

# The Grammar of Cinematic Body-Mind.

## The Syntax of Emotions in Fictional Movies

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Neuroscientists argue brain mechanisms underpinning emotions are essential in constructing the self.<sup>2</sup> According to Damasio emotionally competent stimuli arouse emotions as actions programmes provoking body status changes. As a consequence, neural circuits activation makes the brain form perceptual images, which awaken feelings among unconscious primordial ones (linked to internal milieu and similar to affects). Therefore, feelings come through in mental images, which give the subject the awareness of his new body status. This mechanism triggers also an *as-if body loop*: the subject's brain simulates programmes of action by connecting mental images of the self selected by the *somatic marker* with *schemas* already existing in implicit and explicit memory.<sup>3</sup> The process is a continuous flow involving empathy and activation of the mirror neurons.<sup>4</sup> The emerging branch of Neurocinematics investigates which neural correlates are related to film experience.<sup>5</sup> Recently, film scholars have focused on empathy and emotions as well. In his *Vues d'ensemble* Raymond Bellour takes into consideration Stern's and Damasio's neuroscientific perspectives.<sup>6</sup>

This Ph.D. project aims to elicit emotional mechanisms involved in the relation-

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<sup>2</sup> The neuroscientists Panksepp and Damasio agree on involvement of both neocortex and subcortex, that is linked to seven primary-process emotional networks. See Jaak Panksepp, *Affective Neuroscience. The Foundation of Human and Animal Emotions*, Oxford University Press, Oxford 2004.

<sup>3</sup> Antonio Damasio, *Self Comes to Mind*, Pantheon Books, New York 2010. See also Joseph Ledoux, *The Emotional Brain*, Simon & Schuster, New York 2010; Francisco J. Varela, Evan Thompson, and Eleanor Rosch, *The Embodied Mind. Cognitive Science and Human Experience*, MIT Press, Boston 1991; Mauro Mancina, *Sentire le parole. Archivi sonori della memoria implicita e musicalità del transfert*, Bollati Boringhieri, Torino 2004.

<sup>4</sup> Giacomo Rizzolatti, Corrado Sinigaglia, *Mirrors in the Brain. How Our Minds Share Actions and Emotions*, Oxford University Press, Cambridge 2008.

<sup>5</sup> Uri Hasson, Ohad Landesman, Barbara Knappmeyer, Ignacio Vallines, Nava Rubin, David J. Heeger, "Neurocinematics: The Neuroscience of Film," in *Projections*, no. 1, Summer 2008, pp.1-26. See also Arthur P. Shimamura, "Presenting and analyzing movie stimuli for psychocinematic research," in *Tutorials in Quantitative Methods for Psychology*, no. 9, pp. 1-5, 2013.

<sup>6</sup> Raymond Bellour, *Le Corp du cinéma. Hypnoses, émotions, animalités*, P.O.L., Paris 2009 and Id., "Daniel Stern, encore," in *Trafic*, no. 57, Spring 2006.

ship between the film text and the post-modern spectator.<sup>7</sup> Film analysis is going to integrate philosophical and psychoanalytic theories with neuroscience. It starts from considering movies as *synesthetic machines*,<sup>8</sup> which articulate spectator's experience in three layers: sensory scanning, narrative sorting and relational tuning.<sup>9</sup> According to research hypothesis films become emotionally competent stimuli, if they evoke identifications going beyond cognitivism.<sup>10</sup> Moreover, primary and secondary identifications<sup>11</sup> must be connoted by emotion images, e.g., mental images awakening feelings and simulating the *Dasein* of the spectator's self into the text by emotions.

Cinematic images arouse amodal perception.<sup>12</sup> Vertov's cine-eye becomes a cine-body endowed with eye (lens) and (camera) movements, by which spectator achieves primary identification.<sup>13</sup> Technology (special effects, 3D, performance capture) enhances it by the immersive experiences. The process configures a primordial feeling and arouses primary-process emotional networks, which will cause feelings.

Cinematic language creates a taxonomy of emotion images. The whole of frames (the minimum unit of text) gives rise to the whole of kinemorphs (Kinesics minimum unit) consisting in gestures, facial expressions<sup>14</sup> and their vitality affects. Their decoding by mirror neurons, subcortex and neocortex circuit triggers empathy, and the *as-if body loop* simulating the action on the screen in the brain.<sup>15</sup> Finally, the cognition evokes intersubjectivity consciousness<sup>16</sup> and social emotions<sup>17</sup> through the neocortex. The use of different shots, camera angles, music, lights and cutting can modulate the involvement of neural correlates and increase the tensive logic of narration<sup>18</sup> by focusing characters' actions and symbolic details and emphasizing their function of

<sup>7</sup> See Veronica Pravadelli, *Post-moderno e nuova spettatorialità*, in Giorgio De Vincenti, Enrico Carocci (eds.), *Il cinema e le emozioni. Estetica, espressione, esperienza*, Ente dello spettacolo, Roma 2012, pp. 379-400.

<sup>8</sup> Paolo Bertetto, *Le macchine sinestetiche e l'identificazione. A proposito di cinema, sensazione, emozione*, in Giorgio De Vincenti, Enrico Carocci (eds.), *Il cinema e le emozioni. Estetica, espressione, esperienza*, cit., pp. 87-118.

<sup>9</sup> Ruggero Eugeni, *Semiotica dei media*, Carocci, Roma 2010.

<sup>10</sup> David Bordwell, Noel Carroll, *Post-Theory. Reconstructing Film Studies*, University of Wisconsin Press, Madison 1996.

<sup>11</sup> Jacques Aumont, Alain Bergala, Michel Marie, Marc Vernet, *Esthétique du film*, Nathan Edition, Paris 1994.

<sup>12</sup> Daniel Stern, *The Interpersonal World of the Infant*, Basic Books, New York 1985, pp. 47-72.

<sup>13</sup> On embodiment see Vivian Sobchack, *Carnal Thoughts. Embodiment and Moving Image Culture*, University of California Press, Berkeley-Los Angeles-London 2004.

<sup>14</sup> Paul Ekman, Wallace Friesen, *Unmasking the Face. A Guide to Recognizing the Emotions from Facial Expressions*, Malor Books, Cambridge 2003.

<sup>15</sup> Torben Grodal, *Embodied Visions. Evolution, Emotion, Culture and Film*, Oxford University Press, New York 2009.

<sup>16</sup> Daniel Stern, *The Present Moment in Psychotherapy and Everyday Life*, Norton and Company, New York 2004.

<sup>17</sup> Antonio Damasio, *Self Comes to Mind*, cit, pp. 99-100.

<sup>18</sup> Algirdas J. Greimas, Jacques Fontanille, *Sémiotique des passions. Des états de choses aux états d'âme*, Paris Seuil, 1991. For instance at climax of *The Silence of the Lambs* (Jonathan Demme, 1991) no sooner has the spectator entered the killer's refuge through the empathic simulation of agent Starling's action than the light is off and he's staring at her through the killer's gaze, feeling both his *jouissance* and Clarice's fear.

signifiers. The whole process realizes the transition from the movement images to emotion images<sup>19</sup> and from figurative level of the text to figural.<sup>20</sup>

In addition, the more the themes dealt with by film text are relevant to the individuals, the more the emotions flow in terms of both secondary identifications and tendency to simulate actions.<sup>21</sup>

The screen is the Lacanian mirror, which stresses the gaze<sup>22</sup> (emotion images are what vision lacks) and configures the ipseity, postulated by Ricoeur. Movies succeeding in reconfiguring the self recall the fascination of the infant due to the attuning and the vitality affects,<sup>23</sup> the projective identification<sup>24</sup> and the playing dynamics.<sup>25</sup> These mechanisms allows spectator to experiment the self and is similar to Freud's notion of poetic creation<sup>26</sup> and Gallese's idea of liberated simulation.<sup>27</sup> Should spectator's final reaction be the creation of concepts, he will reconfigure his self firmly. On the biochemical point of view it means establishing new neural patterns according to Edelman's Neural darwinism theory.<sup>28</sup>

Given these methodological premises, case studies chosen, such as *The Hurt Locker* by Kathryn Bigelow (2008), *Crash* by Paul Haggis (2004), *Dial M for Murder* (3 D) by Alfred Hitchcock (1954), *The Silence of the Lambs* by Jonathan Demme (1991), will be analysed in order to elicit both the folds<sup>29</sup> of film text realizing emotional flow and what puts it at risk.<sup>30</sup>

The research aims to pave the way for neurocinematic trials to verify the given hypothesis and improving new film analysis approach, which can be used in marketing and educational programmes.

<sup>19</sup> The concept would recall the mental image describes by Deleuze as *thirdness* in *Cinema 1. The Movement Image*, University of Minnesota Press, Minneapolis 1986. Deleuze argued connections between the brain and the cinematic language also in *Cinema 2. The Time Image*, University of Minnesota Press, Minneapolis 1989 and in his interview with Cabasso.

<sup>20</sup> Gilles Deleuze, *Francis Bacon: The Logic of Sensation*, Continuum, London 2003. On the concept of figural see Paolo Bertetto, *Lo specchio e il simulacro*, Bompiani, Milano 2007.

<sup>21</sup> Ed Tan, Nico Frida, *Sentiment in Film Viewnig* in Carl R. Plantinga, Greg M. Smith (eds.), *Pasionate Views: Film, Cognition, and Emotion*, Johns Hopkins University Press, Baltimore 1999.

<sup>22</sup> Jacques Lacan, *Écrits*, Editions du Seuil, Paris 1966.

<sup>23</sup> Daniel Stern, *Forms of Vitality. Exploring Dynamic Experience in the Arts, Psychotherapy and Development*, Oxford University Press, Oxford-New York 2010.

<sup>24</sup> Melanie Klein, *Notes on Some Schizoid Mechanisms*, in Melanie Klein, Paula Heimann, Susan Isaacs, Joan Riviere, *Developments in Psychoanalysis*, Hogarth Press, London 1952.

<sup>25</sup> Donald W. Winnicott, *Playing and Reality*, Routledge, New York 1989.

<sup>26</sup> Which lets consciousness feel jouissance and activate sublimation process. On this matter see Massimo Recalcati, *Il miracolo della forma*, Bruno Mondadori editore, Milano 2007.

<sup>27</sup> Vittorio Gallese, Michele Guerra, "Embodying Movies. Embodied Simulation and Film Studies," in *Journal of Philosophy and the Moving Image*, no. 3, 2012.

<sup>28</sup> Gerald M. Edelman, *Neural Darwinism. The Theory of Neuronal Group Selection*, Basic Books, New York 1987 and *Second Nature. Brain Science and Human Knowledge*, Yale University Press, London 2006.

<sup>29</sup> Referring to the meaning Bellour gave to Deleuze's term *fold* in "Le Dépli des émotions," in *Trafic*, no. 43, Septembre 2002, pp. 93-128.

<sup>30</sup> See Francesco Casetti, *L'occhio dello spettatore*, ISU Università Cattolica, Milano 2000 and *Eye of the Century. Film, Experience, Modernity*, Columbia University Press, New York 2008.