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## **Man's face and mimic language**

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Introduction

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# Introduction

A special form of art developed early among the ancient Greeks in Sicily. It had the nature of a dramatic folk-play in the burlesque genre where different persons appeared and imitated people and animals to the delight of the audience. This form of art was therefore called *mimos* after the Greek verb *mimeisthai*, which means "to imitate". Each of the actors taking part in the *mimos* was also called *mimos*.

During the fifth century B.C., the *mimos* in Sicily reached its artistic climax, which must probably be chiefly ascribed to the Sicilian poet Sofron from Syracuse. His *mimos* texts, written in rhythmic prose, gave the *mimos* a place in literature; however, it failed to achieve any great reputation as a literary product. Via the Greeks in southern Italy, the *mimos* early spread to Rome too, where it became Latinized and enjoyed considerable popularity. Publilius Syrus and Decimus Laberius, both active during the reign of Caesar, were the foremost Roman *mimos* authors. The *mimos* could also be performed without any kind of text as a pantomime, possibly combined with descriptive dances (compare with the present-day ballet).

The concept mimicry, with the adjective mimic, however, can also be derived from the Greek *mimeisthai*. Mimicry and miming thus from the beginning must have referred to a purely active, conscious imitating of the play of facial features, body movements, deportment, and gestures. It is difficult to determine when the word mimicry also got the meaning of being a passive, unconscious reflection in look, facial expression, deportment, and gestures of thoughts, feelings and emotions, desires, and passions. It is quite certain, however, that such a relation between emotional condition and the various perceptual manifestations which were later called mimicry in the word's latter meaning must have been obvious to our first ancestors. In many ways, the imitative arts could illustrate that during classical antiquity one not only knew but was also fully familiar with all these circumstances.

Early attempts were made to evolve some system according to which people could be characterized and classified concerning type of physique. Probably the fundamental purpose of this was purely medical and not so



much either general-biological or artistic; it seemed possible to establish that those with a certain type of body were affected more easily than others by certain somatic illnesses. Thus, Hippocrates (the fourth century B.C.) distinguished between a *habitus apoplecticus* and a *habitus phthisicus*, from which come our terms apoplexy and phthisis (stroke and lung consumption). Rightly or otherwise, Hippocrates has also been referred to as the founder of the theory of the temperamental types, a theory based on the antique, so-called humoral-pathological concept of the four body fluids. Thus, the melancholy person was ruled by black bile, the sanguine by the blood, the choleric by yellow bile, and the phlegmatic by phlegm.

More or less influenced by this old, antique concept, numerous different typological classifications have since then been launched. Too much would be involved here to discuss these problems in detail, but the interesting characterological attempts made in connexion with the pedagogic debate during the sixteenth century with the object of discovering the inclination and aptitude of the pupils for higher studies must be mentioned.

During the past hundred years, a decisive attempt to evolve characterological systems that classify individuals with regard to both psyche and soma can be established. Among the nowadays best-known scholars in this field can be counted the German psychiatrist and neurologist Ernst Kretschmer (1888–1964). Based on the fine psychiatric observations and detailed descriptions of the mental diseases *manic-depression* and *schizophrenia* (*dementia praecox*) made by his fellow citizen Emil Kraepelin (1856–1926), Kretschmer presented his typology with, from the beginning, two and later four main types:

- 1 the leptosome type, somatically characterized by a slight and thin stature, long narrow face, and clear-cut nose; the type seems to correspond almost to Hippocrates' *habitus phthisicus*; its pronounced thin and lanky extreme variant is often described as *asthenic type*; mentally, the leptosome is characterized by a so-called *schizothymic* disposition, showing itself in, among other things, some paucity of ideas, some degree of emotional coldness combined with hypersensitiveness towards the surroundings, some difficulty in making contacts, and considerable capacity for abstractions; if the leptosome suffers mental disease, this is usually schizophrenia (from the Greek *schizein*, to split + *phren*, mind);
- 2 the pyknic type, characterized somatically by a thick stature, broad and low face, short neck, and a large, barrel-formed chest; mentally the pyknic type is characterized by a so-called *cyclothymic* disposition, showing itself in, among other things, an active intellect with lively thought activity, eagerness for work, and a warm and jovial nature; if the pyknic suffers mental disease, this is usually of *manic-depressive* character;



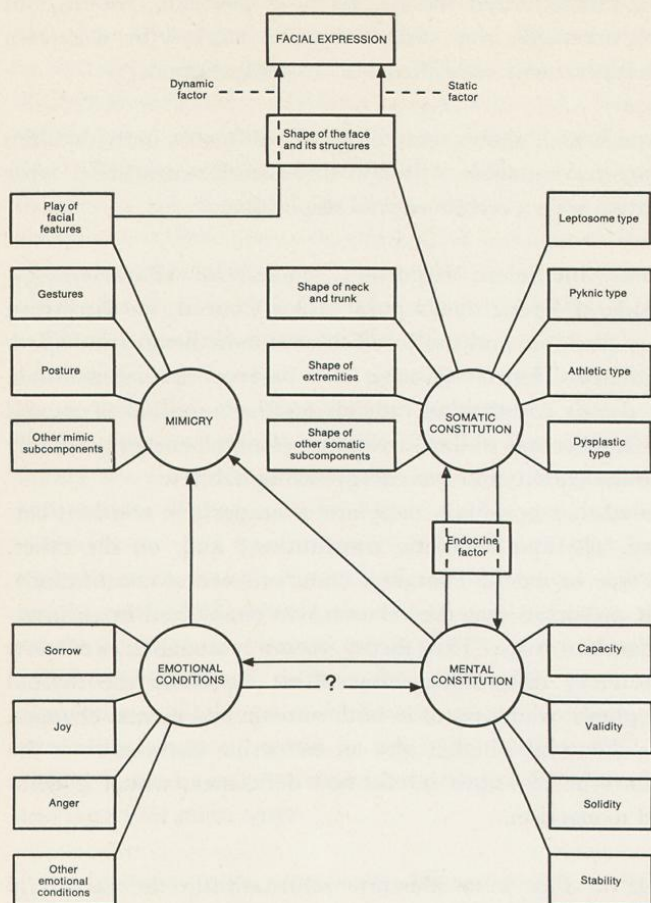
- 3 the athletic type, characterized somatically by a powerful, robust, and muscular stature; mentally, the athletic type is marked by a certain sluggishness in temperament (so-called viscous temperament);
- 4 the dysplastic type, which shows somatologically different individualities in stature that are incompatible with the three earlier-mentioned types and also lack relation with a certain mental disposition.

Among more recent and more important scholars of characterology, mention can be made of Kretschmer's pupil Klaus Conrad, the American psychologist William Sheldon, and the Swedish anatomist Bengt Lindegård. The Swedish psychiatrist Henrik Sjöbring also deserves special mention. The latter presented four constitution radicals for the appraisal of mental activity: capacity (intellectual ability), validity (mental energy), solidity (tenacity), and stability (ability to form energy-saving habits).

It cannot be denied that nowadays there are often decisive relations between, on one hand, physique (somatic constitution) and, on the other, mental personality type or mental character features (mental constitution). Kretschmer himself presumed that the relation was established in an internal secretory (endocrine) way. This theory seems reasonable: we know several internal secretory disturbances that affect especially the thyroid gland and the hypophysis, which result in both somatic and mental changes. However, it can be discussed whether also an endocrine disturbance is the basic reason for the type of serous intellectual deficiency, which is combined with so-called mongolism.

Attempts are made in Fig. 1 to illustrate schematically the facts and relations now discussed. The four circles represent mimicry, emotional conditions, somatic constitution, and mental constitution. Mimicry includes, among other things, the play of facial features, gestures, and posture. Of the amount of various emotional conditions, the diagram shows only sorrow, joy, and anger. As seen from the foregoing, different systems have been evolved for interpreting the somatic constitution. The diagram records Kretschmer's system, with its four somatic main types, as well as a number of the subfactors that usually are the object of appraisal in connexion with the somatic analysis, i.e. the anatomical shaping of the face, neck, trunk, and extremities. However, it can be added in parentheses that Lindegård in his system also works with other factors, e.g. the muscular strength and the skeletal sturdiness factor. When it concerns the mental constitution, different ideas about how it could be captured and analysed are naturally encountered in psychiatric literature. Kretschmer thus, as mentioned, spoke about schizothymic and cyclothymic disposition. The diagram includes Sjöbring's constitution radicals as being the four main pillars upon which the mental constitution, according to Sjöbring, rests.





**Fig. 1.** Diagram showing the relations between facial expression, somatic constitution, mental constitution, mimicry, and emotional conditions.

Arrows in the diagram mark the relation that prevails between somatic constitution and mental constitution; the endocrine factor, which according to Kretschmer is responsible for this relation, is also indicated. The diagram also shows how the mimicry is affected by emotional conditions. The way the emotions are experienced is probably directly influenced by the mental constitution. Whether the opposite applies, i.e. whether often-experienced emotions of identical kind can also influence the mental constitution, is a matter that will only be hinted at here. The mental constitution, such as is disclosed in temperament and personal engagement, seems able to influence directly the mimicry. The inhabitants of southern countries are usually considerably more gesticulating and lively in their mimic play than those in northern countries. An exaggerated lively facial mimicry, a so-called hypermimia, can also occur at certain mental illness conditions, for instance schizophrenia. The opposite, a repressed mimicry, is often found with



endogenic depressions and also with certain conditions in the brain, among others, the so-called parkinsonism. Patients with this disease therefore often show wooden and dull expressions — mask faces — just as they also have a strongly repressed mimic co-movements (see below), a symptom which may be called paucity of movement.

The purely static facial expression is naturally primarily determined by the facial shape and the anatomical formation of the various soft parts and organs of the face. The extremely large variation here is so well known that examples would be superfluous. Later, in another context, however, we will return to the matter. It cannot be denied that the anatomical shaping can be so characteristic and impressive that it can give life to the appearance of the face, but the really living, dynamic, facial expression is produced by the play of features, i.e. the changes of the form and appearance of the facial soft parts — more or less rapidly appearing and thereafter disappearing — produced by the mimic musculature in the face. The facial soft parts are, as a matter of fact, the instrument that varies from person to person and upon which the mimic musculature plays a melody very similar for one and the same condition. If the same melody is played frequently, it leaves certain permanent reminiscences in the facial expression in the form of mimic wrinkles. More conspicuous permanent changes in the form of the various facial organs, however, cannot be produced by the mimic play. All these points will be treated in fuller detail later.

Against the background of what has now been indicated concerning partly the mimicry as a reflection of emotional conditions and partly the relation between soma and psyche, it is even more understandable if in a person's facial expression an attempt has been made also to read something about the characteristic traits and mental qualities of that person. The science concerned with this, called physiognomy (from the Greek *physis*, nature, shape + *gnomon*, a judge), evolved early during classical antiquity. Thus it is related that Pythagoras (*c.* 582—*c.* 507 B.C.) undertook a detailed physiognomic appraisal of everyone who wished to enrol as a pupil of his teaching. Aristotle (384—322 B.C.), however, is considered to be the one who first tried to systematize the physiognomic appraisal, which he also extended to apply to animals.

The first physiognomists do not appear to have had any particular interest in the changeability of the facial expression by the influence of mimicry. Primarily, the purely anatomical form of various facial parts, to which certain decisive characteristic qualities could be referred, was assessed. Thus one spoke about, for instance, the high intelligent forehead, the short stupid nose, and the weak, irresolute chin. Such concepts also made their marks on the creative arts, not only during the classical period, but far into our own days. Big eyes had a godlike quality, small mouths were a sign of chastity; therefore the masters consequently furnished their heroes and



heroines with eyes too large, and their madonnas with mouths small and childish.

During the Middle Ages, some flourishing of physiognomic activity took place, but not until the time of the Swiss physiognomist, priest, and author, Johan Kaspar Lavater (1741—1801) did physiognomy get a contemporary position as a "science". In his work "Physiognomische Fragmente zur Beförderung der Menschenkenntnis und Menschenliebe" (1775—1778) in which also the then young Goethe\* was a co-worker, Lavater recorded his physiognomic observations. His attitude to the entire problem conformed largely to that of the classical physiognomists, which can perhaps best be illustrated by quoting some of his alleged relations: a large, open, square forehead = high intelligence; hooked roman nose = genius; snub nose = gaiety, recklessness, vanity; firm lips = firm character; soft lips = gentle and unstable character; black eyes = strength; blue eyes = meekness.

No matter how fantastic these pronouncements may appear, it must be admitted that Lavater touched upon the train of thought that Kretschmer so successfully developed much later, when he constructed his somatological system and in connexion thereto described the relations between soma and psyche.

The fundamental mistake that Lavater made was that in the main he divorced a certain facial shape from its somatological relation and correlated the anatomical form of this part not to a purely general mental disposition (which possibly had some justification) but to a distinctly indicated characteristic quality, as well as to an intellectual or mental quality. It cannot be disputed that Lavater, in his latter diagnosing, which unfortunately was also characterized by too far-reaching generalizations, was not only influenced by earlier prejudices, but also lent himself to free speculations and wishful thinking. One of Lavater's contemporaries, the German physician Franz Joseph Gall (1758—1828), the founder of phrenology, made a similar mistake. Gall believed that a relation existed between the conformation of the skull and the development of certain mental "brain organs" (according to Gall, no less than 27 different ones). By studying a person's skull, he thought he could determine the mental characteristics.

In the beginning, Lavater's theories were received with the greatest interest and enthusiasm, but it was not long before critical voices arose. The scientific investigation technique had by then developed further. Among more prominent scholars in this field, special mention can be made of the Scottish physiologist Charles Bell (1774—1842), the French anatomist Louis Pierre Gratiolet (1815—1865), and the French physician and physiologist Guillaume Benjamin Duchenne (de Boulogne, 1806—1875). The latter's investigations of the facial muscles and the mimic effects, which he also produced experimentally by local faradization, has even today a permanent

\* Goethe has portrayed Lavater in "Dichtung und Wahrheit".



value. The great naturalist-scientist Charles Darwin (1809–1882) finally must also be mentioned. He tried to establish the principles that lie as basis for the mimic play in both man and animal. Darwin believed he had found that the expressions for sorrow are similar in all human races. This must also apply to numerous other emotional conditions, but the question concerning this is still not satisfactorily decided.