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Out of body. Language, emotions and art in Vygotsky's "Notebooks"

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Abstract According to the extended mind thesis, the human mind is not limited by the boundaries of the body. In this paper, we propose a description of human emotions based on two distinct theories, not usually considered together: Vygotsky's historical-cultural psychology and Chomsky's theory of language. Together these two perspectives allow us to construct a global theory of extended mind that considers emotions to be artificial entities that have a specific "biological" goal and are external to the body. In the last short section, this model will be applied to the case of "artistic" human affect.
KEYWORDS: Extended Mind; Language; Vygotsky; Chomsky; Human Emotions; Aesthetic Reaction

Riassunto *Fuori dal corpo. Linguaggio, emozioni e arte nei diari di Vygotsky* – Secondo la tesi della mente estesa, la mente umana non è confinata entro i limiti del corpo. In questo lavoro, proponiamo una descrizione delle emozioni umane basata su due diverse teorie, che solitamente non vengono considerate assieme: la psicologia storico-culturale di Vygotsky e la teoria del linguaggio di Chomsky. Prese assieme queste due prospettive ci permettono di costruire una teoria globale della mente estesa che consideri le emozioni come entità artificiali che hanno uno specifico fine "biologico" e che tuttavia sono "esterne" rispetto al corpo. Nell'ultima breve sezione, questo modello sarà applicato al caso del peculiare affetto "artistico" umano.
PAROLE CHIAVE: Mente estesa; Linguaggio; Vygotsky; Chomsky; Emozioni umane; Reazioni estetiche

1 Introduction

THIS PAPER ASSUMES A RADICAL, constructivist approach to human emotions.[1] The basic idea is that human emotions are artificial external socio-cultural entities mainly mediated by language. In particular, human emotions are a result of interactions between the biological bases of emotions (shared with, at least, all mammalian species) and the external medium of language. This interaction produces the uniquely human mode of feeling emotions. In this definition, "external" means that human emotions are socially "constructed" through interactions between the "artificial" device of language and the "natural" bodily constitution of the human. Language is "artificial" because one has to learn to speak a language; that is, while the predisposition to learn a language is innate, the use of language causally depends on a social process of acquisition. In this sense, language is an "artificial" and "external" de-

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vice with respect to the individual human body/mind.

Despite widespread psychological prejudice, human emotions are not inside the body; on the contrary, they are external to the body. This thesis is presented in the last section of the paper in the context of a discussion of some of Vygotsky's psychological observations on emotions and consciousness in his just published *Notebooks*.[2]

First of all, it is necessary to place the Vygotskyan proposal within the framework of current debates on the nature of human emotions.[3] There is a basic division in the relevant literature, with some arguing that emotions are universal,[4] and other that emotions are mainly shaped by culture[5] The extended mind perspective cuts across this contraposition, adopting a different approach.[6] According to this proposal, which goes back to Karl Marx's philosophy,[7] the human mind is a biological "artifact". The basic idea is that the pre-linguistic human mind, which is not that different from the mind of any other mammal,[8] is deeply transformed by the culture and language of the environment where an infant is born. This influence is obviously not without limits; what it is at stake is the intersection of the infant's bodily/affective constitution and local social/linguistic influences. As for the issue of emotions, the basic ideas in this approach are as follows: the infant *learns* the basic emotions of its own community; this process of social learning internally shapes her way of feeling emotions. This does not only mean that the infant learns how to express universal pre-linguistic emotions; the influence of society and language is much stronger than this. The infant also learns *what* the particular emotions of its own community are. On the one hand, such emotions are constituted by a biological emotional background shared the human infant shares with many other vertebrates; on the other hand, this background is articulated and shaped by the society and language used in the community where it is born.[9] Putting together these two constituents, it follows that human emotions are naturally artificial.[10] In fact, an infant needs the external cognitive resources of social language and cultural traditions to learn how to feel its own "internal" emotions. The artificial paves the way for the natural.

Moreover, since society and language are external to the infant mind, this means that the emotions of the infant are somewhat *external* to its own body. This is the main innovation in extended mind theory. The common sense view of the mind considers it as an entity, which is located inside the body; by contrast, in extended mind theory, the basic furniture of the human mind is external to the body. The emotions are outside the body.

A further consideration is necessary with respect to the idea that the emotions are "external" to the body. What is at stake is not so much *where* the emotions are, whether they are inside or outside the body.[11] The point is rather to question the common sense notion that emotions are "internal" entities. From this point of view, the concept of the "extension" of the mind invites critical analysis, even a radical questioning of the metaphysical dualism between "internal" and "external" with respect to the brain/body. The very idea of placing emotions outside the body proper should be intended as a radical attempt to deactivate such a dualism. From this point of view, emotions are a sort of social glue that precedes the bodies that are "pasted" into it. Rewording the title of this paper, the point is that at first there is a radical "outside" to which the bodies belong.[12] Take the case of the following definition of "inner speech" provided by Vygotsky, a definition which exactly overcomes the distinction between internal and external: «inner speech does not come after external speech. Internal mediation is there from the very beginning of speech, which is an undifferentiated unity of external-internal speech».[13]

2 Evolutionary psychology

Before considering Vygotsky's unique contribution to extended mind theory, we analyse

a prototypical universalist theory of emotions, that of evolutionary psychology. This preliminary analysis is necessary because otherwise one cannot fully appreciate the radical change Vygotsky proposes. In particular, this critical analysis will help us better appreciate the unique characteristics of the extended mind approach to human emotions. Evolutionary psychology is just *one* example of a psychological theory which is at odds with extended mind theory, because it strongly supports the innate, internal, and goal-directed character of emotions. The analysis here is not meant as a complete survey of the relevant literature on the much debated question of emotions nor as a description of the state of the art in evolutionary psychology. The idea is simply to use a contrastive analysis that clarifies the extended mind hypothesis by comparing it with a theory that is completely different.

According to evolutionary psychology, human emotions are natural entities, like apples or quarks. Furthermore, emotions are also natural in the sense that they are essentially internal and innate psychological phenomena:

> The theory of evolution by natural selection vastly expanded the range of things that could be accounted for, so that not only physical phenomena such as stars, mountain ranges, impact crater's, and alluvial fans could be causally located and explained but also things like whales, eyes, leaves, nervous systems, emotional expressions, and the language faculty.[14]

This is a very illuminating comparison: as a whale does not need to learn *how* to be a whale, similarly an emotion does not require a process of acquisition or learning. Emotions make up part of the inborn natural cognitive equipment that any member of *Homo sapiens* species has at her/his own disposal at birth in order to survive in a complex social environment:

> Thus, human architectures are "pre-equipped" (that is, reliably develop)[15] specialized mechanisms that "know" many things about humans, social relations, emotions and facial expressions, the meaning of situations to others, the underlying organization of contingent social actions such as threats and exchanges, language, motivation, and so on.[16]

In this theory, emotions must be innate, because they are the basic "glue" of natural human relations. What is at stake, in this paper, is not if emotions are innate or acquired, but rather the more precise question of what it means that human emotions are *natural* entities. That is, what does it mean that a behavior or a competence is "natural" in the *Homo sapiens* animal species? According to the *Standard Social Science Model* – Tooby and Cosmides used this label (in a tendentious and imprecise way) to encompass what they considered to be mainstream cultural anthropology – a neat separation would exist between biologically determined behaviors and socially acquired ones. For Tooby and Cosmides such a separation does not exist:

> The Standard Social Science Model's method of sorting behavior by its cross-cultural uniformity or variability of expression into "biologically determined" and "socially determined" categories in reality sorts behaviors into those generated by closed behavior programs, and those generated by open behavior programs. In neither case can the analysis of the "determination" of behavior be made independent of "biology", that is, independent of understanding the participation of the evolved architecture. For this reason, the whole incoherent opposition between socially determined (or culturally determined) phenomena and biologically determined (or genetically determined) phenomena should be consigned to the dustbin of history, along with the search for a biology-free social science.[17]

What is at stake here is the role of "biolo-

gy" in human behavior. However, as the same Tooby and Cosmides admit, even if a behavior is biologically determined, this does not mean it is "closed". That is, biology is not at all a synonym for automaticity and lack of variation.[18] «Closed behavior programs» and «open behavior programs» are *both* biological programs. However, at this point the question becomes the following: what do "open" and "closed" mean, in the case of human behavior? Behind this question lies an even more relevant question: what was the "natural" environment of the ancestors of *Homo sapiens*? This is a deep *biological* question, which requires a non-obvious answer. According to evolutionary psychology, the mind of modern *Homo sapiens* is the last "release" of a long process of an adaptation to the Pleistocene (which began about 2,5 million years ago and ended with the Holocene) environment:

> specifically, this means that in relating the design of mechanisms of the mind to the task demands posed by the world, "the [human]world" means the Pleistocene world of hunter-gatherers. That is, in considering issues of functionality, behavioral scientists need to be familiar with how foraging people lived.[19]

This is the pivotal point, if one really wants to understand what human emotions *are*. Considering "love", for example, as an emotion with the biological goal of improving fitness through sexual reproduction, is very different from considering it to be, at best, just a *possible* component of what human beings feel when they fall in "love". In the first case, "love" is nothing but a biological device that makes human reproduction possible; in the second case, "love" does not have any predetermined biological function. According to evolutionary psychology, the first case describes the human mind:

> Of course, the fact that living things are machines organized to reproduce themselves and their kin does not mean that evolutionary functional analysis focuses narrowly on such issues as copulation or pregnancy (things intuitively associated with reproduction) over, say, taste preferences, vision, emotional expression, social categorization, coalition formation, or object recognition. A life history of successfully achieved reproduction (including kin reproduction) requires accomplishing the entire tributary network of preconditions for and facilitations of reproduction in complex ecological and social environments. Of course, this includes all of the information gathering, inference, and decision-making that these tasks entail. For this reason, humans display a diverse range of adaptations designed to perform a wide and structured variety of subsidiary tasks, from solicitation of assistance from one's parents, to language acquisition, to modeling the spatial distribution of local objects, to reading the body language of an antagonist.[20]

In this evolutionary scenario, emotions are a particular set of such "preconditions" that assure the adaptation of the animal to its own habitat; every emotion has a specific biological and adaptive "task". For example, the complex emotion "maternal love" establishes a strong bond on the part of the mother towards her own child. This bond is a necessary condition for the child's survival. According to Tooby and Cosmides, any human capacity presupposes the existence of an innate cognitive "module" («specialized computational machinery»)[21] that comes into operation when activated by the appropriate external stimulus. Each "module" is a pre-equipped evolutionary "answer" to an environmental "problem". Emotions, in particular, have the function of tuning the individual to his/her social group. Consequently, the human mind is made up of a large set of innate modules:

> The solution to the paradox of how to create an architecture that is at the same time both powerful and more general is to bun-

> dle larger numbers of specialized mechanisms together so that in aggregate, rather than individually, they address a larger range of problems. Breadth is achieved not by abandoning domain-specific techniques but by adding more of them to the system. By adding together a face recognition module, a spatial relations module, a rigid object mechanics module, a tool-use module, a fear module, a social-exchange module, an emotion-perception module, a kin-oriented motivation module, an effort allocation and recalibration module, a child-care module, a social-inference module, a sexual-attraction module, a semantic-inference module, a friendship module, a grammar acquisition module, a communication-pragmatics module, a theory of mind module, and so on, an architecture gains a breadth of competences that allows it to solve a wider and wider array of problems, coming to resemble, more and more, a human mind. The more a system initially "knows" about the world and its persistent characteristics, and the more evolutionarily proven "skills" it starts out with, the more it can learn, the more problems it can solve, the more it can accomplish.[22]

However, the crucial presupposition of evolutionary psychology is that the 'natural' human habitat – that is, the habitat that presumptively "selected" for behavioral cognitive human competencies – is the Pleistocene habitat. We are like we are *now* because we once lived in such a habitat: the past explains the present.[23]

3 Language and mind

Even if this paleontological scenario was sound,[24] it would completely miss the key character of *Homo sapiens'* habitat: language. In fact, *Homo sapiens* exhibits at least one particular behavioral capacity that does not seem to trace back to its Pleistocene habitat, verbal syntactic language. In the (presumed) Pleistocene habitat of *Homo sapiens*, as in non-human habitats, social life required some kind of communicative behaviors. However, they were very simple and direct forms of communication. By contrast, human language is not mainly a communicative apparatus; in this respect, it fundamentally differs from the languages of non-human animals.[25] The key difference between human language and non-human languages is syntax.[26] Take the well-known case of the communicative alarm calls of vervet monkeys.[27] Vervet monkeys emit different alarm calls when different predators – leopards, eagles and snakes – appear. Thus, each alarm call is (causally[28]) connected to the corresponding predator. In such a communicative apparatus, there is no need for any syntactic capacity. The communicative efficiency of vervet monkey "language" is not diminished by the absence of syntax, because this language is made up of connections between signals and referents. There is no communicative need to combine different signals to form complex stratified "sentences". The point is that in any "natural" habitat – whether the vervet monkey or the *Hominidae* Pleistocene habitat – there is no selective pressure to develop anything similar to syntax.

In fact, the basic unit of human language is the "sentence", while the basic unit of non-human animal languages is the "name". Such a difference has huge cognitive consequences, which evolutionary psychology completely misses. The key difference is that the human mind contains a logical device at its "cognitive" core, which Noam Chomsky calls "merge". This device makes it possible to form completely new sentences:

> in human language, the computational mechanism that constructs new syntactic objects Z (e.g., "ate the apples") from already-constructed syntactic objects X ("ate"), Y ("the apples").[29]

What is at stake is that a new sentence is a *new thought*. This thought is the result of a syntactic composition of other thoughts, which in turn were made up of further

thoughts. The pivotal difference between the human and non-human animal mind is that the meaning of a new thought does not depend on the actual existence of its reference; even if such reference is completely lacking, the sentence is still meaningful. While in vervet monkey "language" meaning depends on reference (the signal depends on the actual presence of the predator), in human language, in the vast majority of cases, meaning depends on syntax, not reference. Therefore, while a vervet monkey always thinks of, and speaks of, real existing entities in the world, a "merge" equipped mind can think of, and speak of, entities that do not exist in the world. A Pleistocene mind was a mind that was able to communicate; however, since it could not perform "merge",[30] it probably was not able to elaborate thoughts that did not refer to actual objects in the world. Animal communication presupposes that each signal corresponds to an object (the "referent"); by contrast, a linguistic sentence does not need to refer to something real in order to have "meaning". The "meaning" of an animal signal is the "referent" to which it refers to; the "meaning" of a linguistic sentence mainly depends on syntactic structure, that is, on further sentences.

> A closer look shows that humans also do not have "names for things" in any simple sense. Even the simplest elements of the lexicon – "water", "tree", "river", "cow", "person", "house", "home", etc. – do not pick out ("denote") mind-independent entities. Rather, their regular use relies crucially on the complex ways in which humans interpret the world: in terms of such properties as psychic continuity, intention and goal, design and function, presumed cause and effect, Gestalt properties, and so on. It follows that the meanings of even the simplest words depend crucially on internal cognitive processes and cannot be spelled out in strictly physical terms. Human words and concepts differ sharply from those in the rest of the animal world in just about every relevant respect: their nature, the manner of their acquisition, and their characteristic use.[31]

The recent (about 100.000 years ago)[32] appearance of "merge" completely changed the nature of the human mind and human behavior. While the Pleistocene mind was a mind was adapted to "solve" preexisting environmental problems, the «merge» mind is a mind which "produces" *its own* problems. Take the case of tools. Even if non-human animals sometimes use tools,[33] it is difficult to overestimate the increased role tools play in human cultures. Take the case of the jar. It is not the case that the invention of the jar was the "adaptive" solution for an environmental problem; for example, the "problem" of collecting and then drinking water. Why don't non-human animals have this problem? In fact, it was the invention of the jar that transformed getting water into a sort of "problem". The idea is that «merge» deeply transformed the human mind. Only a "merge" mind can elaborate the "strange" thought of considering getting water *as* a problem. The main difference between a Pleistocene mind and a «merge» mind is that while the first is naturally equipped to adapt to its own world, the latter continuously tries to adapt the world to its own mutable needs, that is, to its own world-independent syntactic thoughts.

Take the case of so-called "social cognition". According to Tooby and Cosmides, «humans have a faculty for social cognition, consisting of a rich collection of dedicated, functionally specialized, interrelated modules (i.e., functionally isolable subunits, mechanisms, mental organs, etc.), organized to collectively guide thought and behavior with respect to the evolutionarily recurrent adaptive problems posed by the social world».[34] Such a situation no longer holds when the Pleistocene mind transforms itself into a "merge" mind. In such a mind, the presumed "social module" faces the new problem of coping with another "merge" mind; for example, a mind which is able to think of things that do not exist; a

mind which can explicitly lie, for example. A Pleistocene mind can cope with existing objects; however, it is not equipped to cope with non-existing objects. In the presence of a certain relevant evolutionary scenario, the "normal" functioning of a cognitive "module" requires activation of the corresponding "correct" behavior; however, such a simple and stable situation does not hold for a «merge» mind. Therefore, what once was the "natural" function of emotions – to signal affective or aggressive social modes – does not hold anymore. In fact, to be a "merge" mind means that the stable environment where preassembled "modules" assured mutual comprehension, is no longer the current human environment. This means that a mind is *human* (that is, it is equipped with "merge") when the cognitive division into different modules no longer applies.[35] In other words, even if the current human mind could still be divided into modules, such modules would be continuously disturbed by the intrusion of thoughts that "merge" keeps on generating. However, a disturbed module is not a module anymore.[36]

4 The "external" nature of emotions

This is exactly the case with human emotions. The question now is: what do emotions become when they are no longer modular? That is, when "merge" mixes them up? In such a situation, the first thing to stress is that a psychological theory of emotions cannot be isolated from a theory of social language.[37] The point is that emotions and language form a new psychological cognitive system.[38] It is no longer the case that language simply expresses an internal emotion. Instead, an emotion is now made by language; its nature is intrinsically linguistic (and language has become intrinsically emotional). Furthermore, language also transforms "natural" consciousness, because it makes the "artificial" constitution of human subjectivity possible. It allows for a human body that is capable of thinking to her/himself. Consider the series of notes Vygotsky wrote on the general question of «the creation of speech».[39] Immediately under this title, Vygotsky writes «the skeleton of psychology. Its schema». *Human* psychology is possible, only if such a psychology begins with the acknowledgement that the evolutionary appearance of language (that is, of "merge") completely restructured the earlier Pleistocene mind. This statement does not mean that Vygotsky underestimates the capacities of the non-linguistic mental and emotional mind; the point is that such capacities are not specifically human. A mind becomes *human* when language – that is, communication plus syntax – introduces itself into preexisting cognitive modules, definitively confusing their computational boundaries.

This is a very general point, because it puts into question the basic assumption of evolutionary psychology and of every psychological approach which separates or underestimates external social influences on the development of human mind. The bedrock of the human mind is not the *Hominidae* Pleistocene environment; rather, the human environment is language itself.[40] The human mind is mainly a "merge" mind, that is, a mind that at every level is influenced by language. In particular, it is a mind that no longer enjoys the comforting "modular" stability assured by the Pleistocene environment. When a vervet monkey sees a snake, it must emit the corresponding alarm call. This is a vital but simple task, because its "language" is equally simple and direct. On the contrary, a "merge" mind never finds itself in such a simple situation. In fact, any thought/sentence is made up of other thoughts/sentences; in order to understand a particular thought/sentence one has to know the rules that make the formation of that thought/sentence possible. While the vervet "language" is innate, the rules of human languages are acquired. This means that these rules are social:

> the meaning of the word (meaning of word) is not the object it replaces but a dialogue (the function of listening – of speaking for oneself); the relationship between

> people – speech; between objects – symbol; between each of the speakers and the word (thing) – empathy.[41]

Finally, this means that when one speaks a language, in fact, an entire society speaks inside one's head:

> The word is not a relationship between the sound and the object it denotes. It is a relationship between a speaker and a listener, a relationship between people directed toward an object, it is an interpsychical reaction, which establishes the unity of two organisms in one direction toward the object. Linguistics makes the word into a fetish; the psychologist reveals that behind the visible relationships between things are relationships between people.[42]

According to Vygotsky, a "merge" mind is, in fact, an "interpsychical" mind, that is, a mind, which is made up of other minds. A vervet monkey is an animal, which also has a very rich social life; a human animal is an animal whose mind is literally made of sociality.

While a Pleistocene mind is a set of different cognitive modules (each one with a definite computational task), the "merge" mind is a mind where such a neat separation between different modules no longer applies. For example, this means that an "emotion" connects itself to the word that "expresses" it and to the "conscious" experience of such an emotion. The pivotal point to remember is that according to Vygotsky a sharp separation does not exist between the internal and the external, the individual and the society, the "inner" emotional sphere and the cognitive social sphere:

> Consciousness is speech for oneself, it originates in society with language (Marx). The unconscious is what is separated from the word (Freud), consciousness is verbalized behavior (Watson). A risky idea: Bio is unconscious, socio is conscious. Speech is always a *dialogue* [...]. Consciousness is a dialogue with oneself. Already the fact that the child first listens and understands and then acquires verbal consciousness points out that: (1) Consciousness develops from experience; (2) Speaking with himself = consciously acting, the child takes the position of the other, relates to himself as to another person, imitates another person speaking to him, replaces the other person in relation to himself, learns to be another person in relation to his proper body. Consciousness is a double. Thence the child does not know "I": "Bobby" fell, instead of "I" fell. This is possible thanks to the reversibility of the word: The reaction is a stimulus. But this is called imitation. All speech is imitation.[43]

"All speech is imitation" means that language is a radically *social* and *external* activity. It is important to stress this point. What is at stake is not just that any linguistic act constitutes a social relation between speakers. The point is that speakers are themselves fully social entities. A speaker is made by sociality. In fact, «consciousness is speech for oneself» means that consciousness is not a private internal/emotional state; quite the contrary, when one is conscious, one is maximally social and external with respect to her/his own body. The most unexpected conclusion from these premises is that human *qua* human emotions are therefore external and artificial. In fact, if an emotion is inseparable from our conscious experience of it, if such a conscious experience is nothing but «speech for oneself», and if speech is a social eternal activity, then emotion is *external* to the body that feels it. In fact, a word «is an *artificially* created stimulus (cf. technique), it is a *tool* of behavior, it presupposes two subjects and an object. Verbal behavior differs from nonverbal behavior like labor does from the adaptation of animals (the tool is also outside the organism, i.e., it is an organ of society)».[44]

The word, like the tool, is *outside* the body. Since the word is the condition for the possibility of experiencing the emotion, the emo-

tion places itself outside of the body that feels it. Therefore, the human mind is neither a subjective nor a private entity:

> [The] mind is just as objective as digestion. It is subject-bound [...], but not subjective. It becomes subjective [...]. It is not at all directly given (the prejudice about states of consciousness – James). It may become objective [...]. It sometimes is objective.[45]

Vygotsky completely reverts the usual common-sense vision of the mind as an internal and private psychological sphere, which is inaccessible to others. On the contrary, to understand the human mind one has to look into the *social* process of its development. The key difference between the Pleistocene mind according to evolutionary psychology and the Vygotskyan mind is that the first develops itself through an internally driven process of maturation; the latter develops itself through an externally driven process of social learning. According to Vygotsky, at the beginning of human development, there is society, not an individual autonomous mind:

> I think *another*'s thought; the fact alone that I observe the mind of other "egos", proves that mind is not necessarily subjective. [...] In introspection the psychological phenomena are inserted into the system of the "Ego". The child has no "ego".[46]

When Vygotsky asserts that «the child has no ego», he is not denying that at birth the child has a rich set of innate cognitive competencies.[47] The point is that the infant mind is much more similar to the Pleistocene mind, that is, to a smart *non*-human animal mind. Consequently, the "ego" is not an internal innate entity; being an "ego" implies possessing the capacity to use «speech for oneself». However, speech is a social external competence. Therefore without speech – without social linguistic relations – there is no "ego". A human animal is not a natural-born "ego"; on the contrary, a human animal *learns* to become an "ego". The "ego" is society *inside* us: «the social nature of mind; the mental phenomenon is a relationship between two social individuals (interpsychology) or between the body and "ego" (as the social in us)».[48] At the same time, such an entity, which is now an "ego", learns the emotions that only an "ego" can experience. This means that the emotions of the Pleistocene mind were quite different from those of the "merge"-Vygotskyan mind. Vygotsky applies Marxian philosophy to psychology.[49] In particular, the idea that the "ego" is, like a commodity, a sort of "fetish", that is, a thing endowed with "magic" value. In fact, this "value" is nothing but a social – a forgotten and removed value. The "ego" is that kind of psychological entity, which does not remember its own *social* origin.

> We must uncover consciousness, the fetishism of mental phenomena just like the fetishism of commodities. The mental phenomenon is, just like a commodity, a sensory-supersensory thing; the supersensory part is the social, reified, social relationship projected onto a thing (onto the word). Just like the commodity is a commodity not because of its physical properties but because of the societal relationships behind it, the physiological process in the nerves in itself is no behavioral act but the social relationships behind it, which give it that meaning. The ego is a fiction from the physical viewpoint and adds nothing to the sum total of the physical properties of our body, just like the commodity value is a fiction and adds nothing to the sum of its physical properties. But it is a reality as a sign, a name of the social relationship of our intracorporeal life. The "ego" is the social in us (cf. the neopositivists), a certain societal connection and the organization of intracorporeal and nervous processes. The "ego" is formed after the model of the relationships between people. The "ego" is to the body as the "ego" is to you. The "ego" is to the body as the price is to value. Hence, the mental

> nonmaterial nature of mind – It derives from societal relationships. Marx: The essence of man is the ensemble of societal relationships (in- and outside the body). The child is not yet an "ego"; the ego develops from social experience on the basis of speech. That this is so is evident from (1) the fact of the perception of others' "ego." (2) the fact that the psychological phenomena themselves must be objectified before we can observe them (cf. imageless thinking is the unconscious). Actually, only the unconscious is subjective, but precisely the unconscious is unobservable, and what we are aware of is what meets the "ego" as an object (cf. the unconscious is outside speech, Freud and Watson). Consciousness is *objective* (the doctrine of the thing-like nature of mind – Meinong and Freud), the unconscious consists of non-sociologized nervous processes, but consciousness is sociologized.[50]

The last part of this quotation can help us understand the unique position Vygotsky takes on a question we raised in the first part of this paper: what does the adjective "natural" mean when it is applied to *Homo sapiens*? What is the "natural" human mind? In fact, on the one hand, Vygotsky writes, «the unconscious consists of non-sociologized nervous processes»; on the other hand, he says that «consciousness is sociologized». Therefore, we could say that the unconscious mind is the Pleistocene mind, the mind of a primate bipedal, which is able to communicate with its own peers. This is the "natural" human mind. From this point of view, such a mind is not that different from a generic mammal mind.[51] Such a mind is natural – that is, "unconscious" – just because, as Vygotsky writes, it is "outside speech". In contrast, when such a mind becomes "sociologized" – that is, when language pervades it – it becomes at the same time *human* and *artificial*. In this same context, one has to consider another Vygotskyan concept, the "zone of proximal development". Such a "zone" is a possible cognitive developmental space, which is only accessible through the social mediation of cultural means:

> animals have no zone of proximal development (Köhler); the relationship between instruction and development is specific for man. Man can do more in cooperation than independently; the animal can do in cooperation as much as it can do independently (imitation = the actual level of intellect). That is why we cannot teach an animal to speak.[52]

That is to say, the boundary between the natural and the artificial is much less marked in *Homo sapiens* than in other animals. Nowadays the cultural capacities of non-human animals are well known.[53] However, culture is the very nature of the human species. The cultural abilities of non-human animals do not permeate their lives in the same way that culture and language completely permeate the human form of life.

The paradox is that a mind is "natural" when it is not human, that is, when its own language is simple communication without the social effects of "merge". Such a paradox disappears when one realizes that language constitutes the "natural" human environment.[54] The Pleistocene environment is not the human natural habitat. *Homo sapiens* is not a Pleistocene human being plus language; on the contrary, *Homo sapiens* is nothing but the recent result of a complete restructuring of the human animal by social external language. While the Pleistocene mind adapts itself to an external environment, the human mind is a mind in which the environment implants itself in the human body. According to Vygotsky, the final stage of human evolution is that of the «*environment in us*, culture that has been absorbed, language that has become thinking, history within psychology».[55] When such a situation holds, the very distinction between what in *human nature* is natural and what is not natural, that is historical and artificial, no longer applies. An emotion is both a natural and an artificial phenomenon:

> Language was not created for emotions. This is why it is difficult to express and study emotions. *Does it have to be so* ??? *But naming the emotion* changes the emotion (*prise de conscience*), not just in the sense of "untrue" (Tyutchev),[56] but also in the sense of changing its course: i.e., behind this difficulty there is a real phenomenon of change: *emotion - word!*[57]

Vygotsky furnishes the theory of extended mind with what it needs in order to overcome the intrinsic limitations of the concept of "extended" in the syntagma "*extended* mind". The point is that such a notion still implies an originally internal mind that in a second moment extends itself through external means. On the contrary, according to Vygotsky there is a socially mediated relation in the first place, in particular, a linguistic relation between human beings. Such a relation is internalized in the second moment. This internalization becomes "inner speech".

When a body is capable of thinking to itself – this is the main psychological function of our peculiar form of language/thought – it is able to become consciously aware of "emotions". This kind of emotion is completely different from non-human emotion, because now it can be modulated by the "will", that is, by "inner speech". In this sense, an emotion now becomes an "external" entity which at least in principle can be "voluntarily" handled. The mind is not at all extended, because there is never been a purely internal mind.

> *The problem of inner speech – its completely special function*: *Ergo*, it is a neo-formation of *central* interest to us. For it is the *transition* of an external, mediated operation into an internal one, i.e., it is the prototype of all historically formed functions. In a certain sense, *it is opposite to external speech*. [...] Inner speech is what preceeds external speech. No: External speech is the process of transforming a thought into words, its materialization and objectivation; *what the direction concerns, here we have* the reverse process – *from outside inward*, the process of the evaporation of speech in thought (there [it was] rain from the cloud, i.e., the steam of mind turns into material liquid). [...] Consciousness does not completely evaporate and does not disappear in pure spirit. But whereas in external speech the thought becomes embodied in the word, in inner speech the word *dies* and gives birth to the thought: thought by *pure meanings*. [...] Thought and word in inner and external speech move in opposite directions.[58]

5 Will and art

In this paper, an account of human emotions based on the just published *Notebooks* of Vygotsky has been out. In recent years, the Vygoskian community has become increasingly skeptical of the philological authenticity of many of his books.[59] To illustrate this point we will mention only one example, the famous last chapter of *Thought and language*. It now appears that many long passages in this chapter, written in the very last days of Vygotsky's life, were copied in their entirety without any mention of their sources.[60] Similar problems may apply to many other Vygotskyan texts. This set of considerations has lead us to consider much if not all of the work published in the former USSR under the name of Lev S. Vygotsky with some suspicion. By contrast, the recently published *Notebooks* were surely written by him. Therefore, if one wants to be sure about the ideas of Vygotsky, the observations in the Notebooks are the best places to look.

In these pages, one can find a very neat and explicit formulation of the main thesis of the socio-historical Vygotskyan psychology. The so-called internal mind, in fact is the internalization of the external mind, that is, of language and cultural devices.

> All (verbal) thinking of cultural man is a system of external speech mechanisms ingrown in consciousness, the fourth stage of the instrumental acts. [...] Language is a mnemotechnic tool; memorizing the ver-

> bal (the verbal type of memory). Cfr. judgment – the mechanisms of thinking = the syntax mechanism of speech [...]. Preverbal thinking and pre-intellectual speech is the first stage. Before the moment they meet [...] – the inability to think with the help of speech – the second stage (to a certain extent until 14 yrs. – before the abstract concepts). *Naïve Psychologie*. The moment they meet – the third stage, the instrumental method [...] (perhaps the shortest stage). Verbal thinking – the fourth stage, when the external mechanisms (speech) become internal (intel[lectualized]).[61]

The key point lies in the passage from the third developmental stage to the fourth, when external social language is internalized. This passage is at the same time ontogenetic and a phylogenetic: the passage from the mind of a very intelligent mammal (here the distinction between human and non-human does not yet apply) to a human mind; and the passage from a Pleistocene mind to a symbolic mind. What is at stake in this passage, is the appearance of the potential to internally master cognitive activity. Now the teenager becomes able to pay attention to what s/he decides to pay attention to:

> the advantage of speech for thinking is that (1) in making thinking an external activity, it makes it possible to master thinking, and (2) *most importantly*, by creating external mechanisms subordinated to the will, it makes them grow into consciousness and converts them into internal mechanisms.[62]

This is a very important point with regard to the nature of human emotions. In fact, there is a radical difference between a natural emotion, that is, an emotion that is immediately released by a stimulus (both internal and external), and an emotion that can be controlled by a new capacity which Vygotsky calls "will". Here, "will" is nothing but this internalization of external tools: «man masters himself from the outside and changes his whole inner world».[63] In this way, Pleistocene emotions undergo a radical change, because now they are at the service of the conscious mind. In contrast to the commonplace that emotions constitute the more ancient and runaway part of the human mind, after the internalization of external social tools, emotions become as artificial as abstract reasoning: «the fourth stage is the *environment in us*, culture that has been absorbed, language that has become thinking, history within psychology».[64]

The point of "will" has much to do with the general question of human emotions; according to Vygotsky "will" is nothing but a socially acquired capacity to control one's own behavior:

> Volition (the central idea) must not be deduced from the coordination and mutual regulation of centers (cortical, subcortical) and processes (the dominant, the subdominant) but from *social relationships that have been transferred inward and have become embodied in the activity of the centers during natural, organic subordination* (a superseded category, executive mechanism, *parendo vincitur*).[65]

It is not that internal and original *will* exists on the one hand, and emotions on the other. Human emotions *qua* emotions that are human are a product of the control of social construction that is the "will". This means that there is a radical difference between the anger of a non-human animal and the anger of a human being: in the latter, the body is verbally aware of its anger, therefore, can control it. As a consequence, non-human anger has been transformed into an "artificial" entity because it is now in some sense "external" to the body. In fact, in order to control behavior one has to be aware of its very existence. Human beings are aware of this behavior thanks to social linguistic mediation: therefore, the history of human emotions is nothing but a question of "education", «*emotion* via *consciousness*».[66]

In the last part of this paper, I want to discuss, albeit briefly, the case of aesthetic emotions, those emotions that have to do with so-called artistic objects.[67] We are aware that this issue deserves a much more extensive treatment, but it is interesting to note how different Vygotsky's approach is from today's typical approach. Indeed, the vast field of so-called evolutionary aesthetics[68] in no way grasps the artificial character – that is, in Vygotskian theory, the symbolic and linguistic character – of the human aesthetic experience. For this reason, a reference to Vygotsky's unique approach to aesthetics may be useful, even if not as thorough as it should be.

In the case of aesthetic emotion, what makes something "artistic" is not simply its own materiality (in this paper, I consider so-called artistic emotion to be nothing more than a particular case of a more general aesthetic experience). In fact, such materiality is exactly what any Pleistocene mind might perceive. However, the Pleistocene mind does not see "art" in such an object, because art only emerges in the perceptual contrast between form – the object on its own – and content, the social "meaning" of this object. As Vygotsky writes:

> the material does not matter? This is true with physical *material* and with *physical* form (a table), but applied to art, material and *form* are aesthetic concepts. For example, the material of a painting is not the paint, but *color* (paper, mosaic, etc.). In art form is superform.[69]

The capacity to perceive an object as a "superform" – that is, as an "artistic" object – marks the passage from the Pleistocene to the modern human mind. For this reason, «pure reaction in art does not exist».[70] It cannot exist, because to be human means that «pure reaction» does not exist. On the contrary, according to Vygotsky, only specific «aesthetic reactions»[71] mediated by language and society exist.

The point is that language is much more than a simple means of communication; through language, the mind enters into an enormous web of social relations and cognitive possibilities (as a side effect of «merge»). Language entails a radical form of sociality. From this point of view, egocentric thought is nothing but a development of social relations.

> [E]gocentric speech in the form of a dialogue develops earlier than monologue: talking with a doll, with an imaginary conversation partner – from the autistic complex situation.[72]

The possibility of art begins when a Pleistocene mind enters into this social web of external tools. More specifically, the capacity to feel *external emotions* must exist before the very appearance of "art". Language displaces Pleistocene emotions locating them outside the body.

As one learns to speak one's own language, one acquires the capacity to "feel" specific "aesthetic reactions". This may sound self-contradictory. In fact, on the one hand, any reaction implies an immediate response to a stimulus. There is nothing specifically human about reactive behavior. On the other hand, such reactions can produce uniquely «aesthetic enjoyment».[73] Aesthetics has to do with "superform", that is, with the form, which is more than a "simple" form. This "superform" consists in the acquisition of the capacity to perceive the "artistic" character of the material characteristics of an object. In particular, this means the capacity to voluntarily direct one's attention to certain aspects of the perceived object, which pertain only to "art". One learns to be affected by artistic objects, that is, to have the experience of «aesthetic reactions». In fact, such reactions are not perceptual. Art has more to do with language and will than with perception. In the end, this means that even one of the most emotional affects, «aesthetic enjoyment», is in fact an artificial affect; that is, the transformation of a "natural" reaction into a new socialized external emotion. The medium for this transfor-

mation is language, because «the word is the artificial use of existing nervous forces».[74] To understand aesthetic reactions means to apply the same general schema which lies at the base of Vygotsky's approach to human psychology: «from the outside inward, from behavior to consciousness».[75] That is, from reaction to language and from the natural to the artificial. In all these cases, what is at stake is the passage from «perception» to the «*analysis of factors that lie outside perception*».[76]

Notes

[1] Cf. R. HARRÉ, *The social construction of emotions*, Blackwell, Oxford 1986; K. OATLEY, *Social construction in emotions*, in: M. LEWIS, J.M. HAVILAND (eds.), *Handbook of emotions*, Guilford Press, New York 1993, pp. 341-352; J. PLAMPER, *The history of emotions: An introduction*, Oxford University Press, Oxford 2015; G. PARROTT, *The social construction of emotions*, in: B. CHRISTENSEN (ed.), *The second cognitive revolution. A tribute to Rom Harré*, Springer, Berlin 2019, pp. 131-139.

[2] Cf. E. ZAVERSHNEVA, R. VAN DER VEER, *Vygotsky's Notebooks. A selection*, Springer, New York 2018.

[3] Cf. R. JACK, E. O. GARROD, HUI YU, R. CALDARA, P. SCHYNS, *Facial expressions of emotion are not culturally universal*, in: «Proceedings of the National Academy of Sciences of the United States of America», vol. CIX, n. 19, 2012, pp. 7241-7244; A. WIERZBICKA, *Human emotions: Universal or culture-specific?*, in: «American Anthropologist», vol. LXXXVIII, n. 3, 1986, pp. 584-594; K. KRAWCZAK, *Reconstructing social emotions across languages and cultures*, in: «Review of Cognitive Linguistics», vol. XVI, n. 2, 2018, pp. 455-493; J. PLAMPER, *The history of emotions*, cit.

[4] Cf. P. EKMAN, *Are there basic emotions?*, in: «Psychological Review», vol. XCIX, n. 3, 1992, pp. 550-553; P. EKMAN, W FRIESEN, *A new pancultural expression of emotion*, in: «Motivation and Emotion», vol. X, 1986, pp. 159-168.

[5] Cf. C. LUTZ, G. WHITE, *The anthropology of emotions*, in: «Annual Review of Anthropology», vol. XV, n. 1, 1986, pp. 405-436; B. RÖTTGER-RÖSSLER, *Gefühlsbildung (the formation of feeling)*, in: J. SLABY, C. VON SCHEVE (eds.), *Affective societies: Key concepts*, Routledge, New York 2019, pp. 61-72.

[6] Cf. A. CLARK, *Natural-born cyborgs: Minds, technologies, and the future of human intelligence*, Oxford University Press, Oxford/Boston 2003; A. NOË, *Out of our heads: Why you are not your brain, and other lessons from the biology of consciousness*, Hill and Wang, New York 2010.

[7] Cf. F. CIMATTI, *Biologia e dialettica nell'animale umano*, in: A. BURGIO (a cura di), *Dialettica. Tradizioni, problemi, sviluppi*, Quodlibet, Macerata 2007, pp. 273-295; F. CIMATTI, *Dentro il corpo, fuori del corpo. La biologia artificiale delle emozioni*, in: «Bollettino Filosofico», vol. XXIV, 2009, pp. 37-54; F. CIMATTI, *La vita che verrà. Biopolitica per Homo sapiens*, Verona, Ombre Corte 2001; F. CIMATTI, *Cervello e storia. Attualità della psicologia marxista*, in: P. GAROFALO (a cura di), *Lo spettro è tornato! Attualità della filosofia di Marx*, Mimesis, Milano 2017, pp. 39-50; D. FU, *Vygotsky and Marxism*, in: «Education and Culture», vol. XIV, n. 1, 1997, pp. 10-17.

[8] Cf. E. MACPHAIL, *The comparative psychology of intelligence*, in: «Behavioral and Brain Sciences», vol. X, n. 4, 1987, pp. 671-672.

[9] Cf. M. HOLODYNSKI, *The internalization theory of emotions: A cultural historical approach to the development of emotions*, in: «Mind, Culture, and Activity», vol. XX, n.1, 2013, pp. pp. 4-38; F. CHEN, M. FLEER, *Re-signing: A cultural-historical study of signs for supporting young children's development of emotion regulation*, in: «Mind, Culture, and Activity», vol. XXII, n. 3, 2015, pp. 233-250; I. BURKITT, *Emotions, social activity and neuroscience: The cultural-historical formation of emotion*, in: «New Ideas in Psychology», vol. LIV, 2019, pp. 1-7.

[10] Cf. F. CIMATTI, *A biosemiotic ontology: The philosophy of Giorgio Prodi*, Springer, Berlin 2018.

[11] Cf. A. STEPHAN, S. WALTER, W. WILUTZKY, *Emotions beyond brain and body*, in: «Philosophical Psychology», vol. XXVII, n. 1, 2014, pp. 65-81; J. KRUEGER, T. SZANTO, *Extended emotions*, in: «Philosophy Compass», vol. XI, n. 12, 2016, pp. 863-878; G. COLOMBETTI, E. ZAVALA, *Are emotional states based in the brain? A critique of affective brainocentrism from a physiological perspective*, in: «Biology and Philosophy», vol. XXXIV, 2019, Art. Nr. 45 - doi: 10.1007/s10539-019-9699-6.

[12] Cf. G. COLOMBETTI, T. ROBERTS, *Extending the extended mind: The case for extended affectivity*, in: «Philosophical Studies», vol. CLXXII, 2015, pp. 1243-1263.

[13] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, Springer, New York 2018, p. 260.

[14] J. TOOBY, L. COSMIDES, *The psychological foundations of culture*, in: J. BARKOW, L. COSMIDES, J. TOOBY (eds.), *The adapted mind. Evolutionary psychology and the generation of culture*, Oxford University Press, Oxford/New York 1992, pp. 19-135, here p. 52.

[15] Development is very different from learning; the first is a process that takes place inside the organism, driven by its own genetic endowment; the second is a social and external process.

[16] J. TOOBY, L. COSMIDES, *The psychological foundations of culture*, cit., p. 89.

[17] *Ibid.*, p. 46.

[18] Cf. E. DI PAOLO, M. ROHDE, H. DE JAEGHER, *Horizons for the enactive mind: Values, social interaction, and play*, in: J. STEWART, J. STEWART, O. GAPENNE, E. DI PAOLO (eds.), *Enaction: Towards a new paradigm for cognitive science*, MIT Press, Cambridge (MA) 2010, pp. 33-87.

[19] J. TOOBY, L. COSMIDES, J. BARKOV, *Introduction: Evolutionary psychology and conceptual integration*, in: J. TOOBY, L. COSMIDES, J. BARKOV (eds.), *The adapted mind*, cit., pp. 3-15, here p. 6.

[20] J. TOOBY, L. COSMIDES, *The psychological foundations of culture*, cit., p. 54.

[21] *Ibid.*, p. 90.

[22] *Ibid.*, p. 113.

[23] Cf. J. TOOBY, L. COSMIDES, *The past explains the present. Emotional adaptations and the structure of ancestral environments*, in: «Ethology and Sociobiology», vol. XI, n. 4, 1990, pp. 375-424.

[24] Cf. H. ROSE, S. ROSE, *Alas poor Darwin: Arguments against evolutionary psychology*, Jonathan Cape, London 2000.

[25] Cf. M. HAUSER, *The design of animal communication*, MIT Press, Cambridge (MA) 2003.

[26] Syntax is not the same as a simple combinatory of signals. Take the recent case of Suzuki *et. al.* paper on Japanese great tit "syntax" (S. TOSHITAKA, D. WHEATCROFT, M. GRIESSER, *Experimental evidence for compositional syntax in bird calls*, in: «Nature Communications», 2016 - doi: 10.1038/ncomms10986). In fact, in this case such an alleged "syntax" reduces itself to a *linear* "combination" of preexisting signals. However, human language is not at all linear, moreover, its distinctive characters are: «discreteness», «recursion», «structure-dependency» and «locality» (G. GRAFFI, *Cos'è la linguistica generativa*, Carocci, Roma 2008, pp. 24-31).

[27] Cf. R. SEYFARTH, D. CHENEY, P. MARLER, *Monkey responses to three different alarm calls: Evidence of predator classification and semantic communication*, in: «Science», vol. CCX, n. 4471, 1980, pp. 801-803.

[28] In fact, convincing cases of these alarm calls used to "assert" the false do not exist.

[29] R. BERWICK, A. FRIEDERICI, N. CHOMSKY, J. BOLHUIS, *Evolution, brain, and the nature of language*, in: «Trends in Cognitive Sciences», vol. XVII, n. 2, 2013, pp. 89-98, here p. 89.

[30] J. BOLHUIS, I. TATTERSALL, N. CHOMSKY, R. BERWICK, How could language have evolved?, in: «PLoS Biology», vol. XII, n. 8, 2014, Art.Nr. e1001934 – doi: 10.1371/journal.pbio.1001934.

[31] R. BERWICK, A. FRIEDERICI, N. CHOMSKY, J. BOLHUIS, *Evolution, brain, and the nature of language*, cit., p. 94.

[32] Cf. I. TATTERSALL, *An evolutionary framework for the acquisition of symbolic cognition by Homo sapiens*, in: «Comparative Behavior and Cognition Reviews», vol. III, 2008, pp. 99-114.

[33] Cf. R. SHUMAKER, K. WALKUP, B. BECK, *Animal tool behavior. The use and manufacture of tools by animals*, Johns Hopkins University Press, Baltimore 2011.

[34] J. TOOBY, L. COSMIDES, *Cognitive adaptations for social exchange*, in: J. TOOBY, L. COSMIDES, J. BARKOV (eds.), *The adapted mind*, cit., pp. 163-228, here p. 163.

[35] Cf. J.A. FODOR, *Against Darwinism*, in: «Mind and Language», vol. XXIII, n. 1, 2008, pp. 1-24.

[36] A "module" is a computational cognitive device; when a correct computation is no more possible, such a «module» ceases to be a computational device. Either a computation is perfectly correct, or it is not a computation.

[37] L.S. VYGOTSKY, *The teaching about emotions. Historical-psychological studies* (1933), in: L.S. VYGOTSKY, *The collected works of L.S. Vygotsky*, vol. VI, editerd by R.W. RIEBER, Kluwer, Dordrecht/New York 1999, pp. 71-235.

[38] Cf. G. COLOMBETTI, *What language does to feelings*, in: «Journal of Consciousness Studies», vol. XVI, n. 9, 2009, pp. 4-26.

[39] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 74.

[40] Cf. A. CLARK, *Language, embodiment, and the cognitive niche*, in: «Trends in Cognitive Sciences», vol. X, n. 8, 2006, pp. 370-374; D. PENN, K. HOLYOAK, D. POVINELLI, *Darwin's mistake: Explaining the discontinuity between human and nonhuman minds*, in: «Behavioral and Brain Sciences», vol. XXXI, n. 2, 2008, pp. 109-130; R.

MAHANEY, *Artifactual symbols: The catalytic role of material culture in the emergence of symbolic thought*, in: «Time and Mind. The Journal of Archaeology, Consciousness and Culture», vol. VII, n. 3, 2014, pp. 279-295; F. CIMATTI, *A biosemiotic ontology*, cit.

[41] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 75.

[42] *Ibid*., p. 74.

[43] *Ibid*., p. 74.

[44] *Ibid*., p. 75.

[45] *Ibid*., p. 76.

[46] *Ibid*., p. 77.

[47] Cf. A. GOPNIK, A. MELTZOFF, P. KUHL, *The scientist in the crib: What early learning tells us about the mind*, Harper Collins, New York 2007.

[48] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., pp. 78-79.

[49] Cf. N. VERESOV, *Marxist and non-Marxist aspects of the cultural-historical psychology of L. S. Vygotsky*, in: «Critical Social Studies», vol. VII, n. 1, 2005, pp. 31-50; F. CIMATTI, *L'individuo è essere sociale. Marx e Vygotskij sul transindividuale*, in: E. BALIBAR, V. MORFINO (a cura di), *Il transindividuale. Soggetti, relazioni, mutazioni*, Mimesis, Milano 2014, pp. 253-271.

[50] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 79.

[51] Cf. F. CIMATTI, G. VALLORTIGARA, *So little brain, so much mind. Intelligence and behaviour in non human animals*, in: «Reti Saperi Linguaggi», vol. II, n. 1, 2015, pp. 5-22.

[52] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 356.

[53] Cf. K. LALAND, *Animal cultures*, in: «Current Biology», vol. XVIII, n. 9, 2008, pp. R366-R370.

[54] Cf. M. MIROLLI, D. PARISI, *Language as a cognitive tool*, in: «Minds & Machines», vol. XIX, n. 4, 2009, pp. 517-528; C. SINHA, *Language and other artifacts: socio-cultural dynamics of niche construction*, in: «Frontiers in Psychology», vol. VI, 2015, Art.Nr. 1601 – doi: 10.3389/fpsyg.2015.01601; G. LUPYAN, B. BERGEN, *How language programs the mind*, in: «Topics in Cognitive Science», vol.VIII, n. 2, 2016, pp. 408-424.

[55] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 119.

[56] Fyodor Ivanovich Tyutchev (1803-1873). Russian poet. Vygotsky quotes a line from his famous poem *Silentium* (1830): «How can a heart expression find? / How should another know your mind? / Will he discern what quickens you? / A thought, once uttered, is untrue» (translation by Vladimir Nabokov).

[57] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 165.

[58] *Ibid*., p. 283.

[59] Cf. A. YASNITSKY, R. VAN DER VEER (eds.), *Revisionist revolution in Vygotsky studies*, Routledge, London 2016.

[60] Cf. L. MECACCI, *A possible source of the final piece of Vygotsky's Thinking and Speech*, in: «European Yearbook of the History of Psychology», vol. II, 2016, pp. 71-77.

[61] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 118.

[62] *Ibid*., pp. 118-119.

[63] *Ibid*., p. 119.

[64] *Ibidem*.

[65] *Ibid*., p. 117.

[66] *Ibid*., p. 227.

[67] Cf. M. GUIMARAES LIMA, *From aesthetics to psychology: Notes on Vygotsky's "Psychology of Art"*, in: «Anthropology & Education Quarterly», vol. XXVI, n. 4, 1995, pp. 410-424; J. PEDRO FRÓIS, *Lev Vygotsky's theory of aesthetic experience*, in: T. CONSTANTINO, B. WHITE (eds.), *Essays on aesthetic education for the 21st Century*, Sense Publishing, Leiden 2010, pp. 109-122; F.L. GONZÁLEZ REY, *Vygotsky's "The Psychology of Art": A foundational and still unexplored text*, in: «Estudos de Psicologia», vol. XXXV, n. 4, 2018, pp. pp. 339-350.

[68] Cf. E. VOLAND, K. GRAMMER (eds), *Evolutionary aesthetics*, Springer, Berlin 2003.

[69] E. ZAVERSHNEVA, R. VAN DER VEER (eds.), *Vygotsky's Notebooks. A selection*, cit., p. 87.

[70] *Ibid*., p. 92.

[71] *Ibid*., p. 93.

[72] *Ibid*., p. 240.

[73] *Ibid*., p. 88.

[74] *Ibid*., p. 75.

[75] *Ibid*., p. 276.

[76] *Ibidem*.

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