ABSTRACT: Horizontal reading/writing which almost exclusively deals with events is attached to traditional notation and perhaps unconsciously linked to writing in general or to the way in which traditional media, analogical or numerical, are read. On the other hand, a vertical representation, while allowing the description of sequential musical events in time, puts greater emphasis on the spatial dimension of sound. Some studio-produced music offers other points of view of sound phenomena, but also enriches our perception of them and our consciousness of their transformations. Their transcription should take this into account. Vertically read notation works in that direction.

The almost constant presence of notation in human tradition justifies the need to establish sketches even if they appear vain, incomplete or retrograde. Even if the attempt to transcribe a musical phenomenon remains illusory or complex, composition itself being already essentially an effort to transcribe wider phenomena, it is useful to continue this work if only for the thoughts it provokes. It is necessary to constitute as complete and transparent a catalogue of "traces" as possible, which will be upgraded in the future.

The expanding role of space in contemporary musical creation is one of the essential contributions of electroacoustic music in relation to other types of music existing today. The unobtrusiveness or absence of reference to this aspect of music is however characteristic of the majority of present-day notation systems. Their inability to provide a representation of space simultaneously with a measure of time is due to the way they are read. In order that the spatial representation of a sound be pertinent, it must at least be possible to locate it in both its breadth (left/right) and its depth (foreground/background). This is impossible in notation where the writing is done horizontally since, on the one hand the horizontal axis is devoted to the passage of time and on the other hand, it is not possible to continuously represent the stereophonic width of a sound on the vertical axis of this type of score since it is destined to show pitch. Rather than emphasizing the time/event relationship which is the case with most musical notation within which care is above all taken to note events in time and to describe the evolutions of certain elements of a sound object, I have chosen to establish a transcription based on the space/time relationship, which is read vertically rather than horizontally.

Three types of temporal progression follow on from this approach, each one suited to a precise aspect of music: time from top to bottom for analysis, time from bottom to top for gesture and time "towards the horizon" for listening. I will leave aside the scenario wherein time progresses from bottom to top. It is in effect a variation of the first and is limited to highly specific areas which lie outside the framework of musical notation itself.
1) From top to bottom (see fig. 1).

This makes it possible to measure time in a way compatible with that of classical musical notation as well as with a relatively clear visual representation of the position or the movement of a sound. It has the advantage of describing quite accurately the stereophonic field while still allowing the description of a musical sign simultaneously in time (vertical axis) and in space (horizontal axis); the third axis simulates a sound in the depth of the stereophonic or multiphonic sound field. This notation comes close to a "cinematographic" way of listening, and seems to me absolutely appropriate for the analysis and description of the events in a musical piece within which space is an integral part of the overall meaning.

2) From back to front (see fig. 2).

In this arrangement, the time axis comes closer to a simulated real time, to time as the composer hopes listeners to perceive it, or as the listener wishes to experience it. It makes it possible to give time a mode: "active" if it goes from back to front, "passive" if it goes from front to back and "contemplative" if it is immobile. Moreover it frees the vertical axis from any spatial function thus making it possible to assign it to the localization of pitch thus allowing this notation to assimilate, entirely or in part, that which musical traditions was able to provide in these terms.

These two ways of reading are not necessarily mutually exclusive, the existence of one does not necessitate the disappearance of the other. They differ all alike as to the role which each one accords to space. When reading from top to bottom space is rather considered as a sound parameter among others such as pitch, amplitude, one..., In the second, space becomes a musical parameter. It is treated in the same way as time and could become as subtle in terms of fineness of notation as that which has been acquired throughout history for the time parameter.

Independently of the choice of method of reading, two paths are available for this type of representation: either the thinking behind traditional notation is preserved, or an attempt is made to develop another. If such is the case, the question of why it is done must be asked in order to define limits. In the case of music with instrumental sources, associated with music on tape or processed live, the advantage seems obvious for the instrumentalist. He/she can thus fine tune his/her playing given that, the spatial aspect of the piece, at present a source of worry and thus of deconcentration, is assimilated. This means that composers will have to constantly integrate space into their compositional process, as much in articulation as in structure, etc... Space should no longer be dealt with after completion of the compositional process, rather it must be considered an integral parameter of the piece. A parallel can be drawn with the introduction of the use of cacciae/decrescendo in the 18th Century which won its musical merit notably thanks to the work carried out by the Mannheim School. In the case of acousmatic types of music, the need for notation seems less evident to me. It would only be used for analysis or spatialization during concerts as long as this spatialization is not fixed on a multi-track tape. Moreover, arises the question of progressive integration of classical notation into vertical reading, or the adaptation of that which is adaptable in classical notation and the determination of other, more synthetical symbols with more complex implications and meanings.

Another alternative consists in using other bases, considering that classical notation is but the result, however effective, of instrumental music and that for a different type of music, that must be a correspondingly different type of representation whose aims are also different. One possible starting point could be to describe only the movements of a sound.

The way in which the curves develop makes it possible to determine if a sound is on the left or the right and to evaluate its direction and speed. These curves do not in any way describe the internal evolution of a sound (amplitude, frequency, tone, etc...). They attempt, in a visual way, to refine the listening process in terms of space and to give musical meaning to the movement of sound. This representation was integrated into an interactive musical exhibition conceived by Dominique Besson : Les Musicographies. She develops therein one of these new ways of visually dealing with music, a way which "makes it possible for each person to see the sound, hear the image, touch the music (...) get interactivity which serves the essential aims of a new form of reading."

(Dominique Besson in "Les Musicographies"). This representation is further from traditional notation and serves more as an "animated-musical imagery" than François Bayle in the Indroduction to the catalogue of the "Les Musicographies" exhibition and develops other types of connection between sound and visuals.