

LANGUAGE AND COGNITION IN THE FORMATION OF A MUSICAL COGNITION

Marcelo S. F. MELLO (Unicamp - Brazil)

ABSTRACT: *Enlarging the reach and the sense of a intersubjective, social and discursive view of their contents, the possible relationships between language and human cognition can modify the influence of a "semiological" model of the linguistic contents in other human manifestations, as the music - or its scientific, cognitive research, associated to the name of musical cognition.*

KEYWORDS: *music; cognition; language; brain; mind*

The philosophical and theoretical tradition about the language-mind relations presents commonly a scission between them, mainly since the philosophical division between the body (the material reality) and the soul (the mind, the rationality) introduced by DESCARTES. Then, the notion of language as an object, as a mechanism of sense production, to service of an individual rationality (of a subjectivity) – founded since the cartesian formulations – will have clear traces of rationalism and formalism (of a group of rules or a logical and formal, unyielding code and dipped *a priori* of sense), mechanicism and physicalism (of a reality material and invariable, or even physical, occurred objectively in the nature), or naturalistim and inatism (of an “organic” naturalness, aroused from biological properties of the nervous system). By the way, these characteristics will be suitable not only with the structuralist method — or the study of the language as a system of oppositions among different elements, which marks the acceptance of the study of the language, the Linguistics, as science (SAUSSURE 1916) — but also with the postulates of most of the current scientific researches regarding the foundations of the human mind, that can be institutionally grouped with the name of Cognitive Sciences, or perhaps in a more appropriate way, in a common theoretical line imputable as cognitivism.

The word “cognition” can be described in a dictionary as the process of “acquisition of the knowledge”; its use in the scientific ways appears associated more commonly to the study of specific processes of the perception and of the animal and human motor activity, and mainly with his relationship with the mind and the reason, or with “superior” mental activities. In other words, to the precise moment in that the physical sensation (perceptual) and the abstract thought can “to transform” or “to transmit” each other. If the mental superior processes are just accessible for description and explanation through philosophical speculation, the perceptual and motoric processes present a vast objective and material field for scientific, empiric, formal and precise studies. Starting from

this simple formula, the current proposition of scientific answers (empiric, materialistic) regarding the human mind answers to historically, epistemologically and ideologically delimited origins (DUPUY 1996); it embraces fundamental questions of the human knowledge actually; and, at the same time, it have deep controversies in its self conception. Historically, it owes to the “ontological dualism” originated from the “*cogito ergo sum*” (“I think soon I exist”) of Descartes (identifiable with the beginning of the current scientific method and of the whole modern philosophy), and later to distant positions of empiricist character (Locke, Hume, Stuart Mill, etc. — cf. HAMLIN 1995; FREITAS 1994); more recently, to the intricate theoretical and technological development of the mathematical and computational sciences during the 20th century, wich allows localize the cognitivism, largely, as fruit of a formalist, fisicalist, logicist and mechanicist vision of mental processes, starting from researches as the one of TURING, MCCULLOCH, VON NEWMAN etc. Therefore, it is the question of investigating a “*scientific, therefore materialistic, answer to the old philosophical problem of the relationship between the soul and the body*” (once again DUPUY 1996).

There will be, however, disagreed positions in relation to a merely instrumental, formal or mechanic role of the language phenomena, positions that oppose, to a structure (an object) logic and invariable, the notion of an activity “*linguageira*” (AUROUX 1994) of everyday, a process built inside of human, social and historical contexts (among language subjects). If language postulated as mechanic and instrumental is in agree with the materialistic and cientificist approaches of the Cognitive Sciences, the notion of the language as a intersubjective, contextual process can also represents an opposite paradigm to the theoretical precepts of the cognitivist researches. Besides, is no more necessary see the language just as manifestation of a formal structure (of the language, of the thought or of more primary cognitive processes), but it becomes also valued as activity, structured and structuring these processes (the language, the thought, cognitive processes etc.). Beyond its structural categories, beyond a deterministic system, the language while “constituent” activity dilutes and enlarges its own limits, defining itself as a process always intersubjective, among specific individuals (or linguistic subjects), more than based on invariable principles, structural (or syntactic), referent to denotative “objects” of the reality (to which could be imputed a “truth-value”). In the same way, if the separation among linguistic system (of operation of the significance, approachable for the struturalist methodology) and its manifestations forces the struturalist method to determine an essential dichotomy among language (its formal structures) and its speaks (an intersubjective, human manifestation), this dichotomy loses its conceptual force in the measure in that linked elements are valued to the linguistic dialogical, enunciative or illocutional forms and processes, of questioning by which ways it is possible to be formed and to preserve these linguistic subjects while such, while users of a language, while valid or authorized speakers (what also embraces their conditions or productions of manifestation). Within this movement, where several differents point of view can be welcomed from pertinent disciplines to the studies of the language (pragmatic, enunciative theories, discourse analysis

etc.), a essentially linguistic position grows up, in relation to the mental processes. Starting from this point, each one of the main characteristics that the cognitive sciences apply to its study object can be reconstructed.

However, so that it can be raised to the condition of a new epistemology, an intersubjective, interlocutive approach of the contents and mental processes should have the capacity to embrace pertinent interdisciplinary questions, especially concerning the constitution of cognitive processes. Such it is the case, for instance, of the narrow relationships imputed between language and music, between the linguistic processes and the musical manifestations, that can be presented between the most common axioms of the human knowledge. Meanwhile, the relationships between music and the human cognition have been raising a myriad of recent works in the most several correlate issues, which can be gathered under the generic term of musical cognition, or others of equal value. Studies about musical cognition constitute a scientific discipline as florescent as the diversity found in the own cognitive sciences, with several specific studies and general treaties, and including specialized scientific newspapers, research centers spread by the world. In general, for each one of the great areas of interest (or of the theoretical prerogatives) from where cognitive characteristics of our behavior are enunciated, there will be applications already formalized in the music terrain. The epistemological and interrelated bases inside of the researches in musical cognition, for its turn, were the theme of my recent master's degree dissertation (MELLO 2003).

In fact, the Linguistics, as an inter-discipline model, has a leader role in current theoretical and methodological postulations in several kindred areas of musical cognition. It is through a linguistic perspective (structuralist), therefore, that can already be shimmered a first form of introducing language in relationships with music: as the semiological system by nature, verbal language is imposed as structural (structuralist?) model for other "languages", among them the musical language, allowing them a previous form of denotation and of operation (as in BENVENISTE 1966). In this case, the music would resemble itself or "aspirate" to a semiological or even structuralist system; in other words, a self-referring system where the interrelation rules among its elements are clearly shown or at least dipped of sense, of validity for the simple opposition that these elements do to each other, as in the structuralist prerogatives. A proposal as this can be considered as been disseminated in all the possible areas of dissemination of musical cognition: epistemology (SEEGER 1977), music analysis (LERDAHL, JACKENDOFF 1981), neuromusicology in its several formulations (DALLA BELLA, PERETZ 1999; BESSON KUTAS 1997 etc.), artificial intelligence applied to music (SMOLIAR 1980), theories of human race development, as much as children development (VANECHOUTTE, SKOYLES 1998) etc. Therefore, it is evident here a case of interdisciplinarity, in the classical sense, between linguistic models and its application in cognitive contents in music.

But such "restricted interdisciplinarity" among knowledge objects maintains a condition of functional instrumentality, of comparison of appropriately reached goals, so much in the field of the language as mainly in the field of the music, which should be

identified in agreement with the formal paradigms stipulated in our social medium. That is, the musical cognition will be prescribed starting from the present characteristics in the normal “music” that we knew, of the musical patterns established socially, of an preformed idea (idealization) of the musical contents. Plus than this, this “idea” (of what is the “musical”) is presented as possessor of a universal rational and causal character, once it is been formed by cognitive principles, or ultimately scientific (empiric, rationalist) ones. If a causal “needing” is stipulated between the musical perception and its objects, this causality doesn't seem to supply new data nor for a free interpolation between music and musicality (between musical elements and its psychological effects), nor for a contingent relationship with the language and the Linguistics, for besides a mere instrumentality. And the deep questions of epistemological content stay without answer in this case: is the musical definable starting from the properties of the real manifestations of the music? Is the music, definable starting from declared properties of the musical? Or, closer of the relationship between music and language:

“Is music a language? [...] Or is it structured as a language? Of what material is it constituted? The ‘sound language’ [musical] and the ‘spoken language’ have a similar nature? [...] Would there be then] a type of ‘power’ or ‘management’ of music in the spoken language? Or should be the case that the expression ‘musical language’ would be more a type of metaphor? And if it exists, which is its place in the semiology?” (MORATO 2001).

Therefore, it should present deep consequences, for the musical cognition, the statement of the possibility of a new epistemology, a new theory of knowledge, intersubjective and involving an interconstitution among the language (the linguistic practices) and the cognition, or between these and the (contextual) environment that surrounds them. The musical objects (or manifestations) become no more definable simply starting from a causal, cognitive, logical mechanism (or simply sonorous, auditory). They will correspond to a process of identification, valoration and subjective interpretation (for subjects) of objects which can be considered as musical, bearers of a musical message. It is a epistemologically quite diverse paradigm of the explanatory causality looked for in the cognitivist perspectives: the emphasis leaves of being given in the musical object, and it returns to the subject; an objective mechanism of perception becomes taken as an interpretation process; and music stops being essentially a question of structure, and it passes linking merely with a defined position. In other words, the musical instances can become considered as norms of operation of a certain discourse (of a certain ideological formation), and the musical manifestations, as subjective adaptations of construction of

“possible places” of its perception -- the musical subjects. Finally, the musical cognition can be presented apart a description of empiric delimitations of musical objects (of musical phenomena), as witness of procedural particularities of events of formation of a musical subjectivity. In other words, not the cognition of music, but the cognition of a musical discourse, of a discourse about music.

The study of a speech in music can start from a discourse of the “musical” structures, to take as pertinent all the interrelation forms between a musical activity (a musical speech, a musical experience etc.) and an imaginary constitution of the musical sign, or of the musical object. In the valued (constituent) weight of terms and of propositions involved in this relationship, in all the instances in which it is possible to determine the responsible individuals for the musical act (who or what makes music; for who; where; when; which are the requirements for music; subjects of value and aesthetic judgement etc.). In the own technician-rhetorical character, present in the formulations of a “*musical metaphor*” (MORAES 1991) between its manifestations and its theoretical-functional delimitation. In the tendency (it would be said as “universal” as the musical manifestations themselves) of social, ideological imposition of musical systems, as natural systems, endowed with “ineffable” properties, beyond (or before) any formulation or material (concrete) indication, implicit, “metaphorical”, identified with a Music “itself”. It is also in the possibility of delimited studies, of specific “discursive” fields (MAINGUENEAU 1984), inside of a historical period (the Chinese musical system; the Gregorian song; the tonal system in several meanings; and so on), of a society or of a social (politic) relationship (the musical theory as a process of constitution of a social class, the musicians, or even as a induct, mythological ritual; the culturalization, production and consumption processes of the musical objects; etc.).

Of course, the incipency of approaches like these is so clear as the one of the construction of a new such “epistemology”, a intersubjective model for the fulcrum relationships between language and cognition. The case here is just it of point for the great matter of the musical subjectivity, for the several limits between the music and the non-music, like a central place in the future development of the musical cognition. And is it also it of facing these data as specific and local evidences, delimited, in the process of continuous construction of the human (and musical) knowledge, taking to new possible limits, to new possible forms, to new possible cognitions; would it be possible, after all, to give the scientific “last word” on music, to determine the possible structures, the possible sequences, the possible musical activities once and for all? And with relationship to the linguistic ones, or to the cognitive ones?

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