
ROBERTA DE MONTICELLI

Università Vita-Salute San Raffaele

demonticelli.roberta@univr.it

EMBODIED VISUAL PERCEPTION. AN ARGUMENT FROM PLESSNER (1923) *

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abstract

Thatcher's Perceptual illusion is presented as a case study to test the fruitfulness of Helmuth Plessner's Aesthesiology for contemporary philosophical and empirical research on sensory perception (§1). In one reading, Thatcher Illusion's seems to question Gestalt Theory. We argue that it limits indeed its explanatory power, by forcing us to distinguish physiognomic identity from emotional expression (§2). Although integrating Gestalt Theory, Aesthesiology takes a further step into a thorough criticism of contemporary reductions of Phenomenal Consciousness in terms of Qualia: an embodied-enactive theory of perception (§3). Plessner's insights into Geometry and Music as "symbolic forms" grounded, respectively, on goal-directed action/objects manipulation, and on emotional expression are expounded (§4). The Thatcher's Illusion's Puzzle is solved on the basis of this Plessnerian distinction (§5).

keywords

Embodied/enactive perception, Gestalt theory, phenomenology

1.
A Case Study for
"Aesthesiology"

Does Helmuth Plessner's "aesthesiology" still have anything to say to contemporary philosophers and empirical researchers on perception? Let's start from a very popular experimental case study: the so-called Thatcher illusion.¹

Most of us are incapable of detecting – at least at first sight - a crucial difference between these two images when they are upside down.



Yet a dramatic difference *immediately* strikes us the moment the images are rotated in their "normal" upright position:



Here we suddenly notice a *big* difference. And upon reflection, we may further realize that the *emotional* difference in expression is obtained artificially, through photo-shopping.

There is one possible explanation that might work – although, I will argue, it

1 Thompson, P. (1980), "Margaret Thatcher: A New Illusion", *Perception* 9, pp. 483-484.

is importantly limited because it treats only part of this phenomenon, and not the most interesting one. The part thus “explained” is the “recognition” of the physiognomic *identity* in the upside-down images: “aha, it’s Margaret Thatcher!” This identity recognition would be a sort of *illusion*, for the second upside-down image “is” *not* at all Margaret Thatcher, or a proper image of her, but a poorly and very crudely altered image, constructed by rotating the eyes and mouth in an unnatural way.

This explanation can be read as a partial refutation of a *Gestalt* thesis.

The illusion would prove that eyes and mouth have such a key role in the recognition of a face’s identity (of its physiognomy), that we recognize a face in spite of the alteration of its configuration or *Gestalt*, simply in virtue of its individual features by themselves. Contrary to Köhler’s prediction we do “recognize” the true facial expression (of Margaret Thatcher) even when upside down, without noticing the photoshop. When the images are turned aright, we do notice that certain features were upside down – so the second image is “not really” an image of M. Thatcher, but a distortion of it through photo-shop. This “illusion” then would prove that “compositional” information primes “configural” or *Gestalt* information in the coding of facial identity recognition – even at the cost of cognitive error.²

This explanation still leaves the most interesting part of the phenomenon unexplained: why is it that we do perceive a grotesque, and yet *perfectly meaningful* change of emotional expression in the upright second image? If we did not know that the image was manipulated by photo-shopping and that it thus “distorts reality”, it would strike us – as it does anyway – as a very telling caricature, or a grimacing expression of that visage. Why did we *not* see that *change of emotional expression* in the upside down setting? Why were we deluded into failing to detect the *additional expressive qualities* of the second image? Isn’t there a more serious illusion here (missing the evident

2 Thompson’s own reading of this illusion recalls Köhler’s remark “that upside-down faces are hard to recognise because of the loss of facial expression in such faces”. But since a very famous visage like this one is easily recognized by most subjects even when upside-down, Thompson’s conclusion – if there is one in his paper – seems to be rather against an explanation of face perception in terms of *configural* or *Gestalt* visual information, as opposed to *compositional* information. Since eyes and mouth convey most information about a face, “it seems possible that an inverted face in which the eyes and mouth remain the normal way round might preserve the facial expression better than a truly inverted face”. And this prediction comes true, or this would be what the illusions shows. Unfortunately Thompson uses “facial expression” in an ambiguous way, without distinguishing between *physiognomic identity* and *emotional expression*. Without this ambiguity there is no means to reject Köhler’s thesis that configural information plays a major role in the recognition of the value-qualities of any object of perception. See W. Köhler, (1938), *The Place of Value in a World of Facts*, A Mentor Book, New York 1966. This is why we argue that the Thatcher illusion forces us to distinguish physiognomic identity from expression, and lead us to the question why rotation in space preserves recognisability of the former, but not of the latter.

difference in emotional expression) than in the illusory recognition of the same face?

How would Plessner's aesthesiology explain this phenomenon? Let's proceed step by step. Would it yield a convincing analysis of the first part of this phenomenon?

2. Aesthesiology and Gestalt Theory

First of all, the claim that *configural* or *Gestalt* visual information, as opposed to *compositional* information, is involved in recognition of facial expressions would have been endorsed by Plessner. *Die Einheit der Sinne* is abundant in quotations from the founders of Berlin's Gestalt Psychology – Wolfgang Köhler, Max Wertheimer, and Kurt Koffka, who had been students of Carl Stumpf (1848-1936), the very founder of Experimental Phenomenology.³ Edmund Husserl, another of Stumpf's students and Plessner's *Doktorvater*, dedicated his first major phenomenological work, the *Logical Investigations*, to him – and this is certainly not surprising when one thinks of Stumpf's definition of phenomenology as the study of the “essential”, “structural” laws of perceptual phenomena – of its “material apriori”, as Husserl would have it. Plessner himself quotes the most famous of Stumpf's “laws”: “An essential (necessary) state of affairs of the optic sense domain (*Sinneskreis*) says that to every color phenomenon belongs an extension, even if one can hardly identify this phenomenal extension with the two dimensionality of a surface in the *geometrical* sense. We propose a corresponding acoustic law: a sound is essentially given with a volume”.⁴

Some additional information about Plessner's background may be helpful for contemporary readers. Born in 1892, Helmuth Plessner studied zoology and philosophy in Heidelberg, Berlin and Göttingen. In Göttingen, he was a student of Husserl's, and also of David Katz', a psychologist who had likewise studied with Husserl (and with the Goettingen psychologist Georg Elias Müller). Katz, while very close to the Gestalt movement (on which he also wrote a very popular introduction)⁵, was also critical of it, and very much along phenomenological lines. We shall find an echo of his criticism in Plessner's aesthesiology. Looming in the background of *Die Einheit der Sinne* is a very specific set of concerns arising from the field of experimental

3 Spiegelberg, H. (1982), *The Phenomenological Movement*, Third revised and enlarged edition, with the Collaborator of Karl Schuhmann, Nijhoff, The Hague, pp. 51-65.

4 Plessner, H. (1923), *Die Einheit der Sinne – Grundlinien einer Aesthesiologie des Geistes*, in *Anthropologie der Sinne (Gesammelte Schriften III)*, Suhrkamp, Frankfurt a.M. 2003, p. 231.

5 Katz, D. (1944), *Gestaltpsychologie*. Basel 1944 (translated into English, Swedish, Spanish, Italian, Finnish und French – but of course his collaborations with the Gestalt psychologists trace back to the Goettingen years with Mueller and Husserl).

psychology and especially the then pioneering works of Ewald Hering⁶ and David Katz⁷ on colour and space perception, both quoted in the introduction of Plessner's book. Edmund Husserl of course, and Max Scheler as well, are also referred to in Plessner's *Introduction*; yet the primary impetus toward the new research project Plessner was to develop after his "Aesthesiology of the Mind", and which issued in 1928 in the emergentist ontology of *Die Stufen des Organischen und der Mensch*,⁸ might be seen in Stumpf's idea of phenomenology as a universal pre-science, that is a description of all the immediately given contents of our acts and functions, to serve as foundations of both *Natur- und Geisteswissenschaften*.

Let's return to our question. The Thatcher illusion forces us to distinguish between physiognomic identity and emotional expression. We must admit that the former is recognized when upside down, but the latter is not. Köhler was right after all, since he referred to expressions. But then, why do we recognize the face and not its changing expression when the image is reversed? Why did we miss the *change of emotional expression* in the two images when turned upside down? What accounts for the loss of relevant and meaningful information (if a caricature can be meaningful without being "realistic") about such prominent expressive qualities?

Because *Sehen ist Stehen*, Plessner would likely answer. The notion of *Haltung*, attitude and quite particularly bodily attitude is the central idea of the whole book. The involvement of the lived body in perceptual experience, its role in the constitution of the apparent visual, tactile, auditory world; the roles that action, posture, balance play in the "meaningful" organization of a perceptual scene: all these points take many pages of analyses in Plessner's aesthesiology, and, unsurprisingly, not just in the 1923 book. The enactive, embodied character of sensory perception in all its modalities, the constitution of the perceived world within the field of action of the perceiving subject, the meaningful organization of a perceptual environment through

6 Hering is the author of the still widely accepted theory of the visual system as based on a system of colour opponency. Hering's proposal is now widely recognized as nearer to the neurophysiological truth than Helmholtz' three-colours theory, although Hering's findings are essentially "phenomenologically" based. E. Hering (1872-1874), *Zur Lehre vom Lichtsinn*, Leipzig 1907, quoted by Plessner (1923), p. 13.

7 Katz, D. (1911), *Die Erscheinungswesen der Farben und ihre Beeinflussung durch die individuelle Erfahrung*, Leipzig, quoted by Plessner (1923), who describe it as "determined by Husserl in its basic principles", referring also to P.F. Linke (1918), *Grundfragen der Wahrnehmungslehre*, München, which "points to the relationships between experimental psychology and ontological-phenomenological research" (Plessner (1923), p. 14).

8 Plessner, H. (1928), *Die Stufen des Organischen und der Mensch. Einleitung in die philosophische Anthropologie* Berlin / Leipzig 1928: Walter de Gruyter & Co.

3. The Enactive View of Sensory Perception: The *Leistungsperspektive*

the affordances it provides: these notions were quite familiar within the earlier phases of the phenomenological movement, much before they were reworked by Maurice Merleau-Ponty and, more recently, made popular by such Embodied Mind approaches such as Andy Clark, Alva Noë's or Vittorio Gallese's, not to mention Shaun Gallagher's and Dan Zahavi's works. The Husserlian formula of the lived body as "centre of orientation for the surrounding space" is the starting point for Plessner's solution of the problem of "the unity of senses", namely, the problem of how information coming from the different sensory modalities can be "put together" into an apparently coherent, solid, meaningful world as our life-world.

So, before suggesting some hints concerning a "Plessnerian" way to interpret a vast class of phenomena like the Thatcher illusion, let us introduce the reader to the selection of (at times impervious) pages from the long 1923 essay, *Die Einheit der Sinne – Grundlinien einer Aesthesiologie des Geistes*, in Matt Bower's English translation.

The opening of this selection mentions an "initial problem", for which the argument developed throughout the book up to that point is purported to provide a solution. It may be useful to read in Plessner's own words (or rather in our translation of them) which was this problem – at least as it is presented at the very beginning of the book, namely in the Introduction:

"If physics deals with the true state of the world, is our experience of the world only a colorful although unavoidable epiphenomenon, a sort of involuntary luminescence of certain material events in the cells and paths of the brain? Are then the qualities of our sensations, which are specifically bound to some definite sense organs, nothing but illusions, appearances? Or is rather the world-image of physics and chemistry in its uniformity just a black and white sketch, artificially taken from the whole picture of manifest reality, an abstraction designed to simplify nature to the end of mastering it practically? [Is this abstraction not] a conceptual transformation that forbids us to attach any spectre of reality to appearances?"⁹

"It is a fact that natural science and psychology cannot explain in the least *the way of appearing of this world (die Erscheinungsweise dieser Welt)*"¹⁰

As Plessner sees the matter (at the beginning of our selection), the problem of the *unity of the senses* (i.e., of the objects we perceive through their

9 Plessner, H. (1923), *Einführung*, p. 25.

10 *Ibid.*, p. 23, Plessner's italics.

quite different modalities) must be connected with “the question of the objectivity of the senses, an age-old theme of philosophy” (hence the title of the section we translated): the just quoted texts give expression to this question.

The background against which the young Plessner thinks is still a (Neo)Kantian one. Yet a Kantian solution based on the “pure forms of intuition” (space and time) is rejected along the lines of phenomenological or Gestaltist arguments, rejecting the whole idea of an unorganized plurality of sense-data, upon which the “forms” of space and time and the categories of the understanding would impose their order:

“The claim that every colour, independently of its empirically changing way of appearing, is a ‘flat quale’ in Hering’s sense, or that to each colour matter (Katz) belongs an extension in Stumpf’s sense, imply essential states of affairs about colours, which neither physical nor physiological optics can explain, and are valid independently of measure determinations”.¹¹

In the body of the book, though, something more is accomplished than a search for material a priori (*à la* Hering, Katz, or Stumpf) “organizing” perceptual data. A genuinely novel and original step is taken here. The “problem of the objectivity of the senses” is no longer conceived of as an epistemological one. Beyond the sceptical or epi-phenomenalist doubt about reliability of sensory experience, the mind-body problem comes into view. Neither materialism (“monistic parallelism”) nor dualism can possibly explain how a meaningful world might be produced out of physical events in the brain, or how a conscious mind can change the physical world.

Instead of distinguishing intentional or representative consciousness from qualia, as it has been customary in classical cognitivism (but also in the empiricist attitude of the famous German physiologists and psychologists, like Wundt or Helmholtz) Plessner introduces the much more promising “perspective of the performance” or accomplishment (*Leistungsperspektive*). Only this perspective, Plessner suggests, would allow us to ask sensible questions about the “quality” of sensory modalities. What does a given sensory modality allow a human being (remember, this is an “anthropology of the senses”) to do that humans could not have done (in that way) without it? The answer lies right before us, made manifest in the achievements we are all familiar with in the life-world. We move in space, we act, we have goals, we even move without any goal, in a kind of action which

¹¹ *Ibid.*, p. 15.

seems peculiar to us: expressive movement, such as dance - at least in it's "gratuitous" development over and above non-human animal "dance", as bound to sexual life and reproduction.

Plessner would stress a human peculiarity that distinguishes our movements from the animal ones: we are *agents* in a peculiar sense, which Plessner will later concentrate on, namely, agents who possess a *capacity for innovation* based on a cognitive skill not shared by other primates. It is an ability which the prominent contemporary evolutionary anthropologist Michael Tomasello¹² (ideally, even if not really, an heir of Plessner's anthropology) seems to have (quite independently) re-discovered, and which he describes as a capacity of "role-reversal". In contrast to the primates Tomasello studied (in Koehler's tradition, one might say), children in early age can "transpose" information acquired from their own points of view (or in terms of their zero-point system of coordinates) into other persons' points of view, and vice versa. More generally, humans are not exclusively bound to their "centre" or to the ego-centred system of coordinates for which their body is the "origin". For this further degree of "freedom" (relative to the animal world) Plessner will later introduce the technical term "excentricity" or "excentrical positionality", the key-concept of his anthropology in what is probably his most ambitious and best known book, *Die Stufen des Organischen und der Mensch* (1928).

"The secret of the indirect method of inquiry consists in leaving the task of isolating a sensory quality not to the scholar's artifice, but allowing the isolation to be carried out by human culture and taking note of its results".¹³

We shall at present only hint at the two pillars of this analysis of the sensory *Erscheinungswelt* from the perspective of our cultural accomplishments: geometry and music.

Geometry and music, as "symbolic forms", presuppose a perceptual intuitive basis whose structural or *Gestalt* properties organize the field of basic types of bodily action or movement: goal directed action, in the case of geometry, and purely expressive movement, in the case of music. In seeing and hearing, the lived body is involved as an "organon" of the will (Husserl) and as a means of emotional expression and communication.

Geometry makes the *Seinsinn* or phenomenal way of being of the visible world conceptually explicit. What Plessner discovers in the visual *Seinsinn*

12 Tomasello, M. (1999), *The Cultural Origins of Human Cognition*, Harvard University press, p. 103.

13 Plessner, H., "The objectivity of senses", M. Bower's translation p. 3.

(or, a parte subjecti, *Sinngebung*) is the *practicable* world, the world of planned action and goal-directed movement. Music makes the *Seinsinn* of the audible world explicit, which is the *world of expressive movement* (e.g. dancing, a theme later deeply explored by Erwin Straus).

4. **The Perceptual
Grounding of
Symbolic Forms:
Geometry and
Music**

The irreducible, qualitative content of sight and hearing experiences are hence not just modes of “phenomenal consciousness” in the sense of contemporary cognitivists (i.e., as qualia), but the very modes of presence of such aspects of an *Umwelt* as the practical and the expressive *milieus*, in the experience of which we become aware of ourselves as, respectively, active and feeling beings. The visual space works as a paradigm of the “objective”, the “external” part of reality, as it is given in “the experience of encountering” (*antreffen*). The auditory field, for its part, “*versinnlicht*”, gives body, as it were, to the “inner” or “subjective” part of reality – the emotional life and its “rhythm”, as given in emerging awareness (*innewerden*).¹⁴ “*Schematismus*” is a structural property of sight as “*Thematismus*” is one of hearing.¹⁵

“Music and geometry, as the specific mental employments of sensory modes, are for us only symptoms of what is possible, an aid for understanding what would otherwise hide its mystery from us in silent splendor.”¹⁶

Hearing and sight, construed as sensory modalities essentially involving bodily attitudes and ways of acting in the environment, call for a third essential mode of sensing which – we may gather – will constitute the very basis of both kinesthesia and cenesthesia (touch, inner visceral sense): the sense of one’s position-attitude (*Haltung*) and the sense one’s state (*Zustand*) – confirming familiar notions on the central role of lived posture, balance, inner condition in any mode of perception.

An example of Plessner’s insightful description of the relationships between sight and goal-directed action can be found in several passages in which he develops the notion of the “visible” *Griffigkeit* of objects:

“The grippiness or handiness (*Griffigkeit*) of a thing, as it is originally given to us at a distance through just the line of sight (...) by itself already entails an *Akkordanz* to action”.¹⁷

14 *Ibid.*, p. 9.

15 Plessner, H. (1923), p. 284.

16 Plessner, H., “The objectivity of senses”, M. Bower’s translation p. 4.

17 Plessner, H. (1923), p. 263.

Even more revealing is Plessner's description of the "architectural" world, where what is directly given to the sight are artifacts for use – with their functional properties, rooms to inhabit, chairs to sit on, ladders to climb, and so on.¹⁸

To sum up, Plessner's aesthesiology seems to provide an approach that introduces insightful avenues of research concerning "how the body shapes the mind", to quote Shaun Gallagher's felicitous phrase.

The solution of Thatcher's puzzle: why is physiognomic identity but not emotional expression preserved in upside-down images?

Let us conclude this commentary with a suggestion of a possible "Plessnerian" supplement to the analysis of the Thatcher illusion. If *Sehen ist Stehen*, then surely the organization of a visual field will be disrupted by inverting the customary orientation of visual objects on the vertical axis – as Merleau-Ponty famously proved on the basis of previous experiments with image-inverting glasses. Yet our blatant oversight of emotional change of expression in the reversed visage poses a further, more specific problem. Why is emotional expression, as opposed to physiognomic identity, so blurred by the unusual orientation?

Bodily involvement in sensory experience, both in goal-directed action and in expressive attitude, is precisely the solid experimental and phenomenological basis on which Plessner will later continue, developing a further chapter of aesthesiology and issuing in an important essay written in collaboration with the biologist and philosopher F.J.J. Buytendijk.¹⁹ That further chapter is the human face to face. This enlargement of aesthesiology is required by the phenomenological attitude lying at the heart of Plessner's study of perception. It is not surprising that Plessner's research – as that of many phenomenologists in those years (The Munich Circle around Lipps, Moritz Geiger, Max Scheler, Edith Stein) – concentrates in the following years on direct social cognition. It does so, however, from a very peculiar point of view: the nature of "expression mimicry" – one of the most manifest tendencies of the human body defining it as a *personal* body. Once again, the notion of bodily attitude is central to the analysis. At this point, one of Plessner's *Leitfaden* comes prominently into view: whenever configural qualities are expressive qualities, namely carriers of value-

¹⁸ *Ibid.*, p. 278.

¹⁹ Plessner, H. (1925) *Die Deutung des mimische Ausdrucks. Ein Beitrag zur Lehre von Bewusstsein des anderen Ichs*, in : *Ausdruck und menschlichen Natur* -Gesammelte Schriften VII, Suhrkamp, Frankfurt a.M. 2003, pp. 68-128

saliencies of some sort, sense-experience cannot be separated from the experience of sense (i.e., meaning). The natural axis system constituted by the standing body prescribes its *Sinnrichtungen* to the surrounding space. Meaning is disrupted by rotation against that system. A person is not – it stays recognizable. Its shape is preserved through rotation in space – as geometry prescribes. After all a face is a physical object – if you disregard its expression.

Let's return to the case of inverted images. Take any image of which you can appreciate some famous expressive quality – take the most obvious of them, the “mysterious” or “ineffable” smile of Leonardo's *Mona Lisa*. Put the image upside-down. A bewildering experience follows: you shall not “grasp” the values, the sense, the quality of that smile any more. It is not that we don't see the shape of it. We do. The “sense” of it is missing, though. We have the feeling that we no longer “understand” the expression. This is true with any photograph – even of a very familiar person.

Let's leave the last word to Plessner himself:

“When somebody says, ‘I see it on his face (*ich sehe ihm an*), [e.g.,] that he is ashamed, that he regrets, that he is furious, that he grieves,’ this does not mean that he is given the actual being and way of the other's lived experiences of shame, regret, anger or grief, but only that the enacting forms of his behaviour (*Verhalten*) are given, establishing a certain attitude referred to the environment. Intersubjective coexistence consists of attitudes, ways of behaving (*Haltungen, Verhaltungen*), and the need for understanding is satisfied when these changing attitudes reveal some interrelation among them and the unity of the situation between the body in question and its environment (to which I may belong) is preserved in the progress of the whole [...]

Whether one is angry, jealous, grieving, cheerful, jovial, whether one is ashamed, regrets or merely acts as though he really were in one of these emotional states: this doubt is only solved in the framework of the particular *situation* by considering the *Gestalt* features of the given behaviour. Shame, regret, jealousy, anger etc. are here intersubjective ways of being for reciprocal communication, in relation to a *common world* (*Mitwelt*), and their identification depends in some measure on the development of the situation.”²⁰

Plessner's explanation is just a beginning – and yet a very good one. *Sehen*

²⁰ Plessner, H. (1925), p. 123; pp. 125-126.

ist stehen, quite particularly in the human *face-to-face*: which means that we must not reduce a “tertiary” quality, even if it *is* a felt quality and not a “conceptual” or verbal representation, to those purely perceptual traits deserving the identification of the perceived things. For real qualities and value- or expression qualities are not the same. Left uncorrected, this confusion would make the most interesting part of the Thatcher illusion inexplicable – for we do see the thing. We just don’t grasp its *sense*.