

PHYSIOGNOMY AND THE
MEANING OF EXPRESSION IN
NINETEENTH-CENTURY
CULTURE

LUCY HARTLEY



CAMBRIDGE
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK www.cup.cam.ac.uk
40 West 20th Street, New York, NY 10011-4211, USA www.cup.org
10 Stamford Road, Oakleigh, Melbourne 3166, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain

© Cambridge University Press 2001

The book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2001

Printed in the United Kingdom at the University Press, Cambridge

Typeset in Baskerville 11/12.5pt System 3b2 [CE]

A catalogue record for this book is available from the British Library

ISBN 0 521 79272 x hardback

Contents

<i>List of plates</i>	<i>page</i> x
<i>Acknowledgements</i>	xii
Introduction	i
1 A science of mind? Theories of nature, theories of man	15
2 The argument for expression: Charles Bell and the concept of design	44
3 What is character? The nature of ordinariness in the paintings of the Pre-Raphaelite Brotherhood	80
4 'Beauty of character and beauty of aspect': expression, feeling, and the contemplation of emotion	110
5 Universal expressions: Darwin and the naturalisation of emotion	142
6 The promise of a new psychology	180
<i>Notes</i>	189
<i>Bibliography</i>	220
<i>Index</i>	240

Plates

- | | | |
|---|---|----|
| 1 | Charles Le Brun. Two outlines of faces showing astonishment and fear (left) and laughter (right). Etching by B. Picart, 1713, after C. Le Brun. Wellcome Institute Library, London. | 22 |
| 2 | Charles Le Brun. Three perspectives on the head of an ox and three on the head of an ox-like man showing the physiognomical relations between certain members of the species. Etching <i>c.</i> 1820, after C. Le Brun. Wellcome Institute Library, London. | 23 |
| 3 | Charles Le Brun. Outlines of faces expressing emotions (left) and sadness and dejection (right). Etching by B. Picart, 1713, after C. Le Brun. Wellcome Institute Library, London. | 25 |
| 4 | Johann Caspar Lavater. Ten faces of both men and women. <i>Essays on Physiognomy</i> , trans. Thomas Holcroft, 3 vols. (London: William Tegg, 1789), vol. 1, pl. v. Wellcome Institute Library, London. | 32 |
| 5 | Johann Caspar Lavater. Four heads; comparison of man with monkey and man with bull. <i>Essays on Physiognomy</i> , vol. 11, pl. 1. Wellcome Institute Library, London. | 35 |
| 6 | Johann Caspar Lavater. Silhouettes of Mendellsohn and Spalding. <i>Essays on Physiognomy</i> , vol. 11, pl. xxvii. Wellcome Institute Library, London. | 39 |
| 7 | Johann Caspar Lavater. Twelve outlines of idiots. <i>Essays on Physiognomy</i> , vol. 11, pl. 1. Wellcome Institute Library, London. | 41 |
| 8 | Charles Bell. The muscles of the face. <i>The Anatomy and Philosophy of Expression, as connected with the Fine Arts</i> . 7th edn. (London: George Bell & Sons, 1877), Appendix, pl. 1. Author's copy. | 68 |

9	Charles Bell. Age and infancy. <i>The Anatomy and Philosophy of Expression</i> . Author's copy.	69
10	Charles Bell. Rage. <i>The Anatomy and Philosophy of Expression</i> . Author's copy.	70
11	Pieter Camper. Proportional drawings of heads in profile. <i>The Works of the late Professor Camper, on the connection between the Science of Anatomy and the arts of Drawing, Painting, Statuary</i> (London: P. Cogan, 1821), Tab. viii, Figs. 1–iv. Wellcome Institute Library, London.	71
12	Pieter Camper. From ape to Apollo Belvedere. <i>The Works of the late Professor Camper</i> , Tab. iii, Figs. 1–v. Wellcome Institute Library, London.	73
13	Charles Bell. Laughter. <i>The Anatomy and Philosophy of Expression</i> . Author's copy.	78
14	John Everett Millais. <i>Lorenzo and Isabella</i> . 1848–49. Oil on canvas. 102.9 × 142.9cm. Walker Art Gallery, Liverpool	86
15	William Holman Hunt. <i>The Flight of Madelaine and Porphyro during the Drunkenness Attending the Revelry (The Eve of St. Agnes)</i> . 1848. Oil on canvas. 77.5 × 113cm. Guildhall Art Gallery, London.	93
16	Alexander Walker. Three types of face. <i>Analysis and Classification of Beauty in Women</i> (London: H. G. Bohn, 1846), Pl. xvii. Wellcome Institute Library, London.	118
17	Charles Darwin. Diagram from Henle. <i>The Expression of the Emotions in Man and Animals</i> (London: John Murray, 1872), Fig. 2. Wellcome Institute Library, London.	154
18	Charles Darwin. Chimpanzee looking tired and sulky. Drawn from the life by Mr. Wood. <i>The Expression of the Emotions</i> , Fig. 18. Wellcome Institute Library, London.	155
19	Charles Darwin. Seven photographs of man and child, looking unhappy; from Oscar Rejlander. <i>The Expression of the Emotions</i> , Pl. 2. Wellcome Institute Library, London.	159
20	Charles Darwin. Six photographs of man and child, looking happy; from G. B. Duchenne and Oscar Rejlander. <i>The Expression of the Emotions</i> , Pl. 3. Wellcome Institute Library, London.	160

The author and publisher are grateful to the institutions above who have kindly granted permission to reproduce pictures.

CHAPTER I

A science of mind? Theories of nature, theories of man

To divide and arrange the body into organs, and to ascribe to each its functions, is physiology. To view all these organs in connexion, and to compute the influence of each, and the concentrated influence of the whole, in determining the great movements of the individual among other individuals, all acting their respective parts in the great struggle and bustle of life, is physiognomy. Physiognomy is just a system of corollaries arising out of physiology.

John Cross¹

I

In 1746, James Parsons gave the Crounian lectures to the Royal Society on the subject of ‘Human Physiognomy Explain’d’.² The lectures were intended to demonstrate the place of physiology in explaining muscular activity and so provide a common context for the discussion of ideas about the structure and function of living organisms. These discussions were essentially about the relationship of mind and body and the extent to which agency could be ascribed to the mind in the body; at issue was the preservation of the independent existence of the soul and the distinctions conferred on life and mind as a result, including the establishment of a barrier between man and all other organisms. Physiological principles, such as that of the reflex action, the nerve function, and the notion of the *sensorium commune*, which were implicated in a view of the individual as controlled by mind, were gradually reworked from the eighteenth into the nineteenth century to support an understanding of the command of the nervous system over the individual.³ To describe human nature, then, was to become enmeshed in often very detailed arguments about the actions of the nerves and the muscles, the purpose of sensations and feelings or emotions, and the efficacy of

the will. As Roger Smith has claimed, 'if we include ancient beliefs in the humours and in sympathy, [physiology] had long been central in guides to well-being'.⁴

By drawing a correspondence between physiological actions and physical expressions, Parsons presented an account of physiognomy which demonstrated the importance of the mind to an understanding of the expression of the emotions. 'I shall now attempt to give you a Description of the Muscles of the Face', he wrote, 'with some Observations and Remarks, which I hope will appear curious to you, relating to their separate as well as conjunct Actions, and the Appearances of the Countenance that are the natural Effects of such Actions'.⁵ Though the main tenet of physiognomy was that the physical features of a person's face and body indicated character, instincts, and behaviour, and all these were expressive of the soul, Parsons was mainly concerned with the muscles of the face, the purpose of which was to preserve the moral disposition of an individual. As he claimed, 'the several Motions of the Face that express the different Passions of the Mind . . . serve two principal Ends':

first (altogether) to form the Symmetry of the Countenance, by supporting the Skin of the Face, in the Manner we see it when a general *Composure* appears thro' the Whole; and, secondly, to express, as we have said, those Passions of *Joy*, *Grief*, *Fury*, *Ill-nature*, and such-like, as the Mind is often prone to suggest.⁶

Emotional expression was, to Parsons, the product of the nervous system and in particular the diaphragm, which acted as the instrument of the will (or mind) in conveying some of its impulses and impressions to the face. He insisted:

It was because the Means of Self-Preservation should be generously distributed to us, that the prevailing Characteristics of Tempers should be thus conspicuous in us; innumerable Instances of which are to be observed in every other Part of the animal World besides: And even from hence we might naturally conclude it absolutely necessary; but the Structures of these Parts, their sensible Actions, and the great Consent between one Part of the Animal and another (from their nervous Communications), yet more plainly confirm this Conclusion.⁷

The nervous sympathy between the diaphragm and the muscles of the face provided a means of communication which seemed to involve the transmission of impressions along the nerves to the face; it was this that Parsons termed 'nervous communications'. As a

result, the expressions of the emotions are made evident on the faces of man and animals and serve to preserve, and, it is implied, to control, the identity and individuality of creatures in the world.

Parsons used his two lectures to trace the history of physiognomy and illustrate the principles of its practice, drawing especially on the work of Aristotle, Charles Le Brun, and Giovanni Battista della Porta. The lectures were mostly summary in form but they were important in identifying the main principle of physiognomy via the habitual action of the muscles which were expressive on the face. 'I hope it will appear', he explained,

that no Analogy can be drawn from Brutes, no Signs from the Voice, nor general Shape of the Face, or any of its Parts; in a Word, nothing but the Actions of the Muscles, become habitual in Obedience to the reigning Tempers of the Mind, can in any wise account for them; and the Art of Physiognomy, especially the *Metoposcopy*, or what relates to the Face, must prove very uncertain without this Foundation.⁸

To claim that muscular action was directly related to mental processes, and that this relationship was repeated so often it became habitual, was more consistent with the physiological principles of the second half of the eighteenth century than with its physiognomic ideals. Of all the general philosophy about nature and man at this time, physiology was that which was concerned with the relationship between mind and body, as I have suggested. The emergence of experimental methods and practical techniques in the physiology and medicine of the nineteenth century tended to promote a conception of human existence in primarily physical terms, but the idea that the mind was dependent on organised physiological structures, or in other words matter, was (and remained) a contentious issue.⁹ The interest of Parsons's lectures in this context was his readiness to conceptualise physiognomy in loosely physiological terms, and in so doing, to allude to the discussions about human nature which were appearing at the time. Whilst Parsons does not go so far as to claim a material basis for mind, he is, quite clearly, suggesting a link between mental and physiological actions, in particular as exemplified by the expression of the emotions which physiognomy describes.

More than seventy years after Parsons gave the Crounian lectures, John Cross aligned physiognomy and physiology in a similar way, as the opening quotation to this chapter shows. Physiology was, to Cross, the division of the body according to its organs and the

classification of those organs via function, whereas physiognomy is the observation of these organs as a unified whole which effect the action of an individual. The implication is that physiology and physiognomy shared a common concern in investigating the nature of life, as Cross intimates that whereas the former looks to an understanding of structure and function to explain action, the latter takes action as evidence of a complex internal organisation. Hence, 'physiognomy is just a system of corollaries arising out of physiology'. Parsons' statement is both unequivocal and shrewd since what prevented physiognomy from becoming widely accepted as a science of mind was its inability to construct a model of mind which explained the correlation of mental and physical activity. Instead, physiognomy assumed that life, and especially the life of the mind, was explicable only by referring to the nature of the soul and the relation of man to God. For Parsons and Cross, the alignment of physiognomy with physiology was appealing because it allowed the suggestion of a theory of life based on physical principles without it being wholly incompatible with a belief in the transcendental power of mind.

It was between Parsons and Cross that physiognomy became popular once more, revived and supported by the publication of Lavater's *Essays on Physiognomy*, initially successful in German, for which there were five editions in the 1770s and four in the 1780s, then in French in the 1780s, followed later in the same decade by two English editions.¹⁰ Lavater presented physiognomy as a science of mind which construed human actions as forms of moral behaviour, and, as suggested in the introduction, the practice of physiognomy drew primarily on theological notions but also on physiological ideas of man and nature in order to make its points. As L. S. Jacyna has argued, physiology 'passed easily into other areas of natural philosophy and also into the domain of morals and religion':

Theories about the body did not constitute a discrete sphere relevant only to a few professionals; rather they were an aspect of a common stock of ideas that could be drawn upon for a variety of purposes. In particular, physiological notions remained part of the currency in which the commerce between social groups was conducted.¹¹

The alignment of physiognomy with physiology made by Parsons and Cross was not, then, coincidental but rather indicative of the contradictions involved in discussions of human nature, and indeed seems to represent an attempt to include physiognomy within the

remit of the sciences of mind. The big question was whether man was separate from nature and the laws of the organic world or integrated into that world. This chapter considers that question, elaborating on the relationship between mind, metaphysics, and expression, and showing the extent to which Lavater's ideas fitted into debates about the place of man in nature. A comparison of Lavater's conception of man and the earlier work of Charles Le Brun and David Hartley will suggest how Lavater's largely intuitive insights into expression might be compatible with a natural scientific study of emotion, instinct, and sensation. I shall therefore sketch the different models of mind presented by Le Brun and Hartley before discussing in some detail Lavater's conception of man, particularly in the light of the physiological context which the earlier writers provide for Lavater's ideas of expression.

II

Charles Le Brun's lectures to the Académie de Peinture, founded in Paris in 1648, addressed the nature of expression as a symbolic form of language with a specific relevance to painting:

Expression, in my opinion, is a simple and natural image of the thing we wish to represent; it is a necessary ingredient of all the parts of painting, and without it no picture can be perfect; it is this which indicates the true character of each object; it is by this means that the different natures of bodies are distinguished, that figures seem to have movement, and everything which is imitated appears to be real.¹²

Three lectures were planned – on expression in painting, a theory of expression, and a system of physiognomy – and, as Jennifer Montagu has shown, it is unclear not only when these lectures were delivered but also whether all of them were given.¹³ What is clear, however, is that a lecture on expression, *Conférence sur l'expression générale et particulière*, was delivered by Le Brun to the Academy in 1668, and that its popularity was such that it appeared in more than sixty editions throughout the next century. Le Brun's goal was to instruct the artist in the workings of expression by presenting a systematic account of emotional expression based on physiological principles, and in so doing he drew heavily on the philosophical and physiological writings of René Descartes. What he found helpful in Cartesian thought was the extent to which Descartes' theory of the relation of mind to body relied on the legibility of the passions

through the actions of the body and as expressive of the mind (soul). As a result, the notable aspect of Le Brun's work was his attempt to apply the method of deduction to the study of expression with the consequence that the process of observation was a secondary matter when compared to the primary process of deductive reasoning from *a priori* rules.

Expression was, to the artists of the seventeenth and eighteenth centuries, a study of the passions represented through the gestures, features, and movements of the face and body. The following example, a definition of the term given by Roger de Piles, prominent art theorist and contemporary of Le Brun's, indicates the complexity of its application to painting:

Expression, when speaking of painting, is completely confused with *passion*. They differ, however, in that *expression* is a general term which signifies the representation of an object according to the character of its own nature, as well as the particular emphasis the painter has designed to give it for the purposes of his work. *Passion*, in terms of painting, is a movement of the body together with certain features of the face, marking some agitation of the soul. It follows that every *passion* is an *expression*, but every *expression* is not a *passion*. There is no object in a painting that does not possess its own expression.¹⁴

The challenge that de Piles sought to resolve was how to distinguish individual expressions from general types of expression, and then visualise how these types function. To paraphrase de Piles, expression operates on two levels: on the one hand, it is the general name used to describe the nature and character of an object, and on the other, it is the particular impression given to that object. Passion is the action or emotion which precedes and causes the expression, so even though every passion corresponds to a specific kind of expression, there is no guarantee that everything with an external expression will convey passion. Paintings may depict facial expression but they can still be empty of passion. As de Piles insisted, each and every object represented in the visual arts has its own expression but not all of these objects could be deemed to indicate passion and emotion. The distinction is significant in so far as every form represented in painting has a particular expression, but only those forms which convey passion can have a general, perhaps even universal, expression.

Like De Piles, Le Brun sought an understanding of expression as a key to discerning the actions of the soul. He explained:

First, a passion is a movement of the sensitive part of the soul, which is designed to pursue that which the soul thinks to be for its good, or to avoid that which it believes to be hurtful to itself. Ordinarily, anything which causes a passion in the soul produces some action in the body.¹⁵

To put it in other words, an emotion is primarily the product of the mind and causes a reaction in the body, the nature of which is dependent on self-preservation. This idea of the connection of mind or soul to body was, of course, the fundamental precept of Cartesian thought and was borrowed by Le Brun as the rational foundation for his theory of expression.¹⁶ The phenomena of the mind (soul) were, for Descartes, independent of the phenomena of the physical world and had, instead, a completely autonomous status; hence he claimed in *Discourse on Method* (1637): 'I knew I was a substance the whole essence or nature is simply to think, and which does not require any place, or depend upon any material thing, in order to exist'.¹⁷ He maintained, in fact, the existence of two radically different kinds of substance, a physical, extended substance (*res extensa*) and a thinking substance (*res cogitans*), of which the first has length, breadth, and depth and so can be measured and divided whereas the second is unextended and indivisible. On this basis, the human body (including the brain and the nervous system) is categorised as a physical substance and the mind (including thoughts, desires, and volition) is categorised as a non-physical substance.¹⁸ This dualist view makes the first task of the philosopher a study of the mind (soul) which must be regarded as prior to nature and irreducible to matter. Thus, as Descartes suggested in a later work, *The Passions of the Soul* (1649), even though the mind was a non-physical entity, it had the capacity to exercise its functions in a central part of the brain – namely, the pineal gland:

What is a passion in the soul is usually an action in the body . . . [and] anything we experience as being in us, and which we see can also exist in wholly inanimate bodies, must be attributed only to our body. On the other hand, anything in us which we cannot conceive in any way as capable of belonging to a body must be attributed to our soul.¹⁹

The passions were affections of the soul that functioned through the pineal gland which, in turn, regulated the responses of the body and influenced the flow of what were termed spirits to the muscles.

To all intents and purposes, Le Brun's theory of expression simply restates these Cartesian ideas: expression, principally of the face, provided a series of patterns for understanding how the mind (soul)

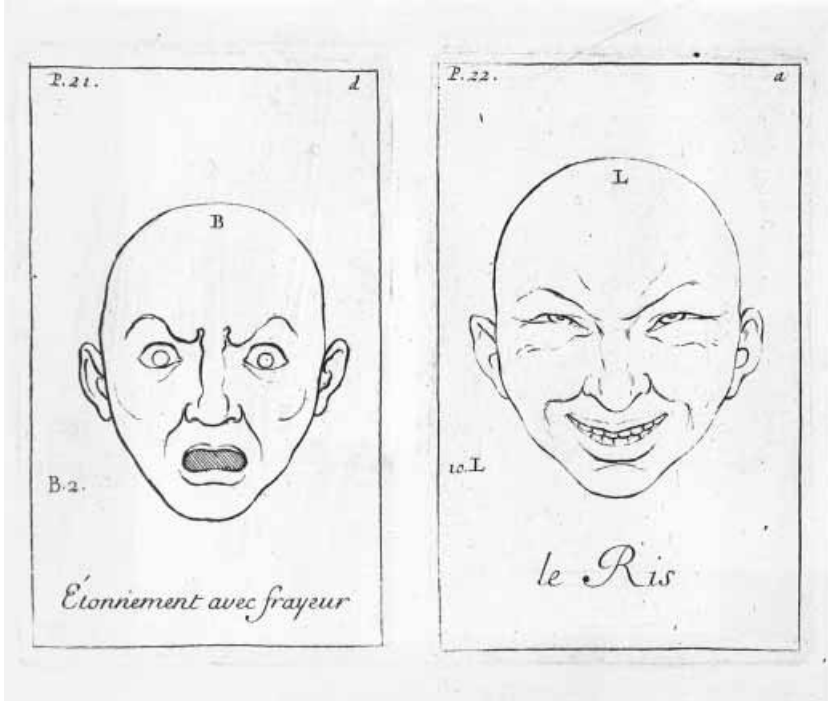


Plate 1 Charles Le Brun, Two outlines of faces showing astonishment and fear (left) and laughter (right), etching by B. Picart, 1713.

was active in the physical world, not because the face was a physical entity but because it was proximate to the brain and so believed to be the most accurate index of the mind; at least its features, and in particular the eyebrows, were thought to be so (plate 1). A knowledge of these principles, philosophical and physiological, which directed the activity of the mind and body would, he claimed, release the artist from simply copying nature and allow him to create his own images directed by and perhaps even improving on the processes of nature.²⁰ Le Brun's understanding of expression, as stated in the *Conférence sur l'expression*, was based around three areas of research – the heads of ancient rulers and philosophers, specific studies of the eyes of men and animals, and a comparison of the heads of men and animals (plate 2)²¹ – and his task was to demonstrate the correlation between the expressions of the face, its muscular action, and the passion or emotion which causes both action and expression. 'An action is nothing else but the movement of some part', he wrote,



Plate 2 Charles Le Brun, Three perspectives on the head of an ox and three on the head of an ox-like man showing the physiognomical relations between certain members of the species, etching c. 1820.

and this movement can be effected only by an alteration in the muscles, while the muscles are moved only by the intervention of the nerves, which bind the parts of the body and pass through them. The nerves work only by the spirits which are contained in the cavities of the brain, and the brain receives the spirits only from the blood which passes continuously through the heart, which heats it and rarefies it in such a way that it produces a thin air or spirit, which rises to the brain and fills its cavities.²²

This vision of the interrelation of body and mind relies on a mechanistic chain of increasing complexity, which works backwards from the movement of a part of the body, and a corresponding response in the muscles and the nerves, to the circulation of spirits and blood and their influence on the brain. By amplifying Descartes' division of the passions into simple and mixed kinds, Le Brun worked from the basis that there were four characteristics of the passions which had corresponding movements of the eyebrows; so whilst the simple passions of love, hatred, desire, joy and sorrow were made manifest in a movement 'which rises up towards the brain', the mixed passions of fear, courage, hope, despair, anger, and fright were manifest in a movement 'which slopes down towards the heart'. 'In proportion as these passions change their nature', Le Brun said, 'the movement of the eyebrow changes its form, for to express a simple passion the movement is simple, and, if it is mixed, the movement is also mixed; if the passion is gentle, so is the movement, and if it is violent, the movement is violent'.²³

The point is that the physical form of the body can be seen, according to Le Brun, to support a non-physical conception of mind. Le Brun argued that each individual had a dominant sign or facial feature which revealed their character, based on the *a priori* fact of the existence of soul. This feature, the slope of the eyes, worked in tandem with the movements of the eyebrows to indicate the kind of character under analysis (plate 3). So, for example, eyes which sloped upwards suggested to Le Brun a 'spiritual' kind of character; eyes which were level suggested a 'normal' kind of character; and eyes which sloped downwards suggested a 'base' kind of character. By dividing characters into kinds or types in this way, Le Brun established a system which assumed there was a hierarchy of characters among mankind. Having adopted a Cartesian model of mind, Le Brun's metaphysical system of expression had emotional states (or states of passion) acting as illustrations of the mind – as the physical means of comprehending a non-physical entity – and in

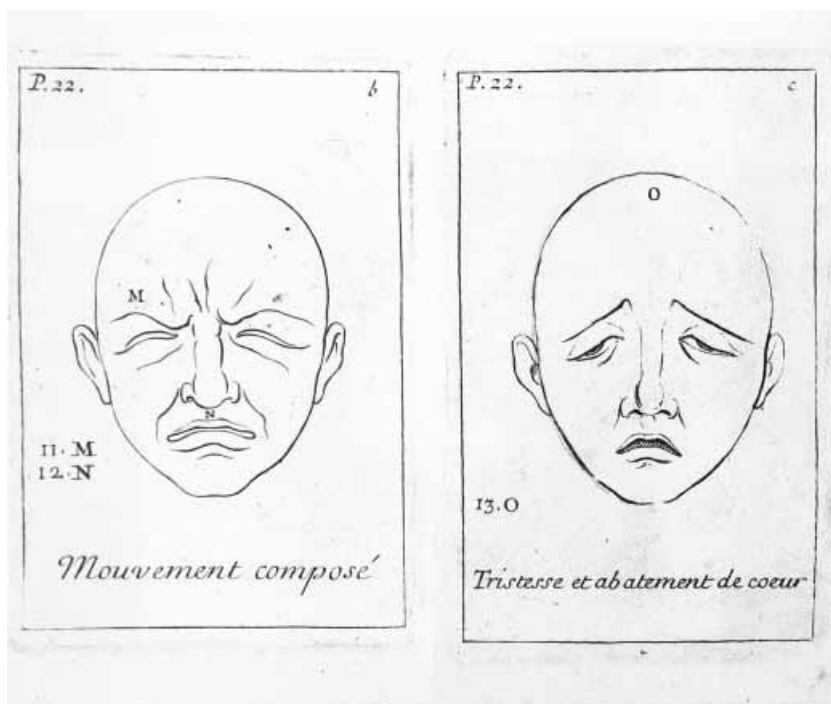


Plate 3 Charles Le Brun, Outlines of faces expressing emotions (left) and sadness and dejection (right), etching by B. Picart, 1713.

effect rendered each expression a metaphor of mind, and each idea of mind a source of knowledge about the soul. His object was to demonstrate precisely how and why this metaphor worked, and he did so by using the eyebrows as patterns for understanding the activity of the mind in the physical world.

A leading feature of Le Brun's understanding of expression was, therefore, that the action associated with facial expression, and in particular that of the eyebrows, was nothing more than the movement of a part which, like the dial of a clock, concealed a complex mechanism behind its external appearance (see plate 1).²⁴ There is a link, at least implied, between the fact of this action and what we might call an axis of pleasure and pain. Le Brun's idea of the soul differentiating between what is 'for its good' and what is 'hurtful to itself' provides a means through which expression can function as a human act which informs moral behaviour, and it is easy to see

how the appropriation of this idea of expression in painterly form was an appealing prospect for artists. It is in something more like a scientific context, though, specifically the natural philosophy of the seventeenth century, that this sense of connection between human acts and moral conduct assumes an important role in thinking more carefully and in more detail about the nature of action. At issue was the distinction of voluntary as opposed to involuntary motion, and the participation of the soul, along with consciousness and the will, in creating such a distinction. As we shall see later in this book, debates about the position of the soul in respect of the voluntariness or involuntariness of action remained contentious until nearly the end of the nineteenth century. The crux of the matter, though, was the capacity of an immaterial form, like the soul, to explain involuntary or reflex actions.

Descartes' dualistic thesis, predicated on the mechanical motions of man's material body controlled by the immaterial soul in the pineal gland, introduced the concept of reflex action as a means of describing the action of the soul and its interaction with the body. In their impressive book on the origins of neuroscience, Edwin Clarke and L. S. Jacyna explain the action of reflex as follows: 'a sensory impression travelled to the brain, from where it was reflected . . . as in the manner of light, into motor nerves to bring about muscular contraction'.²⁵ This description makes clear the division of the physical from the mental realm and points to the difficulty with Le Brun's idea of mind; namely, his adherence to the idea of a mind placed outside the organic world which is visible only indirectly through the motions of expressions. His study of expression represents an attempt to mesh a *supernatural* theory of mind with a description of its structure or function in the physical world, and as such its weakness was in the sketchy physiological explanations it offered for mental processes whereby as long as the mind remained outside the world, any knowledge of its physiological structure or function remained outside the remit of enquiry (and so extremely tentative). Though Descartes had provided a deterministic model in which purposive actions could be explained through law-like processes – and Le Brun had largely followed Descartes' lead – there was increasing interest in the seventeenth and eighteenth centuries in the notion of reflex, and numerous attempts at conceptualising the causal process linking sensory impressions with mental and motor responses emerged to counter Cartesian doctrine. How could

it be that removing the head from an animal, for instance, did not cut out all motion from its body? Many names could be cited here – Stephen Hales, Thomas Willis, Robert Whytt, for example – but it is generally held that the combined efforts of Isaac Newton and John Locke did most to loosen the hold of the Cartesian model of mind on the materiality of the body.

This is the backdrop against which David Hartley, British philosopher and physician of the eighteenth century, developed an account of mind based on the capacity of the nervous system to respond to stimuli through a series of vibrations transmitted through the body and associated in the mind to produce certain ideas. Following Locke, philosophies of nature in the eighteenth century made an increasing number of speculative inquiries into the correspondence between physical objects and mental ideas, proposing a relationship between the physical and the mental realms in terms of their respective functions.²⁶ For Hartley, though, the goal of this kind of inquiry was the removal of a metaphysical conception of mind (soul) in favour of a naturalistic understanding of body and mind. In particular, he suggested that the common-sense experience of an organism (integrating body and mind) should be the focus of attention. The physiological psychology connected with Hartley surfaced quite clearly from the mind/body problem, for it denied the conception of mind as the property or essence of a supernatural order and instead offered an account of the interdependence of mental and bodily factors which became one of the most systematic (and speculative) investigations into the physical constitution and properties of man. Le Brun's work on the passions represents the first attempt at constructing a scientific explanation of the expression of emotions but, in my opinion, the real foundations for such an explanation are laid with Hartley's understanding of the physical relationship between sensations and ideas, and the resulting mental processes, which strikes at the heart of dualistic notions not only of mind and body, as I have indicated, but also of reflex action.

III

'Man consists of two parts, body and mind', Hartley wrote in the opening lines of *Observations on Man* (1749): 'the first is subjected to our senses and inquiries, in the same manner as the other parts of the external material world [and] the last is that substance, agent,

principle, &c. to which we refer the sensations, ideas, pleasures, pains, and voluntary motions'. He continued, 'sensations are those internal feelings of the mind, which arise from the impressions made by the external objects upon the several parts of our bodies' and ideas are all other 'internal feelings'.²⁷ Hartley proposed the reduction of mind to the sensory-motor functions of the body; hence, normative concepts of mind (such as reason, memory, and will) and concepts which determine character and personality (such as sensations, ideas, and muscular motions) were, he claimed, explicable through the doctrines of vibration and association. The nervous system was the centre of Hartley's investigation, and by this time, as Karl Figlio has argued, it had come to represent 'the bridge between the philosophical/psychological inquiry into the soul and the nature of man on the one hand, and the anatomical/physiological study of their structure and function on the other'. Figlio's identification of two kinds of inquiry is significant because, he claims, they stand for the distinction between mind and matter of Cartesian dualism: there is on the one hand, then, a philosophical inquiry into the mind and on the other a physiological inquiry into the body.²⁸ Hartley's explanation of mind attempted to unite both these kinds of inquiry by taking the integration of mind into body as the basis for a functional description of human nature.

Central to Hartley's thesis was the notion that human acts arose out of pleasure or pain, of which there were seven classes: sensation, imagination, ambition, self-interest, sympathy, theopathy, and the moral sense. The response of an individual to a specific stimulus was determined by the transmission of impressions through the nerves and into the brain, which worked rather like a musical instrument in so far as it vibrated upon receiving the impressions of external objects. It was the reception of these impressions in the brain, (composed of the cerebrum, the cerebellum, and the medulla oblongata) as internal feelings that Hartley termed ideas of sensations (simple ideas), and they were preliminary to the emergence of intellectual ideas (complex ideas) that produced voluntary motions as opposed to the involuntary motions of an organ like the heart. He explained:

External objects, being corporeal, can act upon the nerves and brain, which are also corporeal, by nothing but impressing motion on them. A vibrating motion may continue for a short time in the small medullary particles of the nerves and brain, without disturbing them, and after a short

time would cease; and so would correspond to the above-mentioned short continuance of the sensations; and there seems to be no other species of motion that can correspond thereto.²⁹

The claim was that the frequent repetition of the vibrations of sensation caused vibrations of a lesser force in the medullary substance of the brain; and these so-called after-vibrations enabled ideas to be linked or associated with each other and in so doing form clusters and combinations of simple ideas (of sensation) which coalesced into complex ideas (of intellect). 'Let us suppose', Hartley wrote,

the first object to impress the vibrations *A* and then to be removed. It is evident from the nature of vibratory motions, that the medullary substance will not, immediately upon the removal of this object, return to its natural state *N*, but will remain, for a short space of time, in the preternatural state *A*, and pass gradually from *A* to *N*.³⁰

Through sustained action of this kind the natural state gives way to the preternatural state and becomes the feeding ground for the association of various immediate and then delayed vibrations.

Borrowing the Lockean understanding of the mind as a blank state or *tabula rasa*, Hartley proclaimed that in the early stages of life simple ideas of sensation predominated, whereas the recurrence of these ideas from childhood into adulthood brought with it the capacity to associate simple ideas and so ensure that complex ideas dominated. In effect, what Hartley was positing was a developmental model of the interrelation of mind and body which became increasingly sophisticated through life in dealing with the impressions of the senses; he does insist, however, that as old age advances the capacity of the mind to draw clusters of sensory ideas together diminishes. Now this argument depended on the substitution of a vibratory model of mind, based on physical properties, for the idea of mind as the essence of a supernatural entity. Mind was no longer conceived by Hartley as the property of a higher being but as a mental state caused by its physical environment, and accordingly the mind must be associated with the physical and material conditions from which it originated; that is to say, the mind was the product of the organism and its relations with the world, and so states of mind were indivisible from states of nature. Through the association of ideas, Hartley argued, we can comprehend the fundamental laws of mental activity; the two principles of vibration (the transmission of impressions) and association (the combination of impressions) underwrote

Hartley's model of mind, and two metaphors, sensation and idea, described its activities.³¹ He maintained, in fact, that because the mental and physical realms were mutually determined, an explanation of the law-like relations between sensations and ideas could stand for a description of the conditions under which an individual acts. This sense of parallel between an internal and an external system, both physical nature, where the former is a microcosm of the latter, made the behaviour of individuals in society explicable through their responses to a range of stimuli. More than that, the workings of the internal component of Hartley's system allowed for mind to change physically subject to repeated vibrations in the nerves and the mind.

The importance of this notion of change cannot be overestimated, as it provided physical mechanisms for transformation in respect of human (and animal) action but also deemed instinct or involuntary action as an innate factor in directing actions. Such ideas, particularly with reference to Hartley, are often held to be the basis for the modern tradition of human psychology; in fact, it is clear that they were influential in shaping the theories of change, improvement, and evolution which started to emerge towards the end of the eighteenth century. 'Transformists of the late eighteenth and early nineteenth centuries – particularly Erasmus Darwin, Cabanis, and Lamarck', Robert Richards has said,

exhibited in their theories the force of the sensationalists' discussions of instinct. Under this influence they acknowledged and indeed insisted on the role of intelligence in guiding animal actions . . . The transformists had to show, not only that behaviour and structures were adapted to the environment, but that they were *adaptable*, while yet admitting that behaviour had innate components.³²

A section of Erasmus Darwin's *Zoonomia*, on 'Generation', amplifies this directly in terms of Hartley's conception of man:

The ingenious Dr. Hartley in his work on man, and some other philosophers, have been of the opinion, that our immortal part acquires during this life certain habits of action or of sentiment, which become for ever indissoluble, continuing after death in a future state of existence; and add, that if these habits are of the malevolent kind, they must render the possessor miserable even in heaven. I would apply this ingenious idea to the generation or production of the embryo, or new animal, which partakes so much of the form and propensities of the parent . . . At the earliest period of its existence the embryo, as secreted from the blood of the male would seem to consist of a living filament with certain capabilities

of irritation, sensation, volition, and association; and also with some acquired habits or propensities peculiar to the parent: the former of these are in common with other animals; the latter seem to distinguish or produce the kind of animal, whether man or quadruped, with the familiarity of feature or form of the parent.³³

The sophistication of Hartley's ideas in positing an integrated model of the mechanisms of mind and body ensured their place in the prehistory of evolutionary ideas about action and behaviour. Yet his conception of man was managed through a fine balancing act between the claims of the physical properties of mind (monism) and a belief in the immateriality of the soul (dualism). What seems to have ensured the balance in Hartley's theoretical system was his use of the moral sense as the pivot between monism and dualism. The term 'moral sense' was notoriously difficult to define but in the broadest terms it was taken to mean an instinctive action towards pleasure or pain and as such offered a prospectus on human mental and moral character. Hartley described its uses and resonances as follows:

The moral sense or judgement here spoken of is often considered as an instinct, sometimes as determinations of the mind, grounded on the eternal reasons and relations of things. Those who maintain either of these opinions may, perhaps, explain them so as to be consistent with the foregoing analysis of the moral sense from association. But if by instinct be meant a disposition communicated to the brain, and in consequence of this, to the mind, or to the mind alone, so as to be quite independent of association; and by a moral instinct, such a disposition producing in us moral judgements concerning affections and actions; it will be necessary, in order to support the opinion of a moral instinct, to produce instances, where moral judgements arise in us independently of prior associations determining thereto.³⁴

The connection of instinct, reason, and morality was immensely significant as it enabled actions, affections, dispositions, and judgements to be strung together as the vital constituents of human nature and the determinants of what it is to be human. I suggest that Lavater drew upon Le Brun's theory of the passions or emotions and upon some elements of Hartley's theory of the associative process and employed them as the basis for a descriptive account of man predicated on an instinctive understanding of the purposes and properties of things. What, for instance, is man? What are the essential properties of man? What kind of thing is man? Lavater,



Plate 4 Johann Caspar Lavater, Ten faces of both men and women, 1789.

sometimes directly and often indirectly, suggested answers to these questions.

IV

Johann Caspar Lavater's *Essays on Physiognomy* is a compendious collection of observations and aphorisms which ostensibly contribute to our understanding of man and mind through an eclectic array of illustrations, silhouettes, and descriptions of an individual's character (plate 4).³⁵ Lavater believed that a description of human nature involved an explanation of the properties or essence of mind and character, and so his account of the nature of man provided patterns for understanding the unity and order of the physical world based on the activity of the mind. Man's essence could be known as long as his actions, gestures, and expressions could be observed, because the state of an individual's mind (and soul) could be derived from these observations; in fact, the teleology to which he subscribed went like this: expression was an index of mind which was, in turn, the spiritual core of man and as such the determinant of an individual's character. The appeal of essentialism for Lavater lay in its capacity to validate what he called a science of mind (or what perhaps we might call a human science) based on a theory of natural kinds or types, but the problem of essentialism for the practice of physiog-

nomy was that it imagined its science as the result of an idealistic understanding of the intrinsic properties and purposes of things. Thus, whilst essentialism underwrote Lavater's science of mind it was also, and not incidentally, the cause of its many inconsistencies.

Fundamental to Lavater's conception of man was an essentialist explanation of character which was based on what was apparent (rather than occult) in human nature. 'Of all earthly creatures, man is the most perfect', he claimed,

the most imbued with the principles of life. Each particle of matter is an immensity, each leaf a world, each insect an inexplicable compendium. Who, then, shall enumerate the gradations between insect and man? In him the powers of nature are united. He is the essence of creation. The son of earth, he is the earth's lord; the summary and central point of all existence, of all powers, of all life, on that earth which he inhabits. (I, p. 10)³⁶

Here, Lavater makes manifest the principles of his physiognomic practice: in the first place, man is a unique creature, rendered so as a result of the power and benevolence of the creator; and in the second place, each individual possesses a unity and coherence which marks it out from other human beings. There was no way, Lavater confessed, he could teach mankind the whole of the divine alphabet necessary to translate the language of nature, but he could make some of its characters transparent to the enlightened observer, as the main point of physiognomy was to reveal things in nature, that eluded the immediate comprehension of the senses. Its purpose was, in fact, to disclose

the exterior or superficies, of man, in motion or at rest, whether viewed in the original or by portrait. Physiognomy is the science of knowledge of the correspondence between the external and internal man, the visible superficies and the invisible contents. (I, p. 19)

The point is that through physiognomy, the method of reading the external appearance as a sign of the internal state, one could arrive at a definition of man which mapped an individual's inner soul or being onto their external appearance. It might well be that man was flawed, but according to Lavater, physiognomy could instruct and improve man's knowledge of himself, his fellow men, and the Creator of men, by revealing what happened in the mind and ultimately the soul.

At the heart of Lavater's physiognomical system was a description

of the natural kinds (or types) of existence which were inherent in the organic world:

To know – to desire – to act – Or accurately to observe and meditate – To perceive and to wish – To possess the power of motion and of resistance – These combined, constitute man an animal, intellectual, and moral being. (I, pp. 10–11)

Though these three kinds could be taken as illustrations of different types of human beings, each had a distinctive character which in theory at least was applicable to animals as well. The first is animal life, localised in the belly and including the organs of reproduction; the second is moral life, focussed on the breast and the heart; and the third is intellectual life, located in the head, with the eye as its central focus. The face was exemplary of these three classes of life, Lavater claimed, in so far as the countenance crystallised the nature of an individual's character. Hence, the mouth and the chin related to animal life; the nose and cheeks represented moral life; and the forehead and eyebrows epitomised intellectual life. Given that physiognomy is the visible expression of certain invisible internal qualities, the idea is that these classifications mark out a hierarchy of description whereby animality is linked above all to the function and structure of the whole human body and provides the lowest order of description, morality is found in the motions of the heart and is the middle order of description, and the intellect corresponds to the head and is the highest order of description (plate 5). To discuss highness and lowness in this form, effectively as localised physical attributes, is significant not least because it suggests a progressivist account of the development of creatures through a series of gradations which make explicable, Lavater implies, the distinctions 'from the insect to man'. Thus whilst little attention is paid to the place of animals within this hierarchical system, the acknowledgement of the animal instinct inherent in some types of human beings suggests the possibility of a developmental model of physical change. However, what marks out man from insects, as a distinctive and unique creature is the capacity of the human mind 'to know, to desire, to act'. For Lavater, as we saw in the introduction, the character of human action underpins our relations with other human beings in that we instinctively make quite profound judgements of what we see without considering the reasons for doing so. Physiognomy offered a means of defining and explaining the scope of these instinctive