

THE MOVABLE LIGHT

NOTES AROUND MODERNISM AND NEUROSCIENCE THROUGHOUT THE NOVELS OF VIRGINIA WOOLF AND FEDERIGO TOZZI.

Look within and life, it seems, is very far from being 'like this'. Examine for a moment an ordinary mind on an ordinary day, The mind receives a myriad impressions – trivial, fantastic, evanescent, or engraved with the sharpness of steel. From all sides they come, an incessant shower of innumerable atoms; and as they fall, as they shape themselves into the life of Monday or Tuesday, the accent falls differently from of old; the moment of importance came not here but there; so that, if a writer were a free man and not a slave, if he could write what he chose, not what he must, if he could base his work upon his own feeling and not upon the convention, there would be no plot, no comedy, no tragedy, no love interest or catastrophe in the accepted style, and perhaps not a single button sewn on as the Bond Street tailors would have it. Life is not a series of gig lamps symmetrically arranged; life is a luminous halo, a semi-transparent envelope surrounding us from the beginning of consciousness to the end. It is not the task of the novelist to convey this varying, this unknown and uncircumscribed spirit, whatever aberration or complexity it may display, with as little mixture of the alien and the external as possible? We are not pleading merely for courage and sincerity; we are suggesting that proper stuff of fiction is a little other than custom would have us believe it. [...] However this may be, the problem before the novelist at present, as we suppose it to have been in the past, is to contrive means of being free to set down what he chooses. He has to have the courage to say that what interests him is no longer 'this' but 'that': out of 'that' alone must he construct his work. For the moderns 'that', the point of interest, lies very likely in the dark places of psychology¹.

I consider these words of Virginia Woolf – from her essay of 1925 *Modern Fiction* – the best means to open this little dissertation about the relationship between modernism and neuroscience in order to investigate the use of fiction as a privileged instrument of epistemological reflection on science.

This corpuscular nature of the sensation (and the novelist's attempt of capturing and converting it to storytelling) may be cleared by using, as a lens, the studies of Pierre Janet and William James. The first one, in his monumental text *L'automatisme psychologique* (1889), theorizes about the existence of kind of disarticulated thoughts, determined by uncatchable

¹ V. Woolf, *Modern Fiction*, in A. McNeille [ed.] *The Essays of Virginia Woolf, Vol. 4: 1925 to 1928*, London, The Hogarth Press, 1984, pp. 160-162.

sensations, likened to a mental dust². William James – one of the most important nineteenth-century American psychologists and brother of Henry James – resumes and develops this theory: he distinguishes – in the stream of thought, compared to a bird's life – between *resting-places* (or *substantive parts*, occupied by static imaginations, able to be contemplated without changing) and *places of flight* (or *transitive parts*, filled with thinkings of relation, static or dynamic, necessary to lead us from one substantive conclusion to another). Feature of *places of flight* is their elusiveness: «the attempt at introspective analysis in these cases is in fact like seizing a spinning top to catch its motion, or trying to turn up the gas quickly enough to see how the darkness looks»³.

It was James too who first began to understand the plasticity of the brain and to perceive by intuition that the complexity of cerebral activity – described like a flow of electrical impulses crossing the nerves, similar to a waterfall – cannot be studied separating mind's processes from analysis of body's receptivity: his idea is that we do not rest our sense of being in the world on the *cogito*, but on the manifold perception of being rooted in the body and its sense of «proprioceptive situatedness in a world».

From this perspective, the definition of «prophet [...] whose work marked the real beginning of our age of neurophysiology and neurobiology»⁴, coined by James' recent biographer Robert Richardson, seems perfect. A century before the elaboration of the paradigm of *embodied cognition* by George Lakoff and Mark Johnson⁵ – which opens a so new and fertile field of investigation for future neuroscientists – James is the one who recognizes the implication of the body in the perception of reality and the plural and tingling nature of the human thinking.

The idea of *embodiment* can be extended to the comprehension of language: as established by Lisa Aziz-Zadeh and Antonio Damasio⁶ and recently reformulated by Giovanni Buccino and Marco Mezzadri⁷, the core of the *embodied language theory* postulates that human beings use the same neural structures in order to experience the reality (by sensory and motor perceptions) and in order to understand linguistic material, verbs, nouns or phrases that describe these

² «À parler rigoureusement, ces mouvements déterminés par les sensations non perçues ne sont connus par personne, car ces sensations désagrégées réduites à l'état poussière mentale, ne sont synthétisées en aucune personnalité. Ce sont bien des actes cataleptiques déterminés par des sensations conscientes, mais non personnelles» in P. Janet, *L'automatisme psychologique : deuxième partie* (1889), p. 68

³ W. James, *Principles of Psychology*, p. 49 (?)

⁴ R. Richardson, *The Heart of William James*, Cambridge, MA- Harvard University Press, 2010, p. IX.

⁵ G. Lakoff, M. Johnson, *Metaphors We Live By*. Chicago, University of Chicago Press, 1980.

⁶ L. Aziz-Zadeh, A. Damasio, *Embodied Semantics for Actions: Findings from Functional Brain Imaging*, in *Journal of Psychology – Paris 102*, 2008, pp. 35-39.

⁷ G. Buccino, M. Mezzadri, *La teoria dell'embodiment e il processo di apprendimento e insegnamento di una lingua*, in *Enthymena*, VIII, 2013, pp. 5-20.

experiences.

To the present day, the object of the debate is not anymore the involvement of the sensorimotor system in language understanding process, but the measure of this involvement and the model of the activation patterns put into operation in comprehension of abstract concepts.

The theory expressed by Lakoff and Johnson in *Metaphors We Live By* (1980) is that the full process of thinking (not only in poetical or literary terms) is largely metaphorical and it is just projecting concrete experiences in abstract domains that we can get on with them. In other words, we conceptualize the nonphysical universe in terms of the physical and our abstract concepts owe their complexity and their inferential productivity⁸ to the metaphors: our common bodily nature is the shared and inter-subjective foundation of our understanding of reality.

Antonio Damasio – one of the most important contemporary neuroscientists, native of Portugal and deeply attached to the Portuguese literary culture – opens his *Descartes' Error: Emotion, Reason and the Human Brain* (1995) with a quote from *The Book of Disquiet* (1982) by Fernando Pessoa: «My soul is a hidden orchestra; I know not what instruments, what fiddlestrings and harps, drums and tamboura I sound and clash inside myself. All I hear is the symphony».

Damasio's idea is that everyone's consciousness is structured like a symphony: when we reach the level of language, we start to transform that symphony into a screenplay and, for all our life, we mentally elaborate something like the “script” of our sensations.

From the writer's perspective – particularly a writer who is interested, like Virginia Woolf, in «dark places of psychology» – the issue is about the representation of an *experiencing mind*. In her essay *Thinking in literature*⁹, Patricia Waugh identifies the major difficulty in «preserving a sense of the tacit flow of feeling and consciousness» in verbalization of non-verbal and pre-verbal thoughts using the medium of language.

In my opinion, modernist writers elaborate some formal solutions to realize this, focusing on

⁸ For inferential productivity I mean the ability to lead the reader to represent things according to the evoked behavioral model (cfr. S. Ballerio, *Mettere in gioco l'esperienza. Teoria letteraria e neuroscienze*, Milano, Ledizioni, 2013, p.71). The idea of a *modeling power* of metaphor is of Aristotelian derivation (elaborated in *Poetica* and *Retorica*). Lakoff and Johnson transfer it in neuroscience terms and elaborate some models for cognitive mapping.

⁹ P. Waugh, *Thinking in literature: modernism and contemporary neuroscience*, in D. James, *The Legacies of Modernism: Historicising Postwar and Contemporary Fiction*, Cambridge University Press, pp. 73-95

treatment of external atmospheres and escaping, at the same time, the alienated sensation of unreality produced by hyper-realistic and hyper-detailed description of something or, citing Baudrillard, «the collapse of reality into hyper-realism»¹⁰

I am referring to the descriptions of the environment in Virginia Woolf's *Mrs. Dalloway* but also to the symbolic antinaturalism in Federigo Tozzi, aimed at the description of the unutterable mystery of the soul.

The vivid evocation of London swarming, developed by Woolf in the very first part of *Mrs. Dalloway* (dated 1925, the same year of the essay *Modern Fiction*), is introduced by the definition of a morning «fresh as if issued to children on a beach». At once, a sound – «a little squeak of the hinges» – works like a proustian *madelaine* and activates the dimension of memory: the first image of Clarissa painted to the reader is an eighteen years-old girl «standing [...] at the open window», feeling the air, similar to «the kiss of a wave» and solemnly perceiving «that something awful was about to happen». Only few lines later – after the little flow of memories connected to Peter Walsh and the reference to India, where he is coming back from – we discover the geographical present coordinates (through another given sound: Big Ben strikes), the real age of Clarissa (she is fifty), her past disease and a first impression of her actual appearance (she is similar to «a jay, blue-green, vivacious») perceived from a passerby. The description of the city, instead, is mediated by Clarissa's perception and expressed by the juxtaposition of nominal elements: «In people's eyes, in the swing, tramp, and trudge; in the bellow and uproar; the carriages, motor cars, omnibuses, vans, sandwich men shuffling, and swinging; brass bands, barrel organs; in the triumph and the jingle and the strange high singing of some aeroplane overhead was what she loved; life; London; this moment of June».

Going forward, other characters begin to appear – with a movement that reminds me of that «encirclement of one character's conscience by other consciences» theorized by Erich Auerbach in his *The Brown Stocking*, an essay dedicated to Woolf's *To the Lighthouse* – but I stop here because I think that this first part is a good and suggestive sample of the procedures I want to focus.

First of all, the treatment of time: the transition from a temporal plane to another is managed with ease and evokes the omni-temporality that exists in the mind. Secondly, the re-emergence of memories: it proves non-selective methods of unconscious processes and it is connected to Antonio Damasio's concept of *autobiographical-self*, a third level of mental

¹⁰ J. Baudrillard, *Symbolic Exchange and Death*, London, Sage Publications, 1993, pp. 71-72. Also Maurice Merleau-Ponty – in *Phenomenology of Perception* (1945) – offers suggesting examples of the alienated sensation of unreality produced by hyper-realistic and hyper-detailed description of something.

identity, built by the collection of memories and experiences.

If – like Auerbach writes, referring to the protagonist of *To the Lighthouse*, Mrs. Ramsay – «nothing extraordinary happens in her consciousness», these normal considerations hide a mystery beneath them and the reader is called to perceive it by intuition.

In this ever-changing and iridescent system of memories, the modernist novelist seems to understand the impossibility of being exhaustive in conducting the narration and, at the same time, he brings to light the essence: the selective and arbitrary treatment of the elements (and their description) is the moment of overlap between writer's and character's consciences.

Federigo Tozzi – a writer whose classification in Italian literary canon is very difficult – uses writing as a tool for unveiling. In his article *Come leggo io* (1919), he writes: «Ai più interessa un omicidio o un suicidio; ma è ugualmente interessante, se non di più, l'intuizione e quindi il racconto di un qualsiasi *misterioso* atto nostro; come potrebbe essere quello, per esempio, di un uomo che a un certo punto della sua strada si sofferma per raccogliere un sasso che vede e poi prosegue la sua passeggiata». Giacomo Debenedetti, in this regard, recognizes a closeness to James Joyce's poetics of *epiphany* and identifies the distinctive feature of Tozzi's antinaturalism: «Il naturalismo narra in quanto spiega. Tozzi narra in quanto non può spiegare».

The juxtaposition, the mass of non-functional descriptive details, the construction of characters by accumulation, the fragmentation of time and the use of parataxis are the forms of representation of his narrative movement around a mystery. At the same time, all these *escamotages* reflect the disorder of the unconscious dimension, where the principle of non-contradiction is not in force.

Leopoldo, starring *Ricordi di un giovane impiegato* (1920), doesn't have grids to filter the reality: his own feeling – a cognitive dimension in Damasio's theorization – is described, in a paralyzing image, like this: «[...] un topolino sorpreso in una stanza che si è empita di gente prima di aver avuto il tempo di ritrovare il suo buco». In Franco Petroni's opinion the novel is built on the figure of Freudian denial; I would like to introduce a suggestion: in the conclusions of their research – conducted with neuroimaging techniques – Marco Tettamanti and his équipe demonstrate that the elaboration of negative sentences activates, although in weaker measure, the same cortical areas deputed to the elaboration of positive ones.

The field of investigation is immense. Through these few examples I just want to point out that one of the main procedures of modernist writing – the restitution of a very subjective point of view, emotionally corrupted and conditioned by physical sensations – is very conform to the latest neuroscientific theories which identify the body (and his chemistry) with the only stability agent of “self”.

If the problem of how to represent an experiencing mind is related to the study of language's possibility, my idea is that cognitive neuroscience can give a deep contribution to literary exegesis and that modernist writers explored language's potential of transcending its own limits, remaining in them¹¹.

Maybe the movable light Virginia Woolf focuses on details or Federigo Tozzi's abolition of rational nexus can also be read like attempts to touch on some *places of flight*.

Ilaria Rossini

¹¹ P. Waugh, *art. cit.*, p. 77, about Freud's debt to literature: «so might the newest cognitive neurosciences enhance their own understanding of mind through engagement with literary modernism – and vice versa: the sciences and humanities may have reached a moment where, in a world that requires complex thinking for almost all of its problems, scientific, philosophical and literary sources may mutually benefit from each others perspectives on what it is to think and to “have” a mind».