

Post mortem performances: On Duchenne de Boulogne, or physiognomy in the age of technical media

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The physiognomic experiments which the French physician Guillaume-Benjamin Duchenne performed in the 1850s mark the culminating point of a dispositif that emerged in the aftermath of the French Revolution. Duchenne's experiments and the now-famous photographs of facial expressions produced by electromagnetic currents can be traced back to the conjunction of the guillotine and galvanism, which undermined the 18th-century knowledge of how to read physiognomic signs. Guillotine and galvanism – both inventions (or discoveries, respectively) of physicians – re-organized the way the signs of the body can produce knowledge, since they combine the knowledge of physiognomic signs with an experimental dispositif which focuses on the dead body, or, more concisely, on the question of how to define a corpse. It is a new ambiguity of life and death, a newly introduced unreadability of the signs of death, and the possibility of a technical resuscitation of the dead body, which gave birth to Duchenne's photographs as post mortem performances which intervene on both the levels of the signified and the signifier.

Famously, one line of reception of Duchenne's electro-photographic experiments leads to Charles Darwin's *The Expression of the Motion in Man and Animals* (1872); and perhaps Darwin's non-teleological concept of nature owes something to Duchenne's technical reproduction of expressions (see Darwin 1872, 355). But apart from this line, which would reduce Duchenne's photographs to a mere footnote in the history of the life sciences, I would rather highlight the impact his experiments had on the media dispositif of the early 20th century. In what follows, the way Duchenne's (and Adrien Tournachon's) photographs are discussed is therefore not so much determined by questions that ask for their role in the history of the life sciences, and their connection to aesthetics, or to the history of the portrait in general. They are looked at rather as part of an epistemological shift from the semiotic regime of expression to the media regime of *switching* by which they are indissolubly connected to the history of galvanism and electromagnetism. Their place in a history of portrait photography and the moving image is defined by their connection with this media regime of switching. From this perspective, my analysis is led to concentrate on Duchenne's special feature of the gliding cardboards that introduces the on/off operation of switching into both photography and "the body".

EXPERIMENTAL PHYSIOGNOMY

In the beginning of the 18th century, “the Literary” – according to a thesis of Rüdiger Campe – emerged from the superposition of rhetoric and physiognomy (1990, 68). The electro-physiological experiment in the 19th century substitutes the deciphering of signs as expressions of inner motions by switching operations and measuring instruments. A soul, the motions of which established the grounds for the representation of physiognomic signs, is thus replaced by the technical unconscious of the media: alternating current and photography. The art that constituted an ingenious actor like the “great Garrick” in the 18th century was the virtuoso reproduction of physiognomic expressions, which Garrick at times used to demonstrate offstage, as Diderot reports in his *Paradoxe sur le comédien* (1830; *Paradox of Acting*, 1883):

Garrick will put his head between two folding-doors, and in the course of five or six seconds his expression will change successively from wild delight to temperate pleasure, from this to tranquility, from tranquility to surprise, from surprise to blank astonishment, from that to sorrow, from sorrow to the air of one overwhelmed, from that to fright, from fright to horror, from horror to despair, and thence he will go up again to the point from which he started (1883, 38).

The face of the actor, which became the paradigm of the new theatre of expressions in the 18th century, is a living anatomical atlas, which not only recorded the whole spectrum of possible expressions but is also able to browse through it (see von Herrmann and Siegert 2000, 69).

This art became subject to technical reproduction in the 19th century, which coincides with photographic reproduction in the *Mécanisme de la physionomie humaine* of Guillaume-Benjamin Duchenne in 1862. Duchenne, born in 1806, started his scientific career in 1835 under the auspices of the era of alternating current, which had just begun. Legend has it that every morning, after having completed his studies of medicine, he would wander through the hospitals of Paris, looking for cases (and corpses) that were appropriate to serve his aim (see Anonymous 1876, vi), that was to change the function which electricity already had since the 18th century – the function of a medical remedy – into the function of a research tool. In order to create an *anatomia animata* (Albrecht von Haller’s term for physiology), Duchenne wished to replace the classical instrument of the anatomist, the scalpel, with alternating current, which originated from Michael Faraday’s discovery of induction and was produced by rotating machinery.

The precondition for this replacement of the scalpel by alternating current was a functional equivalence of both, and it was the pioneering work of Duchenne to achieve this. The scalpel is an instrument whose role is to articulate by cuts an isolated object that becomes real in the realms of visual and analytical language. Duchenne’s first work, which appeared in 1855, *De l’électrisation localisée et de son application à la physiologie, à la pathologie et à la thérapeutique* (From Localized Electrization and its Application to Physiology, Pathology and the Therapeutic), demonstrates the successful efforts of its author to transfer this role from the scalpel to the alternating current, that is to address every particular muscle of the body by electricity. “I succeeded,” Duchenne boasted his innovation, “to create some sort of living anatomy; I have

determined exactly the isolated and individual action of every muscle” (1855, vii).¹ The replacement of the scalpel by the rheophore allowed Duchenne to circumvent a taboo: experimenting with the living human body, or in other words: vivisection.

Duchenne’s physiognomy is not concerned anymore with either characterological interpretations of a “physionomie en repos” or the semantics of the inner motions that display themselves through the variable expressions of the face. Instead, it is trying to establish a grammar according to which the lines of expression can be connected. One might argue that Duchenne, in his field, is continuing a project that was first sketched out by Christian Wolff and later worked out by Johann Heinrich Lambert: the establishment of an “Art of Connecting Signs” (*Verbindungskunst der Zeichen*). Such an art is concerned not with the representational value of signs but with their *operationality*, that is their ability to link with each other in a mechanical way. To make his case, Duchenne distinguished between completely expressive muscles and incompletely or complementary expressive muscles, which led him to a corresponding hierarchy of simple and complex expressions. Thus, there are four muscles which act as elementary signifiers of inner motion: frontal muscle (attention), supra orbital muscle (thoughtfulness), eye brow muscle (pain), and the pyramidal muscle of the nose (aggression). Together with the expressions of crying, joy, laughter, mendacious smile, irony, sadness, contempt, doubt, and disgust (produced by combined contractions) they form a class of the “expressions primordiales”. By combining those primordial expressions one can then form second order expressions: these are the “expressions complexes”, that reach from surprise, fear, and anger to ecstasy. This hierarchical order of physiognomic signs which is based upon the degree of complexity of the muscles involved is made possible by stimulating the muscles by the electric current independently from any motion of expression.

Physiognomy is not read anymore, it is written. Physiognomy is no longer a hermeneutical art but an experimental technique that no longer treats physiognomic signs as expressions of various states of the soul, but as pure signifiers detached from any affections or psychological causations. And it is precisely the inherent combinatorial logic of these signifiers what constitutes the subject of Duchenne’s investigations. Duchenne was able to combine muscle contractions as if they were pure signifiers, that is without restriction to those combinations that would make sense. On the contrary: combinations of contractions that differentiate and carry meaning do exist only in relation to the set of all possible permutations and combinations. Therefore, there is a physiognomic term which is equivalent to noise, because it signifies the superposition or co-existence of all signifiers: the grimace. Duchenne could combine expressions on the faces of his test subjects that corresponded to passions which otherwise contradict each other; in those cases, “the physiognomy was not only more or less grimacing, but left the mind of the spectator in a great uncertainty about their real significance” (1876, part 1, 28). Since Duchenne’s groundbreaking work, physiognomic signs are to be regarded as selections from a grimace.

Let me thus put forward the following theses: First, that this a-semantic grimace is at the origin of Duchenne’s photographs; second, that the face into which this grimace and all other kinds of “passions” are written belongs to a living dead; and third, that the

media dispositif that stands behind the electro-photographic experiment is therefore fundamentally related to a disarticulation, and transgression, of the borderline between life and death. Moreover, only a genealogy of the grimace, that will lead us back to experimental resuscitations of dead persons and the conjunction between guillotine and galvanism, can explain why the series of passions in Duchenne's book starts with the strange passion "attention" and how this "passion" is photographically introduced.

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The grimace is among all physiognomic signs the one that points to the absolute Other of physiognomy. It cannot be understood as a sign that indicates the presence of a soul and its motions that are accompanied by consciousness. What it points to is, in fact, a monstrous unconscious, that goes – at least in literature – by the name of Frankenstein.

It was on a dreary night of November that I beheld the accomplishment of my toils. With an anxiety that almost amounted to agony, I collected the instruments of life around me, that I might infuse a spark of being into the lifeless thing that lay at my feet. It was already one in the morning [...] when, by the glimmer of the half-extinguished light, I saw the dull yellow eye of the creature open; it breathed hard, and a convulsive motion agitated its limbs.

How can I describe my emotions at this catastrophe, or how delineate the wretch [...]? His limbs were in proportion, and I had selected his features as beautiful. Beautiful! Great God! [...]

Oh! No mortal could support the horror of that countenance (Shelley 1969, 57–58).

This "catastrophe" in Mary Shelley's novel is no science fiction but a somehow authentic report of a freak show that in the 19th century starred victims of executions in front of those sciences which, according to Michel Foucault, let death and make life instead (1991, 37–61).² Certainly, there is a tradition of corpses of criminals ending up on the tables of anatomists, but from now on these tables could become real stages for the post mortem performances of those criminals.

In November 1818, the year Shelly's *Frankenstein* was published, the Scottish chemist Andrew Ure "galvanized" the corpse of the murderer Mathew Clysdale.³ The result, according to an eyewitness report, is giving evidence to Frankenstein's just quoted "spontaneous" reaction:

In the third experiment, when the supra orbital nerve was touched, the muscles of the face were thrown into frightful action and contortions. The scene was hideous; [...] many spectators left the room; and one gentleman nearly fainted, either from terror, or from the momentary sickness which the scene occasioned. In the fourth experiment, from meeting the electric power from the spinal marrow to the elbow, the fingers were put in motion, and the arm was agitated in such a manner, that it seemed to point to some spectators, who were dreadfully terrified, from an apprehension that the body was actually coming to life (Anonymous 1824, 295; see Sappol 2002)

As did Duchenne later, Ure attached the poles of the voltaic column by means of rheophores to the muscles of the face. The effect was that Clysdale's face went through the complete physiognomic repertoire in a sort of time-lapse show:

The face of the dead man expressed all emotions – hate, and love, joy, pain, despair and so on – in such a fast and sudden alternation that the people who stood around were shivering; some left, some fainted. One of those, who were present at the scene, was seized with fear by the terrible show so deeply that he could not forget the sight for the rest of his life and went insane in the end (Vogt 1896, 124–125).

Ure reportedly believed that an achievement like that of Victor Frankenstein was within his reach: “Dr. Ure seemed to be of the opinion, that had not the incisions been made in blood-vessels of the neck, and the spinal marrow been lacerated, the body of the criminal might have been restored to life” (Anonymous 1824, 295).

However, it was not Andrew Ure who provided the model for Frankenstein, but Giovanni Aldini (see Siegert 2003, 277). Aldini, a nephew of Luigi Galvani, toured Europe in the years 1802–1803 trying to convince the physiological and medical community that Volta was wrong in claiming that the electricity Galvani had discovered would originate from the contact of heterogeneous metals, and was not a natural sign of the life process itself (as Galvani had claimed).⁴ In Bologna Aldini was permitted to use the corpses of two decapitated criminals for his experiments. When he attached the electrodes to the ears of one of the heads, he observed in the first place “the strong contractions of all face muscles which were distorted in such an irregular way that they imitated the most horrifying grimaces” (1804, 70).⁵ When Aldini arranged the heads of both executed persons in such a way that the cutting surfaces touched each other and attached the electrodes to the left ear of the one and the right ear of the other head, “it was marvelous and scary at the same time to see how these heads made faces at each other in such a way that some of the spectators who had not expected any results of this kind were truly shocked” (72).⁶

The living corpse is a figure that puts an end to the reading of physiognomic signs and transports them into the age of media technical reproduction at the same time. This is literally true in the case of Duchenne’s favorite test subject, an old man, who was particularly suited for his kind of experiments because his face was practically insensitive. “He was struck with a complicated anaesthesia of the face. I could experiment on this region without him feeling any pain, right up to a degree where I could make his particular muscles contract with the same precision and reliability as if I was experimenting with a still irritable corpse” (1876, part II, 7).⁷

What made the old man an ideal test subject is the fact that the alternating current reproduced expressions on his face with the same fidelity as on the face of a corpse. Only on a dead man’s face the experimenting physician, “armed with rhexophores,” can “paint like nature the expressive lines of the motions of the soul” (14). On faces that are alive, the “expressive lines” that one wants to “paint” (say, joy) will always appear only mixed with expressions of pain that are produced by feed-back loops between experiment and test subject. Duchenne admits that the face of the old man is only a substitute for a dead man’s face. “I could choose, it is true, between this man and the face of a corpse which I often had the opportunity to animate in our numerous hospitals performing the local electrical excitation in every muscle and on which I could paint the passions with the same truth as on the living face” (131–132).⁸

The alternating currents that Duchene applied, fixated those physiognomies that were produced incessantly under the discharges of the Voltaic battery but could never be made permanent. The “electric brush” Duchenne used subjected the representation of anatomic signs to the paradigm of auto-recording even before the process of photographic fixation took place. The rheophore, like photography, hence stands for what Henry Fox Talbot famously dubbed the “pencil of nature”. Instead of being a surface on which the soul writes its elusive signs, the skin is now a sensitive film layer on which the contractions of the muscle record themselves.

The localized electrization [...] allowed me to watch how even the smallest radiations of the muscles traced themselves under the instrument [de voir se dessiner sous l'instrument]. Their contraction reveal their direction and their position in a better way than it could ever be achieved by the scalpel of the anatomist (Duchenne 1876, part I, 15).

“Se dessiner”: the muscles plotted themselves. One can photograph the electromagnetically produced expression because it is itself a photography discovered by the alternating current in a dead man’s face.

EXPERIENCE YOUR OWN DEATH

The fact that grimacing and convulsive corpses appeared on the stage of knowledge around 1800 is a consequence of a discourse that introduced the difference between an apparent and a real death in the course of the 18th century (Ariès 1982, 504–517). “Death is certain, and it is not,” Benigne-Winslow wrote in his dissertation from 1742 (41), distinguishing thus between death as an a priori truth concerning humans as mortal beings and death as an empirical fact that concerns the arbitrary circumstances of dying. What made the reliable signs that indicated death disappear, is the fact that death itself entered the paradigm of contingency or accident, respectively. Ways to die like drowning or suffocation became fashionable in the 18th century in an equal proportion to the disappearing of the representational visibility of death. Aldini himself occasionally linked his experiments to the problem of re-animation of dead persons that died from suffocation. When on January 17, 1803, Aldini conducted experiments in London with the corpse of the murderer George Forster, who had just been hanged, he proclaimed that the aim of his experiments was now “to call the suffocated back to life [rappeler les asphyxiés à la vie]” (1804, 227). On the place of execution in Newgate and in front of the members of the Royal Surgical College Aldini attached the poles of a Voltaic battery to the mouth and the ear of Forster, producing thus the effect that “the cheeks and the muscles of the face were terribly contracted and the left eye opened up” (228). And when he applied the conductors both aurally and rectally the activity of the muscles was enforced in such a way, “that it seemed to have a look of re-animation [qu’il semblait y avoir une apparence de réanimation]” (229).

The so-called “sudden death” could always corrupt the natural signs of death and therefore called for the authority of a physician to generate experimentally the signs that would allow for telling apparent from real death. As soon as the signs of death became artificial signs, generated experimentally by the physician, death itself was subjected to the rule of the physician: “On peut guérir la mort (Death can be cured)”;

one can learn from the article “Mort” of the *Encyclopédie* (Ménuret de Chambaud 1765, 726).

The guillotine finally stripped death of all means of representation as it suspended any possible knowledge about the moment of death. This semiotic vacuum was the domain which the experiment, that replaced the proper reading of the signs of death, would fill and thus establish its rule in physiognomy. It is the technology of the guillotine, which reduced the moment of death to an imperceptible short moment, thereby taking the uncertainty about how to determine when apparent death turns into real death to its extremes, and thus opened up the stage for the grimace to appear. Aldini knew about it: “I do not want to renew the question whether galvanism is able to cause pain, when it is applied to the limbs of an executed person after his decapitation” (1804, 140). Pain presupposes consciousness. Aldini alludes to the debate about the question whether death coincides with the exact moment of the instantaneous amputation of the head, or not, which was still going on in 1803. It was started by the anatomist Samuel Thomas Soemmerring in 1794 and divided the community of anatomists and physicians into two distinct camps (Arasse 1987, 49–55). According to the surgeon Sue, persons who were executed this way experienced their own death. Soemmerring even thought it might be possible that, “these heads would speak, if the air would circulate in a regular way through the undamaged organs of the voice” ([1844] 1986, 275). But what could have these heads said other than what constitutes the classical example for a performative self-contradiction, namely the phrase “I am dead”?

Galvanic resuscitation and the investigation into the survival of one’s own death in an execution by the guillotine came together on November 21, 1803, in Mainz. That day, the robber and murderer Johannes Bückler, who was notoriously known in Germany by the name of “Schinderhannes” (because he used to skin his victims), was executed outside the town together with twenty members of his gang. Only 150 steps away from the place of execution the Private Medical Society of Mainz had established a provisional laboratory, housing an electrostatic generator and a Voltaic battery as well. Only four minutes after the falling of the guillotine’s blade the bodies lay on the table close to the battery (see Anonymous 1804, 3). The second test was dedicated to the theatre of soulless physiognomy.

The contractions of all facial muscles which changed with highest speed together with the grinding of the teeth represented instantaneous, quickly passing, very different physiognomies of the same face; a play of expressions, that was imitated with the lifeless body by means of the still excitable organs and which was able to deceive and frighten the uninformed (4).

At the same time “two promising adolescents”, the gentlemen Pitschaft and Grösser, students of medicine, were commissioned a special research project, namely to inquire into the “sensation and consciousness after decapitation” which took them directly under the guillotine. As soon as the head of the Schinderhannes fell from the scaffold, one of them took it in his hands and looked attentively into his face while the other one shouted alternately into one ear and into the other. But what would an ambitious life science have to say to a disembodied criminal consciousness? Nothing; it just wants to make sure that the signal reception works. “Can you hear me?” went

the words that were shouted into the ears of the Schinderhannes (Anonymous 1804, 49). But whether he actually did not hear or just did not want to, “neither did one notice any movement of the eyes nor did the head show any other signs, which might have expressed the reception of the shouted words” (49). In calling a consciousness lying beyond the threshold of death one sign becomes primordial to all other signs of physiognomy: a sign that confirms not the reception of a message but the reception of a signal. But you do not contact the dead with acoustic signals; you contact them either with mesmerism (which is the subject of Edgar Allan Poe’s 1845 “Facts in the Case of Mr. Valdemar”) or with electricity.

THE UR-SEQUENCE OF FILM

The primordial call “Can you hear me?” of 1803 checks whether there is or is not a channel between sender and receiver. It is a phatic signal that relates to the technical status of the channel of signal transmission as such; it does not concern some kind of message but rather information on the capacity and quality of the channel itself. In case the reception of a return signal is zero, the channel has ceased to exist. Hence it governs Duchenne’s hierarchy of passions, too. It is the story of the grimace as part of the story of the living corpse and the resuscitation of the dead, which explains why the series of passions in Duchenne’s book starts with “attention”, which is an expression one hardly finds in the repertoires of baroque doctrines of affections (such as Descartes’ *Passions de l’âme* [1649; *The Passions of the Soul*, 1989] or La Chambre’s *L’Art de Connoistre les Hommes* [1660; *The Art of Understanding Men*]). Attention is neither an affection nor a passion, it is the condition that makes affection possible in the first place: the stand-by-condition of the soul. Prior to the documentation of all the electrically reproduced expressions, Duchenne had to document a switch-on operation. This afforded a transgression of the media limits of photography (see Fig. 1).

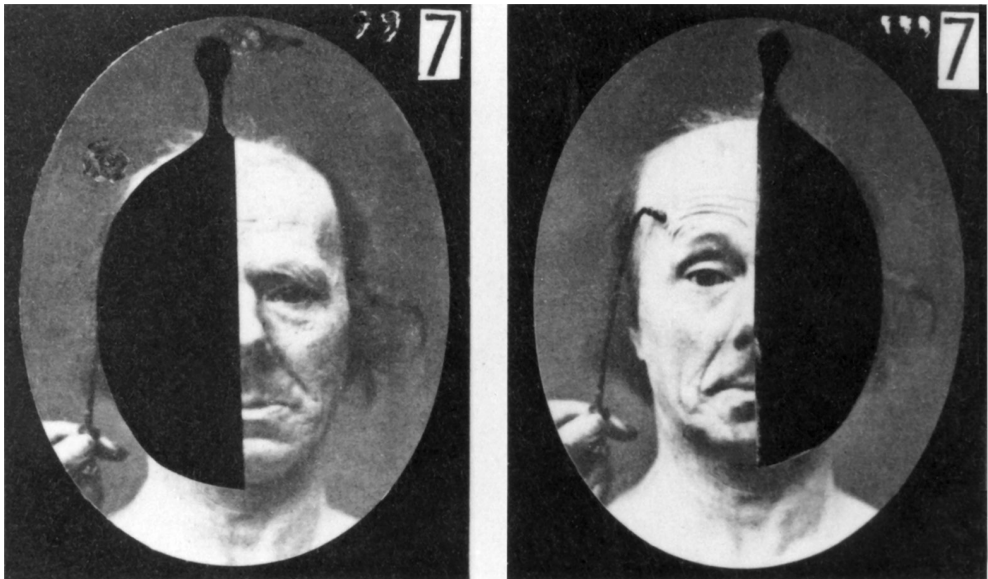


Fig. 1: No.s 7ⁿ and 7^m. Image from Duchenne’s *Mécanisme*, vol. II: *L’Album* (1876, 2).

Mask the right side of figure 7 with a piece of cardboard, so that one can see only the left side of the face. You will see in the first place the deep darkness, which envelopes the eye and the orbit of this side, a darkness that spreads over the whole cheek. Now make the cardboard glide quickly from the right to the left – what an astonishing contrast shows up between the two sides of the face! [...] Here darkness, the dullness of the features, the inner calmness, the most complete indifference. There, in contrast, the light that lights up the eye and the orbit, it shines over the whole cheek at the same time. [...] What a marvelous transformation of the physiognomy! This is the awakening of the spirit (1876, part II, 17).

That's the way the spirits awakes. Not once, but again and again. What the “promising adolescents” Pitschaft and Grösser could not achieve with the head of the Schinderhannes, Duchenne achieves with the head of his favorite test subject. He achieves it by reproducing an operation, which takes place in time, on the pages of his photographic atlas. Making the cardboard suddenly glide from one side to the other of the photograph produces a minimal cinematic effect of the binary code: before/after, dark/bright, death/life. Thus, the “switch-image” that sprang into action in a photographic atlas touched the borders of film.⁹ The border between life and death was transformed into the endless repeatable play of on and off, away and there – the last curtain is replaced by an on-off-switch. As a result, the cardboard operation simulates in the field of photography nothing else than the *switch-on operation* of electricity, the elementary discrete operation of the media age.

The cardboard operation by which Duchenne implements and operationalizes the binary code of death and life is the “ur-sequence,” a transcendental original scene of all the animation and resuscitation scenes in so-called “expressionist” films like *The Golem* (dir. Paul Wegener, 1920), *The Cabinet of Dr. Caligari*, *Nosferatu* or *Metropolis* (or films in this tradition like *Frankenstein* and its sequels), which are therefore nothing but metaphors of cinematography itself. In reproducing the transcendental operation of Duchenne's electro-physiognomy, the awakening of the spirit, expressionist film switches from narration to media archaeology. The reproduced and in many ways varied “original scene” links expressionist film to the history of how the experimentation of the life-death-distinction had shifted physiognomy from semiotics to technical media operations. It reveals that in a technical perspective film is not only part of a history of optical toys but part of the large dispositif that connected galvanism, electromagnetic media of communication, the body, and the rise of digital switching logic in the 19th century.

Let us look briefly at four examples. Firstly: the somnambulist Cesare in *The Cabinet of Dr. Caligari* (1919/20) who has been in a “death-like trance” for twenty-three years – and therefore is a true descendant of the apparent dead of the 18th century – is awakened by the call “Cesare!!! Do you hear me?!” (Hörst du mich?!). It is exactly the same phrase by which the two students of medicine, Pitschaft and Groesser, tried to evoke the signal of the ready-for-reception condition on the face of the decapitated Schinderhannes. Where Pitschaft and Groesser failed, Caligari triumphs – thanks to Duchenne's technologizing of the situation under the guillotine in 1803 by translating its acoustic setting into a media dispositif composed of alternating current, photography, and an insensitive face.

Secondly: in Fritz Lang's *The Testament of Dr. Mabuse* (1933) a sequence in the madhouse where Mabuse is kept cuts to a close-up of Mabuse's face after a physician has told the director of the madhouse that "Mabuse has stopped writing. He sits there like a living dead." One eye-socket of Mabuse is bright, the other one is dark – like in Duchenne's ur-sequence of the awakening of the spirit. "Only his eyes are alive..." the physician comments.

Thirdly: The experiment that the inventor Rotwang is carrying out in Fritz Lang's *Metropolis* (1927), in order to turn the "Machine-Man" into a doppelganger of Maria, combines a Frankenstein-like set of electric machinery with a galvano-plastic procedure. The operation of the cardboard, which covered first the left and then the right half of the face, that re-enacted the electric switching-on operation on the pages of Duchenne's book, is now translated into the filmic operation of *cross-fading*: in the moment before Marias's doppelganger opens her eyes, and the head of Maria tilts over to the side, the face of the Machine-Man is superimposed by the face of Maria. Switching on the spirit of the Machine-Man is paralleled by switching off Maria.

Robert Wiene's *Cabinet of Dr. Caligari* features the ur-sequence of film, the resuscitation scene, explicitly in the context of hypnotically controlled somnambulism. Fritz Lang's first two *Mabuse* films place the moment in which a person awakes from death-like trance in the context of hypnosis. In *Metropolis* Rotwang awakens the Machine-Man from some kind of hypnotic trance, too. The reason for this is that the film's reception of Duchenne's proto-filmic ur-sequence in his *Mécanisme de la physionomie humaine* was not a direct one but one that was mediated by the hypnotic-photographic experiments of the Salpêtrière.

Jean-Martin Charcot's application of hypnosis in the investigation of hysteria is a direct consequence of Duchenne's experiments which takes up the cultural semiotics of convulsions. In spasmodic convulsions the body does not express a movement of the soul, but is turned into an instrument of an alien will. Traditionally, convulsion had always been the sign by which one recognized true or false ecstasy. Convulsion was the sign of (divine or devilish) spirit possession. In the Salpêtrière the roles of God and devil are taken over by the psychiatrist and hypnotist. Hypnosis transforms the hysterical body into a "trigger-body" (Didi-Huberman [1982] 2003, 196) like Duchenne's alternating current did before. Charcot got especially interested in the way a certain facial expression was completed by a corresponding gesture of the body, thus extending Duchenne's field of operation, which had been the face only, to the whole body. Charcot drew on Duchenne directly:

A fine means was found to mark the physiognomy with different expressions and the way was smoothed for the skilful experimenter. We fell back on local faradisation of the facial muscles, according to the procedure, which Duchenne (de Boulogne) applied in his studies of the mechanism of physiognomy. [...] We have seen already in our first experiments how the proper gesture is following the expression, which the electrical excitation has left in the physiognomy (1890, 442).¹⁰

Faradization or hypnosis, respectively, "transformed the test subject" into an "expressive statue" (443). As soon as the expression had been produced that was "stamped" into the face, it was recorded like on a photographic layer.

Once produced, the movement imprinted into the traces of the face does not disappear, even when the cause, that has produced it is not active any more, after one has taken away the electrodes. The physiognomy stays immovable in catalepsy as well as the position and the gesture that accompanied it. [...] The immovability of the positions thus achieved is of an excellent value for photographic reproduction (442–443).¹¹

The psychiatric discourse formulates explicitly what the electro-physiognomic discourse could only indicate implicitly: that the “electric brush” turned the face into a photography that precedes the actual photographic act.

In the final example, from James Whale’s *Frankenstein* (1931), Duchenne’s ur-sequence is shifted away from the moment the monster comes to life. We encounter it when we see Boris Karloff’s face for the first time: Karloff walks backwards through a door and turns around; light falls on the half of his face in close-up, thereby reproducing Duchenne’s switching operation with the cardboard by means of pure light control. Film thus turns the “transcendental” code of the electrical switch-on operation into a diegetic code of shadow and light, while the format of the portrait, the close-up, which is the format of most of Duchenne’s photographs, remains connected to the transformed scene. That the media-ontological status of the monster is always already that of a photograph that precedes the actual filming of the scene, is revealed by *Frankenstein*, who informs the diegetic and extra-diegetic spectator in the preceding sequence that the monster had been kept to this moment in complete darkness. “So far he’s been kept in complete darkness. Wait, ‘til I bring him into the light!” Thus, the monster appears as an allegory of the film material itself, which – like the monster – has to be kept in darkness until it is exposed to light in order to become the condition of possibility of movement – or life. With James Whale’s monster, the post mortem performances that started with Mary Shelley’s reception of Aldini’s technical production of grimaces and that turned into switch-images and switch-bodies in the experiments of Duchenne and Charcot have come full circle.

NOTES

- ¹ All translations are by the author if not mentioned otherwise.
- ² See in particular p. 52, where Foucault speaks of the production of the living, “de fabriquer du monstre”, as one of the excesses of bio-power in the 19th century, which eventually led to the fabrication of uncontrollable viruses.
- ³ Ure was an apologist of the Industrial Revolution, and mainly known on account of his *Philosophy of Manufactures* (1835), one of the main sources which Marx used for the *Kapital*. In 1830 he invented the thermostat.
- ⁴ Aldini’s experiments, which aimed at proving the existence of animal electricity, were repetitions of Galvani’s experiments without any metals involved (see the first part of his *Essai* from 1804). The invalidity of these experiments was already noticed by Volta. Emil du Bois-Reymond finally judged cold and merciless: “His experiments are completely worthless” (1848–1849, vol. I, 95).
- ⁵ “de fortes contractions dans tous les muscles du visage, qui étaient contournés si irrégulièrement, qu’ils imitaient les plus affreuses grimaces.”
- ⁶ “Il fut merveilleux, et même effrayant, de voir ces deux têtes faisant à-la-fois d’horribles grimaces l’une contre l’autre; de sorte que quelques-uns des spectateurs qui ne s’attendaient pas à de pareils résultats, en furent véritablement épouvantes.”

- ⁷ “Il était atteint d’une affection compliquée d’anaesthésie de la face. Je pouvais expérimenter sur cette région sans qu’il en éprouvât de la douleur, au point que je faisais contracter partiellement ses muscles avec autant de précision et de sûreté que sur le cadavre encore irritable.”
- ⁸ “Je pouvais opter, il est vrai, entre cet homme et la face du cadavre que j’avais souvent l’occasion, dans nos hôpitaux, d’animer devant de nombreux témoins, en localisant l’excitation électrique dans chacun de ses muscles, et sur laquelle je peignais les passions avec autant de vérité que sur le vivant.”
- ⁹ I borrow the term “switch-image” from Lorenz Engell, who has introduced it in the context of television theory (see Engell 2019; Engell 2020).
- ¹⁰ “Pour imprimer à la physionomie des expressions variées, le moyen était tout trouvé et la voie ouverte par un habile expérimentateur. Nous avons eu recours à la faradisation localisée des muscles de la face, suivant les procédés employés par Duchenne (de Boulogne) dans ses études sur le mécanisme de la physionomie. [...] Dès nos premières expériences nous avons vu l’attitude, le geste approprié suivre l’expression que l’excitation électrique avait imprimée à la physionomie.”
- ¹¹ “L’immobilité de ces attitudes ainsi obtenues est éminemment favorable à la reproduction photographique.”

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Post mortem performances: On Duchenne de Boulogne, or physiognomy in the age of technical media

Physiognomy. Galvanism. Photography. Resuscitation. Hypnotism. Expressionist film.

This essay reconstructs the genealogy of the electro-physiognomic experiments which Guillaume-Benjamin Duchenne conducted in the second half of the 19th century, and highlights their impact on the media dispositif of the early 20th century. The photographs in Duchenne's *Mécanisme de la physionomie humaine* (1862) are discussed as part of an epistemological shift from the semiotic regime of expression to the medial regime of switching by which they are indissolubly connected to the history of galvanism and electromagnetism on the one hand, and to the history of hypnotism and Expressionist film on the other. Due to this perspective, a main focus of this article is the archaeology of Duchenne's special feature of the gliding cardboards that introduces the on/off operation of switching into both photography and "the body," and its echo in films such as *The Cabinet of Doctor Caligari* (1919/20) or *Frankenstein* (1931).

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