue et de raison." The reason given for this statement is that when speech, which is the bearer of thought, is uncouth, confused and impoverished, thinking cannot be brought to anything like a mature level.

The difference in structure of native languages from

European is still more objectively noted in another passage (1653: 103): Since the Indians are incapable of pronouncing labial sounds, they cannot learn European languages where these sounds occur frequently. In the Indian languages, such as Huron, the words are full of vowels, "onde per pronunciarla non e necessario de mouer le labra" ["so that to pronounce them one scarcely needs to move one's lips"]. The grammatical structure of these languages is also very different, with fine distinctions of number and person and inflection "affatto sconosciute ai piu dotti dell' Europa" ["unknown to the most learned of Europe"]. The same may be said in matters of pronunciation, where the Indians have accents, breathings and changes of tone, without which distinctions their language would not only be ambiguous, but even unintelligible.

Note in these passages the characteristic inference made from lack of grace and order in speaking to lack of virtue and cultured accomplishment. (This can clearly be compared with the rhetorical discussion of eloquence in the 17th century, which see on p. 116). Yet the last passage cited, in particular, registers increasing surprise at the subtlety of grammatical distinction in the languages, which presupposes a

great deal of intellectual content. The same writer sums up the impressions as follows (1653: 119f) in a quaint passage that is worth quoting:

"Il frutto di questi trauagli...e stato una scienza assai perfetta di queste lingue differentissime, come habbiam detto, dalle nostre, ma bellissime, e regolatissime, che ci fanno chiaramente vedere, che Dio solo n'e l'autore, essendo impossibile, ch'vna si bella Economia, che supera quella di tutte quelle d'Europa, che noi conosciamo, sia il frutto d'ingegni rozzi e incolti d'ogni scienza, come sono i Canadesi."

["The result of this work has been a very complete knowledge of these languages, which are so very different (as we have said) from ours, but very beautiful, and very regular, which makes us realise that only God could be the author of them, it being impossible that such a fine structure, which is superior to all those of Europe known to us, could be the fruit of minds rude and ignorant of any science, as are the Canadians."]

The Indians are at the borders of civilised society, and their language and culture represent the non-rational, the threatening Other, the almost inhuman. It must be remembered

that the period before the 19th century lacked a clear idea of where the human left off and the animal world began, as is apparent from the discussion of werewolves and "wild men" reported captured at various times in Europe, and still more the myth of the Orang-Utangs, which Lord Monboddo for example believed to be of human species, though lacking the capacity for language.

At the same time, the idea had taken root in 17th-century thinking that the Other should be brought to rational norms in speech as in conduct and thinking. This is the basis of Comenius' great theory of "pansophia", by which all classes of society, males and females, even the deaf and the handicapped were to receive education. Nothing less than an unprecedented mobilisation of society for communication is envisaged. Comenius' principle in the *Didactica Magna* is "Render every man eloquent" (1650: 165). Apart from loquacity, which according to Comenius is due more to nature than to training, the ability to express thought appropriately in words is within the grasp of any man who has learned to distinguish one thing from another correctly with his mind and give the right name to each of them, and to connect words together aptly. This is the difference

between talking sense and nonsense, and between true words and "monstrosities" of verbal expression. "Thus in the end even the simplest of men, little gifted for speaking, can become eloquent: to God in perpetual sighs, to man in truly simple and truthful words: Yes, yes, no, no, etc."

Finally, then, this brings us back to the question of Eloquence. Recall that Reynolds (1640: 512) had written that "the speech of man... of never so great weaknesse and insufficiency in other respects... may still be said to be (though not a good) yet in some respect a Regular Speech", if it conforms to the requirement of congruence between "verbum" and "res". That congruence, we know from 17th-century discussions of Universal Language, is one of pristine simplicity; and as such, it is attainable by the simple man of the people "little gifted for speaking" that Comenius proposed to render eloquent. Though eloquence and the art of swaying men's minds may be the prerogative of the high-born, standards of simple truth might be established and upheld among the folk by a system of popular education.

The Royal Society phoneticians devoted time and thought to

the matter of teaching the deaf to speak and reeducating those with disturbed speech, but their efforts were personal and experimental rather than institutional and policy-directed in nature, and Comenius' project of universal education including the language-handicapped was not realised. Systematic institutionalisation of abnormal speech would not appear until the end of the 18th century. Until then, orthoepy is individual and private, and remains a prerogative of the upper classes, for the value system of the Ancien Regime is fundamentally aristocratic. The upper classes, those who participate in the direction and improvement of society, must possess a facility in effective use of speech for information and persuasion, thus distinguishing themselves from the masses, who do not possess this knowledge, but require only "simple eloquence" for the needs of an upright life.

Footnotes

(1) The main focus of activity would of course be in England throughout the 17th century, but the English work was anticipated by investigations in Spain at the very beginning of

the century. These investigations, which lie outside the geographical limits of this thesis as defined in chapter I (fa. 1), have been described in some detail by Hodgson (1971).

(2) "Si ille paulo exactius consideretur, tum apparebit, ut in pictura habetur; linguam primo aliquantum extolli e quiete sua; quia autem haec litera Pater est reliquarum omnium, adeoque & pluribus opus habet perfectionibus, hinc illam per omnes Oris dimensiones moveri videmus; ut semel inchoatum sui motus circulum, debito naturalique ordine absolvat: hinc ascensus ille lingualis continuatur ad summam usque palati altitudinem, ubi etiam cum ulterius pergere non liceat, mucronem ita adpressum aliquantulum dilatari videmus, unde in tota lingua & posterius & antierius curvatura quaedam exoritur... Inde jam configuratio literae huius facile intelligi potest: Ascendens nimirum lingua, medium; palato affixa dextrum; & tandem ad quietem revertens, sinistrum locum occupat [sic]; situ omnia naturali..." (Helmont 1657: 57f)

(3) I chose to quote Helmont's description of the letter Aleph particularly here, not only because it is one of the most interesting and complex of his displays of ingenuity, but also

because of the mythical significance of Aleph in Jewish lore. It is, as Helmont says of it, "Pater reliquarum omnium", not only because it was the first letter of the alphabet but also because it was the first used by God in creating the world (cf. Top's 1603: B2f Cabalistic account of Creation quoted in my chapter II p. 30), and it is the first letter of the Decalogue. Dante, at the beginning of "De Vulgari Eloquentia", records the tradition that it was the first letter pronounced by Adam, for his first utterance was \aleph , the name of God.

(4) Referred to in chapter II of this thesis (p. 35) in connection with Castelvetro's (1563) views regarding climatic influences on the habits of the different peoples. A similar idea occurs in the quotation from Bishop Wilkins that follows.

(5) "Though each of the Letters have their distinct powers naturally fixed, yet that difference which there is in the various manner of pronunciation, doth somewhat alter the sound of them... Amongst persons of the same Nation, some pronounce more fully and strongly, others more slightly, some more flatly, others more broadly, others more mincingly... 'Tis obvious to anyone to observe, what great difference there will be in the

same words, when spoken slowly and treatably, and when tumbled out in a rapid precipitate manner. And this is one kind of difference in the pronunciation of several Nations; the Spaniards and Italians pronouncing more slowly and majestically, the French more volubly and hastily, the English in a middle way betwixt both. Another different mode of pronunciation betwixt several Nations may be in regard of strength and distinctiveness of pronouncing which will specially appear in those kinds of letters which do most abound in a language. Some pronounce more deeply guttural, as the Welsh, and the Eastern people, the Hebrews, the Arabians, &c. Others seem to thrust their words more forwards, towards the outward parts of the mouth, as the English; others more inward towards the palate, as the French; some speak with stronger collisions, and more vehement aspirations, as the Northern people generally, by reason of their abundance of spirits and inward heat; others more lightly and softly, as the Southern Nations, their internal Spirits being more weak, by reason of the outward heat. One principal reason of the various sounds in the pronunciation of several languages doth depend upon the nature of those Letters of which they do chiefly consist and are framed. Upon which account, the Greek, which abounds in Vowels and Diphthongs, is more smooth.

And though the Latin have fewer vowels, yet it is so equally mixed with them, as to be rendered facil and pleasant; whereas the Hebrew doth abound in some harsh consonants, Aspirations and Gutturals." (Wilkins 1668: 380f)

(6) "Notandum tamen est, apud varias gentes nonnihil diversitatis inter pronuntiandum reperiri, quae non tam singularum literarum, quam totius potius loquelae communis est affectio. Angli nempe totam pronunciationem quasi praeferunt versus anteriorem oris partem, et faucibus apertioribus loquuntur; unde et soni fiunt distinctiores. Germani potius retrahunt versus posteriorem oris partem et gutturis inum; unde fortius et magis strenue pronunciant. Galli propius ad palatum omnia formant, et faucibus minus dilatatis; unde pronunciatio evadit minus distincta, et quasi admixto murmure confusa. Item; Itali, et praesertim Hispani, productiori tenore loquuntur; Galli magis properantur; Angli tenore medio. Galli (et Scoti eorum aemuli) periodorum et clausularum postremas syllabas elevat seu acuunt; Angli deprimunt seu gravant; quae non tam singularum vocum, quam totius sententiae tenoris est affectio." (Wallis 1653: 208ff)

(7) In a recent work on the theories of language of the 18th-century Encyclopedistes, Auroux (1979) gives a perceptive account of their phonetic knowledge; but it is remarkable that he seems to have no idea of the existence of the Royal Society group a century earlier, or of the quality of their work.

(8) "Atque ista longe felicius succedere in Oriente quam circa septentrionem probabile est; ibi enim homines parum quidem ob calorem sed omni, quasi copiosiori opus haberent anhelitu, aperto ore & patentissimo gutture tanquam ex ipso pectore proloquuntur, ut omnes linguae commotiones facillime observari queant; hic vero locorum, praesertim in Anglia Iccisque vicinioribus paululum saltem aperto ore vix labia moventur."

(9) "There are other differences of Sound in Speaking, by which the Tone of several Nations, and oft of several persons in the same Nation, is rendred distinct, which are partly to be referred to their Alphabets, and partly to their Words and manner of Pronunciation, and Accent. As to their Alphabets, some may be found to take in some Letters, as the Ore-spiritual [=voiceless] L' R' and Naso-spiritual [=voiceless nasal] M' N' Ng'; which others use not, and which (as hath been observed)

give a Guttural and Nasal smatch to their speaking. And in several Languages, sundry of the more graceful Letters in the natural Alphabet, are wholly omitted and disused. Again some being unapt to pronounce some Letters even in their own Language, get a different Tone in speaking. They who have great and long Tongues, cannot so well make that Pervious Appulse of the Tongue to the Goums, which S. requires; but are apt to touch their Teeth, and pronounce Th instead of S, which is called Lipping. On the contrary they, who have short Tongues, or are Tongue-tyed, are apt to fall short of the Appulse of the Tongue to the Teeth, and oftner place it on the Goums, and say T. and D. instead of Th and Dh, as Moder for Mother. They whose Palat is ill formed, (such as are said to want the Roof or Palat of the Mouth) or the Muscles of their Tongue are weak and Flaccid, cannot pronounce R. The former for want of fit surface of the Palat to conduct the Breath even and strong to the Goums; the later, for want of strength of the Tongue to sustain the jarre. As to their Words, a great difference in the Sound of several Languages ariseth from the sorting of Letters, whereof the Words are framed: some affecting one sort of Letters, some another, to be the most frequent Ingredients in their Words. Some languages are full of Consonants, as the Polasque: some, as the

Italian and the French, avoid them: though the French write some Consonants, which they do not pronounce, to be Indices of the Derivations of their words: and generally more Emphasis and Accent is given to the vowels by our neighboring Nations, than by us English. ...In general, the Freedom or Apertness and vigour of pronouncing... and giving somewhat more of Aspiration; And on the other side, the closeness and Muffling, and (as I may say) Laziness of speaking (which varieties are found in several Nations comparatively, and by the different natural shapes of the Mouth, and several conformations of the Organs of speech in those of the same Language) render the sound of their Speech considerably different, though they all should use the same Alphabet." (Holder 1669: 74-79)

(10) The Welsh language occupies a special position in the development of phonetic theory in England which is worthy of mention. Since the work of the 16th-century lexicographer Salesbury there had been an awareness of the unusual features of Welsh pronunciation, but interest in the "Ancient British Tongue" reached a peak in the 17th century, when English scholars admired its antiquity, discussed its merits as a basis for a Universal Language, and speculated that the Welsh might be

one of the lost tribes of Israel. Wilkins (1668: 381) seems to hint at a Semitic association when he remarks of national articulatory habits that "Some pronounce more deeply guttural, as the Welsh, and the Eastern people, the Hebrews, the Arabians, &c": and Wallis (1653: 80) was very taken with the Welsh phenomenon of initial mutation, and he said of the language

"Magnam certe cum linguis Orientalibus affinitatem retinet: non modo in vocum originibus... sed etiam in Syntaxeos ratione, quae Praefixis, Affixis et varia Status permutatione peragitur (ut enim habent Hebraei statum absolutum et statum Regiminis, sic Cambro-Britanni status, ut loquuntur, primarium, mollem, liquidum et aspiratum, prout varietas constructionis postulaverit)."

(11) "Lingua... quam Potentissimus Creator, ut in varias se flectere formas, pluribusque agitari posset motibus, ex insigni parvorum, tenuium atque spongiosorum musculorum copia contexuit; ipsique facultatem exinde dedit sese in varias figuras conformandi, ut modo rotunda quasi, modo longiori, modo breviori forma in actum prodeat, & mox tenuior mox crassior, mox acutior, mox planior, mox velut excavata existat, atque hinc in

omnes partes, sive id fit antrorsum sive retrorsum, sive sursum, sive deorsum, sive dextrorsum, sive sinistrorsum &c premi atque flecti queat." (Helmont 1657: 21f)

(12) This notion is crucial to 17th-century views of language, and it goes unquestioned until the time of Herder in the 18th. The quotation from Menjot (1662: 204f) given later in this section of chapter III is a good example. The Divine origin of the Hebrew letters is, as my quotations show, I believe, as much a strand of thought in the 17th century as it was in the 16th. Indeed, it is interesting to note that a thinker such as Hartley (1749) could still argue for the revelation of the Hebrew alphabet by saying that when God gave the Tables of the Law to Moses graven in stone by his own finger, he could hardly have deigned to make use of a merely human writing system, but must have revealed it ipso facto.

(13) "Ratio est quod vox homini naturalis sit, infans namque a vagitu inarticulato vitam auspicantur; vocis autem articulatio debeat disciplinae auditum expostulanti, quo Magistri praeuntis sermo hauriatur. Quemadmodum statua quoad materiam naturalis est, quoad formam artificialis; sic vox,

loquelaē materia, a natura procedit, loquela atque idioma arte conficitur. Lingua etenim humana per se quidem ac sine doctore mobilis est, vimque loquendi naturaliter possidet, sed dum actu sermonem pronunciat, hunc habet imitatione, ipsaeque infantulorum lallationes, rudesque ac monosyllabae dictiones inchoata sunt auditorum verborum imitamenta. Verum, obiiciunt nonnulli, si natura surdi instrumenta sermoni destinata habent inoffensa, cur vt primi rerum inuentores, necessitate compulsi, propriam nouamque linguam ad exprimenda noemata, suopte Marte non effingunt? praesertim cum certis gestibus & propria cogitata satis foeliciter exprimant & aliorum conceptus animo facile complectantur. Respondemus loquelam haud esse hominis inuentum, sed Dei donum protoplasto infusum, nec virtute naturae fieri posse, vt mens organis dialecticis vocem dictet suarum cogitationum internunciam, quam ipsa ignorat, nec mediante auditu vnquam accepit, quippe eum nihil sit in intellectu, quod non fuerit prius in sensu, vnde etiam infantes post ortum, & priusquam fari coeperint, auditu capti, non minus muti perstant, quam si congenita laborent surditate; pariterque infantes expositi, & a brutis procul ab omni consortio educati, loquela priuantur, donec hominum commercio loqui didicerint. Vno verbo similiter se res habet in hominibus, ac in graculorum,

monedularum ac psittacorum pullis qui sibi relictis, voce inarticulata non destituuntur, sed nunquam nisi edocti, articulas voces reddunt." (Menjot 1662: 204f)

(14) "But because this may seem strange at the first sight, that Nature should be said to Act for the sake of Ends, and Regularly or Artificially, and yet be itself devoid of Knowledge and Understanding, we shall therefore endeavour to perswade the Possibility, and facilitate the Belief of it, by some other instances; and first by that of Habits, particularly those Musical ones, of Singing, Playing upon Instruments, and Dancing. Which Habits direct every Motion of the Hand, Voice, and Body, and prompt them readily, without any Deliberation or studied Consideration, what the next following Note or Motion should be. If you jogg a sleeping Musician, and sign but the first Words of a Song to him, which he had either himself composed, or learnt before, he will presently take it from you, and that perhaps before he is thoroughly awake, going on with it, and singing out the remainder of the whole Song to the End. Thus the fingers of an exercised Lutonist, and the Legs and whole Body of a skilful Dancer, are directed to move Regularly and Orderly, in a long Train and Series of Motions, by those artificial Habits in them,

which do not themselves at all comprehend those Laws and Rules of Musick or Harmony, by which they are governed: So that the same thing may be said of these Habits, which was said before of Nature, That they do not Know, but only Do. And thus we see there is no Reason, why this Plastick Nature (which is supposed to move Body Regularly and Artificially) should be thought to be an Absolute Impossibility, since Habits do in like manner, Gradually Evolve themselves, in a long Train or Series of Regular and Artificial Motions, readily prompting the doing of them, without comprehending that Art and Reason by which they are directed." (1678: 157)

(15) This reference to musical performance by Harvey (1627: 164) and Cudworth (1678: 157) may be taken to be the origin of the great 18th-century metaphor of speech as musical performance which I will discuss in chapter IV (pp. 145, 157).

(16) Harvey's studies of the action of the heart in the blood circulation system convinced him that there was in that organ a vital principle or organic form which accounted for its action; the latter could no more be explained by purely mechanical principles than by the voluntary activity of the

brain. Cudworth shows himself to be quite aware of the incompatibility of this vitalistic approach with a Cartesian-type physiology.

(17) "Sicut linguae haec illaue verba naturaliter proferentis, multifariae sunt inflexiones, nec expositu faciles; ita loquendi errores flexurarum istarum culpa exurgunt quamplurimi, vixque omnes distincte tradi queunt: Nam suum est cuique fere genti eudamion atque vernaculum elocutionis vitium; sic Dores vt platystomi incessebantur a Graecis, quod ore in latum diducto loquerentur, ac iusto frequentius "to a" dictionibus ingererent."

(18) The theme of thought outstripping speech has been identified as a recurrent notion (or "old wives' tale", as they facetiously term it) by Rieber & Whollock (1977) in their account of the history of ideas on stuttering therapy. I refer to it again in section 4 of this chapter.

(19) See bibliography for references to J. Murphy's work on the medieval tradition of rhetoric. The rhetorical tradition in Europe is a continuous one stretching back to Antiquity. In

particular, the moral requirement of excellence and truth in the speaker finds its ultimate classical roots in the "vir bonus loquendi peritus" of Quintilian and Cicero.

(20) For an appreciation of Cordemoy's phonetic work, see Uitti (1980); also Sullivan (1980) on theoretical background.

(21) "There is still a very different reason why men should desire to open the secrets of their hearts and the conceptions of their minds to others in speech rather than by pictures, gestures, or characters, and other things of this kind. Besides that certain signs, not uttered by the living voice, are liable to deceive, or are deficient in many important respects, every sincere mind, giving attention to itself when about to converse with another on a serious subject, feels a desire to declare the hidden thoughts of his heart, nay to pour his own life into him, and that he cannot effect these objects so completely as by the use of speech; for nothing emanates from us which bears a more vivid character of life than our voice; neither have I gone beyond the truth in affirming that the breath of life resides in the voice, transmitting its light through it; for the voice is the interpreter of our hearts and signifies its affections and

desires. Hence, in these impetuous commotions of the soul which it is unable to repress, the mouth is forced to speak "out of the abundance of the heart". So also when we dwell upon something in our own minds which either from fear or shame we hesitate to utter, the heart travails, as it were, and is in a state of anxiety until we have poured it into the bosom of a friend, then the anxiety at once gives way to serenity, and it can truly be said that we have opened our hearts; for so the soul liberates itself, through the voice, of the burden which oppressed it, especially if unfeigned tears accompany it." (Amman 1700: 8f)

Rieber, in his introduction to Amman's work, compares this passage with modern psychoanalytic notions of emotional catharsis (p. vii).

(22) There is a concise, authoritative account of the *Commedia* and its social significance in Italy and France in the article "Commedia dell'arte" in the *Dizionario Enciclopedico della Letteratura italiana* (1966).

Chapter IV: The 18th Century

1. VISIBILIA ATQUE INVISIBILIA

18th-century phonetics is still concerned, as the Royal Society phoneticians in the 17th century were, with constructing a taxonomy of the visible. That is to say, phonetics aims at a classification of the sounds of language based on the movements of the articulatory organs, which are accessible to observation. One can see in Beauzée's (1767: 193ff) discussion of a rational phonetic notation a similar concern to that of Bishop Wilkins in the 17th century. Beauzée proposes a notation system in which relationships between phonetic classes would be reflected in the form of symbols. Thus he suggests that vowels be represented by rounded symbols, and consonants by straight ones; various modifications would be used to group consonants with the same place of articulation, to distinguish oral from nasal sounds, and so on (1). His motivation for proposing such a graphic system is the following (1767: 193): "L'analogie dans l'écriture aura les mêmes effets que dans la prononciation; elle facilite l'intelligence du langage, & on ne sauroit mettre trop

de facilité dans le commerce qu'exige la sociabilité."

The hypothetical system of notation proposed here by Beauzée is based on the parameters of place, manner, oral or nasal release, and what we would now call state of the glottis (2), as were the phonetic taxonomies and notation systems of the 17th-century writers we discussed in the last chapter: Wallis, Wilkins and Amman. It is to be noted, however, that this hypothetic notation is proposed by Beauzée more or less en passant or as an afterthought, not as a profound discovery, like Helmont, or as the phonetic basis of a Universal Language (3), like Wilkins; it is presented as a highly pragmatic, "mondain" suggestion for the improvement and simplification of written communication, since "on ne sauroit mettre trop de facilité dans la commerce qu'exige la sociabilité." Indeed, these remarks no more than hint at a gradual evolution in thinking about speech and language from the 17th century to the 18th that might be referred to as the loss of the mythical dimension (4). In the last chapter we saw that for the 17th century, the whole domain of speaking, though divested of the esoteric, hermetic relations with which the Renaissance had sought to invest it, still bore all the resonances of Judeo-Christian symbolism, and may thus be

correctly understood as suffused with mythical meaning: men regarded language as the gift of God, "Dei donum protoplasto infusum" (Menjot 1662:204f), and sought to devise a perfect language that would express all knowledge. With the transition to the 18th century, speaking divests itself of the mythic dimension it enjoyed up to and including Amman (5), and comes to be seen unambiguously as a physiological mechanism among others (6). The 18th-century scientist characteristically views speech as a bodily mechanism, a complex of interrelated parts, a machine, and his interest is accordingly directed not only to the vocal organs themselves but also to the brain and nerves which are equally a part of the speech mechanism. 17th-century phonetics, with the exception of some suggestive remarks by Cordemoy (1668), is concerned uniquely with the outward manifestation of speech as the basis of a "taxinomia" of articulations. In the 18th century, however, there is a new investigation of the physiological basis of speech, exemplified by the contributions of Dodart (1708) and Ferrein (1741) on the mechanism of voicing. Dodart pointed to the air passing through the glottis as the source of voice, and Ferrein refined this suggestion by demonstrating the vibratory action of the vocal cords. 18th-century phonetics addresses itself to the task of

explaining not only the visible processes of articulation, but also the invisible processes supporting speech in the vocal tract, by analogy with the visible. The most important of these are phonation and the structuring of phonetic space.

Dodart shows how the human voice is produced by the dimensions of the glottis and the force of expulsion of air from the lungs; neither the glottis itself nor its action are visible, but its structure can be understood by analogical comparison with the other, visible sound-producing apertures formed by narrowing the vocal tract at a given point - the "glotte labiale" used in whistling, and the "glotte linguale" where the tongue is raised to touch the palate and a shrill whistle produced.

Ferrein, following on the work of Dodart, explained the vibratory action of the vocal cords (a term which he coined) on the basis of musical instrument analogies. The mechanism of the voice had been compared, by Dodart and others, to a wind instrument, since air passes through the glottis into the oral cavity; but it is the vocal cords which produce voice when they are set vibrating by the column of air, so the human voice

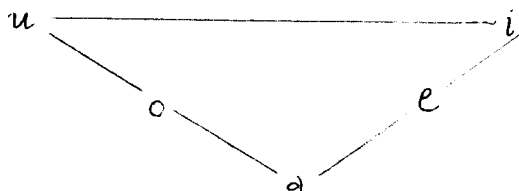
combines the characteristics of a wind and a stringed instrument.

I shall discuss the broader significance of the metaphor of musical performance in 18th-century phonetic discourse later in this chapter (see p 157). Within the present context, it can be seen that the musical instrument provides a visible model for the understanding of the invisible physiological process, as for Dodart the visible articulatory apertures provide the clue to the invisible phonatory aperture.

The phonetician not only observes the visible events of speech, but also concerns himself with their other sensory correlates - auditory and kinesthetic. The characteristic method of the Enlightenment phonetician is described by Hellwag (1781: 25): aiming to find out what properties defined the nature of individual sounds, he says, "comparavi literas cum literis multiplici ratione", to discover the differences and similarities between them, and to determine what articulatory factors are necessary and constant in the pronunciation of a given letter, and what is accidental or optional. Hellwag notes that he examined the sounds singly and in combination with one

another, paying attention to the dimensions of hearing, sight, touch, and the "sixth sense" ("sensum, qui ipsis loquelae instrumentis ob nervos inest") (7).

Hellwag's 1781 treatise contains a systematic description of vowels, in terms of a "vowel triangle" in which the articulations are displayed at different points in a kind of imaginary topography of the vocal tract:



It can be seen that Hellwag's triangle is based on the intersecting parameters of tongue height and fronting or backing; but it is also a kind of structuring of phonetic space in that the relation of vowel sounds to each other is shown, as are their possibilities of transformation into one another by moving along the lines of the triangle (8). In previous work on the classification of vowels, two approaches had been used: an articulatory one, classifying vowels together with consonants in terms of the three traditional places of articulation (labial, dental, guttural), as Wallis and Amman, for example, had done;

and an acoustic one, arranging the traditional five vowels on a musical scale, as had been done for example by Reyher (1659), whom Hellwag actually quotes in presenting his triangle (1781: 25). Now Hellwag's triangle may be regarded as a synthesis of the articulatory and acoustic approaches, in that the spatial distribution of vowels refers to articulatory loci and the linear position of them expresses the continuity of tone qualities. But most importantly, it rests on a visual analogy. This layout of vowel articulations is conceived in analogy with the theory of colours in Newtonian optics. It is both physical and physiological as a representation of the reality of speech; as Hellwag declares (1781: 26), "has graduum ordines non auditus solum probat, sed attenta quoque mutationum oris contemplatio confirmat."

From the discussion of voicing and from the vowel triangle proposed by Hellwag, it can be seen that 18th-century phonetics sought to explain speech by direct or indirect reference to the domain of the visible. I shall now go on to examine the consequences of this approach for remedial phonetics.

2. THE NERVOUS ORGANISATION OF VERBAL BEHAVIOR

It is common to find in surveys of the "prehistory" of speech therapy (Klingbeil 1939, Eldridge 1967) that, until the 19th century, medical and other writers on the subject "blamed the tongue"; that is to say, they demonstrated by their prescription of frenum section as a cure-all for the speech-disordered that they had no notion of a functional as opposed to an organic disturbance. This picture of pre-19th-century remedial thinking is a distorted one, as can be readily seen from an examination of the Enlightenment discussion of the "seats and causes" of speech pathology.

It is true that 18th-century remedial phonetics assumed that the tongue, its conformation and movement, is the chief etiological focus in the study of speech defects. Thus Kuestner (1716: 5) remarks "only in passing" that there are individual differences in the shape of the tongue: some persons have rather large tongues, some rather small, some thick, some thin, and so on. If these peculiarities are not excessive, Kuestner notes, they are unlikely to cause any speech defect. He goes on to say that it is of more importance whether a person has a more

agile and responsive tongue or a heavier and more awkward one (i.e., whether the nervous organisation underlying lingual movements is functioning well or not). It is because of this difference, Kuestner says, that "non omnes aequae prompti vel apti sunt ad eleganter ornateque canendum aut loquendum", but also more importantly, that some persons are found to speak "confuse et perturbate" (9)

Note, however, that the focus is not so much anatomical, having to do with anomalies in the conformation of the tongue, which "vix notabile quoddam vitium inferunt", as physiological, having to do with the tongue's performance of its speech function. This physiological viewpoint assumes the whole dimension of nervous organisation underlying verbal behavior (10); as Cordemoy (1668: 241) had sought what he called "les causes physiques de l'eloquence" in the disposition of the brain and nerves, so also Kuestner points to individual variability in nervous constitution as the reason why "non omnes aequi prompti vel apti sunt ad eleganter ornateque canendum aut loquendum". Kuestner also inveighs against the assumption that "the tongue is at fault" (1716: 45), emphasising the rarity of occurrence of the popular etiology of "tongue-tiedness". The procedure of

frenum section may be invoked in cases where a child can hardly move his tongue, suck or swallow, or begin to speak when he gets a little older, because of an abnormal ligature; but this kind of situation, Kuestner says, "ex mille vix uni contingit infanti". He states that there is no need for frenum section to be practised on a large number of children, much less all of them, as he says is commonly thought (11).

Morgagni (1761: I, xiv, 38) gives a full account of medical opinions on the subject of speech defects. The prognosis depends on whether the problem is due to anatomical malformation, physiological debility or nervous catastrophe (1716: 47). 18th-century thinking on the impairments of speech in fact recognises a distinction between pathological phenomena due to the anatomical malformation or nervous debility of the periphery, the vocal tract, and those known from the history to be due to a central nervous or mental disorder. Writers constantly cite the classic anecdotes of hysterical mutism and impairment such as those reported by Herodotus and Aulus Gellius, as for example Haller (1761: 422).

The basis of speech impairment in the nervous system is

thus described by Kuestner (1716: 29ff). When the movements of the tongue are inhibited or impaired by disease, speech is consequently affected. The causes are various: congenital handicap, paralysis, a serious fall, violent emotions such as rage or terror, and so on, the mechanism being "denegato spirituum animalium in ejus musculos influxu". Speech may also be affected by wounds, tumours and inflammations. "Balbuties" ("haesitantia", "titubatio linguae") may be due to abnormal conformation of the tongue or frenum, or irregularity in the nerves serving the tongue's movements (12).

In the foregoing passage, then, the three etiologies of balbuties accepted by 18th-century medical science are propounded: anatomical ("mala conformatio linguae"), physiological ("vitium in nervis"), and traumatic ("denegato spirituum animalium in ejus musculos influxu"). Kuestner further emphasises that in the last-mentioned case, the prognosis depends on the healing of the trauma and consequent restoration of the integrity of the nervous mechanism (1716: 44): "In curatione hujus mali requiritur, ut causa influxum spirituum in nervos impediens tollatur, & liber fluxus restituitur."

The movements of the tongue in speech are the main focus for remedial discussion in the 18th century, but this is because of the general focus of Enlightenment phonetics on the visibility of articulation. As we have seen from the above-quoted authors, the 18th century was also concerned with the underlying nervous organisation of language, its constitution through experience, and its morbidity through nervous or mental disorder. Indeed, this discussion points to the existence of a coherent body of knowledge on the biological foundations of language. To this aspect we will now turn in greater detail.

3. SPEECH AS A MACHINE

In chapter III of this thesis, we found that 17th-century thinkers regarded language as "Dei donum", as a God-given faculty essential to Human Nature, and at the same time as the result of learning from the social environment and the gradual establishment of a bodily habit. Those who are deprived of verbal stimulation, such as the deaf and "wild men", grow up

unable to speak (Menjot 1662). And again, those whose speech is defective in one way or another must be induced to "relearn" the bodily habit of speaking so that they may master normal verbal behavior (Amman 1700). We saw that these two complementary views of language as being both innate and learned contributed equally to making possible the reeducative enterprise in the 17th century: if the faculty of speech is a God-given attribute of Human Nature, then he who is partly or wholly deprived of speech may still have his innate verbal capacity awakened and stimulated by remedial teaching; and if again speech must be acquired by learning and the establishment of a bodily habit, then normal habits can be substituted for defective ones. These themes are continued in 18th-century discourse on verbal behavior and its remediation. Language, reflecting as it does the constant attributes of Human Nature, is universally the same, in the perspective of the Enlightenment. The capacity to speak is innate and natural to man. Court de Gebelin (1772: 18) writes:

"Le désir de parler ne fait-il pas partie de son essence [de l'homme]? N'est-il pas pour lui un besoin, tel que ceux auxquels il est assujetti?... Demander quelle fut l'origine de

la Parole, c'est demander quand l'homme commença de voir, d'entendre, de marcher. La Parole est une faculté aussi simple que les autres; son exercice, aussi naturel; le besoin en est aussi grand; le Muet lui-même en éprouve la force."

Although speech is a "natural" faculty in this sense, it is nonetheless socially transmitted (13), as Lord Monboddo (1773: 39f) reminds us. Having considered in general the natural and acquired faculties of man, and shown that those two kinds of faculties are apt to be confused, he poses the question: to which of them does the faculty of speech belong? The facility with which we perform the operations of speech might make us believe at first sight that we do it naturally, and though it costs us a good deal of pains and trouble in our infancy to learn the language that we speak, that we would notwithstanding have acquired some kind of language - some means of expressing the conceptions of our minds by articulate sounds of one kind or another - as we grew older even if we had not gone to all that trouble. But, Monboddo maintains, the faculty of speech is just one of the many acquired faculties belonging to our nature; and although the capacity to speak was no doubt given to us by nature, the habit took a long time to form. Since we exercise

the faculty of speech in maturity with unthinking ease, we tend to overlook the steps and the progress that were necessary to form the habit, and "rashly conclude that to be the work of nature, which is the result of long experience and observation, and perhaps the greatest effort of human sagacity."

The theme of deaf-mutism is consistently drawn upon by writers in this connection, as in the previous century. Thus Herries (1773: 87ff) remarks that the human voice is only the imitation of familiar sounds, or of sounds which we have been carefully taught to use, and consequently that the ear is the medium by which these sounds are conveyed. What then, he asks, must be the situation of those who from their infancy have been deprived of hearing? The answer is that they must naturally be speechless; they always are. If it was "natural" for man to speak, Herries goes on, he would speak as soon as his vocal organs were capable of it, whether he was taught or not. But since there is no real instance where a person born deaf was ever known to utter articulate speech, we may safely conclude "that the art of speaking is as much the effect of imitation and skill, as the art of writing, or of playing upon the harpsichord."

To sum up the question. Language, for the Enlightenment, must be innate in that it is a given attribute of human nature. But it must also be learned by experience. It is "natural" to man in the sense that it belongs to his nature, but not in the sense that it requires no learning. It is virtually present in every human individual, but brought to completion by social experience and learning. Herries (1773: 43) writes:

"The proper execution of any faculty, either bodily or mental, is the result of long attention and practice, directed by the best examples. Nature leaves us in a rude and uncultivated form, it is our business to polish and refine ourselves. Nature gives us the organs, it is ours to acquire the skilful performance upon them."

Language is thus an art, in that it is dependent on the progressive development of a skill - well or badly performed - on the basis of an initially given capacity. An art must be studied; and this view is linked to an implicit value judgement, and thus to the normative conception of language characteristic of the Enlightenment. Hence the key metaphor of the musical

instrument in 18th-century phonetics: the vocal tract is the instrument, and language development is like learning to play it. Consider the description of speech by Harduin, in his "Dissertation sur les voyelles et les consonnes" (1760: 7), quoted by Beauzée (1767: 70). According to Harduin, the oral cavity and the flute are alike in that air must pass through them if sound is to be produced. He compares vowels to the various tones produced by stopping different holes in the flute, and consonants to tonguing ("coups de langue"). In the same way, an uninterrupted run of notes ("notes coulées") on the flute is analogous to a string of vowels, whereas a series of notes punctuated by tonguing corresponds to the alternation of vowels and consonants characteristic of the stream of speech (14).

I have already mentioned Ferrein's (1741) contribution to the study of the mechanism of voicing, and his use of the term "cordes vocales" on the basis of musical analogies (see p. 1..). Ferrein describes the action of the vocal cords as follows (1741: 422f): He compares "ces rubans, que je nommerai dans la suite cordes vocales" to the double isochronous strings of the harpsichord; "la glotte n'en est que l'intervalle", he says.

The airstream which causes the vocal cords to vibrate has the same function as the quills which pluck the strings of the harpsichord; the column of air pushing the air in front of it out of the mouth "tient lieu du sautereau qui fait monter les languettes et les plumes"; and the muscles of the chest and lungs perform the same task as the fingers and the keys which set the sound-producing mechanism of the harpsichord in motion.

Unlike Saussure's comparison of langue-parole with a musical composition and its performances, the 18th-century metaphor has to do with mastery of the instrument itself. In 18th-century musical practice, too, the emphasis is on the tonal possibilities of the instrument and on the performer's skill at embellishment and improvisation (15).

The metaphor of the musical instrument is a special case of a more generalised constellation of metaphor in 18th-century phonetics, that of speech as a machine. The flute is the musical instrument most often used as a metaphor for speech; but the harpsichord is also so used, and its quasi-mechanical action no doubt forms the link, in this metaphorical language, between the musical instrument and the machine proper. The whole

neurophysiology of the 17th and 18th centuries cannot be understood without this layer of mechanical metaphor, which forms the basis of Descartes' "Traite de l'Homme" in the 17th century and of La Mettrie's "L'Homme Machine" in the 18th; and indeed the development of thought between those two speculative treatises is one in which the machine metaphor progressively conquers the domain of human existence, as the machine-body directed by a sovereign spiritual intelligence in the privileged world of Cartesian dualism gives way to the unidimensional machine-man of the scandalous 18th-century atheist. Already in the 17th century, Cordemoy (1668: 13) had discussed the possibility of mechanical reproduction of human speech:

"Je conçois meme, ainsi que je l'ay des-ja dit, que l'Art peut aller jusqu'a former une Machine, qui articulerait des Paroles semblables a celles que je prononce; mais en meme tems je conçois qu'elle ne prononceroit que celles qu'on auroit eu dessein qu'elle prononcast, & qu'elle les prononceroit toujours dans le meme ordre."

And Hellwag (1781: 1) had quoted Sir Francis Bacon in this connection (16). Hellwag was convinced that machines could be

built that would provide a satisfactory mechanical imitation of human speech, and he expressed the hope that the principles which he had established in his own work for the production of vowels and consonants in speech could be of use to an engineer wishing to design a machine "sonos bene articulantem".

However, it was not until the end of the 18th century that such a piece of machinery was built, by W. v. Kempelen, based on the mechanical flute-player constructed some years earlier by Vaucanson, and it is described in *Die Sprechende Maschine* (1792).

It is important to consider the status of the machine in scientific and social thought before the Industrial Revolution if we are to understand the mechanical metaphor in the sciences of man, and in phonetics in particular. The following remarks are based on the stimulating discussion of mechanical technology in the 18th century by Pons (1964). For the Renaissance, the machine is a "marvel"; and the printing-press, the only truly industrialised machine, is a cipher of order, standardisation, and norm. The printing-press still has this central metaphorical role for at least part of the 17th century. The

18th century, as is evident from the Encyclopedie, has already begun to industrialise and diversify its machinery, but a machine that is not part of the process of industrial production is still a "jeu", an ingenious achievement of art, rather than a means of gaining knowledge as it would be in the modern phonetics laboratory. Vaucason's flute-player, Kempelen's talking machine are indeed "jeux", not research tools. However, Kempelen is expressly interested in remedial applications of his work (1791: 4):

"Aller Nutzen - alles Verdienst, das meine gesammelte Entdeckungen haben duerften, mag wohl nur darin bestehen, dass dadurch bei einigen Taubstummen der Unterricht im Sprechen erleichtert, und ein Theil derjenigen Menschen, die eine fehlerhafte Aussprache haben, durch meine Anleitungen davon geheilt werden kann." ["All the use or value my discoveries might have may be no more than that they facilitate the teaching of speech to some deaf-mutes, and that some of those persons who have a defective pronunciation may be cured of it."]

The 18th century has thus developed a body of knowledge about the somatic basis of speech: speaking is an art, a skill

that must be acquired and made habitual, like the performance of the musician. To renew the 17th-century perspective of Harvey and Cudworth, speech is both automatic and an exercise of the conscious will.

It is only in the 18th century, however, with the work of Hartley (1749), that a complete description of automatic and voluntary behavior in man is given, and a coherent neurophysiological theory propounded to account for the relations between the two spheres. These relations are not thought of in the microcosmic terms of Renaissance medicine, nor yet in the evolutionary terms of the 19th century, but in terms of the logical connection between the more simple and the more complex. Hartley's metaphors for the structure of automatic behavior are musical (playing the harpsichord or flute), and he gives considerable attention to automaticity in speech. Anticipating the "psychopathology of everyday life" of psychoanalytic theory, he discusses the ways in which common errors arise because of the inappropriate persistence of automatisms; men slip into patterns. As well as giving instances of speech errors, he accounts for pathological phenomena in terms of discrepancy and interference between the

automatic and the voluntary spheres (1749, I: 260). Stammering, he says, seems generally to arise from fear, eagerness or some violent passion, which interferes with articulation "by the confusion which it makes in the Vibrations that descend into the muscular system"; the child, finding himself wrong, keeps repeating the sound again and again. Accordingly, Hartley says, stammering does not occur until children are old enough to be aware of right and wrong in pronunciation, and "to articulate with tolerable Propriety". Stammering may also be caused by "a nervous disorder of the Muscles of Speech". At first, stammering only occurs in a few words, then it spreads to more and more by association: it particularly affects the first words of sentences, Hartley acutely observes, "because there the Organs pass in an instant from Inactivity to Action; whereas the subsequent parts of words and sentences may follow the foregoing from Association; just as, in repeating memoriter, one is most apt to hesitate at the first Word in each Sentence." (17)

4. THE REGIME OF ORTHOEPY

The task of education, of the orthoepist in the 18th century, is therefore to make the right patterns automatic. For good fluent speech, it is necessary for the "natural" components of articulation to be acquired and voluntarily monitored, but also for them to be automatized in the nervous system of the subject, just as the musician who has learned his notes, chords and scales must then automatise them and a repertoire of musical figures to perform an actual work of music. Thus Herries (1773: 49) declares, on the subject of children's speech, that they should be never allowed to speak lazily, but that their jaws should move freely and openly, and their articulatory organs should perform their functions energetically. "For, as the fingers by a constant and active performance upon an instrument, acquire a readiness and command which they had not before; so the organs of speech, and especially the muscles of the tongue, receive a new force and facility from the practice of a just pronunciation."

Here again we have the important notion that the nervous

organisation underlying speech can be guided towards excellence in verbal behavior by the acquisition of correct habits under a regime of vocal exercise.

The notion of automatization of speech patterns underlies Steele's (1775) work on the suprasegmental phonetics of English. Steele appears to have been the first phonetician to emphasize the rhythmic quality of speech and its melodic integration, and to devise a system of notation whereby these patterns might be recorded ("perpetuated by peculiar symbols"). The notion of rhythm is of course an important aspect of the automatic side of speech, since series of timed articulatory movements are coordinated rhythmically below the threshold of voluntary consciousness, so that, as Hartley (1749, I: 260) says, "the subsequent Parts of Words and Sentences may follow the foregoing from Association" (18). Steele being an orthoepist, he too was interested in remediation, as one important passage (1775: 190) shows. People who stutter, Steele says, speak with an uneven rhythm, but it is notorious that when such persons sing, they never hesitate or stutter. He concludes that the most easy and effectual method of curing them should be to accustom them to beat time to their reading and common discourse, so that they

learn to speak "in just time to the proper measure of their words and phrases". According to Steele, the cause of stuttering is that the subjects are unable to "fall in immediately with the rhythmical pulsation or poize befitting their words"; they do not have this problem in singing, because the melody dictates to them the rhythm they are to use, even more so than would be the case in reciting poetry.

Stuttered speech thus exhibits an inability on the part of the speaker to consign his verbal behavior to an appropriate rhythm; just as the ready-formed pattern of song supplies this lack, so also, Steele suggests, systematic exercise in rhythmic speaking would stimulate appropriate automatisations of speech patterns. The reference to the singing voice clearly recalls the whole constellation of musical metaphor we have already discussed in the previous section of this chapter; but it also suggests the notion that aspects of automaticity such as rhythm and intonation are the primitive foundations on which all speech must be built. There is a connection between this approach and the widespread idea, notably expressed by Rousseau in his *Essai sur l'Origine des Langues*, that the first language of man was simply melodic, like the earliest utterances of children (19).

The automatic aspect of speech is considered to be the simpler, more original one by the 18th century, not of course in a biological or evolutionary sense as we would see it, but in terms of relations of logical complexity. Again, pathological phenomena in speech are thought to reflect the imperfect attempts of primitive man or of the child to produce articulate language, which requires the coordination of voluntary and automatic mechanisms; but then it is a locus communis since Antiquity (20) that infants are "first mute; then lisping and stammering" (Monboddo 1773: 2). For the Enlightenment, the higher achievements of human nature depend on the ability to handle greater complexity of thought and action, of which automatisations is the physiological prerequisite - this is even reflected in the aesthetic theory of Lessing, Schiller and Herder, which studies the basis of "Anmut" ("grace") in human actions. The Other, he who cannot speak properly because he cannot harmonise automatic and voluntary aspects of his behavior, is barred from that world of higher achievements and regresses to the status of the child or the savage.

Indeed, the world of higher achievements open only to those whose verbal behavior is distinguished by its grace takes on a

more tangible cast when we consider the drift of 18th-century European society, and in particular the rise of the bourgeoisie. It is not the province of this thesis to discuss the manifold social and economic determinants of this new factor of social mobility in the 18th century; but it would be impossible to gain an understanding of the developments in speech education and reeducation which we have been considering in this chapter without setting them in the framework of emerging bourgeois society. Beauzée, at the beginning of the article "Méthode" in the Encyclopédie (1761), affords us a fascinating panorama of the social fabric of 18th-century culture. The children of the labouring classes "qui n'ont que le tems d'échanger leur sueur contre leur pain" remain ignorant and even stupid because of their lack of access to any education, he says, even if they are naturally endowed with intelligent minds. The children of the provincial bourgeoisie acquire what cultivation is provided by the educational facilities available; the extent of their intellectual attainment as individuals depends as much on the encouragement they receive as on their natural dispositions. But in the families of the aristocracy, "des enfans qui balbutient encore" are found to have precociously developed mental powers. The reason: "c'est qu'on raisonne sans cesse

avec ces embryons de l'humanité que leur naissance fait déjà regarder comme de demi-dieux". Thanks to this verbal stimulation, "l'humeur singeresse" (Beauzée uses here a phrase of Montaigne's), the imitative instinct of young children, "développe aussi-tôt le germe de raison qui tient à la nature de l'espèce". In Paris itself, where the influence of the Court is ever-present, the children of bourgeois families are even more highly developed intellectually than those of the provincial bourgeoisie, because those families aspire to model themselves after the people of quality whom they constantly see (21).

In Beauzée's description cited here, "le germe de raison qui tient à la nature de l'espèce", and the power to communicate the thoughts of one's reason in speech, require the stimulation of "l'humeur singeresse" to reach the fullest cultural development. Such educational opportunities, of course, depend on one's position in the social hierarchy. The aristocracy, the "demi-dieux", accede to the highest level by virtue of their very birthright; but it is the bourgeoisie who - by virtue of an "humeur singeresse" of their own - rise to the heights of cultural attainment in modelling themselves on the people of quality. The life of the 18th century reveals a whole class of

burghers and yeomen moving upwards and outwards, usurping first the manners and finally the privileges of the nobility; and their particular desire is to acquire the ease and good taste in verbal communication that 17th-century education had set aside for the hereditary ruling class. The activity of the orthoepist ministers to this need, and cannot be understood in abstraction from it. As such orthoepy ceases to be the preoccupation of gentlemanly diletantes, as it had been throughout the 17th century up to Amman, and becomes a recognised occupational role instituted in response to a social need; it is, in fact, already on the way to developing into an institution.

The regime of orthoepy which is established in the 18th century is an unprecedented programme of social control of speech, of linguistic hygiene, of rehabilitation of the Other. However, the orthoepist, in whose hands the execution of this programme lies, stands in an individual and private relationship with his clients. Orthoepy is a one-to-one activity, and the orthoepist is invariably in private practice rather than publicly supported. His clientele is accordingly confined to polite society, to the upper classes.

Toward the end of the 18th century, this pattern begins to change. The first school for educating the deaf was founded by the Abbé de l'Épée in Paris. This is at first a charitable foundation supported by private donations, but under the Abbé Sicard it becomes a public institution, the Institution Nationale des Sourds et Muets (1791). In the meantime, other schools had opened elsewhere in Europe.

The Abbé de l'Épée and his colleagues were not orthoepists, for orthoepy, as we have seen, depends on an individual, private relationship with a client of means. The Abbé's school was designed as a charitable institution for the needy. Because of the collective institutional setting, the Abbé found it necessary to abandon the orthoepist's phonetic method of teaching the deaf. Instead of speech teaching, he resorted to the use of hand signs, which he found an effective and speedily acquired means of communication in the group setting.

The Paris school was visited by W. v. Kempelen, who was very impressed with the students' ability to communicate in a highly differentiated manner by gesture alone. He comments (1791: 17f):

"Und hierin [d.h., in der Methode des Abbé de l'Épée] liegt eben der grosse Beweis, dass die Sprache nicht unumgaenglich musste von dem Schoepfer eingegeben werden, sondern dass sie von den Menschen stufenweise erfunden werden konnte. Denn, hat man eine Sprache durch Handzeichen fuer das Aug erfinden koennen, so laesst sich kein Grund finden, warum man nicht auch eine Sprache durch Toene fuer das Ohr haette erfinden, und eine so wie die andere nach und nach ausbilden koennen." ["And here [i.e. in the Abbe de l'Épée's method] lies the main proof that language need not have been bestowed by the Creator, but that it could gradually be invented by man. For if it was possible to invent a language for the eye by means of hand signs, there is no reason why a language with sounds could not have been invented for the ear, and that one could not have been developed bit by bit like the other."]

In a similar vein, the revolutionary philosopher Gérando (1793: 4, 453) observed, a propos of the teaching method of the Institution Nationale, that the deaf provide a very useful point of comparison for deciding on the question of what man owes intellectually to language, and for understanding the basis of

"la génération de nos idées" and the influence of signs on man.

I will refrain from discussing the controversy about the Origin of Language which the commentary of Kempelen and Gérando presupposes. (22). But it is of relevance to our discussion of reeducative practice in the late 18th century that the communicative behavior of those who are deficient in speech is related to the origin and development of speech itself. A continuity is now established between the speech of the Same and the Other, and this continuity is validated by the institutionalisation of speech reeducation. One might wish to point to the notion of "progress" in 18th-century educational theory, with Rousseau's "Emile" and Condillac's "Cours d'étude pour l'instruction du Prince de Parme" as the immediate antecedent of this change. However, the the incipient institutionalisation that we have noted at the end of the 18th century is not yet the full-scale institutionalisation followed by "medicalisation" that takes place in the 19th, and which we will discuss in the next chapter. The fact remains that the charitable teacher of the deaf such as the Abbé de l'Epée has in many ways more in common with the orthoepist, his 18th-century predecessor (amateur, non-professionalised status, and a non-clinical setting) than with the modern speech therapist.

Footnotes

(1) "...Il auroit pu y avoir quelque utilité à donner aux lettres d'une même classe une forme analogue, & distinguée de la forme commune aux lettres d'une autre classe: l'analogie dans l'écriture aura les mêmes effets que dans la prononciation; elle facilite l'intelligence du langage, & on ne sauroit mettre trop de facilité dans le commerce qu'exige la sociabilité. Ainsi l'on pourroit ne former les voyelles que de traits arrondis, & garder les traits droits pour les seules consonnes; ne se servir que de traits droits pour les consonnes organiques, & mêler un trait arrondi avec un trait droit pour la consonne aspirée; composer les consonnes labiales de traits droits égaux, & les linguales de traits inégaux; donner deux traits aux foibles et trois aux fortes; lier ces traits par le haut pour les muettes, & par le bas pour les sifflantes; & placer également, ou le premier ou le dernier, le trait majeur des consonnes qui ne diffèrent que par le degré de force, avec attention d'en tenir également l'excès au dessus ou au dessous du corps de la lettre:

en tenant dans une situation verticale tous ces traits droits pour les consonnes orales, on pourroit commencer les nasales par un trait horizontal pour marquer la seconde voie par où s'échappe l'air; du reste la figure en seroit la même que celle de la première muette foible de même genre, parce qu'elle s'opère par le même mouvement organique. Si l'on ajoutoit à toutes ces attentions, celle de représenter les voyelles retentissantes par deux traits arrondis, & les labiales par une figure fermée, & les constantes par une figure ouverte: on auroit un alphabet à peu pres tel que l'exigeroit l'exactitude de l'Orthographe et les vues de l'analogie." (Beauzée 1767: 193ff)

(2) Beauzée refers to the voiceless/voiced distinction in consonants by the terms "fort/foible", a common 18th-century practice. Cf. Bartlett (1975: 158 fn 42), who says that these and other terms in Beauzée's traditional phonetic metalanguage were "used in a variety of imprecise meanings".

(3) Significant work on Universal Language continued to be done in the 18th century, of course, as Knowlson (1975) has shown; it remains true nonetheless that this had ceased to be a

central preoccupation of discourse on language by the end of the 17th century.

(4) The term "mythical dimension" alludes to Cassirer's discussion of "mythische Auffassung der Sprache" in the first volume of his *Philosophie der symbolischen Formen*.

(5) Rieber, in his Introduction to the reedition of Amman (1700), refers to Helmont's influence on him.

(6) An interesting and instructive parallel is to be found in the "demythification" of the heart. Renaissance medicine in the Aristotelian cardiocentric tradition regarded the heart as a kind of focus of life or vital principle; Harvey (1629) severed its mythical roots by identifying its function in the circulation of the blood, yet himself referred to it as "the Sun of the Microcosm" (as we have already noted, at the beginning of the last chapter); it remained for Steno (1664) to complete this process by stating: "cor vere musculus est", i.e. one bodily organ among others.

(7) "Ut discerem, quid singularum literarum naturam

definiat, varia tentavi, comparavi literas cum literis multiplici ratione, earum inquirens similitudines et differentias, attente observavi, quatenus organa, & qua eadem lege agant in quavis data litera; quid in cujusvis literae productione sit necessarium, constans, essenziale, quid indifferens, mutabile, accidentale; examinavi singulas et combinatas, & comparatas ad auditum, ad visum, ad tactum, & ad sensum, qui ipsis loquellae instrumentis ob nervos inest." (Hellwag 1781: 25)

(8) Foucault (1966: 289) comments that Hellwag's vowel triangle, by revealing the possible transformations of the vowels into one another, anticipates the historical and morphological relations between sounds discovered by 19th-century philology.

(9) "Hoc solum in transitu quasi monere volumus nonnullis lingua datam esse paulo majorem, nonnullis paulo minorem: his crassiorem, illis tenuiorem, aliis acuminatam, aliis obtusam magis, quae omnia si modum non excedant, vix notabile quoddam vitium inferunt. Inde tamen magna ex parte pendere arbitror, quod quibusdam lingua sit volubilior, mobilior, promptior; aliis

vero tardior, gravior & ad motum ineptior; hic propter hanc diversitatem non omnes aequi prompti vel apti sunt ad eleganter ornateque canendum aut loquendum; inde quoque oriri puto, quod quidam distincte admodum loquantur, alii confuse et perturbate, ut vix intelligi queant." (Kuestner 1716: 5)

(10) Cf. Kuestner's two references (1716: 29ff, 44) to "denegato spirituum influxu" quoted below.

(11) "Si actio linguae ob fraenulum nimis protractum laeditur sectione chirurgica succurrendum, quae vero fraenuli solutio non in omnibus infantibus est necessaria, sicuti e vulgo multi existimant, sed tantum ubi lingua ita ligatur, ut infaas eam ex ore exercere nequeat, & sic nec rite sugere nec deglutire, nec aetate accrescente articulate loqui possit, quod vero ex mille vix uni contingit infanti." (Kuestner 1716: 45)

(12) "Inter symptomata linguae notissima deprehenduntur ejus actiones laesae, nam aboletur vel imminuitur ejus motus, & hinc per consequens etiam loquela: sive hoc fiat a maiora conformatione in utero, vel a paralysi, apoplexia, syncope, casu ab alto, percussione, affectibus animi, ira, terrore, &c.

denegato spirituum animalium in ejus musculos influxu... Praeterea imminuitur etiam loquela aut depravatur a tumore, ranula, inflammatione, vulneribus aliisque causis manifestis: id quod etiam fit in balbutie, haesitantia aut titubatione linguae: quae vitia malam conformationem, aut nimiam amplitudinem, crassitiem, longitudinem aut brevitatem; fraenulum strictius, linguae nimium laxitatem aut rigiditatem, vel vitium in nervis ejus pro causa adnoscunt: vel depravatur in motibus convulsivis a terrore aliave causa ortis..." (Kuestner 1716: 29ff)

(13) Even in the biological world, as the 17th century also thought. Haller (1761: 475) remarks:

"Omnis enim, etiam avium, vox ab imitatione multum pendet. [n:] Lusciniae a parentibus discunt, neque bene canunt, si absque patre & matre educatae fuerint."

(14)"La bouche & une flûte sont deux corps dans la concavité desquels il faut également faire entrer de l'air, pour en tirer du son. Les voyelles répondent aux tons divers causés par l'application des doigts sur les trous de la flûte; & les

consonnes répondent aux coups de langue qui précèdent ces tons. Plusieurs notes coulées sur la flûte sont, à certains égards, comme autant de voyelles qui se suivent immédiatement, mais si ces notes sont frappées de coups de langue, elles ressemblent à des voyelles entremêlées de consonnes."

(15) This is particularly characteristic of the Baroque style, but remains true also of the Classical period later in the century.

(16) "Non dubito machinas construi posse, quae loquelam proferant humanae similem, satis distinctam. Simile quid sperat BACO VERULAMIUS: 'Si quis' inquit, 'in hanc curiositatem aut novitatem incumbat, ut effictae a se pupulae aut cadaveri pronunsciandum indere cupiat verbum considerare primur debet motus instrumentorum vocis exinde similes in animatis corporibus & attendere ad conformationem, similitudinis istius causam: sicque elucescet istius effecti notio.' Spero, principia, ad quae literarum tam vocalium quam consonarum natales studiose perpensas redegi, fundamenti loco inservire posse artifici, qui machinam sonos bene articulantem effingere meditetur." (Hellwag 1781: 1)

(17) "The Organs pass in an instant from Inactivity to Action": an interesting focus on the transition from quiet breathing to speech mode as the beginning of a timed series of articulatory movements.

(18) We cannot omit to mention here Cudworth's description of the operations of the "Plastick Nature", quoted in my chapter III, where he refers very specifically to rhythm and to the serial organisation of movements in musical skills.

(19) For a detailed discussion of the controversy in the 18th century involving Rousseau, Herder and others about the origin of language, see Aarsleff 1974.

(20) Cf. Henri Estienne's description of the development of language in infants, "ne faisans que begayer", quoted in chapter II of this thesis (p. 50).

(21) "Les enfans de la populace, des manoeuvres, des malheureux de toute espèce qui n'ont que le tems d'échanger leur sueur contre leur pain, demeurent ignorans & quelquefois

stupides avec des dispositions de meilleur augure; toute culture leur manque. Les enfans de ce qu'on appelle la bourgeoisie honnête dans les provinces, acquièrent les lumières qui tiennent au système d'institution qui y a cours; les uns se développent plutôt, les autres plus tard, autant dans la proportion de l'empressement qu'on a eu à les cultiver que dans celle des dispositions naturelles. Entrez chez les grands, les princes: des enfans qui balbutient encore y font des prodiges, sinon de raison, du moins de raisonnement...: c'est qu'on raisonne sans cesse avec ces embryons de l'humanité que leur naissance fait déjà regarder comme des demi-dieux; & l''humeur singeresse', pour me servir du vieux mais excellent mot de Montaigne, 'l''humeur singeresse', qui dans les plus petits individus de l'espece humaine ne demande que des exemples pour s'évertuer, développe aussi-tôt le germe de raison qui tient essentiellement à la nature de l'espece. Passez de là à Paris, cette ville imitatrice de tout ce qu'elle voit à la Cour... Vous y verrez les enfans des bourgeois raisonner beaucoup plus que ceux de la province, parce que dans toutes les familles honnêtes on a l'ambition de se modeler sur les gens de la première qualité que l'on a sous les yeux." (Beauzée 1761)

(22) Again for a detailed account, see Aarsleff 1974.

Chapter V: The 19th Century

1. COMENIUS' EDUCATION AND THE SOCIAL CONTROL OF LANGUAGE

It has been apparent from our discussion of the 16th, 17th and 18th centuries in previous chapters that in those periods the application of norms of verbal behavior was confined to the gentleman. The question of subjecting the lower orders to such normative standardisation really did not arise, or if it did, it was only in the context of the ideal Protestant commonwealth of 17th-century reformers like Comenius and the New England Puritans, where the common folk would be able to express their simple needs in simple words and read the Scriptures at their own humble firesides. Eloquence, the power of using words to sway men's minds and frame policies, was the prerogative of the ruling classes, membership of which under the Ancien Regime in Europe went by birth, and, increasingly in 18th-century England and France, by capital accumulation. The gentleman, be he noble or bourgeois, signalled his privileged status by adherence to a canon of appropriate speech habits; and it was for the orthoepist to castigate, refine and polish the speech of

newcomers to privilege as well as all those labouring under vices of pronunciation.

In the 19th century all this changes, and we discover a great social movement to diffuse norms of all kinds, and especially norms of verbal behavior, to the lower orders. Bourgeois society, based on capital and industry, had begun to sweep away the structures of feudal and patriarchal domination characteristic of the Ancien Regime, and the way was open for the common man to take part in the conduct of society's affairs and the consolidation of social progress. But first he must be schooled to the exercise of these responsibilities. The bourgeois reformers of the 19th century resembled Comenius and the Puritans in their zeal, their evangelical piety, and their burning sense of moral purpose in bettering the lot of the common man. A notable illustration of the spirit of early 19th-century reform is to be found in the suppression of popular amusements (1). Riotous fairs, bull-baiting, cock-fighting and boxing were attacked by liberal reformers because of their cruelty and violence, but also because they distracted the common people from their work and encouraged idleness and insubordination. These scandalous public displays were to be

outlawed, or at least subjected to Queensberry rules. To establish the reign of sobriety, the common man was to be weaned away from his drink, his gambling and his blood-sports (habits which, incidentally, he shared with the rakish gentry), and in their place he was to be taught the Protestant virtues of industry, piety, thrift, steady habits and respectable observance of the Sabbath. The suppression of popular amusements may at first sight appear somewhat marginal to a discussion of the imposition of verbal norms, but we shall shortly see a connection with the suppression of scandalous displays of deviant verbal behavior, notably those with a blasphemous or sexual content.

This whole movement of reform in the 19th century cannot be understood without taking into account the requirements of a new regime of production. The Industrial Revolution is a major phenomenon which - though the whole of 19th-century culture does not simply follow from it as a set of consequences - is the fundamental impetus to the unprecedented mobilisation of human populations that has given modern Western society its peculiarly dense, complex character. The immediate effect of industrialisation on the common man in the early 19th century

was to revolutionise the terms and the environment of his work. The craftsman's skill is expropriated by the capitalist and mechanised and centralised in the factory. The factory now becomes the common man's working environment, where he is subjected to a regimen of industrial discipline and subordinated to the functioning of groups of men and machines. It was hoped by social reformers that this large-scale inculcation of industrial discipline would help to fit working men for social participation and a share in the movement of progress. The masses, "ceux qui n'ont que le tems d'echanger la sueur de leur front contre leur pain" (Beauzee 1761), must be socialised to an entirely new constellation of social and economic roles.

The issue of verbal behavior and verbal norms assumes a wholly new emphasis at this point. Firstly, men must communicate in an orderly, rational way so as to participate in democratic institutions, notably the franchise; and again, industry requires a disciplined workforce that can be communicated with in a standardised, mass fashion.

The task is nothing less than to assimilate the Other to a standardised norm of speech communication, to reduce the

discordant voices of the unsocialised masses to one and the same. The language of the Other is thought to be defective in relation to the norm of the privileged classes. This is certainly not a new insight, as is apparent when we recall the prejudice of Erasmus: "Nihil apud populum stabile, nihil diuturnum". What is new in 19th-century society is the loss of tolerance for the situation. The development of ideas sketched by Sarason & Doris (1979) for 19th-century America are particularly revealing in this regard: the institution of the public school system emerges as a great attempt by the Anglo-Saxon charter group to enforce communicative conformity and "citizenship skills" on successive waves of peasant immigrants from the impoverished parts of Europe, such as Ireland, Poland and the Italian Mezzogiorno; these groups were regarded as lacking in intelligence and moral fibre and as being unable to express themselves coherently - this being most obviously the case where the immigrant home or ghetto was not English-speaking. In particular, working-class speech is thought to be an impoverished version of bourgeois speech, relying on gesture and situational context to communicate meaning rather than on developed sentence-structure and vocabulary. Like the aphasic, the working-class speaker is

largely prompted by affect, and his pronouncements are liable to be laced with obscenities, expressing his feelings of aggression against the social world around him - a kind of cultural aphasia (2). In fact, the outcome of the great waves of immigration beginning in the 1840s was to reproduce existing European conditions in the New World: in particular, the problem of a large uneducated proletariat, and the need to socialise it to a new constellation of social and economic roles.

The aims of the reformers were primarily achieved by the democratisation of education; this was a steady process throughout the 19th century, culminating in the Education Act of 1870 and succeeding enactments in England, and by similar French legislation of the Third Republic. The aims of 19th-century compulsory popular education were to initiate the masses into the modern culture of progress, to uproot superstition and dissipation by inculcating orderly habits, and to combat isolation and backwardness by eliminating social and regional linguistic variation. The fulfilment of these aims had far-reaching and irreversible effects in Europe. Unprecedented levels of literacy were achieved; and at the same time as revolutionary patriots glorified national particularism and the

linguistic patrimony of the Folk, minority languages were dealt a series of disastrous blows from which they would never recover.

At the same time as compulsory education is being diffused to the lower orders, inculcating sobriety, respectability and moral uplift, upper-class education was being reformed in a similar direction. The emphasis here was on "character building", preparing boys from good families for the responsibilities of business and empire. "Christian gentlemen" must acquire the virtues of restraint, discipline, leadership and team spirit, and this was to be done "on the playing-fields of Eton". The characteristic combination of liberal studies and team sports was intended to produce cultivated, clean and wholesome heirs to positions of leadership in society. Such was the educational ideal of Dr Arnold and Cardinal Newman; in France, it won the admiration of Pierre de Coubertin, resulting in the establishment of the Olympic Games (3).

In the various domains of 19th-century life we have touched upon, upper- and lower-class education, and the industrialisation of work, we can discern the same trend in

progressive reform: to treat the individual as an element of a "population" within the context of a regulated environment. It is my belief that speech therapy, the discipline whose evolution we are to consider in this chapter, finds its *raison d'être* in this general cultural context. The development of this temporally circumscribed realm of discourse that we call "orthophonie" or "speech therapy" is, to be sure, one of wide-ranging reference and implication. Indeed, it constitutes perhaps the greatest challenge that the "archaeological" method of investigation must confront in charting the course of knowledge on the subject of verbal behavior. Which elements of 19th-century culture are central, and which are marginal to the investigation? What are the components of the epistemological structures that have made the modern therapeutic discipline possible? Finally, the investigator must make a choice, and allow the degree of success he achieves be judged by the explanatory force of his historical constructs. I have chosen to circumscribe the development of a positive scientific approach to the domain of verbal behavior, and to derive from that development the constitution of a clinical therapeutic discipline. I could have chosen to offer a chronicle of the various theories and therapies that succeeded one another during

the course of the 19th century, but that would have been foreign to the "archaeological" method; instead I have chosen to concentrate on the scientific ideology of verbal behavior in the 19th century, and, given that, to show how the particular structure and limits of speech therapy follow. The two major contributing components of the scientific ideology of verbal behavior in the 19th century are: "Sprachwissenschaft", the science of language, in its development from Romantic philology to scientific phonetics; and neurological medicine, in its development from Phrenological classification to a differentiated medical notion of verbal pathology. Both of these disciplines contributed importantly to the ideology of verbal behavior in the 19th century, and both are rooted in the characteristic 19th-century view of man as a product or development of his past - linguistics follows a historical method, and neurology comes to understand the hierarchical organisation of consciousness and behavior in phylogenetic terms. It is highly significant, however, that these contributions to a unified ideology of verbal behavior were made independently and in almost complete isolation from one another. The aphasiologist and the philological scholar have no common discourse. The causes and consequences of this scientific

dualism are of profound importance, and will be confronted in succeeding sections of this chapter. But suffice it to say for the moment that the independence and mutual isolation of Sprachwissenschaft and neurological science in the 19th century dictate discussion of their development in separate sections. I shall only emphasise that the contribution of Sprachwissenschaft to the conceptual and ideological basis of speech therapy is an indirect one, the contribution of medical science being much more direct in nature. This is because the characteristic tendency of the 19th century to centralise activities in institutional settings, as it affected speech therapy, occurred under medical auspices. For that reason, it is appropriate to speak not only of an "institutionalisation" but also of a "medicalisation" of abnormal verbal behavior as being the characteristic moments of 19th-century speech therapy. These characteristic moments of speech therapy will be discussed in the final section of the chapter.

2. FROM ROMANTIC PHILOLOGY TO SCIENTIFIC PHONETICS

The beginnings and the inspiration of 19th-century Sprachwissenschaft are inseparable from the Romantic movement, which in turn was inspired by philosophical discussions in the previous century. Based on the development of 18th-century German aesthetics, Romanticism made a fundamental distinction, in its philosophy of man, between reflective and non-reflective behavior. Besides the consciously undertaken actions of creative human intelligence, there is an area of experience involving human action in which consciousness, freedom and creativity play only a negligible part; this area is linked in Romantic thinking with the instinctive behavior of the brutes. In providing a concise descriptive framework for automatic and voluntary behavior, Hartley, as we have seen (p. ..), was summing up a number of assumptions underlying discussion of speech and other human skills in the Enlightenment. The Romantics, however, concerned as they are with problems of human freedom, formulate the automatic-voluntary dichotomy as a paradox involving the creativity of self-conscious behavior and the sureness and truth of non-reflective behavior. Herder

(1772) and Schiller (1793, 1795) in particular had emphasised that self-conscious human grace and skill in the performance of bodily actions could never approach the perfection of the unreflecting actions of the animal world, and of the naive human personality. For the Romantics, self-conscious human skill strives toward the perfection of non-reflective instinct; but human skill, because of its self-consciousness, is liable to become unnatural, to fail to be true to its own nature, and thus to become ugly and perverted - either morally, or even by exhibiting morbid symptoms. These ideas are expressed by Kleist in his essay "Ueber das Marionettentheater", where he contrasts the conscious artistry of dance with the mechanical perfection of puppetry. Kleist recounts the example of a person whose attention is drawn to an action he habitually performs with grace; he now attempts to watch his performance in front of a mirror - and suddenly the action is clumsy and disagreeable, the grace gone forever. His conclusion is formulated as a statement of the paradox of human freedom - the paradox being that in organic life, weakening of instinct and therefore loss of assurance accompany the growth of intelligence (1806: 405): We see that, in the organic world, as reflection becomes duller and weaker, grace appears more "gloriously and masterfully". Just

as the average of two lines on one side of a point, after extending through an infinity, suddenly touch again on the other side, or as the image in a concave mirror, when it has receded into infinity, suddenly appears again right before us: so grace reappears, when knowledge has passed through an infinity; in such a way that it appears in its purest form in that human bodily form that either has no consciousness or infinite consciousness, that is, "either in the puppet or in the god."

(4)

Language is seen to have a non-reflective sphere, which is yet characteristic and significant. Novalis (Friedrich v. Hardenberg) announces this theme in his undated fragment "Monolog" (Werke: 323). The most characteristic thing about language, he says, is that it "cares only about itself", and no-one knows this. It is for this reason that it is such a "wonderful and fruitful mystery": that when one just speaks for the sake of talking, one produces the most beautiful, original truths. But if one wants to talk about something in particular, capricious language makes one come out with "the most ridiculous and perverted stuff..." If one could only make people understand, says Novalis, that language is like mathematical

formulae: they create a world of their own - they only play with themselves, only express their own wonderful nature, and it is precisely because of that that they are so expressive - because of that that the strangest play of relations among things mirrors itself in them (5).

Nothing could be clearer from Novalis' characteristically gnomic formulations than that the 17th- and 18th-century perception of language as transparent (the notion of congruence between "verbum" and "res") has been lost, and in its place, in Romantic perceptions, language has taken on a life - even a will - of its own. This structure of language, then, that stands above and behind the individual speaker, whence has it become his possession? The speaker's language is his heritage; it expresses the Spirit of the Folk. The notion of language as having an independent existence and a dimension of meaningfulness beyond the sphere of self-conscious creative use opens up a new way of seeing language, characteristic of 19th-century thought: language as a supra-individual social phenomenon endowed with an internal necessity that limits man's freedom as he speaks. The idea of language constraining human freedom is apparent in J. Grimm's discussion of the phenomenon

of Articulatory Setting (1819: Vorwort). Language, he says, like every "natural or moral entity", is an unnoticed, unconscious secret which establishes itself in childhood and shapes our vocal organs for the peculiar tones, usages, hardness or softness of our native language; this impression is the basis of that irrepressible feeling of longing that everyone feels when he hears his own language or dialect spoken abroad. It is also the basis of the impossibility of learning a foreign language - that is, complete mastery of it (6).

Already here we begin to discern the great Romantic dichotomisation of the speaking human individual, on the one hand, and the force of the national language or dialect as a social inheritance stored up in the collective memory of the Folk, on the other hand - a notion given its most worked-out expression by W v Humboldt. The preoccupation of W. v. Humboldt with language in relation to human freedom is expressed in a passage (1835: Werke III: 650) where he states that without being an act of direct consciousness, even of momentary spontaneity and freedom, language can only belong to a being endowed with consciousness and freedom, and in this it "springs from the depths of his individuality (unfathomable even to

himself) and from the activity of the powers within him." (7)

Humboldt developed his discussion of the problem into a theoretical principle for linguistics: the antithesis of the creative aspect of language use and the determining effect of language on the individual speaker. This principle, rich in consequences for all subsequent conceptions of language, is expressed as follows by Humboldt (1835):

"...Wie gering eigentlich die kraft des einzelnen gegen die macht der sprache ist. Nur durch die ungemeine bildsamkeit der letzteren...wird das Gleichgewicht wieder einigermaßen hergestellt. In dem auf den einzelnen ausgeübten einfluss liegt die gesetzmaessigkeit der sprache und ihrer formen, in der aus ihm kommenden rueckwirkung ein prinzip der freiheit." ["How small the strength of the individual is against the power of language. Only through the remarkable plasticity of the latter is the balance somewhat restored. The law-like nature of language and its forms resides in the influence it exercises on the individual, and in the effect coming back from him, a principle of freedom."]

According to Humboldt, the primitive peoples, combining the twin aspects of language felicitously in their naive language use, can thus be superior in eloquence to Western society, as we show from the nobility and frankness of many speeches made by North American Indian chiefs recorded from meetings with United States officials. If we deny our authentic selves in speaking, if we introduce dissimulation into the life of the emotions, if we widen the gap between language and reality, our speaking must needs become ugly and disordered.

We have identified two leitmotifs, then, in the Romantic view of Man which were to have a lasting influence on the discipline of philology: first, the loss of "Anmut" as a consequence of the loss of innocence; and second, the creative tension between the Spirit of the Folk and the freedom of the individual. We have glimpsed something of the effect that these ideas had on the attitude that scholars like Grimm and Humboldt brought to the study of language; but it is necessary to go further, and see their actual consequences in the theory and practice of the Romantic philologists.

The notion of the loss of "Anmut" is reflected in the way

in which language is thought to have decayed or degenerated as a result of linguistic change. Consider for example Grimm's formulation of the Germanic sound shifts, which became known as "Grimm's Law". The table of correspondences is given as follows in the *Deutsche Grammatik* (1819:498)

Gk	P	B	F	T	D	TH	K	G	CH
Gothic	F	P	B	TH	T	D	K	G	
Old High German	B/V	F	P	D	Z	T	G	CH	K

His interpretation of this process is as follows (1819: 498):

"...Genau wie das Althochdeutsche in allen drei Graden von der gotischen Ordnung eine Stufe abwaerts gesunken ist, war bereits das Gotische selbst von der lateinischen (griechischen, indischen) herabgewichen. Das gotische verhaelt sich zum Lateinischen wie das Althochdeutsche zum Gotischen." ["Just as Old High German fell by one degree from the Gothic system, Gothic itself had already fallen from the Latin (Greek, Indic) system. Gothic corresponds to Latin as Old High German corresponds to Gothic."]

Note the striking implications of this view. In undergoing the sound shifts Germanic degenerated ("abwaerts gesunken") each time; we are reminded here of Grimm's lengthy discussion of German grammar in the preface to the *Deutsche Grammatik*, where he says that the simple German peasant of Luther's time spoke a better and a purer German than cultivated people in the modern age, because he was closer to his roots and used his language with a naive forthrightness that we now lack. The Germanic sound shifts are presented as a repeating cycle: x becomes y, y becomes z, z becomes x, and so on. Grimm achieved a "deceptive symmetry" (Allen 1953: 1.10) in his formulation of the shifts from using the classical terms *tenuis*, *media* and *aspirata* (8). This yields sets like p-b-f and k-g-ch in which fricatives are identified with aspirated stops. On the other hand, it is clear that th and ch, although written with two letters, are functional units. Of the velar consonant set Grimm says (181):

498):

"Im Althochdeutschen stunde hier die media g ueberall konsequent und dem b, d der anderen Reihen analog; es mag aber ein Ueberrest der frueheren Lauteinrichtung sein, dass auch

althochdeutsch der gotische Anlaut h, weil man ihn fuer eine Spirans und nicht Aspirata nahm, fortgalt." ["In Old High German the media g would logically occur here analogous to the b and d of the other series; but it may be a remnant of the earlier situation that in Old High German the Gothic initial h continued to be used, because it was considered a spirant rather than an aspirate."]

What we retain from this discussion - the schematisation of the shifts in rows and columns, their grouping in "Stufen", the use of the words "konsequent" and "analog" - is that Grimm has taken a highly abstract and indeed counter-phonetic approach to the process to provide a unified view of it as the operation of a general principle of degeneration.

The "phonology" of Grimm (1819) and Bopp (1833) is a "Buchstabenlehre" (theory of letters) rather than a "Lautlehre" (theory of sounds), although the Romantics always emphasised the primacy of speaking and language as the collective inheritance of the unlettered Folk. This seeming inconsistency is partly understandable in view of their philological orientation: Grimm and Bopp were working mainly with texts in dead languages. But

there is a deeper reason. Their phonetic framework is geared to the expression of etymological correspondences. Thus when Grimm in a famous passage (1819:3) declares that the word "Schrift" really contains eight sounds - including ph - he is speaking in terms of sets of historical relations, such as those between "Schrift", "schreiben", "scribo", "scriptus", etc. It is as if the Romantic philologists Grimm, Schlegel, Humboldt, Bopp, are interested primarily in discussing sound changes as instances of general principles about language - its variability, mutability, its growth and decay - rather than explaining them by recourse to a precise phonetic analysis.

Percival (1974) has drawn attention to the neglected importance of W v Humboldt as a practical linguist with an example from his monograph Ueber die Kawi-Sprache (1838). Humboldt examined the following problem of initial mutation in Javanese:

VERBS	NOUNS	VERBS	NOUNS
m	w/p	ng	h
n	t	ngr	r
ny	ch/s	ngl	l

Humboldt reasoned that historically the verb forms must be derived from the nouns, because the initial consonants of the verbs, being all members of the nasal class, must be the output of a single process. He writes (1838: 97, quoted by Percival 1974: 388) that the state of the sounds shows that they have something in common, and thus implies a common cause, an artificial formation, in that the second series contains all different consonants that might be expected in the initial consonant inventory of a language; it thus seems to represent "der natuerliche, urspruengliche Zustand" ["the natural, original situation"] (9).

Note Humboldt's use of the word "natuerlich" in this argument. The natural, spontaneous, unreflecting variety of consonants at the outset is eroded by the imposition of an intellectual construction, as it were, the rule of nasalisation. The term "natuerlich" thus does not correspond to our contemporary phonological notion of a "natural class" of sounds, which means precisely a group of sounds which are not heterogeneous but possess phonetic characteristics in common, such as for example nasality (10). Humboldt uses the term "natuerlich" to refer precisely to the non-natural class of

heterogeneous consonants affected by a historical nasal environment to yield the natural class of nasals. This is because "natural" for the Romantics meant "not rigorously determined by rules". The same thinking can be seen in Grimm's essentially non-deterministic view of the Lautverschiebungen (1819), when he speaks of the importance of residues in linguistic change: as he says of these sounds, "der Strom der Neuerung ist an ihnen vorbeigeflossen" ["the tide of change has passed them by"]. For the Romantics, rules of grammar and rules of sound shift are "intellectual", "artificial", and so delimited natural classes in our sense are likely to be the output of rules rather than the input.

It would only be when the study of the speech signal and its properties became the explanatory foundation of Sprachwissenschaft that the principle would be established that sound changes operate on natural classes of segments defined in terms of rigorous phonetic parameters. Looking back with hindsight on the Romantic period, Brugmann & Osthoff (1878: i), in the manifesto of the Junggrammatiker, remarked: "Man erforschte zwar eifrigst die Sprachen, aber viel zu wenig den sprechenden Menschen" ["Languages were indeed carefully studied,

but far too little the speaking human being"]. In the next generation of philologists, the need for phonetic principles of explanation began to be clearly felt. The Germanic scholar R v Raumer, for example, wrote, in his work *Die Aspiration und die Lautverschiebungen* (1837, quoted by Arens 1955: 214f) that linguists will hardly come to the desired result if we are content to have discovered certain letters in certain dialects in place of other letters in other dialects. We must go into the nature of the sounds symbolised by these letters to see how one could develop out of the other. For since change in words depends not on the written symbols and their similarity but on the spoken sounds, phonetic investigation "must go hand in hand with all clear etymology." (11)

It is apparent from this passage that the phonetic basis of sound change was already being clearly perceived, and perceived as a problem of linking the letters of the ready-made analysis of an inherited writing system to speech. Compare the similar notion of the phonetic basis of sound change expressed by A F Pott (1833: 74). He states that law-like substitution of letters occurs only between homorganic or homogeneous, or at least homeorganic (e.g. guttural and palatal letters, or those

which in fact have two places of articulation) or homeogeneous sounds. An inductively demonstrated substitution of letters permits an inference as to its cause, namely that the two alternating letters must have something in common with each other, even if we do not know from elsewhere what their relationship is (12).

It is particularly interesting that another philologist of the second generation, Schleicher, who is now mainly remembered for his attempt to introduce evolutionary principles into linguistics, wrote an article (quoted in full in Bar-Adon & Leopold 1971) on his son's language development, in which he expressly compares the phenomena of acquisition of a number of sounds with similar data in Indo-European historical phonology. Here, perhaps for the first time, a relation is established between processes in the speaker and in his personal history and processes in the history of language itself.

With the advent of the Junggrammatiker school - the phonetic manual of Sievers (1876), the epoch-making enunciation of Verner's Law (1877), the system of Brugmann & Osthoff (1878) - the principle of phonetic explanation in

historical-comparative studies becomes absolute. According to the Junggrammatiker, sound changes arise in the speaker as a result of phonetic processes and then become generalised to the speech community; they then come back on the speaker as it were, affecting him unconsciously and constraining the freedom of his verbal behavior - as Humboldt (1835) had already envisaged it. But the sound changes that affect the speaker's verbal behavior are now seen to be deterministic laws which, since they operate beyond the sphere of conscious choice on the part of speakers, tolerate no exceptions. Osthoff (*Das Verbum in der Nominalkomposition* 1878, quoted by Robins 1967: 184: fn) states that "die Lautgesetze der Sprache geradezu blind, mit blinder Naturnotwendigkeit wirken" ["The sound laws of language work blindly, with blind natural necessity"].

The Junggrammatiker adopt a thorough-going empiricism in their linguistic investigations, declaring that all language phenomena must be reduced to the facts of the speech signal, which can be the only scientific reality. "...Denn das, was wir Lautwandel nennen, ist ja erst eine sekundaere Folge der Veraenderungen eines oder mehrerer derjenigen Artikulationsfaktoren durch deren Zusammenwirken ein Laut

erzeugt wird" ["For what we call sound change is really only a secondary consequence of the changes of one or more of the articulatory factors by means of whose combination a sound is produced"] wrote Sievers (1876: 7); and Brugmann and Osthoff (1878: i) emphasised "dass die Sprache kein Ding ist, das ausser und ueber den Menschen steht und ein Leben fuer sich fuehrt, sondern nur im Individuum ihre wahre Existenz hat..." ["that language is not a thing which stands above and beyond persons and has a life of its own, but has its true existence only in the individual"]. But the Romantic notion of the Spirit of the Folk still holds tremendous power, for the social inheritance of language including the sound laws that determine the course of linguistic change hems in the freedom of the speaker and exists above and beyond him, eroding and transforming the phonetic landscape of language unceasingly, "mit blinder Naturnotwendigkeit".

Sound change for the Junggrammatiker is still a process, as much as it was for Jakob Grimm when he formulated the Lautverschiebungen - although the Junggrammatiker are often accused of "atomism"; really an unjustified accusation, as we shall shortly see. The difference between the Romantic

perception and that of the Junggrammatiker is that the process is now no longer an abstract one, but it has a precise phonetic basis: Articulatory Setting. That is to say, sound change affects whole classes and inventories of sounds because there is a change in the general phonetic habits of speakers.

This aspect of sound change is fully discussed by Sievers (1876), the phonetician of the Junggrammatiker. To begin with, he recalls that sound changes demonstrably operate on natural classes of sounds (1876: 6). In general, he states, it is not the individual sound that undergoes change according to specific universally valid laws, but rather a corresponding development of corresponding series of sounds occurs; indeed, it will generally be possible to fix on particular aspects that help to explain the change of such a series from the overall characteristics of the system and the special position of that series in it (13).

And again the following statement (1876: 47f): "Fuer die historische Verknuepfung der Einzelsysteme verwandter Idiome, die sich aus gemeinschaftlicher Grundlage entwickelt haben, braucht der Sprachhistoriker sodann eine klare Uebersicht ueber

die einzelnen natuerlichen Gruppen, in welche die Laute einer Sprache zerfallen..." ["For historical linking of the individual systems of related languages which have developed from a common basis, the linguist requires a clear view of the natural classes into which the sounds of a language fall."]

The sounds of language thus add up to some kind of system. This system is not conceived of as a mere aggregate either, because Systemzwang is clearly seen to be one of the factors conditioning the direction of linguistic change. Sievers further observes that the sound system is to be regarded as a matrix of relations (1876: 7). Above all, he says, one should acquire an exact understanding of the structure of each sound system under investigation; it is well always to keep in mind that the system is determined not so much by the number of sounds that happen to occur together in it as by the relation of these individual members to one another (14).

It now becomes clear, however, that the notion of sound structure - unlike what it would become in 20th-century Structural linguistics - is firmly linked to a phonetic reality, Articulatory Setting. Thus Sievers, discussing comparative

dialect phonology, declares (1876: 103) that one should be careful always to consider whether the "deviation" of the individual vowels of two or more systems cannot be traced back to a common principle which of itself characterises the position of the systems. Such principles are for example greater or lesser lip action, different degrees of nasalisation. Sievers adds that "a deviant position of the tongue through all the vowels of the system which probably stems from differences in the neutral position of the articulators, also belongs here." (15)

In the hands of the classic phoneticians such as Sievers (16), the science of phonetics attains an unprecedented degree of sophistication. This achievement is aided both by advances in the technique of transcription, and in mechanical recording of sounds. In the area of transcription, a long tradition (17) throughout the 19th century sought to devise a proper system of transcription for all languages on the basis of insights gleaned from historical-comparative study. This attempt to link the phonetic facts of the speech signal with historical patterns and processes is precisely illustrated by a remark of Bruecke (1856: 25), one of the pioneers of a scientific transcription. He says

that i, a and u are "die drei Grundpfeiler des Vocalsystems" ["the three pillars of the vowel system"], as is shown by the historical development of Indo-European and Semitic, "in Uebereinstimmung mit der Physiologie" ["in agreement with physiology"]. The other vowels are all only intermediate sounds, of which we should first consider those of the "natural vowel series", that is those between i and u or a and u.

This tradition of transcription eventually bore fruit at the very end of the century, with the achievement of the International Phonetic Alphabet.

19th-century phonetics is part of the general trend toward the objectification of language, that is, for language to be seen as something supra-individual constraining the speaker's behavior. Not only does language, as a collective social inheritance, impose its "laws" on speakers and thus stand outside their personal control, but the domain of individual verbal behavior itself is objectified by the phonetician by means of the arsenal of investigative machinery that he now begins to gather round him. In the 18th century, it was proposed to construct a machine to reproduce human speech, an

intention finally realised at the end of the century by Kempelen; but the 18th-century "speaking machine" was an achievement of art, an ingenious contrivance, like the mechanical gardens admired by Descartes. The 19th century, on the other hand, seeks to capture the reality of speech by mechanical recording; the machine is the measure of reality; it is a tool of objectification and analysis. The 19th-century classic phoneticians were concerned with matching acoustic-physiological description and the empirical Stoff of language - Bruecke's careful analysis of Arabic (1863), for example, or Rousselot's instrumental studies of French dialect speech.

The relation of speech to the machine changes dramatically during the 19th century, of course, not only with the development of mechanical devices for recording and analysis of sounds and their neuromuscular correlates in the phonetics laboratory, but even more so with the invention of technology to transmit verbal messages over vast distances and thus to amplify, as it were, man's communicative capacity: first wire telegraphy, then the telephone, the phonograph, and radio. The careers of Alexander Melville and Alexander Graham Bell are

sufficient indication of the intimate association of speech science with technology. The Elder Bell, who shared the common 19th-century concern with the development of a scientific phonetic notation ("allgemeine Alphabetik" as it was called in the German-speaking lands), devised the famous system "Visible Speech", which was a detailed practical working-out of the notion of a writing system based on the taxonomy of articulatory movements which had inspired the reflexions of such earlier authors as Helmont, Wilkins and Beauzee. Melville Bell was aware of the applicability of phonetic knowledge to the new communications technology, as is shown by the following highly interesting passage (1867: 101f). He declares that "The indefiniteness of ordinary letters is productive of much inconvenience in international telegraphy" because messages cannot be transmitted in their original languages through foreign countries, but, for the convenience of operators, must be translated, - of course at the serious risk of error, and to the entire destruction of verbatim accuracy. The system of 'Visible Speech' will render the telegraphing of words through any country equally certain and easy, in all languages. The operator, while he may not understand a syllable of the writing, will transmit "the ipsissima verba, and the very sounds of the

original, as a viva voce utterance to the receiver". In connection with Printing Telegraphs, no special training will be required by the operator; as the new types are 'composed', side by side in the same manner as ordinary types. The characters, when properly arranged, will be unmistakably selected with facility by the merest novice. For Needle Telegraphs which communicate arbitrary signs, dial, and other instruments, the 'Visible Speech' symbols must, of course, be associated with a sufficient code of signals. The symmetrical tabulation into which the symbols naturally fall renders transmission by serial numbers extremely simple. Two numbers must be signalled for each letter;- the first referring to the column, and the second to the line where the letter stands in the Telegraphic Table. The numbers 1 to 12 denote, in this way, the places of all the symbols, and leave ample room for punctuation, and for other necessary or convenient signs. Telegraph clerks who become expert at sounding the symbols, will soon be enabled to act as receivers and deliverers of messages for the convenience of those who cannot put their words into Visible Speech, or decipher them from the symbols. "Thus it should ultimately be possible for a stranger to enter a Telegraph office, pronounce his message, and have it despatched in his mother-tongue by one

totally ignorant of the import of the sounds; and for the receiver of the message to hear it intelligibly pronounced from the writing by an official equally unacquainted with the meaning of what he reads."

The above passage makes it clear that the ambition of "Visible Speech" and other 19th-century phonetic notation systems - the precursors of the IPA - was to objectify the speech signal by analysing it into its invariant articulatory components and recording it for later transmission and recovery in a scientifically unambiguous manner. What is even more striking here is the alienation of the worker, who is reduced to the mechanical task of encoding and decoding spoken messages of which he understands nothing. But again, it is no more than a striking instance of the capitalist's expropriation of the worker's knowledge and skill, followed by the bureaucratisation of that knowledge and the proletarianisation of the worker. In this connection the remarks of Pons (1964: xx), whose work on 18th-century technology was cited in the last chapter (p. 160), concerning the subjection of man to machine brought about by the Industrial Revolution are particularly apposite:

"Pour les Encyclopédistes, l'outil et la machine ne font que prolonger l'homme qui garde le contrôle et l'initiative de son action technique et économique, et reste au centre de l'univers du travail. Avec la machine automatique, la machine qui se meut d'elle-même, qui remplace l'homme, l'homme perd la primauté... Lorsque, avec la vapeur, le machinisme automatique se répandra sur une grande échelle, le travailleur se sentira dépossédé, 'aliéné', au profit de machines dont il ne sera plus le propriétaire et le maître, mais dont il aura au contraire le sentiment d'être le serviteur."

To sum up the foregoing remarks on the role of the 19th-century phonetician, we might say that his function in the total ideology of which he is a part is to provide a foundation for the notion of language as a supra-individual social phenomenon, and consequently as a collective social responsibility. He fulfils this function in a twofold manner: first, by investigating the iron laws of sound change which languages impose on their speakers, and against which the individual speaker has no right of appeal; and secondly, by recording the speaker's speech notationally or mechanically and presenting it to him as an objective record.

This means that the professional concerns of the phonetician have changed enormously from what they were in the 18th century. For the 18th-century orthoepist, the central issue to his professional practice was normativity: how a gentleman should speak, what the standards of good taste in speech are, how persons labouring under "vices" of speech may be taught to speak correctly, and so on. In the 19th century, the issue of normativity is expropriated by a therapeutic model. With the constitution of speech therapy as a clinical profession under the aegis of medicine, the phonetician gradually forfeits his privileged role as arbiter of verbal norms, and in consequence normativity ceases to occupy anything like a central place in his universe of theory and discussion, as had been the case in 18th-century orthoepy and before, with the Royal Society. In the 19th century, the phonetician retreats from polite society into academia. He continues to play an active role in the reeducation of abnormal speech - a role which he will continue to exercise in the 20th century - but this aspect of his professional activity becomes increasingly marginal to general theoretical concerns in linguistic phonetics. In any case, the the 19th-century phonetician's involvement with speech

reeducation can no longer be interpreted as an authoritative imposition of norms of "good speaking", but has exclusively therapeutic and clinical reference.

We may accordingly speak of an "expropriation" of the issue of verbal normativity by a therapeutic model sanctioned by the medical hierarchy in the 19th century. This expropriation parallels the expropriation of the worker's knowledge of his craft and its centralisation in the factory by modern industry, as also the expropriation of the community's socialising and educational function and its institutionalisation in the public school. Restricted in his field of professional activity from the discussion of normativity, the 19th-century linguistic phonetician henceforth devotes himself primarily to the task of explaining the historical and comparative relations of speech sounds. In the general phonetic literature, we do find pronouncements on speech pathology and suggestions for remediation. Thus Rousselot (1899: 1156-9) makes the following remarks - quoted here as an example:

"Dans le bégaiement, c'est l'appareil respiratoire qu'il faut soigner. On emploiera donc les mêmes moyens que [dans

l'insuffisance respiratoire]. En outre, on commandera avec autorité au malade de ne plus bégayer. Pour cela, il devra: 1. ne jamais entreprendre de parler sans avoir auparavant rempli ses poumons par une bonne inspiration; 2. parler lentement, et ne pas dire plus de 3 ou 4 mots sans respirer; 3. s'arrêter net si une syllabe quelconque fait obstacle, respirer tranquillement et ne reprendre la parole que quand l'équilibre fonctionnel aura été complètement rétabli. Avec les exercices respiratoires, ces conseils suffisent pour qui possède une forte dose de bonne volonté... D'ordinaire le traitement est assez long, et le bègue guéri a toujours besoin de se surveiller, car son système nerveux n'est jamais complètement restauré."

But the 19th-century phonetician, though he comments on abnormal speech, does not incorporate it into his theoretical discourse as an object of study, as the Royal Society phoneticians did in the 17th century; it remains the preserve of a therapeutic model based squarely on scientific medical principles. The reason for this is that, as we have seen, deviance from speech norms has passed under the tutelary control of the medical establishment: the abnormal subject can speak only through and within the clinical setting. That is why, in

the modern period, the phonetician, the linguist, on one side, and the aphasiologist, the clinician, on the other, have no common theoretical discourse.

3. FROM PHRENOLOGICAL CLASSIFICATION TO THE NOTION OF PATHOLOGY

In almost complete isolation from the parallel development of "Sprachwissenschaft", medical science in the 19th century enters a peculiarly privileged relation to the ideology of verbal behavior by virtue of its study of the brain and its concern with a particular kind of deviant verbal behavior, aphasia. It will not be a question here of chronicling or evaluating the history of aphasiology (18); that is not our subject in this dissertation. But we must still lend 19th century neurology and aphasiology some consideration, because the study of the brain made an important contribution to 19th-century ideologies, and also because the historic confrontation with the problem of aphasia revealed the scope of medical notions about the nature of abnormal verbal behavior.

The conquest of the human brain was a characteristic enterprise of 19th-century science, and it laid the foundations not only of modern neurology, but also of physical anthropology, the study of differences in the constitution of the races of man, as well as various other sciences and pseudo-sciences. Indeed, the leitmotiv of the human brain haunts 19th-century ideologies precisely because the brain scientist claimed to be able to provide the answers to many burning questions that agitated men's minds: What is the difference between language and thought? What is the mind? What is the nature of intelligence? What is the nature of madness? Why do some races rule empires, and why are other races their slaves? Can the right men be selected for the right tasks in society on the basis of a study of their constitutions? Can science produce a superior race? Such were the secrets which men hoped to unlock by patient study of the seemingly inert cerebral enigma that previous ages had largely failed to comprehend. It is in many ways revealing that the modern study of the brain was inaugurated by a system of classification of human beings that claimed to link observable facts of their constitution to differences in their personal aptitudes and weaknesses, and that is today remembered only as a pseudoscientific aberration of the

19th century: Phrenology.

The Enlightenment was not without an appreciation of the neurophysiological foundations of speech, as we have seen from the discussions of Haller and Kuestner in the preceding chapter of this thesis (pp. 148-152). However, as Lanteri-Laura (1970: chap. I, 3, 4) has shown, the 18th-century authors who speculated on the organisation of the brain paid their attention to the nerves and their roots and fibrous continuations in the interior of the brain; they did not confer any privileged status on the cortex.

It was the Phrenological movement that introduced a new way of looking at the brain, with the neuroanatomy of Gall. From Gall's viewpoint, most important for the understanding of cerebral organisation are not the visibly distinct structural elements of the brain, but diffuse cortical areas demarcated by their presumed functions in human behavior. There is here, at the beginning of the new century, a characteristic shift from study of visible structures and their action to study of the hidden biological functions that make up the life of the organism.

Gall in his system (1819: 68) identified an "organe du sens du langage et de la parole" on the mid surface of the frontal lobes. He justifies this by reference to cases where bilateral lesions of this area cause simple inability to speak in the child despite normal intellectual development, and speech disorder or even mutism in the adult. As Lanteri-Laura (1970: 110) observes, "la reference a la pathologie est fondamentale". The development of these views can be seen in Bouillaud, who supported Gall's localisation theory in general but criticised a number of his claims on the basis of clinical evidence. In spite of his critical acceptance of the new neuroanatomy, Bouillaud (like Gall himself) continued to think in an 18th-century way on many issues. The 18th-century concern with the visible is still evident in his assumption that there are three separate main nerves in the tongue to subserve the three main functions of speaking, eating and taste (1825:44):

"La perte de la parole n'entraîne pas celle des mouvemens de la langue, considérée comme organe de la préhension, de la mastication et de la déglutition des alimens, non plus que la perte du gout; ce qui suppose que la langue a dans le centre

nerveux trois sources d'action distinctes, hypothèse ou plutôt vérité qui s'accorde admirablement avec la présence d'un triple organe nerveux dans le tissu de la langue."

Again, Bouillaud (following Gall) attempts to distinguish two "organs" of language in the brain: that of articulate language, i.e. speech, and that of intellectual language, or, as he calls it, "parole intérieure". He speculates as follows on the structural correlates of this functional division (1825:43):

"Peut-être que la substance grise des lobules antérieurs est l'organe de la partie intellectuelle de la parole, tandis que la substance blanche est l'organe qui exécute et coordonne les mouvemens musculaires nécessaires à la production de la parole."

Apart from this kind of speculation, Bouillaud's organ of external speech would later develop into Broca's "faculté du langage articulé" and the dogma of the third frontal convolution (Hecaen & Angelergues 1965: chap. 2). It is thus a basic and significant concept for medical ideas about the somatic basis of

speech in the 19th century. Bouillaud in fact appeals to this duality of language functioning in order to explain precisely the problem of functional disturbance, i.e. where the mechanism of speech is affected in the absence of damage to the vocal organs - a problem which, as we have seen, had preoccupied medical authors as far back as the 16th century: "quando salva voce, sermo tamen omittitur", as Mercurialis (1584: 53r) had expressed it. Bouillaud (1825:41) reasons that unless we accept "la doctrine de la pluralité des organes cérébraux" we cannot explain such diverse phenomena as stuttering, mutism in man, and the absence of language in the animals. The human infant itself does not speak, although it is quite capable of tongue and lip movement (in sucking and swallowing). This is because speech movements are directed by a different nervous mechanism from the other tongue movements: speech is an intellectual function and must therefore be "educated", whereas the other movements, "purement instinctifs ou automatiques", need not be (19).

In functional disturbances, then, the vocal machinery, as it were, subsists; the hidden function of speech announces its existence in its pathological dissolution. Bouillaud emphasises the peculiarly human and intellectual nature of speech by

assigning it a peculiar cerebral organ, distinct from those of the other, vegetative functions of the vocal tract, which he refers to as "purement automatiques". One can see clearly here the beginnings of our modern view of speech as an "overlaid function", an adaptation of the respiratory-oral system to the ends of speech that is unique to homo sapiens. The evolutionary perspective is, of course, lacking here, as is the already established notion(20) of speech itself being both automatic and voluntary, but the stage has been set for a more fully developed theory, with Hughlings Jackson, which would remedy both omissions.

Lanteri-Laura (1970) has shown in a very interesting study that especially in England and in the United States Phrenology came to be closely associated with the cause of liberal reform, and that its principles were invoked for many social applications, such as change in the penal system, manpower selection (the Fowlers, American Phrenologists, were the first "industrial psychologists"), and - let it be said - the cure of stammering. The views of Gall and his more practically-minded collaborator Spurzheim were developed by the English Phrenologist Combe (1826), who speculated on the cause and cure

of stammering. Combe found that the disorder was typically due to what he termed "conflict of the active faculties", or "contending emotions" leading to a duality of nervous impulse. This notion is indeed a speculative one, but it did contribute to the developing concept of speech as being subtended by a plurality of mechanisms having their seat in the brain and pathological manifestations as being due in some sense to improper integration of those mechanisms.

With the theories of Broca (1861), epoch-making clinical neurologist and one of the fathers of physical anthropology, and the lively discussions those theories provoked (Hecaen & Angelergues 1965: chap. 2), the classic period of neurology begins, inaugurating a trend toward ever-increasing precision in the mapping of brain functions, based on the evidence of clinical study. Phrenology had spoken of rather diffuse and vaguely delimited cortical areas as being endowed with function; Broca narrowed his studies down to cortical convolutions; and following the animal experiments of Fritsch & Hitzig (1870), the German associationist school - Wernicke (1874), Kussmaul (1884) and Lichtheim (1885) - began to speak of "centres" and to chart these centres and their various interrelations and pathological

dissociations by means of abstract "schemata". Indeed, the key role of pathology - the experiment of nature on man, as 19th-century physicians like Bouillaud (1825) called it - as a tool of research and a source of hypotheses was decisive for the elaboration of neurological theory, not only of verbal behavior but of brain functioning as a whole. This raises the question of the basic conception of pathology in medical science in the 19th century; and I shall venture to suggest that one of the major contributions of neurology to the 19th-century ideology of verbal behavior is represented by the gradual emergence, from the sifting of clinical experience and the unceasing attempt to construct a coherent topography of the human brain, of a refined notion of pathology vis-a-vis normal functioning. At this point we must finally evoke a name and a medical achievement that found no echo in 19th-century neurology, but that seems constantly to grow in stature in the context of recent research: Hughlings Jackson.

Hughlings Jackson's theory of brain and language is in the first instance a conscious alternative to the "classic" localisationist approach being proposed around the same time by Broca. Its basis is the insight that "articulate language" is

subservied, not by a single cerebral mechanism, but by two (21). Characteristic of Jackson is his use of the established notions of automatic and voluntary in speech behavior, but in a new way, influenced by the historical and evolutionary thinking of his own time. Evolutionary biology, particularly Darwin's (1872) pioneering studies of primate behavior, demonstrated the necessity of communication where involuntary behaviors enmesh the animal in a world of signs - anger, courtship, flight, predation; the animal, communicating unambiguously and involuntarily, cannot lie, but man, conscious of his own actions, can inhibit and disguise the emotions, though never completely: the clenched fists of the angry man belie the calm, measured voice he may choose to affect. It is the dual presence of consciousness and instinct that make of man a divided self. Jackson was, in fact, more directly influenced in his thinking by Herbert Spencer, whose evolutionary theories enjoyed more prominence in mid-century than did those of Darwin, and who was incidentally a former adept of Phrenology; and Spencer, for his part, seems to have recognised the great interest of Jackson's ideas for a scientific psychology, even if very few others did. Hughlings Jackson postulated an evolutionary relationship between the voluntary and the automatic, the higher and lower

functions of speech, and showed how the two levels could become dissociated in disease. Man's being a house divided makes him prey to disorders of behavior, especially of speech: an idea which was later to be elevated into a psychopathology by Jackson's admirer Freud(22). Freud's early monograph "Ueber Aphasie" (1891) is a kind of summing-up of what had been learned about the subject in in the 19th century. The future student of hysteria and the neuroses did not miss the significance of Jackson's observations of "recurrent utterances" in aphasia, such as the verbal residue he recorded of a former desk-clerk: "List complete" (the patient had suffered a stroke as a result of overwork). This would not be the place to speculate on the influence Hughlings Jackson may have exercised on the mature Freud in his construction of the theory of psychoanalysis, but one expects that the young Freud must have glimpsed in the case studies of Jackson with their careful observations of the totality of the patient's verbal behavior the world of the individual's subjective experience, between normality and pathology.

In the 19th century, language passes under medical and institutional surveillance, and this is associated with the

programme of bourgeois social reformers to ban riotous and scandalous displays of behavior from public life. Language can escape control and disrupt social life, when the abnormal utterances of the pathological speaker give voice to the hidden forces of aggression, rage and sexuality which would normally be kept under the control of internalised codes of moral behavior. Informing this notion of "loss of control" is the evolutionary conception of disease so typical of 19th-century medicine: disease strips away the adaptive reactions that have been built up in the history of the individual or the race, letting unadapted primitive, archaic behavior patterns manifest themselves, so that disease is always accompanied by a "regression" to an earlier state typified by lack of acquired inhibitions.

With disease as regression and the fall of inhibitions, deviant language becomes the sphere of the scandalous. Itard (23) first describes a syndrome in which the patient cannot prevent himself from interpolating obscenities into his utterances, or degenerates completely into obscenity and swearing. It is also later described by Gilles de la Tourette, whose name the syndrome bears. It is a kind of verbal tic, and

consists of an irruption of inappropriate material in discourse, inappropriate also to the speaker's social role: one of the cases Itard describes is that of a saintly parish priest who scandalised his flock by unwittingly peppering his sermons with blasphemous and obscene exclamations. Itard compares the syndrome to the phenomenon of "running amok" in Malaya, which shows that it is the same kind of complete breakdown of social constraint in the individual. But beyond this particular syndrome of Itard and Gilles de la Tourette, the annals of 19th-century neurology bear (often indirect) witness to the generality of the phenomenon of language as the sphere of the scandalous: the figure of the swearing aphasic, reduced to helpless silence except for his stock expletive to express his rage and frustration, emerges from all the casebooks. Broca's first patients swore, as he records; and so did Jackson's, who, for example, records of one unfortunate that all he could manage was "the common Anglo-Saxon word". Language can in this way be the sign of social breakdown, and must thus be policed by scientific medical practice.

It emerges from the foregoing considerations that, for the 19th century, the deviant speech of the Other implies an attack

on public order, a discordant cry of self and desire rupturing the impersonal homogeneity of social language. Speech deviance is still as much a sign of personal decadence and perversion as it was for previous periods - but with the difference, in 19th-century thinking, that such decadence and perversion is a manifestation of archaic consciousness and is amenable to resocialisation. Against this background, we can understand the prescriptions of the rhetorical theorist Austin (1806: 41) for sufferers from speech impediments:

"All excess should be avoided, particularly in the use of wine, tea and coffee, which give a momentary stimulus, and leave behind increased debility. All personal irregularity ought to be still more carefully guarded against..."

Sexual irregularity is no doubt the intended meaning here. In the same way, Klencke (1862) states that stutterers will almost invariably be found to be a prey to "das geheime Laster des Onanismus" ["the secret vice of Onanism"]. The idea of the speech defective's undisciplined and immoderate pursuit of autoerotic gratification as a cause of his impediment, weakening the nervous constitution, is a commonplace of remedial

discourse, going back to Mercurialis and Galeotti, as we saw in the chapter on the 16th century (see p. 59.).

The policing of the pathological in this sense is the fundamental contribution of scientific medicine to the apparatus of social control in the 19th century: not only must deviance be repressed, but it must also be "treated" as a pathological phenomenon amenable to rehabilitation and reintegration into bourgeois society. Medical science and its insights into the human brain are part of the apparatus of social control, and its particular contributions to the social control of language are those we have attempted to bring out in the foregoing discussion: the development of a system of evaluative classification of human beings on the basis of biological-constitutional norms; accounting for the clinical signs of verbal deviance by a precise schematisation of pathological syndromes; and the conception of pathology as regression to a more primitive state of functioning, recuperable by an appropriate clinical regimen. By its unchallenged claim to leadership in social hygiene, and the growing body of scientific knowledge at its disposal, 19th-century medical science was in a position to extend its patronage to the enterprise of speech reeducation.

4. SPEECH THERAPY: FROM INSTITUTIONALISATION TO MEDICALISATION

In the preceding sections of this chapter, I have attempted to fulfil the task of the "archaeological" method in describing certain aspects of 19th-century culture from which the general principles of an ideology of verbal behavior may be derived, the intellectual preconditions that made the emergence of the peculiarly modern discipline of speech therapy possible. It is now time, in this final section of the chapter, to confront the enterprise of speech reeducation itself and to attempt to understand its distinguishing characteristics in terms of that ideology, those concepts. Our conceptual investigation centred on the movement for social reform and industrial progress by means of popular education, and on two separate but parallel fields of discourse that aimed to establish a positive body of knowledge on the subject of verbal behavior: linguistic and medical science. Bourgeois reformers believed "that the best interests of society lay in a system of universal compulsory education which would isolate the student from other influences

and subject him to a regular regimen, and that the system must be operated by a centralised professional bureaucracy" (Lasch 1979: 133). Historical-comparative linguistics showed language to be a supra-individual social phenomenon, an expression of the Spirit of the Folk, a collective inheritance, and therefore a social rather than an individual responsibility. Medical science proposed a classification of persons according to biological-constitutional norms, leading to a specifically medical study of deviance as pathology; and pathology is seen, in an evolutionary perspective, to be a regression to an unadapted stage of behavior organisation that can be recuperated by suitable treatment. All these elements contribute to the enterprise of speech reeducation and define its character and limits, its institutionalisation in the clinical environment, the professionalisation of its practitioners, its increasingly official and public status as guardian of the verbal norms of society, and its therapeutic approach under the aegis of medicine.

The first signs of systematic medical interest in speech reeducation at the beginning of the 19th century are to be found in the work of Itard, who was appointed physician to the

Institution nationale des sourds et muets by the Abbe Sicard. Itard made a number of important medical contributions (Malson 1964). He may be regarded as the founder of otorhinolaryngology, and he showed in particular the existence of residual hearing in the deaf child. He attempted to treat stuttering, which he thought to be due to general nervous debility, by a varied regimen including the use of a prosthetic device which must presumably have functioned as a distractor; these patent devices were to enjoy a vogue with lay speech therapists in the 19th century. Itard was the first to identify and describe the syndrome later named after Gilles de la Tourette, which so fascinated 19th-century physicians. However, the contribution for which Itard is best remembered is his study and attempted reeducation of Victor, le Sauvage d'Aveyron. The Sauvage was the last in a long history of werewolves commented on in learned discourse on speech throughout history, but he was presumably the first to be housed in an institution and subjected to a therapeutic regimen. Itard kept him at the Institution des sourds et muets, where he was socialised by the attentions of the staff and the company of the deaf children. Itard used oral methods of deaf teaching to try to get the Sauvage to speak, but without much success. The education of

the Sauvage was described by Itard in two publications (reprinted in Malson 1964). As Malson points out in his introduction (1964:8), the attempt of Itard is the first example of 19th-century society's ambition to push out the frontiers of education and subject deviant populations formerly thought irrecoverable to a regimen of instruction as part of its general mobilisation of human resources for industrial progress.

We see, therefore, that Itard, while carrying on the institutional philanthropic tradition of the Abbes de l'Epee and Sicard, was the first to express a medical claim to competence in the diagnosis and treatment of speech disorders. By his very position within the tradition of the Institution des sourds et muets, and the multifarious and somewhat dilettantish character of his interventions in the area of speech pathology, however, he is excluded from the particular development of speech therapy as a specialised mode of therapeutic intervention that in fact begins apart from him.

The early beginnings of speech therapy proper can be seen in the work of the English writer Thelwall, who was apparently the first modern speech therapist. Like many of those who were

active as speech therapists in the early days of the 19th century, Thelwall was neither a physician nor any other kind of recognised helping professional, but on the other hand his practice shows marked differences from that of Enlightenment orthoepists. He distinguishes truly organic from functional disturbances, and numbers the common disorders of speech such as stuttering among the latter. This, as we shall see, is a decisive matter for the modern conception of speech therapy. Again, he followed Steele's framework of prosodic description, and attempted in his remedial work to teach the patient the stress-pattern peculiar to his particular language, English. But most importantly, Thelwall insisted on the "domestication" of the subject, that is to say, that he should be cared for in an institutional setting. To this end, Thelwall opened the first institution for speech therapy, in 1805 (Rockey 1972).

We thus see the beginnings of institutional speech therapy with Thelwall. But in the earlier part of the 19th century, speech therapy is not yet a clinical activity sanctioned by the medical establishment. There is a proliferation of self-styled speech therapists, each advertising his "cure" for speech disorders. The early speech therapist figures as a kind of

charlatan or mountebank. Because he is not professionalised, he is not respectable. Thelwall himself started out as a radical political demagogue, and was at one time tried for sedition. The manifestations of interest in the treatment of speech pathology by the medical profession tend to be abortive, for example the surgeon Dieffentach's series of operations carried out amid great public interest in 1841: the operation involved partially severing the root of the tongue, and was supposed to relieve spasm in speech. At the same time, some physicians such as Colombat de l'Isere, Rullier, Schulthess and Lichtinger - often individuals with a history of speech pathology themselves - began to compete with the freelance therapists.

Indeed, as well as the tendency to "institutionalisation" which I have identified, one can speak of a parallel "medicalisation" in the 19th century. By this I mean not that the profession of speech therapy is actually taken over by the medical profession - though there is throughout the 19th century increasing medical involvement in the reeducative enterprise - but that speech therapy becomes precisely a clinical profession on a therapeutic model underwritten by scientific medicine. It is clear that prominent laymen who enjoyed a scholarly

reputation continued to be active speech therapists on into the second half of the century. J Hunt, for example, published his "Treatise on the Cure of Stammering" in 1854, and was a respected therapist. He is credited with being one of the founders of the modern discipline of anthropology in England (24), being remembered for his opinion that Negroes formed a separate species, and should be dealt with accordingly. Alexander Melville Bell, author of "Visible Speech" (1867), and his son Alexander Graham, who invented the telephone after he emigrated to Canada, were both active and highly regarded in the teaching of the deaf and in other reeducative practices. The crucial point is that these scholars carried on their remedial activities in institutional settings, and that their remedial practice was therapeutic rather than normative in the 18th-century sense. It presupposed a clinical model with a basis in medical science as much as the approach of Combe and the Phrenologists in the early 19th century.

The first medical man to devote himself to the practice of institutional speech therapy as a specialty was Klencke. His comprehensive manual "Heilung des Stotterns" (1862) contains a wealth of information on the theory and practice of clinical

speech therapy in the 19th century.

In order for speech therapy to constitute itself as a scientific discipline and a recognised clinical profession, charlatanism and dubious credentials had first to be exorcised. The closure of medical ranks can be seen in Klencke's condemnation of the secret "cures" touted by itinerant "Stotteraertzte", who relieved the credulous of their money without producing any durable therapeutic effect, and likewise of Dieffenbach's fashionable surgery, which inflicted mutilation on the unfortunate patient to little or no avail in the long run.

The basis of Klencke's theory is the notion that stuttering represents a pathological dissociation of articulation and phonation. The patient must be taught to integrate these mechanisms, and then to automatise the patterns of normal speech. After the pathological syndrome has been abolished, the actual use of language, Klencke says, must be acquired by systematic practice like an art; the learning to speak of a stuttering patient is in all ways analogous to the learning of a foreign language (25).

Klencke insists on the value of an institutional setting for the cure of speech disorders, and he describes the organisation of his own Pension. Part of the overall treatment is to get the patient out of his own environment and to set up - as against the deficient experiences of the patient's upbringing - an idealised family environment with the doctor himself standing in as father figure (1862: 8f):

"Gelangt nun ein Stotternder mit den Eigenschaften, wie ich sie eben skizzirt habe, in eine Familie, die ihn zum Zwecke der Befreiung von seinem Uebel aufnimmt, und deren Haupt eben der helfende Arzt ist, dem er seine Heilung anvertrauet..." ["If, now, a stutterer with the characteristics I have described gets into a family which takes him in with the aim of curing him from his affliction, and whose head is the helping physician, whom he has entrusted with his cure..."]

Klencke's approach is thus basically a psychiatric one: the institution catches up the patient in a network of social relations so as to heal his personality as well as his disordered speech.

The textbook "Heilung des Stotterns" affords a very detailed appreciation of the philosophy and methods of 19th-century speech therapy, and is an invaluable resource for the historian on that account. Rather than summarising the multifarious approaches of other therapists, medical and lay, documented in the extensive 19th-century literature (26), I have found that focussing on the single comprehensive work of Klencke offers a more complete understanding of "orthophonie" as practised in this period.

In reading Klencke, one is immediately impressed by the rigor and comprehensiveness of his program. Vocal exercises have been a part of reeducative practice since Amman, as we noted at the end of chapter III; but Klencke's approach draws the patient into an intense ritual of drills and routines wherein he must confront speech directly and in his own person. Klencke and other authors use the term "Sprachgymnastik", and one can imagine this stringent regimen as fulfilling the same function as sport in the 19th-century school: the building of a healthy constitution, the inculcation of discipline, and the banishing of unwholesome thoughts. Indeed, Klencke judges his

patients typically as chaotic, impulse-ridden personalities who must be directed firmly but with a tactful appreciation of their abnormal emotional sensitivities. The regimen to which he gradually subjects them retraces the development of speech in man in what is almost a phylogenetic perspective (though Klencke does not care to speculate about such things): first quiet respiration, then rhythmic breathing, then sustained vocalisation, followed by vowels, consonants, and CV syllables; only then does the patient progress to the automatising of verbal behavior. In all these pages, we never see the patient except through the eyes of the physician. Klencke does not quote the remarks, responses or outbursts of his patients; their reactions are not reported. For him, they have precisely nothing to say.

Basic to the discourse of speech therapy throughout the 19th century is a twin emphasis on the "psychological" aspect of language, having to do with the health of the personality, the hidden, functional foundation of social life rather than the visible defect of the organs, as it had been for the Enlightenment; and on the necessity of treating speech disorders in an institutional setting that would restore the patient to a

balanced social environment.

At this point, speech therapy has come of age. As we leave Klencke in his Pension surrounded by his stuttering patients, it may be opportune to reflect on the curious odyssey of the Other, as we have charted it, from the teeming highways of the Renaissance to the silence of the modern clinic. But our perceptions of deviant speaking have not attained a resolution. Nor can one be foreseen.

Footnotes

(1) For the history of popular amusements and their suppression, see Huizinga (1955), Lasch (1979: chap. 5), also Graves (1960).

(2) A similar and very interesting illustration of the linking of uneducated speech with pathological speech in 19th-century thinking is to be found in the remarks of the British explorer Richardson on the speech habits of the Canadian Indians (quoted by Haldeman 1860: 137 fn) - remarks which

recall the passages quoted from the "Relations des Jesuites" in chapter III of this thesis, to the extent that they present native Canada as a strange region beyond the pale of civilised speaking:

"The sounds of the 'Tinne language can scarcely be expressed by the English alphabet, and several of them are absolutely unpronounceable by an Englishman. In my attempts to form a vocabulary, I had great difficulty in distinguishing several words from one another which had dissimilar sounds to the native ear, and were widely different in their signification. A Dog-Rib or Athabaskan appears, to one unaccustomed to hear the language, to be stuttering. Some of the sounds must have a strong resemblance to the Hottentot cluck [sic], and palatal and guttural syllables abound in the language. Vocabularies of this tongue cannot be greatly depended upon, as no two people will agree on the orthography."

(3) Goodhart & Chataway (1968), Lasch (1979: chap. 5) discuss the place of sport in 19th-century education.

(4) "Wir sehen, dass in dem Masse, als, in der organischen

Welt, die Reflexion dunkler und schwächer wird, die Grazie darin immer strahlender und herrschender hervortritt. - Doch so, wie der Durchschnitt zweier Linien, auf der einen Seite eines Punkts, nach dem Durchgang durch das Unendliche, ploetzlich wieder auf der anderen Seite einfindet, oder das Bild des Hohlspiegels, nachdem es sich in das Unendliche entfernt hat, ploetzlich wieder dicht vor uns tritt: so findet sich auch, wenn die Erkenntnis gleichsam durch ein Unendliches gegangen ist, die Grazie wieder ein; so, dass sie, zu gleicher Zeit, in demjenigen menschlichen Koerperbau am reinsten erscheint, der entweder gar keins, oder ein unendliches Bewusstsein hat, d. h. in dem Gliedermann, oder in dem Gott."

(5) "Gerade das eigentuemliche der Sprache, dass sie sich bloss um sich selbst bekuemmert, weiss keiner. Darum ist sie ein so wunderbares und fruchtbares Geheimniss, - dass wenn einer bloss spricht, um zu sprechen, er gerade die herrlichsten, originellsten Wahrheiten ausspricht. Will er aber von etwas Bestimmtem sprechen, so laesst ihn die launige Sprache das laecherlichste und verkehrteste Zeug sagen... Wenn man nur den Leuten begreiglich machen koennte, dass es mit der Sprache wie mit den mathematischen Formeln ist - sie machen eine Welt fuer

sich aus - sie spielen nur mit sich selbst, druecken nichts als ihre wunderbare Natur aus, und eben darum sind sie so ausdrucksvoll - eben darum spiegelt sich in ihnen das seltsamste Verhaeltnisspiel der Dinge."

(6) "Die sprache gleich allem natuerlichen und sittlichen ist ein unvermerktes, unbewusstes geheimnis, welches sich in der jugend einpflanzt und unsere sprachwerkzeuge fuer die eigenthuemlichen vaterlaendischen toene, biegungen, wendungen, haerten oder weichen bestimmt; auf diesem eindruck beruht jenes unvertilgliche, sehnsuechtige Gefuehl, das jeden menschen befaellt, dem in der fremde seine sprache und mundart zu ohren schallt; zugleich beruht darauf die unlernbarkeit einer auslaendischen sprache, d.h. ihrer innigen und voelligen Uebung."

(7) "Ohne ein Akt des unmittelbaren Bewusstseins, ja selbst der augenblicklichen Spontaneitaet under der Freiheit zu sein, kann die Sprache doch nur einem mit Bewusstsein und Freiheit begabten Wesen angehoeren und geht in diesem aus der ihm selbst unergruendlichen Tiefe seiner Individualitaet und aus der Taetigkeit der in ihm liegenden Kraefte hervor."

(8) The classical phonetic metalanguage first laid down by Dionysius Thrax is based on the inherited analysis of the Greek writing system, with three places of articulation and a three-ways distinction between voiced, voiceless and tense or aspirated stops. Though the phonetic metalanguage builds on the insights of the writing system, a closer examination of it suggests that grammatical rather than phonetic criteria underly it to a great extent. Thus the three-ways distinction for stops appears as a manner of articulation parameter with three values: *tenuis*, *media* and *aspirata*. The Ancients did not know about voice state, as the term *media* shows; it is a purely formal designation. Dionysius has no phonetic explanation of the term, but in support of his classification he gives an example of *tenuis* replaced by *aspirata* before a rough breathing. For the text of Dionysius and scholia, see *Anecdota Graeca*, ed. Becker, Berlin 1814-1821.

(9) "Die Uebereinkunft der Laute deutet an, dass sie etwas Gemeinschaftliches an sich tragen, und weist dadurch auf eine gemeinschaftliche Ursache, eine kuenstliche Bildung hin, indess die zweite Reihe die Verschiedenheit der Konsonanten an sich

traegt, welche die Anfangsbuchstaben der Woerter einer Sprache ueberhaupt haben; in ihr scheint also der natuerliche, urspruengliche Zustand zu liegen." (Humboldt 1838: 97)

(10) For the discussion of natural classes and naturalness in the perspective of contemporary Generative phonology, see Postal (1968) and Chomsky & Halle (1968: chap. 9).

(11) "Wir werden kaum zum Ziele kommen, wenn wir uns damit begnuegen, gewisse Buchstaben in gewissen Dialekten an der Stelle anderer Buchstaben in anderen Dialekten vorgefunden zu haben. Wir muessen auf das Wesen der mit diesen Buchstaben bezeichneten Laute eingehen, um zu sehen, wie aus dem einen der andere sich entwickeln konnte. Denn da die Umwandlung der Woerter nicht auf den geschriebenen Zeichen beruht und auf der Aehnlichkeit derselben, sondern auf den gesprochenen Lauten, so muessen eigentlich mit aller klaren Etymologie phonetische Untersuchungen Hand in Hand gehen." (Raumer 1837)

(12) "Gesetzliche Buchstabenvertauschungen... finden nur statt zwischen homorganen oder homogenen, mindestens homoiorganen (zB Kehl- und Gaumbuchstaben, oder solchen, die

eigentlich zwei Organen angehören) oder homioenen Lauten. Eine durch Induktion erwiesene Buchstabenvertauschung laesst von der Wirkung einen Schluss auf die Ursache zu, naemlich, dass die beiden wechselnden Laute, auch wenn wir deren Verwandtschaft anderswoher nicht kennen, auf irgendeine Weise aneinander grenzen muessen." (Pott 1833: 74)

(13)"...Im Allgemeinen ist es nicht der einzelne Laut, welcher nach gewissen, ueberall gueltigen Gesetzen der Veraenderung unterliegt, sondern es findet gewoehnlich eine korrespondierende Entwicklung korrespondierender Lautreihen statt; ja in der Regel werden sich auch noch besondere Gesichtspunkte aufstellen lassen, welche die Veraenderung einer solchen Lautreihe aus dem Gesamthabitus des Systems unter der speziellen Stellung jener Reihe in ihm erklaren helfen." (Sievers 1876: 6)

(14) "Vor allen Dingen suche man sich einen genauen Einblick in den Bau jedes zu behandelnden Lautsystemes zu verschaffen; man wird gut thun, dabei stets im Auge zu behalten, das dieser nicht so sehr durch die Anzahl der in ihm zusammengewuerfelten Laute an und fuer sich, als durch das

Verhaeltnis dieser einzelnen Glieder untereinander bedingt wird..." (Sievers 1876: 7)

(15) "Man unterlasse also nie, zu untersuchen, ob sich die Abweichung der Einzelvokale einer oder mehrerer Systeme nicht auf ein gemeinsames, die Stellung der Systeme ohne weiteres charakterisierendes Prinzip zurueckfuehren lassen. Solche Prinzipien sind beispielsweise die staerkere oder geringere Beteiligung der Lippen, verschiedene Stufen der Nasalisierung. Ferner gehoert hierher namentlich auch eine durchgehends bei allen Vokalen des Systems abweichende Lagerung der Zunge, die wahrscheinlich von Differenzen in der Ruhelage der Organe herruehrt." (Sievers 1876: 103)

(16) I have discussed the phonetic theory of Sievers in relation to the work of his 20th-century successors at length in a Master's thesis (1978).

(17) It begins with Lepsius (1828), but I have claimed in my Master's thesis (1978: chap. 3) that Sir William Jones was the first, at the end of the 18th century, to pose the problem of transcription in specifically linguistic terms.

(18) For the history of aphasiology and neurolinguistics, see Hecaen & Angelergues (1965: part 2), Lanteri-Laura (1965), and Bouton (in preparation).

(19)"En rejetant [la doctrine de la pluralite des organes cerebraux], comment se rendre raison, par exemple, du begaiement, de la mutite chez l'homme, de l'absence de la parole chez tous les animaux, phenomene coincidant avec toute la plenitude et toute la perfection des autres fonctions musculaires? ...L'homme lui-meme dans les premiers temps de son existence, ne jouit pas du precieux privilege de la parole: cependant les mouvemens de sa langue et de ses levres s'exercent avec une parfaite liberte, comme le prouvent une foule de phenomenes qu'on observe chez lui, telles que l'action de teter, celle d'avalier, etc. Pourquoi cela? parce que les mouvemens qui concourent a la production de la parole, et ceux de la succion, de la deglutition, ne sont pas regis par le meme principe nerveux; parce que les uns, appartenant a la vie intellectuelle, ont besoin d'une veritable education, tandis que les autres, purement instinctifs ou automatiques, n'exigent nullement un pareil secours."

(20) by Hartley - see chap. IV, section 3 above.

(21) Hecaen & Angelergues (1965: 53) recall Jackson's acknowledgement of the influence of Baillarger, whom they quote as noting, in the verbal behavior of aphasics, "ce phenomene singulier qu'il leur est impossible de prononcer certains mots quand ils essayent de le faire et qu'ils appliquent toute leur energie de volonte; au contraire, quelques instants apres, ils prononcent ces memes mots sans le vouloir. Ainsi il y a chez eux perte de l'incitation motrice volontaire, conservation de l'incitation motrice spontanee."

(22) Freud was steeped in the associationist medical tradition, as is apparent from his monograph on aphasia. Freud was also the student of Charcot; profiting by his knowledge of French, the young Freud had supported his studies by translating his master's books.

(23) Itard's therapeutic practice will be discussed in the next section. See Malson's (1964) authoritative account of him. Itard's 1817 Memoir on Stuttering is re-presented by Clark

(1980) .

(24) See the article on him in Dictionary of Scientific Biography (1977).

(25) What Klencke means by this last remark is presumably that the patient must learn to automatise the normal speech patterns of his language, in the same way as the young child or the second language learner must automatise the patterns of the language in order to be able to use it in ordinary conversational interaction with speakers.

(26) Olivier (1899) provides a convenient survey of the literature.

Chapter VI: Conclusions

In the foregoing chapters of this thesis, I have attempted to describe social and scientific perceptions of verbal behavior ranging over three centuries of what I have called the modern period. These developments have been described not in terms of a chronicle of scientific "progress" founded on the idea of a steady accumulation of knowledge, or a Marxist discussion of "external factors" determining the evolution of scientific thought, for example; instead I have followed an "archaeological" method (1), seeking to render the development of ideas on verbal behavior intelligible in terms of the coherent conceptual framework that in each case made it possible. This conceptual framework I have referred to as the "ideology of verbal behavior" of a given period. It will be remembered that, in the introductory chapter of this work, I defined the ideology of verbal behavior as the complex of perceptions, with their descriptive and normative aspects, as well as their philosophical justifications in terms of general knowledge and belief about man and society, that is adopted as the basis of public policy. It is this very broad universe of

discourse that I have tried to describe for the Renaissance period, the Age of Reason and the Enlightenment, and the beginnings of our own time, in the conviction that such an approach can alone give the subject its full meaning.

In the course of my discussion, the ideology of verbal behavior that prevailed in each period has emerged from consideration of its theory and practice of speech education and reeducation, how it defined and perpetuated normality and how it came to terms with deviance. Let us briefly resume these successive ideological configurations as they emerged in each period discussed.

In the 16th century, man is perceived as Microcosm, linked to the world of nature by different levels of correspondences, just as there are correspondences between the languages of the Moderns and those of the Ancients; both man and language are objects of esoteric knowledge. Speech norms are linked to the correct and true pronunciation of the classical languages, knowledge of which reveals the hidden wisdom of Antiquity to the cultured few. Discourse on remediation of "vitia" in the 16th century is the preserve of the pedant-humanist, in his dual role

as educator of the young and critic of the follies of men. There is thus as yet no reeducative practice distinct from the institution of the school.

The conception of man as Human Nature that is characteristic of the 17th century and experiences further development in the 18th means that human rationality - and human language as a rational instrument of knowledge - is regarded as universally the same and immutable, so that the invention of a universal language with a "natural" system of pronunciation is aspired to as the highest human achievement. In the 17th century, an educator such as Comenius, or an institution such as the Royal Society, aspire to confer the benefits of science on mankind. But again, "knowledge is power", and knowledge and the capacity to communicate it in speaking belong to the upper classes, who are thus distinguished from the masses. Also in the 17th century, we find a new kind of discourse, with Helmont, Amman and the Royal Society phoneticians, that aims at applying rational principles of speech to the remedying of disorders and teaching the deaf. This activity is regarded as a part of the scientific study of speech and the province of the phonetician, but it is confined to the one-to-one relationship between

teacher and pupil. In the 18th century, the upward mobility of the bourgeoisie creates a demand for the services of the orthoepist, who assumes the professional role of custodian of the social norms of speaking. Toward the end of the century, we see the beginnings of an institutionalisation of deaf education with the establishment founded by the Abbe de l'Epee. But throughout the Enlightenment period the reeducative function remains largely private in nature, carried out by lay orthoepists without official state sanction. The 19th century view of man becomes invested with the dimension of "historicity", whereby human individuals and societies are to be understood in terms of their environment and experience. At the same time, this historical understanding comes to centre on the life of the folk. The 19th-century state ushers in democratisation, which constitutes a general tendency of modern society to involve individuals in its workings to an ever-increasing extent. A major aspect of this is the development of the idea of universal compulsory education. Individuals must now be socialised to their roles in a maximally differentiated society by the imposition of communicative norms that thus become the prerequisite for social participation. In the 19th century, institutionalisation of reeducation becomes

the rule, accompanied by its medicalisation and professionalisation under the name of "speech therapy"; this institutional change runs parallel with the unprecedented expansion of the educational system in the 19th century, with the gradual imposition of norms on a universal scale in the emerging modern state under the aegis of scientific medicine. Reeducation of the abnormal speaker becomes a social goal; for 19th-century medicine, with its doctrine of disease as regression to an earlier stage of functioning, has linked the primitive, restricted, automatic speech of the deviant with the elaborated, creative, voluntary speech of the normal educated speaker by the positive form of phylogeny, showing the possibility of the archaic Other reaching normal development under the aegis of science.

To discover the Other, to circumscribe the domain of the abnormal in verbal behavior, within a historical perspective, we had to consider the wider context of the normal. Norms are constraints that a society imposes on the behavior of its members; they are also, perhaps more importantly, preconditions for social participation. Under the Ancien Regime, participation in the direction and functioning of society was

dependent on birth; thus the norms we have been attempting to describe, from the 16th century to the 18th, applied to the verbal behavior of the gentleman. During the 18th century, the upwardly mobile bourgeois, aspiring to membership in the ruling elite, sought to conform to the norms that applied to that group. Following the Industrial Revolution, the capitalist order steadily eroded all forms of feudal and patriarchal domination; with the levelling of distinctions of birth and the mobilisation of manpower, the individual in a state made up of citizens finally comes under norms of universal application.

The constant movement of extension of speech norms to ever larger sections of the population which we have been speaking of necessarily implies a concomitant effort to extend the policing of the abnormal. But what is the abnormal? Our investigation, if it has shown anything, has shown that the answer to that question is by no means a simple and straightforward one, for it depends on the period of society one is talking about. Abnormality is a value judgement, and in past centuries, the judgement of abnormality in matters of verbal behavior has invariably carried an element of moral condemnation of one sort or another along with it. In the 19th century, the element of

moral condemnation was not really extinguished, but instead of being barred from social participation the abnormal speaker was now to be systematically rehabilitated. In order for this development to take place, the abnormal had to become (in a stricter sense) pathological, that is, amenable to therapeutic intervention. Rehabilitation of the abnormal qua pathological became an important element of the apparatus of social control in the 19th century (2).

It has become clear that norms of verbal behavior are not simply a means of demarcating an area of the "deviant" or the "pathological"; they are prerequisites for social status and power, from which those who fail to conform are necessarily excluded. Reeducation has been the instrument of the progressive extension of speech norms to deviant populations. But again, what are the conceptual preconditions that have made the reeducative enterprise itself possible? My study has shown that reeducation became a practical undertaking when it was realised that speaking is not only an intellectual act of will but also a bodily habit: that verbal behavior is not only conscious and voluntary, "signifying the concepts of the mind", but that it is also automatic, habitual, and acquired through

repeated experience below the level of conscious awareness. The notion of speaking as a bodily habit revealed the possibility of a structured, repetitive regime of intervention that could reorganise habitual behavior from deviance to normality. We saw the beginnings of reeducation proper in the 17th century with the Royal Society phoneticians and especially Amman, and its culmination in the 19th century with the linking of voluntary and automatic levels of verbal behavior by a new scientific concept - a historical and phylogenetic one.

The tendency to extend the applicability of speech norms to wider and wider populations and the establishment of a body of knowledge on verbal behavior considered as a bodily habit, from the 17th century to the 19th, converge in an "institutionalisation" of deviance that I have pointed to as characteristic of our modern perceptions of verbal behavior. By institutionalisation I mean that deviant speaking is decisively set apart from social life and is dealt with in a clinical setting. Institutionalisation has been seen to be a gradual process, however, whose beginnings we saw in the 18th century with the establishment of the social role of the orthoepist and later of the Institution des sourds et muets. In the 19th

century, abnormal speaking reaches its apogee of institutional control in the environment of the speech clinic, and is henceforth preempted as an object of discourse by scientific medicine.

To sum up, I believe that the historical research I have presented in the body of the thesis demonstrates the correctness of the following six propositions:

(1) The history of reeducative activity from the 16th through the 19th century has been the history of the extension of norms of verbal behavior to increasingly larger groups of society, in response to social and economic pressures characteristic of the development of the modern state;

(2) In the period under discussion, abnormal verbal behavior is increasingly dissociated from the normal fabric of speaking in society, and this process culminates in the 19th century's identification of the abnormal as a specific pathology to be treated under the aegis of scientific medicine;

(3) This process of dissociation is reflected in an

increasing "institutionalisation" of abnormal verbal behavior, that is to say, its treatment by professional reeducators and the centralisation of reeducative activity in institutions;

(4) Knowledge of the somatic basis of verbal behavior, particularly of the duality of voluntary, conscious speaking and speaking as an automatic, "mechanical" process acquired by bodily habit, has been a prerequisite for the development of reeducative intervention;

(5) The convergence of knowledge of the somatic basis of verbal behavior and the institutional imposition of norms in the 19th century resulted in the emergence of the modern discipline of speech therapy;

(6) As one of the main effects of the clinical institutionalisation of deviancy under the aegis of scientific medicine, the abnormal has largely ceased to play a role in modern linguistic and phonetic theory.

Looking back on the ground that has been covered in this thesis, I would wish to discern two main themes arising from the

conclusions of the research as set out above which deserve summary and elucidation. The first I will call "normativity and class identity"; the second I would like to refer to as "the marginality of the abnormal". I will discuss each of them in turn.

The relation of normativity to class identity, as we have seen, is that the imposition of norms of verbal behavior tends to go by position in the social hierarchy. The first question of politics, "who should rule?" has been seen to entail a further question, "how should a ruling class behave?", or more precisely, "what standards of behavior distinguish members of the ruling class from those who do not exercise power?" There has been a tradition of particular attention to verbal behavior, for it is by speaking that affairs of state are discussed, argued and decided upon, that knowledge is imparted, and that orders are issued to the majority whose task it is to obey. This tradition arose in the Renaissance period, at a time when the modern form of the state was coming into being; for statecraft, the administration of a well-organised body politic, is a matter for cultivated gentlemen, not for loutish barons. From the severe classical education of the Renaissance gentleman

to the hegemony of the bourgeoisie and the democratic reforms of the 19th century that aspired to draw all classes of society into a partnership for rational progress, conformity to norms of verbal behavior has been the prerequisite for social participation. Subjection to prescribed ways of speaking is the condition that has never since been waived for entry into that exclusive ongoing conversation I have spoken of in which affairs of state are discussed and knowledge is exchanged among the participants.

This thesis has also shown, however, that the imposition of verbal norms as a prerequisite for social participation and the exercise of power has gone hand in hand with the suppression not only of abnormal phenomena in the individual speaker but of non-standard ways of speaking characteristic of whole groups, such as social and regional dialects and minority languages; this has been carried out chiefly through the educational system since the 19th century, often in a relentlessly brutal manner. Access to communication - the right to be heard by the rest of society - has been consistently denied both to individuals and groups that do not conform to established values and prescriptions regarding verbal behavior.

This point is especially relevant in view of the fact that in our society today, communication is more than ever a central issue. Indeed, "effective communication" is an object of didactic, hortatory and critical discourse at the present time on the same scale as orthoepy in the Enlightenment.

At the beginning of the modern age, the Romantic philologists discovered the primacy of living speech in any reflection on language. We have inherited this preoccupation. The emphasis in attitudes to speech today, in our characteristic managerial-entrepreneurial complex, is on informal encounter, "in person" appearance (rather than the previously all-important written word), the interview, "effective communication". This is because of our belief that speech reveals the true man, as does the automatic behavior accompanying speech that we call "paralinguistic". The orthoepists and rhetoricians of the Enlightenment believed that in order to communicate effectively, one must speak the truth. We believe that the speaker must speak "HIS truth", for in interaction he cannot avoid self-disclosure; in the world of signs which modern biology has shown us communication is everywhere - man cannot NOT

communicate.

There are two contemporary attitudes in this regard which express the same basic view of verbal behavior. The first is that more and more human experience must be put into words; for the psychiatrist, "talking it out" is the condition for cure, and psychiatry has largely become the most intimate type of conversation. The second attitude, also prevalent in the psychiatric field, is that "body language" is a better index to the subject's true feelings, because speech, being "derivative", is the sphere of the rationalisation, the inauthentic, the lie. These two viewpoints seem contradictory on the surface, but both are informed by the requirement that the infra-conscious, the immediate, the pre-rational side of experience be brought to discourse.

One might wish to account for these developments and for the centrality of the issue of communication in our society by reference to the development of a post-industrial "information economy", in which increasing numbers of the labour force are engaged in the communication and manipulation of information and the delivery of services rather than the manufacture of goods.

But the question of the information economy raises another important aspect. The pattern of communication is being revolutionised by advances in technology, even more decisively than was the case in the 19th century. That technology, which serves our contemporary desire for immediate, face-to-face or in-person communication better than the written word, amplifies the power of human speech organs and hearing, and so doing of course amplifies their imperfections: those who are unable to communicate effectively, be it because of disordered language, deafness or lack of knowledge of effective techniques of communication, are excluded from the network of information exchange and thus lose the privilege of participation. Indeed, changes in the pattern of communication called forth by the development of electronic information technology are surely as revolutionary as the effect of the printing-press on patterns of communication in Renaissance Europe, at the outset of our historical investigation. If synthesised speech is adequately developed in the next century, it could conceivably replace human speech in the same range of functions as the printing press replaced manuscript in during the Renaissance. For the present, the machine in relation to verbal communication is a tool of objectivity, and often an alienating one. In our

attempts to model verbal communication and record and reproduce it by mechanical means, we have come to regard speech more and more as a kind of machine, so that as it is more firmly tied to the reality of human experience, it escapes into the objective world of the machine beyond human misuse. It has been noted (Lasch 1979: 97ff) that the effect of ever-increasing mechanical recording and playback of human activity in this advanced technological society is to make human beings ever more self-conscious, ever more anxious about their blemishes and imperfections, and in the end doubtful about their own tenuous existence unless and in so far as it is confirmed by the objective record of machines. Alienating though its effect may be in certain respects, communications technology remains an important aspect of the question of communicative access for individuals and groups and the imposition of communicative norms.

The second theme that arises from the conclusions of my research is what I have called "the marginality of the abnormal". By this I mean the general trend in the historical period surveyed here for abnormal verbal behavior to be pushed out of the mainstream of social life until it seems to lead a

separate existence from us as we view it only through the perspective of therapeutic intervention in an institutional setting. Although criticised and condemned, abnormal verbal behavior in the 16th century was still a part of the social fabric of speaking; and in the 17th century, though it was now the object of reeducative intervention, it still had a place in general discourse on the nature of speech and language, its problems inspiring much of the "philosophical phonetics" of the Royal Society, for example. But since the 19th century, as we have seen, the abnormal has become strictly a matter for therapeutic intervention on scientific medical principles; and though the phonetician or language professional can and does contribute to the therapeutic enterprise, the whole sphere of abnormal verbal behavior no longer finds a place in phonetic and linguistic theory (3).

As I have been suggesting, the absence of abnormal verbal behavior from the general theoretical language disciplines can be accounted for as one aspect of the isolation of deviance from the normal speaking world in modern society, as a reminder of the "expropriation" of knowledge of deviant speaking by a therapeutic model. In calling attention to this conclusion of

the historical research contained in the present work, I would express the hope that the fascinating and still somewhat mysterious domain of verbal deviance will find its rightful place in a truly comprehensive theory of language at some time in the not too distant future.

Footnotes

(1) The method referred to is exemplified by Foucault (1961, 1966), and Donzelot's (1977) study of the development of the relationship between the helping professions and the family.

(2) Did the 19th century invent stuttering, and other such syndromes of verbal pathology? The question is not as absurd as it might seem. In one sense, the answer must be negative, as descriptions of these phenomena are unmistakably recognisable in earlier authors, and were judged by them to be abnormal. One might say that the "vogue" of stuttering in the 19th century - the sustained public interest, the multiplicity of therapies, the large number of patients dealt with and cases recorded - is merely the result of the application of communicative norms on

an unprecedented universal scale, as a consequence of labour mobilisation, compulsory education, and the general bureaucratisation of social life. It is true that the induction of a heterogeneous population of children into the public schools quickly revealed a need for "special education", as Sarason & Doris (1979) have shown in the case of 19th-century American educational policy. But one might also speculate that the ubiquity of stuttering in the social world of the 19th century is the result, not of increased awareness of a situation that had always existed, but rather of the very conditions of socialisation and social life in the 19th century. One might point to the fierce sexual repression of the bourgeoisie, the diversion of unsatisfied emotional energies into acquisitiveness; or the alienation of the worker from the means of production. Again, stuttering is known to affect males preponderantly. This is usually assumed to be the effect of unexplained constitutional differences between the sexes. Might one not equally suggest that this fact rather says something about the socialisation of the male to his economic role in bourgeois society? The only way to resolve the questions I have been raising would presumably be to undertake a statistical and demographic study of the incidence of what we would now call

"recognisable pathological syndromes" of verbal behavior ranging over several centuries. But even if the data were available, they would probably be hopelessly ambiguous. At any rate, stuttering as the familiar 19th-century phenomenon is all but inseparable from the pathological status conferred on it by the 19th century; and pathological status places it under the tutelage of the medical establishment.

(3) The pioneering attempt of Jakobson in his linguistic essay on aphasia (Jakobson & Halle 1956) has not to my knowledge been taken up or extended in general linguistic or phonetic theory. Where recent work by linguists has referred to pathology, it has tended to be with a view to finding external corroboration for an established linguistic theory.

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