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Man's face and mimic language

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VI Mimic facial expressions

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VI Mimic facial expressions

Our first impulse is to attempt to combine various b-pictures in Fig. 34—49 (“mimic letters”) with one another into certain determined facial expressions (“mimic words”). This experiment has been carried out and will be presented here to the reader. But first a few pictures will be shown to demonstrate what the external facial contour can suggest to our idea of head position, direction of the eyes, and perhaps also facial expression.

Fig. 42 a shows the picture of “Victor”, now well known to us. Fig. 42 b merely reproduces its external facial contour with both ears. This contour we call the “frontal facial frame”. Fig. 42 c merely reproduces an isolated external facial contour, but the head here is turned to the left, so that the left ear is hidden. This contour we therefore call the “the turned facial frame” (in this case, left-turned).

An attempt has been made in Fig. 43 to illustrate the effect of displacing the frontal facial frame. The facial details in all three pictures, of which a is “Victor”, are exactly the same. In b, however, the facial frame has been displaced somewhat upwards; the observer therefore gets the impression that the head is bent forwards. In c, the frame has been displaced downwards; the head therefore now seems to be bent backwards. In Fig. 44, the

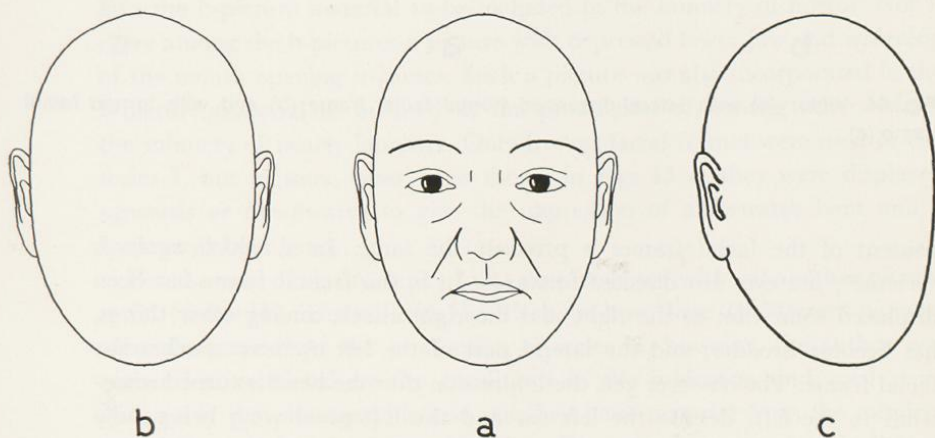


Fig. 42. Victor (a), frontal facial frame (b), turned facial frame (c). See text.

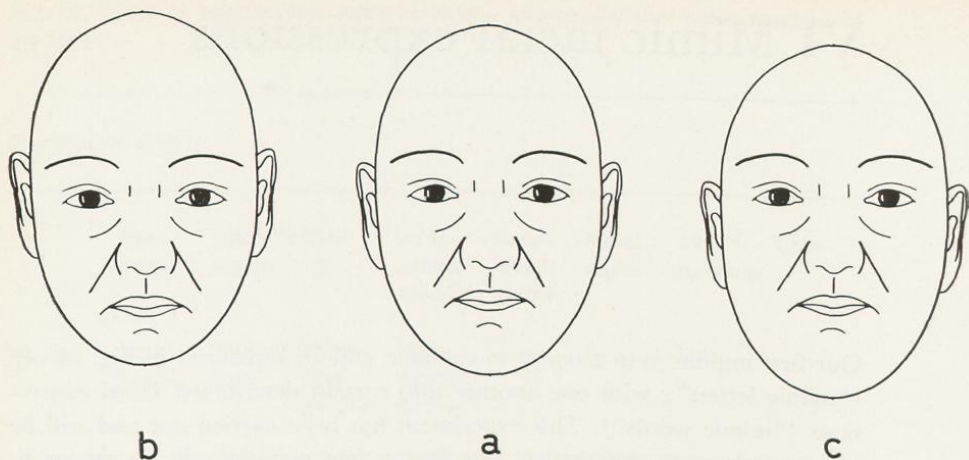


Fig. 43. Victor (a) with upwards-displaced frontal facial frame (b) and with downwards-displaced frontal facial frame (c).

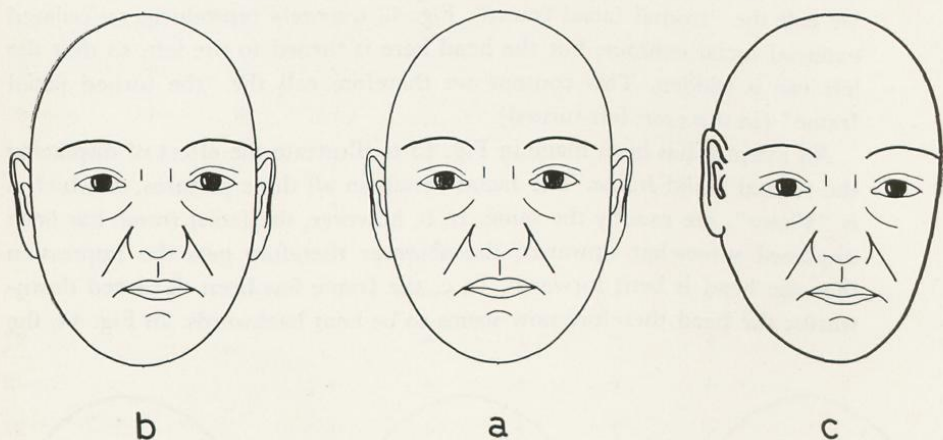


Fig. 44. Victor (a) with lateral-displaced frontal facial frame (b) and with turned facial frame (c).

content of the facial frames is precisely the same. In a, which again is "Victor", the eyes are directed forwards. In b, the frontal frame has been displaced somewhat to the right and the right cheek, among other things, has become broader, and the lateral part of the left eyebrow touches the facial frame. The observer gets the impression that the head is turned somewhat to the left, despite the left ear and the left nasal wing being fully visible. Because the iris is central, the observer also gets the impression that the direction of the eye has followed this turning; the face therefore seems

to be looking to the left (cf. above, Fig. 28, where the direction of the eye, however, is to the right). This impression is still more emphasized if the left-turned facial frame is used, as occurs in picture c.

To be able to carry out the experiment with the aid of different b-pictures in Fig. 34–39 to create different mimic facial expressions, it was primarily necessary to have access to a collection of representative mimic facial expressions to serve as models. Therefore a list of 24 different emotional conditions was made, which experience teaches us are usually characterized by certain facial mimicry. They are listed in the table in Fig. 45 in 8 groups designated A, B, . . . H. An experimental subject was allowed to study in detail and think over the list. He then was asked to produce the mimic facial expressions corresponding to the emotional conditions. These were photographed and drawn. The material, "the basic material", thus obtained was then compared with the b-pictures in Fig. 34–39. Those b-pictures were chosen that together could be thought to produce a certain given mimicry. Finally, a drawn picture series (series I) containing 24 different pictures was made. The table in Fig. 45 shows how these are designated.

In the main, only b-pictures were used to produce this series I. In some cases, the effects produced by each muscle, however, were strengthened, in others, weakened, a matter that can be fully defended because, as earlier mentioned, the b-pictures only reproduce the main muscle effects and do not represent either "maximum effects" or "minimum effects". Where several muscles with different effects on an organ structure were active, for instance at the mouth opening, the objective was to arrive at some form of average effect, i.e. to give the organ structure such a shape that it reflected something of the influence of each engaged muscle. No picture with dilated palpebral fissure, caused by raising the upper eyelid margin, is found among the b-pictures. Such a picture was therefore introduced into the b-picture material to be included in the mimicry of horror. Nor is there among the b-pictures a picture with depressed lower jaw and widening of the mouth opening it causes. Such a picture was also incorporated in the b-picture material to be used at the production of, among other things, the mimicry of hearty laughter. Only frontal facial frames were used in this series I, but in some cases — as shown in Fig. 43 — they were displaced upwards or downwards to give the impression of a forwards bent and a backwards bent head.

For the sake of clarity, series I was supplemented with yet another picture series (series II). The table in Fig. 45 shows how these 24 different pictures were designated. At the production of series II, however, the author was rather less restricted by the conditions in the b-pictures and used more generously the photographic and sketched basis material from the mimicry production of the experimental subject. Thus, for instance, the iris did not always adopt a central position, which is throughout the case in series I.

Fig. 45. Table showing the group classification of 24 different emotional conditions, designation of the picture series, and figure references.

Group	Running		Picture		Figure number
	number	Emotional condition	Series I	Series II	
A	1	Precise, resolute, firm, severe	A:1	a:1	46
	2	Stern, angry	A:2	a:2	
	3	Furious, incensed	A:3	a:3	
B	4	Mild, smiling, friendly	B:1	b:1	47
	5	Happy	B:2	b:2	
	6	Hearty laughter	B:3	b:3	
C	7	Ingratiating smile	C:1	c:1	48
	8	Cunning, crafty, slyly smiling	C:2	c:2	
	9	Self-satisfied smile	C:3	c:3	
D	10	Sad, worried, grieved	D:1	d:1	49
	11	Mournful, almost in tears	D:2	d:2	
	12	Physically hurt, tormented	D:3	d:3	
E	13	Suspicious, "is that really so?"	E:1	e:1	50
	14	Observing, enquiring, examining	E:2	e:2	
	15	Perplexed, "what shall I do?"	E:3	e:3	
F	16	Surprised	F:1	f:1	51
	17	Frightened	F:2	f:2	
	18	Panic-stricken, anguished	F:3	f:3	
G	19	Superior, scornful, ironic	G:1	g:1	52
	20	Contemptuous, condescending, supercilious	G:2	g:2	
	21	Arrogant, self-satisfied, self-sufficient	G:3	g:3	
H	22	Disgusted, "it smells bad"	H:1	h:1	53
	23	Nauseated, "it tastes bad"	H:2	h:2	
	24	Bitter, woeful, disappointed	H:3	h:3	

The frontal facial frames that were used were — as in series I — when necessary displaced upwards and downwards, and in some instances also bent to the side. Side-turned facial frames were also used in some cases.

The observation can naturally be made that the photographic basic material is neither complete nor free from objections: it only represents one single experimental subject's concept of and ability to produce the mimic facial expressions corresponding to the emotional conditions in the list. Another person given the same task would perhaps have produced mimic facial expressions of another type. This objection is justified. It is well known that the mimicry of shedding tears can appear in many different guises and not only in the way produced in the present picture series. What the question primarily refers to is whether these pictures series in their highly schematic formulation actually give a fairly representative expression of the mimicry they are intended to illustrate. When studying the picture series, the reader should be able to form his own opinion about this. However, the author has let a large number of colleagues and students study the series and then make the "mimic" diagnosis. The result of these experiments were so satisfactory that the author considers it fully justified to use the picture series for his analyses.

At a more detailed inspection of the table in Fig. 45, it is found that in most cases — but not all — there is a more or less decisive relation between the three emotional conditions combined into one group. This, then, should also apply to the three pictures in the group. That this is actually so, we will be able to establish in the following.

When we are now about to analyse and record typical features in various mimic facial expressions, the group classification of the emotional conditions given in Fig. 45 will be followed. Both picture series are treated at the same time. Thus when under group A, picture 1 is mentioned, both picture A:1 and picture a:1 are referred to. Usually, the statements refer to the pictures of both picture series and only exceptionally to the one or the other picture series. The descriptions are consistently introduced by a table of the more important muscles that have most probably co-operated in the origin of each mimic facial expression. A compilation of these is added as Appendix 1. Muscles that have only indirectly, or only possibly, taken part are set within parentheses. The figure noted at each muscle agrees with the number used in the foregoing for the mimic musculature and can therefore also be used to identify those b-pictures in Fig. 34—39 that have formed the basis for the production of the picture series. Only more characteristic features, of course, can be treated here, and for the sake of clarity, they are recorded under the anatomical facial structures and regions they belong to.

Group A

Picture 1 (Fig. 46).

Mimic facial expression: Precise, resolute, firm, severe.

Co-operating muscles:

- (2. The lateral part of the frontal muscle)
3. The glabella depressor
5. The eyebrow depressor
- (16. The lower lip depressor)
- (17. The chin muscle)
- (20 + 21. The cheek muscle)
23. The marginal part of the sphincter muscle of the mouth

The eyebrows and the forehead: The medial parts of the eyebrows are slightly depressed, whereas the lateral parts are possibly slightly raised. A tendency to V-eyebrows is therefore present. The lateral parts of the frontal skin is perhaps furrowed transversely.

The glabella region and the root of the nose: Here the soft parts are slightly depressed with somewhat marked vertical frontal furrows. The root of the nose is broadened and shows the suggestion of a transverse furrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is slightly pressed downwards. The revulsion margin of the cover fold is depressed and screens the upper part of the palpebral fissure, which in itself is otherwise unaffected. There is possibly a tendency to V-position by the cover fold margin.

The nasolabial furrow: The furrow is insignificantly extended downwards by the tension in the muscles surrounding the mouth opening.

The mouth opening and the lips: The mouth is pinched and the lips are tightened.

The chin: The soft parts over the chin boss are somewhat tightened.

The head: Possibly the head is bent slightly forwards.

The teeth: Clenched.

Picture 2 (Fig. 46).

Mimic facial expression: Stern, angry.

Co-operating muscles:

2. The lateral part of the frontal muscle
3. The glabella depressor
5. The eyebrow depressor
15. The depressor of the angle of the mouth

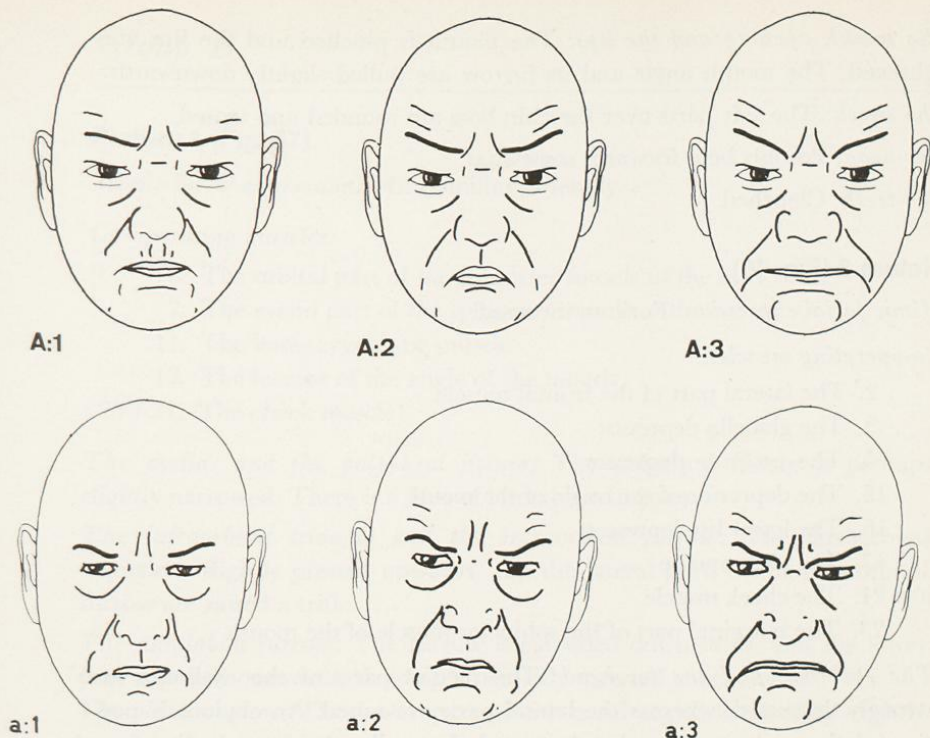


Fig. 46. Schematic presentation of mimic facial expressions, Group A.

Picture 1. Precise, resolute, firm, severe;

Picture 2. Stern, angry;

Picture 3. Furious, incensed.

16. The lower lip depressor

17. The chin muscle

(20 + 21. The cheek muscle)

23. The marginal part of the sphincter muscle of the mouth

The eyebrows and the forehead: The medial parts of the eyebrows are depressed, whereas the lateral parts are raised. A clear tendency to V-eyebrows is thus present. The forehead shows obvious transverse furrows laterally.

The glabella region and the root of the nose: The soft parts over the glabella region are depressed and clearly marked vertical frontal furrows are present. The nasal root is broadened and shows an obvious transverse furrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed slightly downwards. The cover fold margin is depressed and screens the upper part of the palpebral fissure, which in itself is otherwise unaffected. There is possibly a tendency to V-position by the cover fold margin.

The nasolabial furrow: The furrow is clearly extended downwards by the tension in the muscles surrounding the mouth opening.

The mouth opening and the lips: The mouth is pinched and the lips are tightened. The mouth angle and its furrow are pulled slightly downwards.

The cheek: The soft parts over the chin boss are rounded and tensed.

The head: Possibly bent forwards somewhat.

The teeth: Clenched.

Picture 3 (Fig. 46).

Mimic facial expression: Furious, incensed.

Co-operating muscles:

2. The lateral part of the frontal muscle
3. The glabella depressor
5. The eyebrow depressor
15. The depressor of the angle of the mouth
16. The lower lip depressor
17. The chin muscle
- 20 + 21. The cheek muscle
23. The marginal part of the sphincter muscle of the mouth

The eyebrows and the forehead: The medial parts of the eyebrows are strongly depressed, whereas the lateral parts are raised. An obvious V-position of the eyebrows can thus be noted. Laterally, the frontal skin shows strongly marked transverse furrows.

The glabella region and the nasal root: The soft parts over the glabella region are depressed, and heavily marked, vertical frontal furrows are present. The nasal root is broadened and shows heavily marked transverse furrows.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is strongly pressed downwards. The cover fold margin screens the upper part of the palpebral fissure, which can otherwise be somewhat dilated. The cover fold margin shows a clear tendency for V-position.

The infraorbital triangle and the infraorbital furrow: The lateral part of the infraorbital furrow is pulled downwards.

The nasolabial furrow: The furrow is extended downwards, and its lower part is also pulled outwards, showing a medially open curve of the angle.

The nasal region: Its lower part is clearly broadened.

The mouth opening and the lips: The mouth opening is severely pinched and laterally pulled into a straight line. The mouth angle furrow is deepened and extended downwards-outwards. The lips are tightened.

The chin: The soft parts over the chin boss are rounded and tensed.

The head: Possibly bent forwards somewhat.

The teeth: Clenched.

Group B

Picture 1 (Fig. 47).

Mimic facial expression: Mild, smiling, friendly.

Co-operating muscles:

- (6. The orbital part of the sphincter muscle of the eye)
- 7. The eyelid part of the sphincter muscle of the eye
- 11. The lesser zygomatic muscle
- 13. The levator of the angle of the mouth
- (20 + 21. The cheek muscle)

The eyelids and the palpebral fissure: The palpebral fissure is perhaps slightly narrowed. There is a hint of lateral eye furrows.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is slightly pressed upwards, and the lateral parts of the infraorbital furrow are raised a trifle.

The nasolabial furrow: The furrow is extended downwards, and the lower part is pulled outwards, showing a medially directed concavity.

The nasal region: The lower part of the nasal region is possibly slightly broadened.

The mouth opening and the lips: The mouth is pulled a trifle in lateral direction. The mouth angle depression is clearly marked.

The head: Possibly bent somewhat forwards and to the side.

The gaze: The gaze can be lowered.

Picture 2 (Fig. 47).

Mimic facial expression: Happy.

Co-operating muscles:

- (1. The medial part of the frontal muscle)
- (2. The lateral part of the frontal muscle)
- 11. The lesser zygomatic muscle
- 12. The greater zygomatic muscle
- 13. The levator of the angle of the mouth
- 14. The smiling muscle
- (20 + 21. The cheek muscle)

The eyebrows and the forehead: Possibly the eyebrows are raised, in which case marked transverse frontal furrows are present.

The glabella region and the root of the nose: If the eyebrows are raised, the soft parts of the glabella region are pulled upwards, and the root of the nose is narrowed.

The eyelids and the palpebral fissure: If what is now said is valid, the cover fold of the upper eyelid is pulled upwards a trifle and the upper eye furrow is suggested. The lateral eye furrows are emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed upwards, and the lateral parts of the infraorbital furrow are raised. The dimples are clearly marked.

The nasolabial furrow: The lower part of the furrow is pulled outwards-upwards and has a medially directed concavity.

The nasal region: Its lower part is slightly broadened.

The mouth opening and the lips: The mouth is slightly opened, strongly broadened, and shows an upwards directed concavity. The mouth angle is pulled upwards-outwards and the mouth angle depression emphasized. The philtrum is more shallow or completely smoothed out.

The teeth: The front teeth of the upper jaw are possibly exposed.

The lower jaw: Possibly this is somewhat depressed.

Picture 3 (Fig. 47).

Mimic facial expression: Hearty laughter.

Co-operating muscles:

1. The medial part of the frontal muscle
2. The lateral part of the frontal muscle
- 6 + 7. The sphincter muscle of the eye
9. The upper lip and the nasal wing levator
11. The lesser zygomatic muscle
12. The greater zygomatic muscle
13. The levator of the angle of the mouth
14. The smiling muscle
- 20 + 21. The cheek muscle

The eyebrows and the forehead: The eyebrows are considerably raised, and the forehead shows marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled strongly upwards, and the root of the nose is narrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled upwards, and the upper eye furrow is visible. The palpebral fissure is narrowed, and the lateral eye furrows are strongly marked.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is raised and pressed upwards. Its medial corner is pulled upwards-medially. The lateral parts of the infraorbital furrow are raised.

The nasolabial furrow: The furrow is deepened and extended and shows a medially opened curve of the angle.

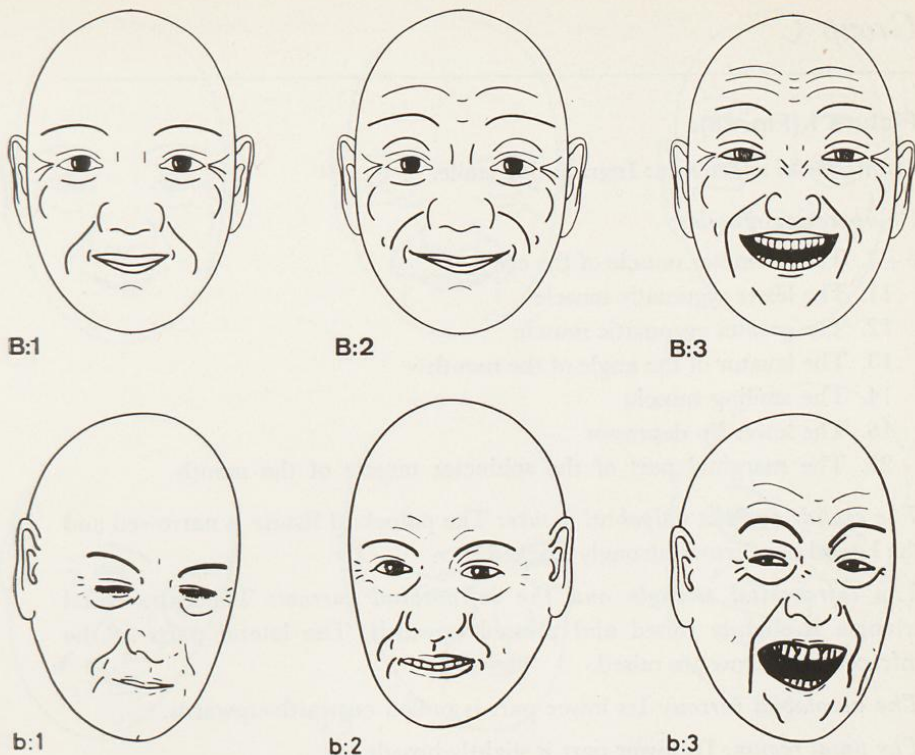


Fig. 47. Schematic presentation of mimic facial expressions, Group B.

Picture 1. Mild, smiling, friendly;

Picture 2. Happy;

Picture 3. Hearty laughter.

The nasal region: In relation to the upwards pulling of the medial corner of the infraorbital triangle, strong nasal bridge swellings and transverse nasal bridge furrows are clearly seen.

The mouth opening and the lips: The mouth opening is wider and broader. Its lower contour shows an upwards directed concavity. The angle of the mouth is pulled strongly upwards-outwards. The lips are narrowed and tightened on account of a direct muscle effect and the lateral displacement of the soft parts of the cheeks and the widening of the mouth opening. The philtrum is smoothed out.

The cheek: The soft parts over the chin boss are smoothed out by the lateral displacement of the soft parts of the cheek.

The head: Possibly bent slightly backwards.

The teeth: Exposed.

The lower jaw: Powerfully depressed.

Group C

Picture 1 (Fig. 48).

Mimic facial expression: Ingratiating smile.

Co-operating muscles:

6 + 7. The sphincter muscle of the eye

11. The lesser zygomatic muscle

12. The greater zygomatic muscle

13. The levator of the angle of the mouth

14. The smiling muscle

16. The lower lip depressor

23. The marginal part of the sphincter muscle of the mouth

The eyelids and the palpebral fissure: The palpebral fissure is narrowed and the lateral eye furrows strongly marked.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is slightly raised and pressed upwards. The lateral parts of the infraorbital furrow are raised.

The nasolabial furrow: Its lower part is pulled outwards-upwards.

The nasal region: Its lower part is slightly broadened.

The mouth opening and the lips: The mouth is slightly widened and shows a fairly strongly marked upwards directed concavity. The angle of the mouth is pulled upwards-outwards. The mouth angle depression is emphasized. The lips are a trifle narrowed and tightened.

The chin: The chin-lip furrow is smoothed out.

The head: The mimic is best seen if the head is slightly bent forwards and at the same time to the side.

The teeth: The front teeth in the upper jaw can be exposed.

The gaze: The iris has a medial position.

Picture 2 (Fig. 48).

Mimic facial expression: Cunning, crafty, slyly smiling.

Co-operating muscles:

6 + 7. The sphincter muscle of the eye

11. The lesser zygomatic muscle

12. The greater zygomatic muscle

13. The levator of the angle of the mouth

(20 + 21. The cheek muscle)

(23. The marginal part of the sphincter muscle of the mouth)

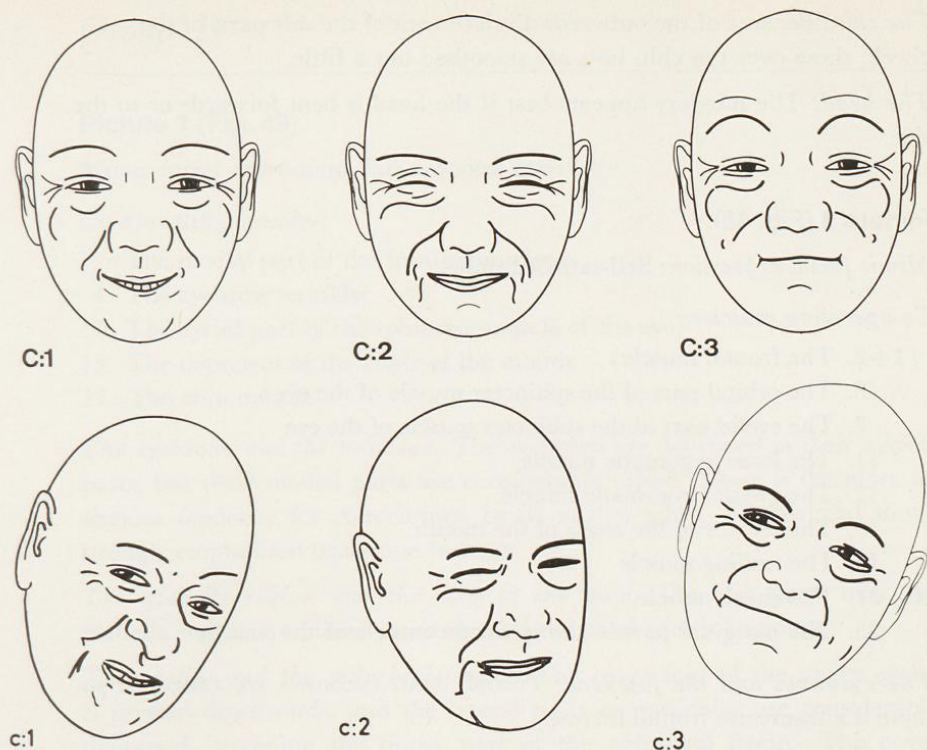


Fig. 48. Schematic presentation of mimic facial expressions, Group C.

Picture 1. Ingratiating smile;

Picture 2. Cunning, crafty, slyly smiling;

Picture 3. Self-satisfied smile.

The eyebrows and the forehead: The eyebrows pulled downwards a trifle.

The eyelids and the palpebral fissure: The palpebral fissure is narrowed rather much and somewhat screwed up, and shows a downwards directed concavity. The lateral eye furrows are emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed slightly upwards, and the lateral parts of the infraorbital furrow are raised.

The nasolabial furrow: The furrow is extended and its lower part pulled outwards, showing a medially directed concavity.

The mouth opening and the lips: The mouth opening is pulled a trifle laterally, as is the angle of the mouth. The mouth angle depression is clearly marked, and the mouth angle furrow is downwards directed. The lips are slightly tightened.

The chin: Because of the outwards displacement of the soft parts of the cheek, those over the chin boss are smoothed out a little.

The head: The mimicry appears best if the head is bent forwards or to the side.

Picture 3 (Fig. 48).

Mimic facial expression: Self-satisfied smile.

Co-operating muscles:

- (1+2. The frontal muscle)
- (6. The orbital part of the sphincter muscle of the eye)
- 7. The eyelid part of the sphincter muscle of the eye
- 11. The lesser zygomatic muscle
- 12. The greater zygomatic muscle
- 13. The levator of the angle of the mouth
- 14. The smiling muscle
- 20+21. The cheek muscle
- 23. The marginal part of the sphincter muscle of the mouth

The eyebrows and the forehead: Possibly both eyebrows are raised. If so, there is a transverse frontal furrow.

The glabella region and the root of the nose: If what is said above is valid, the soft parts over the glabella region are pulled slightly upwards, and the root of the nose is somewhat narrowed.

The eyelids and the palpebral fissure: The palpebral fissure is rather narrowed, and the lateral eye furrows are emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed upwards and the lateral parts of the infraorbital furrow raised. The dimples are rather obvious.

The nasolabial furrow: The lower part of the furrow is pulled considerably outwards-upwards.

The nasal region: Its lower part is rather broadened.

The mouth opening and the lips: The mouth opening is pulled considerably in lateral direction and is therefore strongly widened. The angle of the mouth is also pulled firmly outwards, and the mouth angle depression is emphasized. Because of the tension in the tissues, the lips are much narrowed and tightened.

The chin: The soft parts over the chin boss are smoothed out a little because of the outward displacement of the soft parts of the cheek.

The head: The mimicry appears best if the head is bent to the side.

Picture 1 (Fig. 49).

Mimic facial expression: Sad, worried, grieved.

Co-operating muscles:

1. The medial part of the frontal muscle
4. The eyebrow wrinkler
- (7. The eyelid part of the sphincter muscle of the eye)
15. The depressor of the angle of the mouth
17. The chin muscle

The eyebrows and the forehead: The eyebrows are depressed in their middle parts, but their medial parts are considerably raised. There is therefore an obvious tendency for A-eyebrows. In its medial parts, the forehead shows strongly emphasized transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled upwards, and the nasal root is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed downwards, and the lateral parts in particular are considerably depressed, screening the upper part of the palpebral fissure. The cover fold margin of the eyelid therefore shows a tendency for A-position.

The infraorbital triangle and the infraorbital furrow: Possibly, the medial part of the infraorbital furrow is raised.

The mouth opening and the lips: The mouth angle furrow is pulled rather downwards-outwards; therefore it gives the impression that the mouth opening has a considerably downwards directed concavity. The lips are slack. The lower lip can protrude slightly or be rolled outwards.

The cheek: The soft parts over the chin boss are slightly raised. The chin-lip furrow is fairly marked.

The head: Possibly bent forwards and to the side.

The gaze: This can be downcast.

Picture 2 (Fig. 49).

Mimic facial expression: Mournful, almost in tears.

Co-operating muscles:

1. The medial part of the frontal muscle
4. The eyebrow wrinkler
- (7. The eyelid part of the sphincter muscle of the eye)

- 15. The depressor of the angle of the mouth
- 17. The chin muscle
- 20 + 21. The cheek muscle

The eyebrows and the forehead: The middle parts of the eyebrows are much depressed, whereas the medial parts are raised. Typical A-eyebrows are therefore seen. In its medial parts, the forehead shows well marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled upwards. The root of the nose is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed downwards. The lateral parts of the cover fold are rather depressed and screen the upper parts of the palpebral fissure. There is thus a tendency to clear A-position of the cover fold margin. The lateral eye furrows are emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed slightly upwards. The infraorbital furrow is pulled upwards in both its medial and lateral parts. It therefore shows an increased concavity.

The nasolabial furrow: This is extended downwards, and the lower part is pulled outwards, showing a medially directed concavity.

The mouth opening and the lips: The mouth is strongly pulled outwards laterally and is therefore broadened. The angle of the mouth is insignificantly pulled downwards-outwards, and the mouth angle depression is emphasized. The lips are narrowed and somewhat tightened. The lower lip can be slightly rolled outwards.

The chin: The soft parts over the chin boss are considerably raised, and the chin-lip furrow is straightened.

The head: Possibly bent somewhat forwards and to the side.

The gaze: The gaze can be downcast.

Picture 3 (Fig. 49).

Mimic facial expression: Physically hurt, tormented.

Co-operating muscles:

- 3. The glabella depressor
- 5. The eyebrow depressor
- 6 + 7. The sphincter muscle of the eye
- 9. The upper lip and the nasal wing levator
- 18 + 19. The incisive muscles of the upper lip and the lower lip
- 22 + 23. The sphincter muscle of the mouth

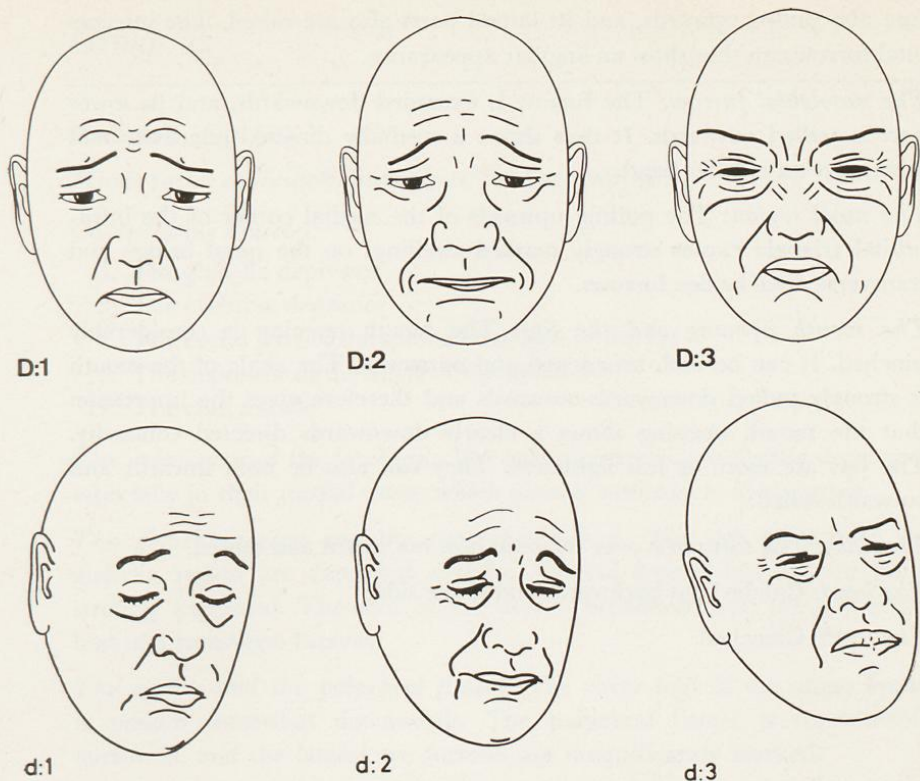


Fig. 49. Schematic presentation of mimic facial expressions, Group D.

Picture 1. Sad, worried, grieved;

Picture 2. Mournful, almost in tears;

Picture 3. Physically hurt, tormented.

The eyebrows and the forehead: The entire eyebrows are slightly depressed, but this concerns particularly the medial and middle parts of the eyebrows. Therefore, a clear tendency to V-eyebrows appears.

The glabella region and the root of the nose: The soft parts over the glabella region are a trifle depressed. Vertical frontal furrows are rather emphasized, and the root of the nose, which is broadened, shows an insignificantly marked transverse furrow.

The eyelids and the palpebral fissure: The palpebral fissure is screwed up. The lateral eye furrows are well marked. The cover fold of the upper eyelid is pressed downwards.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed upwards, especially at its medial corner, which is pulled upwards-medially. The medial parts of the infraorbital furrow are there-

fore also pulled upwards, and its lateral parts also are raised. The infra-orbital furrow can thus show an angular appearance.

The nasolabial furrow: The furrow is extended downwards, and its lower part is pulled outwards. It thus shows a medially directed concavity and sometimes an angular bend.

The nasal region: The pulling upwards of the medial corner of the infra-orbital triangle causes strongly marked swellings on the nasal bridge and transverse nasal bridge furrows.

The mouth opening and the lips: The mouth opening is considerably pinched. It can be both broadened and narrowed. The angle of the mouth is strongly pulled downwards-outwards and therefore gives the impression that the mouth opening shows a clearly downwards directed concavity. The lips are more or less tightened. They can also be both inwards and outwards rolled.

The chin: The soft parts over the chin boss are raised and tensed.

The head: Can be bent backwards and to the side.

The teeth: Clenched.

Picture 1 (Fig. 50).

Mimic facial expression: Suspicious, "is that really so?"

Co-operating muscles:

3. The glabella depressor
5. The eyebrow depressor
7. The eyelid part of the sphincter muscle of the eye
- (15. The depressor of the angle of the mouth)
17. The chin muscle

The eyebrows and the forehead: The entire eyebrows are slightly depressed, especially in their medial parts, which gives a tendency to V-eyebrows.

The glabella region and the root of the nose: The soft parts over the glabella region are depressed a trifle. Vertical frontal furrows are fairly strongly suggested. The root of the nose is broadened and shows a slight hint of a transverse furrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed somewhat downwards. The palpebral fissure is considerably narrowed, and the lateral eye furrows are insignificantly marked.

The nasolabial furrow: This furrow is only slightly extended downwards.

The mouth opening and the lips: Possibly, the angle of the mouth is pulled slightly downwards-outwards. The lower lip is pressed somewhat upwards and has thus pressed the upper lip a little upwards and forwards.

The chin: The soft parts over the chin boss are raised a trifle.

The head: Possibly bent forwards and to the side.

The gaze: Possibly, the iris is set medially.

Picture 2 (Fig. 50).

Mimic facial expression: Observing, enquiring, examining.

Co-operating muscles:

3. The glabella depressor
5. The eyebrow depressor
- (18 + 19. The incisive muscles of the upper lip and the lower lip)
23. The marginal part of the sphincter muscle of the mouth

The eyebrows and the forehead: The entire eyebrows are slightly depressed, especially in their medial parts; they therefore show a tendency to V-position.

The glabella region and the root of the nose: The soft parts over the glabella region are depressed. Vertical frontal furrows are fairly strongly marked. The root of the nose is broadened and shows a rather emphasized transverse furrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed downwards and screens the upper part of the palpebral fissure, which is not otherwise affected.

The mouth opening and the lips: The mouth opening is reduced in breadth (narrowed), and the lips are somewhat tensed and protruding.

The head: The mimicry is best seen if the head is bent forwards a trifle and possibly also to the side.

Picture 3 (Fig. 50).

Mimic facial expression: Perplexed, "what shall I do?"

Co-operating muscles:

1 + 2. The frontal muscle

17. The chin muscle

The eyebrows and the forehead: The entire eyebrows are considerably raised, and the forehead shows emphasized transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled strongly upwards, and the root of the nose is considerably narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is strongly pulled upwards, and the upper eye furrow is clearly marked.

The infraorbital triangle and the infraorbital furrow: The infraorbital furrow is raised both in its medial and in its lateral parts. Thus the furrow shows an increased concavity.

The nasolabial furrow: The lower parts of the furrow are pulled somewhat upwards-outwards.

The nasal region: The tip of the nose is raised.

The mouth opening and the lips: The angle of the mouth is pulled slightly upwards-outwards. The lower lip slightly protrudes and is perhaps rolled outwards.

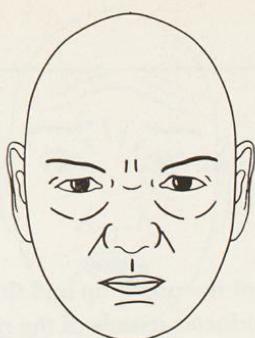
The chin: The soft parts over the chin boss are insignificantly raised.

The head: The mimicry is best seen if the head is bent forwards a little and also to the side.

The gaze: This is perhaps downcast.



E:1



E:2



E:3



e:1



e:2



e:3

Fig. 50. Schematic presentation of mimic facial expressions, Group E.

Picture 1. Suspicious, "is that really so?";

Picture 2. Observing, enquiring, examining;

Picture 3. Perplexed, "what shall I do?"

Group F

Picture 1 (Fig. 51).

Mimic facial expression: Surprised.

Co-operating muscles:

- 1 + 2. The frontal muscle
- 18 + 19. The incisive muscles of the upper lip and the lower lip
- 22. The lip part of the sphincter muscle of the mouth

The eyebrows and the forehead: The entire eyebrows are considerably raised, and the forehead shows strongly marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are strongly pulled upwards, the root of the nose is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper lid is pulled considerably upwards, and the upper eye furrow can be clearly seen.

The infraorbital triangle and the infraorbital furrow: The medial corner of the infraorbital triangle is pulled somewhat upwards-medially. The medial part of the infraorbital furrow is also pulled upwards-medially. The lateral parts of the furrow are raised.

The nasal region: The tip of the nose is raised a trifle.

The mouth opening and the lips: The mouth opening is somewhat widened, but is reduced in breadth. The lips are slightly tightened and protrude.

The head: The mimicry is best seen if the head is bent slightly forwards and to the side.

The lower jaw: This is a little depressed.

Picture 2 (Fig. 51).

Mimic facial expression: Frightened.

Co-operating muscles:

- 1 + 2. The frontal muscle.
- 4. The eyebrow wrinkler
- 18 + 19. The incisive muscles of the upper lip and the lower lip

The eyebrows and the forehead: The entire eyebrows are slightly raised and their middle parts are depressed. The eyebrows have also been brought a little closer to each other. The forehead shows strongly marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are, of course, pulled slightly upwards, but because of the

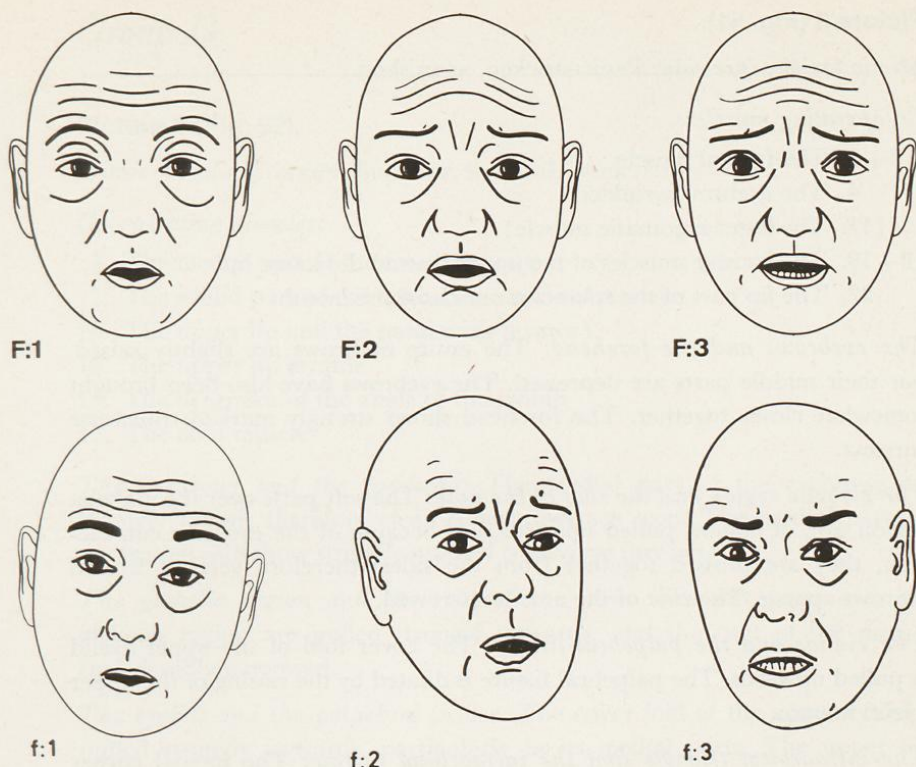


Fig. 51. Schematic presentation of mimic facial expressions, Group F.

Picture 1. Surprise;

Picture 2. Frightened;

Picture 3. Panic-stricken, anguished.

contraction of the eyebrows, they are pressed together from the sides; therefore vertical frontal furrows are seen. The root of the nose is narrowed a little.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is slightly pulled upwards.

The infraorbital triangle and the infraorbital furrow: The medial corner of the infraorbital triangle is pulled slightly upwards-medially. The medial part of the infraorbital furrow is also pulled upwards a little.

The nasal region: The tip of the nose is raised a trifle.

The mouth opening and the lips: The mouth opening is somewhat widened. The lips are fairly slack and protrude slightly.

The head: The mimicry is best seen if the head is bent backwards a little.

The lower jaw: This is slightly depressed.

Picture 3 (Fig. 51).

Mimic facial expression: Panic-stricken, anguished.

Co-operating muscles:

- 1 + 2. The frontal muscle
- 4. The eyebrow wrinkler
- (11. The lesser zygomatic muscle)
- 18 + 19. The incisive muscles of the upper lip and the lower lip
- 22. The lip part of the sphincter muscle of the mouth

The eyebrows and the forehead: The entire eyebrows are slightly raised, but their middle parts are depressed. The eyebrows have also been brought somewhat closer together. The forehead shows strongly marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are, of course, pulled upwards, but because of the eyebrow contraction, they are pressed together from the sides; therefore vertical frontal furrows appear. The root of the nose is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled upwards. The palpebral fissure is dilated by the raising of the upper eyelid margin.

The infraorbital triangle and the infraorbital furrow: The medial corner of the infraorbital triangle is pulled slightly upwards-medially. This also concerns the medial part of the infraorbital furrow.

The nasolabial furrow: This is pulled somewhat outwards, whereby a slight medially directed concavity appears.

The nasal region: The tip of the nose is raised a trifle.

The mouth opening and the lips: The mouth opening is considerably widened. The lips are fairly slack and protrude.

The head: The mimicry is best seen if the head is slightly bent backwards.

The teeth: The front teeth in the lower jaw are exposed.

The lower jaw: This is significantly depressed.

Picture 1 (Fig. 52).

Mimic facial expression: Superior, scornful, ironic.

Co-operating muscles:

1. The medial part of the frontal muscle
7. The eyelid part of the sphincter muscle of the eye
- (9. The upper lip and the nasal wing levator)
10. The upper lip levator
15. The depressor of the angle of the mouth
17. The chin muscle

The eyebrows and the forehead: The medial part of the eyebrows are strongly raised; therefore clear A-eyebrows are seen. The medial parts of the frontal skin show strongly marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled strongly upwards, and the root of the nose is considerably narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled strongly upwards, particularly in its medial parts. The upper eye furrow is emphasized. The palpebral fissure is much narrowed.

The infraorbital triangle and the infraorbital furrow: The medial corner of the infraorbital triangle is pulled somewhat upwards-medially. This also refers to the medial parts of the infraorbital furrow. The lateral parts of the furrow are raised.

The nasolabial furrow: This is considerably deepened and extended downwards and shows a medially directed weak concavity.

The nasal region: The lower parts of the nose are narrowed. The nasal wings are raised.

The mouth opening and the lips: The mouth opening is widened, and the angle of the mouth is pulled strongly downwards. The upper lip is raised and somewhat tightened. The lateral parts — situated immediately at the angle of the mouth — are pulled upwards-laterally, whereby a clear angular bend of the lower contour of the upper lip appears. The lower lip is somewhat depressed.

The chin: The soft parts over the chin boss are slightly tensed and rounded.

The teeth: These are exposed and perhaps clenched.

Picture 2 (Fig. 52).

Mimic facial expression: Contemptuous, condescending, supercilious.

Co-operating muscles:

1. The medial part of the frontal muscle
7. The eyelid part of the sphincter muscle of the eye
- (9. The upper lip and the nasal wing levator)
10. The upper lip levator
15. The depressor of the angle of the mouth
17. The chin muscle

The eyebrows and the forehead: The medial parts of the eyebrows are considerably raised and obvious A-eyebrows thus appear. The frontal skin, in its medial parts, shows strongly marked transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled upwards, and the root of the nose is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled fairly strongly upwards, especially in its medial parts. The upper eye furrow is emphasized. The palpebral fissure is considerably narrowed.

The infraorbital triangle and the infraorbital furrow: The medial corner of the infraorbital triangle is pulled fairly strongly upwards-medially. This also refers to the medial part of the infraorbital furrow. The lateral parts of the furrow are raised.

The nasolabial furrow: This is strongly deepened and extended downwards and shows a medially directed weak concavity.

The nasal region: The lower parts of the nose are narrowed, and the nasal wings are pulled a trifle upwards. Clear swellings have appeared on the nasal bridge, and hints of transverse nasal bridge furrows can also be seen.

The mouth opening and the lips: The mouth is closed and, in the main, shows a downwards directed concavity. The angle of the mouth is pulled slightly downwards-outwards. The upper lip is pressed somewhat upwards. Its lateral parts, situated immediately at the angle of the mouth, are pulled slightly upwards-laterally, whereby a weak tendency for an angular bend appears in the lower contour of the upper lip. The lower lip is pressed slightly upwards and rolled outwards.

The chin: The soft parts over the chin boss are slightly tensed and rounded.

The head: Possibly bent backwards a trifle.

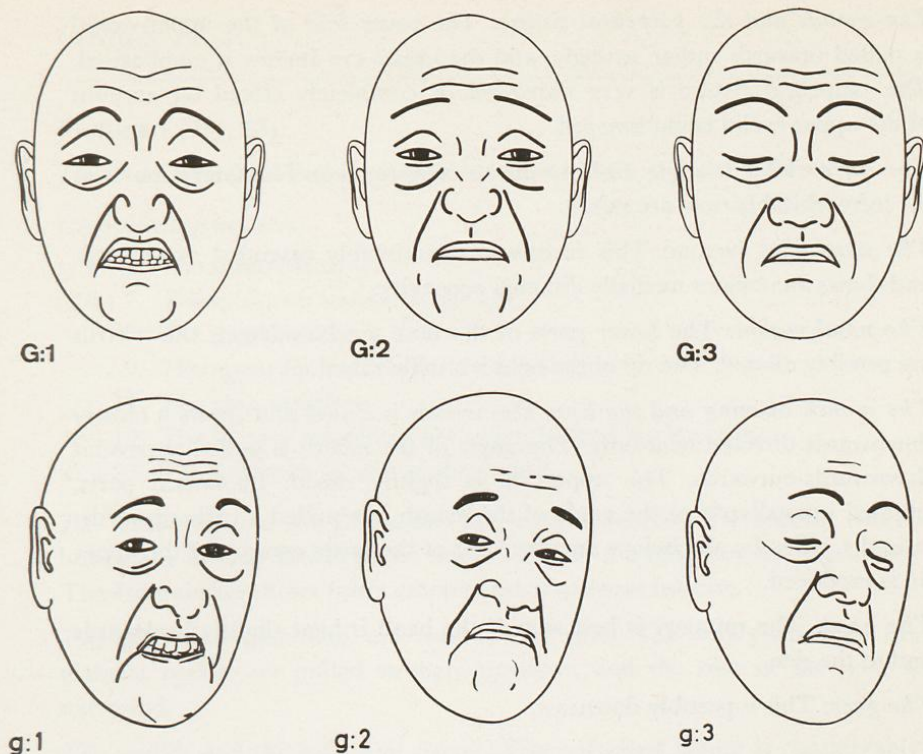


Fig. 52. Schematic presentation of mimic facial expressions, Group G.
 Picture 1. Superior, scornful, ironic;
 Picture 2. Contemptuous, condescending, supercilious;
 Picture 3. Arrogant, self-satisfied, self-sufficient.

Picture 3 (Fig. 52).

Mimic facial expression: Arrogant, self-satisfied, self-sufficient.

Co-operating muscles:

- 1 + 2. The frontal muscle
- 7. The eyelid part of the sphincter muscle of the eye
- 10. The upper lip levator
- 15. The depressor of the angle of the mouth

The eyebrows and the forehead: The entire eyebrows are considerably raised, and the forehead shows emphasized transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are strongly pulled upwards, and the root of the nose is much narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled upwards rather strongly, and the upper eye furrow is emphasized. The palpebral fissure is very narrowed or completely closed on account of the upper eyelid being lowered.

The infraorbital triangle and the infraorbital furrow: The lateral parts of the infraorbital furrow are raised.

The nasolabial furrow: This furrow is considerably extended downwards and shows an obvious medially directed concavity.

The nasal region: The lower parts of the nose are broadened; the nostrils are possibly dilated. The tip of the nose is a trifle raised.

The mouth opening and the lips: The mouth is closed and shows a clearly downwards directed concavity. The angle of the mouth is pulled somewhat downwards-outwards. The upper lip is slightly raised. Its lateral parts, situated immediately at the angle of the mouth, are pulled a trifle upwards-laterally, whereby an obvious angular bend of the lower contour of the upper lip is produced.

The head: The mimicry is best seen if the head is bent slightly backwards and to the side.

The gaze: This is possibly downcast.

Picture 1 (Fig. 53).

Mimic facial expression: Disgusted, "it smells bad".

Co-operating muscles:

- 1 + 2. The frontal muscle
- 6 + 7. The sphincter muscle of the eye
- 8. The nasal muscle
- 9. The upper lip and the nasal wing levator
- 17. The chin muscle
- 18 + 19. The incisive muscles of the upper lip and the lower lip
- 22 + 23. The sphincter muscle of the mouth

The eyebrows and the forehead: The entire eyebrows are slightly raised, but mostly in their lateral parts; therefore there is a tendency for V-position. The frontal skin shows fairly emphasized transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled strongly upwards, and the root of the nose is narrowed.

The eyelids and the palpebral fissure: The palpebral fissure is considerably contracted, and the lateral eye furrows are emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed slightly upwards, and its medial corner is pulled considerably upwards-medially. This refers also to the infraorbital furrow, whose medial part is pulled upwards. The lateral parts of the furrow are raised.

The nasal region: The lower part of the nose is narrowed, and the nasal wings are somewhat raised. The nostrils are fairly strongly constricted. Strongly marked swellings on the nasal bridge can be seen and also well-marked transverse nasal bridge furrows.

The mouth opening and the lips: The mouth is tightly pinched and reduced in breadth. The lips are tightened and slightly protrude.

The chin: The soft parts over the chin boss are raised a trifle and tensed.

The head: The head is possibly bent slightly forwards.

The teeth: Clenched.

Picture 2 (Fig. 53).

Mimic facial expression: Nauseated, "it tastes bad".

Co-operating muscles:

3. The glabella depressor
5. The eyebrow depressor
- 6+7. The sphincter muscle of the eye
8. The nasal muscle
9. The upper lip and the nasal wing levator
10. The upper lip levator
16. The lower lip depressor
- (22. The lip part of the sphincter muscle of the mouth)

The eyebrows and the forehead: The entire eyebrows are depressed.

The glabella region and the root of the nose: The soft parts over the glabella region are slightly depressed. Insignificantly marked vertical furrows can be seen on the forehead. The root of the nose is broadened a trifle and shows a slightly marked transverse furrow.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pressed downwards. The palpebral fissure is screwed up. The lateral eye furrows are rather emphasized.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed slightly upwards; its medial corner is pulled upwards-medially. This applies also to the infraorbital furrow, whose medial part is pulled upwards-medially. The lateral parts of the furrow are raised a trifle.

The nasolabial furrow: This is considerably deepened and extended downwards. It shows a medially directed weak concavity or angular bend.

The nasal region: The nasal wings are raised a little and the nostrils are constricted. Strongly marked swellings on the nasal bridge and transverse nasal bridge furrows can be seen.

The mouth opening and the lips: The mouth opening is widened. The upper lip is raised, and its lateral parts, situated immediately at the angle of the mouth, are pulled considerably upwards-laterally; therefore there is a strong tendency for an angular bend of the lower contour of the upper lip. The lower lip is depressed and possibly rolled outwards.

The head: Possibly bent forwards a trifle.

The teeth: These are clenched and possibly exposed.

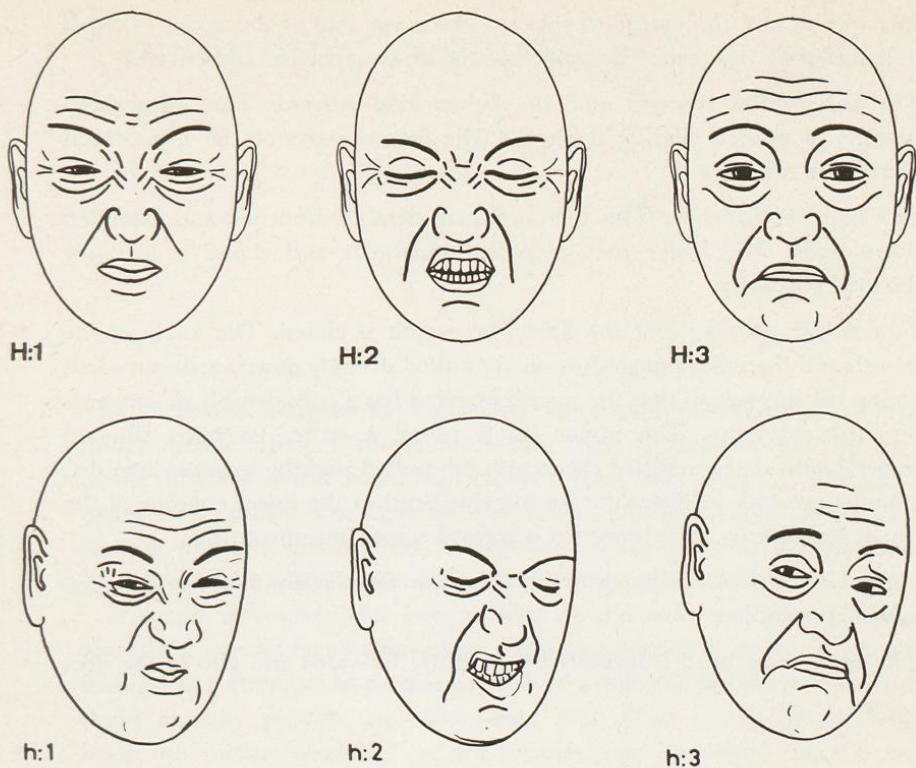


Fig. 53. Schematic presentation of mimic facial expressions, Group H.
 Picture 1. Disgusted, "it smells bad";
 Picture 2. Nauseated, "it tastes bad";
 Picture 3. Bitter, woeful, disappointed.

Picture 3 (Fig. 53).

Mimic facial expression: Bitter, woeful, disappointed.

Co-operating muscles:

1 + 2. The frontal muscle

7. The eyelid part of the sphincter muscle of the eye

(9. The upper lip and the nasal wing levator)

11. The lesser zygomatic muscle

15. The depressor of the angle of the mouth

17. The chin muscle

The eyebrows and the forehead: The entire eyebrows are raised slightly, and the frontal skin shows fairly emphasized transverse furrows.

The glabella region and the root of the nose: The soft parts over the glabella region are pulled upwards a little, and the root of the nose is narrowed.

The eyelids and the palpebral fissure: The cover fold of the upper eyelid is pulled slightly upwards. The palpebral fissure is somewhat constricted.

The infraorbital triangle and the infraorbital furrow: The infraorbital triangle is pressed slightly upwards. The lateral parts of the infraorbital furrow are raised.

The nasolabial furrow: This furrow is considerably deepened and extended downwards. The lower part is pulled outwards and shows a medially directed concavity.

The mouth opening and the lips: The mouth is closed. The angle of the mouth and the mouth angle furrow are pulled strongly downwards-outwards giving the impression that the mouth opening has a considerably downwards directed concavity. The upper lip is raised a trifle. Its parts situated immediately at the angle of the mouth are pulled slightly upwards-laterally, whereby a weak tendency for an angular bend of the lower contour of the upper lip appears. The lower lip is pressed somewhat upwards.

The chin: The soft parts over the chin boss are slightly raised and tensed as well as rounded.

The head: The head is possibly bent slightly forwards and also to the side.