



MUSICALITY OF VICTOR VASARELY'S PLASTIC WORKS

Frédéric Rossille

"Might there be a correlation between two artistic methods such as music and plasticity?"
Victor Vasarely

Resonances in physical world

A roof for two... In his "Notes for a manifesto" of 1955, Vasarely likens the lozenge and the ellipse to deformations of the square and the circle making resort to space, movement and duration. That gets us closer to the plasticity of musical time adjusting itself to the processes of proportional increase and decrease influencing duration. In his "deep kinetic works", Vasarely superposes two nets separated by a space which becomes animated with movements when the spectator moves: a plastic translation of the sound phenomenon of echo. In many paintings of the "Gestalt" period, figures can be read in relief or in depth, creating thus a "mobile perpetuum of the eye", according to the artist's expression. Such examples demonstrate how Vasarely's optical art develops on the plane, in space and also in time.

Vibration first of all... Vasarely formulates the principle of identity of two notions which had been separated until that time: "Form and colour are a single entity" (in "Notes for a manifesto", 1955). He defines the "Plastic Unit" as the physical and psychic union of two opposing forms-colours, "related both to the material, mathematical structure of the Universe and to its intellectual superstructure". Vasarely's form-colour identity finds its counterpart in music. Poets have devised the analogy of timbre and colour. The height of a sound makes reference to its place within a range, in its turn defined by a mode and a tonic. The characteristics of the hearing apparatus explain why one hears timbre and pitch as two distinct realities. In fact, these two perceptions correspond to the expression of a single phenomenon – the acoustic vibration - thus leading to the timbre-colour identity. Vasarely's "Plastic Unit" appears then as the pictorial counterpart of the musical note, of the musical cell, of the "Sound Object" (as Pierre Schaeffer defines it in "Le traité des objets musicaux" of 1966), of the "Semanteme" (defined by Jorge Antunès, the composer, as a minimum sound fragment provided with meaning and identified on the basis of emotion), or of the "Time Semantic Unit" (a notion submitted by the information and music workshop of Marseille, consisting of a sound figure whose meaning is expressed by time). We shall group here the notions of note, musical cell, Sound Object, Semanteme and T.S.U. under the more general concept of Musical Unit. And we will oppose the Musical Units which can be transcribed (notes and musical cells) to the ones which cannot (Sound Objects, Semanteme and T.S.U). The duration, the intensity and the timing of the Musical Unit within a composition are the musical counterparts of the form, the dimension and the comparative position of the Plastic Unit in the bi-dimensional space of a painting.

The art of planning

In his search for a normalised vocabulary, provided with an alphabet of thirty forms and with a range of thirty colours, Vasarely accedes to an unlimited number of combinations. The work, planned by the artist in an abstract way, is performed starting from a "prototype-start", a concept close to the "transcription for piano" which lends itself to the most varied instrumentations. The implementations of the prototype-start – colorization, magnification, choice of the physical support – appear as successive orchestrations of the same theme. Unlike the ephemeral character of the painting or the architectural integration, the planning of a plastic work permits its endless conservation and its re-creation at any time, as is the case for today's musicians when they interpret a score dating back to Baroque times. Plastic planning and musical score are closely related concepts, both using abstract symbols.

Some examples of process

Repetition and symmetry Vasarely calls "*algorithms*" his works founded on programmable permutations of colour shades. The repetition of form-colour units evokes the repetition of musical cells, of motifs, of phrases or even of entire sections. The process reaches its peak in music using an "ostinato" – as in the "passacaglia" – and in the minimalist current. Whether it is in music or in plastic art, the repetition process guarantees unity, permitting all the same the most complex elaborations. The notion of repetition is very close to the mathematical notion of symmetry. "*Rhythm is to time as symmetry is to space*", writes Francis Warrain. In Vasarely's paintings, symmetry is often expressed along different axes. It can also take the shape of symmetries peculiar to certain geometrical figures. In the musical field, canons, reversible counterpoint, imitation processes, retrogradable rhythms originate from the principle of symmetry. On the basis of these principles, Vasarely's work is worth being compared to the musical constructions of Jean-Sebastian Bach and to those of the explorers of new writings: dodecaphony (Arnold Schonberg, Alban Berg, Anton Webern), Olivier Messiaen's modes of value and intensity, serial music, Witold Lutoslawski's original technique of the twelve sounds, Iannis Xenakis' stochastic music, Gyorgy Ligeti's "*micro-polyphony*", repetitive and avant-garde music.

Variation The characteristic of musical variation is presenting a theme by changing some of its aspects: ornamentation of the melody, change in harmony, transformation of accompaniment and other proceedings. In Vasarely, the spirit of variation appears in a work such as "*Clide*" (1984) which shows coloured variants of expansive structures on the motifs of circle, square, hexagon and octagon. The variation equally appears in the creation of series prolonged in duration, fulfilling the same plastic research or corresponding to the successive implementations of the same "prototype-start". Think of the black and white works constructed on a chessboard pattern and of the expansive-regressive structures of the "*Vega*" period.

Development In the "allegro" of the sonata form, the development - or "*elaboration*" - resumes some elements of the sequence to prolong the ideas thanks to repetitions, modulations and other proceedings. After a more or less complex tonal course, it ends by the preparation of the re-statement of the initial tone. In the final stage of a fugue, the polyphonic relation tightens the subject and its response overlap in close entrances. In Vasarely, the elaboration process characterises his works making a synthesis of different plastic research works. Thus, "*Xexa-Domb*" (1971-1973) matches Kepler's cube to the expansive structure of the "*Vega*" period. Built on the basis of the octagon and the square, "*Planetary*" (1972) combines the concept of the rich polychromy of "*Folklore planétaire*" with the language of expansive-regressive structures.

Finding a balance is not so easy... The realisation of the big form - the global structure of a work - implies the search for the balance of the parts among them and in their relation to the whole. Such balance will be mainly obtained by elaborating the contrasts necessary to the good development of the work and to keep interest in it alive. Thus, rapid movements will alternate with slow movements; the tonal course will get far from the initial tone to return to it in the coda. Vasarely is respectful of principles of balance and unity very close to those we have just mentioned. So, in "*Tauri-R*" (1966-76), the black and white drawing is completely duplicated in the negative, as if the two parts had to cancel each other. In "*Eridan*" (1956-76), the four quadrants of the canvas reflect each other in positive-negative. In "*Capella I*" (1964), the top half of the painting seems to radiate light while the bottom half seems to receive it. In "*V.P.112*" (1970), an expansive structure responds to a regressive structure.

Perceiving means... being deceived!

The form of a theory Vasarely studied the principles of Gestalt Theorie – or the theory of form – and applied them to his research. Let us mention the three great axes: the whole is different from the sum of the parts; perception consists in separating a figure from a background; mind structures the perception of forms according to certain natural laws. And let us remember that the background-form law of intervention is already implicitly formulated in the concept of Plastic Unit. The principles and laws of Gestalt Theorie apply to the perception of music. The natural laws of good form, good continuity and common destiny govern the art of melody. The laws of similarity show themselves in counterpoint imitation, the processes of repetition and symmetry, rhythm. According to the background-form law of intervention, musical analysis takes into account the notions of background, medium shot and close-up shot.

A propos of the sex of angels... Let us remember that many works of the Gestalt period represent figures which can be interpreted in relief or engraved. Polyphonic music superimposes several melodic lines and consequently supplies different reading schemes. Our attention can focus on one or the other voice highlighted in comparison to the other parts. Every complex music accordingly reveals different schemes of interpretation. Think of polyrhythm and other rhythmic ambiguities. A two-time measure in 6/8 can thus be meant as a three-time measure in 3/4 whether our ears group the six quavers by three or by two. In the two fields arousing our interest, interpretation ambiguities are richness factors, creating free spaces which are actively invaded by our senses.

From illusion to revelation Vasarely took part in the creation of kineticism that he theorized in his "*Yellow Manifesto*" in 1955. Starting from his figurative period, he tried to give the illusion of movement. His linear black and white nets avail themselves of retinal persistence, as in "*Linear study*" and "*Zebbras*" (1938). In his "*photographisms*", the illusion is produced by the superposition of positive and negative images out of step. His "*deep kinetic works*" superimpose two nets separated by a space and animated by complex movements when the spectator changes his/her place. The illusion of "*Hermann's grid*" clearly appears in works such as "*Rena II A*" (1968) where you can see little grey

spots peeping out at the intersections of clear lines. The illusion of “*Kanizsa’s motif*” is used in “*Binaire*” (1956) where geometrical figures are only suggested by barely sketched contours. Some melodies suggest virtual notes that our mind return with reference to natural resonance and tonal system. Some repetitive music – such as “*Music for 18 Musicians*” by the composer Steve Reich – plays on the introduction of time lags between superimposed simple motifs. This proceeding is at the origin of endlessly changing sound configurations, creating a kaleidoscopic effect. One of Vasarely’s thoughts can surprisingly fit this phenomenon: “*The ideal thing is attaining a total simplicity on the objective plan for a maximum complexity on the subjective plan*” in “*Vasarely plasticien*”, éditions Robert Laffont, Paris, 1979, p. 169).

In search of the Holy Grail

Equable temperament and Kepler’s cube

Between 1722 and 1744, Jean-Sebastian Bach produced the two books on the “Well tempered harpsichord”, each containing twenty-four preludes and fugues written in all the tones and semitones. The composer explores the possibilities supplied by equable temperament whose bases were recent. In 1691, Andreas Werckmeister had proposed to divide the octave into twelve equal semitones: that gave only one pure interval – the octave- , while the others were approximations of natural intervals. In spite of this flaw, equable temperament has the property of generating the same scales on all degrees. It only permits to modulate in all tones and semitones, something that Bach understood and exploited. The cube in isometric perspective or “*Kepler’s cube*” appears as a regular hexagon provided with three symmetrical radii. Not considering the reduction in size due to increased distance, it is an approximation of the real view of the cube. Like the image of equable temperament in Bach’s music, Kepler’s cube opened up new perspectives to Vasarely. With its equal sides and angles, it can actually fit in itself bringing about wise assemblages in a bi-dimensional space. Think of the “Gestalt” periods and of “*Hommage à l’hexagone*”, of the dynamic transformations Vasarely make it undergo in order to adapt it to his regressive-expansive structures as in “*Chey*” (1970).

Ostinato rigore In plastic art as in music a certain geometrical rigour governs forms, structures, connections between parts and the balance of the whole. It appears at all scales, from the primary meaningful unit to the big form. Even though Vasarely evokes in his writings “*the geometry of the artist which perfectly works without any exact knowledge*” (in “*Notes for a manifesto*”, 1955), he connects its figures, in an extremely precise way, to the ones of an architectural plan or of an orchestral score. Plastic art and music use coded programming languages in order to describe the arrangement of their building blocks. The laws to be applied are the ones which govern the perception of forms and colours, and the ones of harmony, counterpoint and musical construction. These laws mirror the way of working of the spirit-matter interaction.

Our journey through Vasarely’s universe, has made us aware of the omnipresence of mathematics: geometrical figures, repetition processes, principles of symmetry, application of combinatorial laws, permutations... Time and space can even echo to each other in a plastic representation of mathematics of solmization, as in “*Marna*” (1980). A plastic artist and a scientific mind, Vasarely suggests an explanation of the effectiveness of mathematics to describe our Universe: “*The languages of mind are nothing but the super-vibrations of the great physical nature*” (in “*Vasarely plasticien*” éditions Robert Laffont, Paris, 1979, p. 165). Produced by our minds which participate in noosphere, it would not be surprising that mathematics might exactly overlap the order of cosmos. It would be then at the very origin of the principles underlying music, plastic art and the working of our minds.

In fine...

In mid 20th century, music and painting underwent, in a sense, opposite evolutions. The musical horizon enlarged thanks to the arrival of concrete and electro-acoustic music: unwritten music with a technological tradition, whose transcription is difficult if not impossible. By formalising the concept of plastic art and opposing it to the traditional easel painting, Victor Vasarely opened the doors of a new world : the one of a visual art eluding our perception mechanisms , a programmable and reproducible art, endowed with a “*plastic alphabet*” and expressed in a mathematical language. His wildest dream remains, anyway, essentially humanistic: a “*polychrome city*” in which “*the art of tomorrow will be a common treasure*”. Pythagoras introduced numbers into music. 2,500 years later, Vasarely introduced it and theorised it in plastic art. Thanks to him, visual art has acquired a geometrical rigour comparable to the one of music and mathematics. Victor Vasarely plays before our eyes the scores of his “*plastic solfeggio*”. By uniting what is sensitive and what is intelligible, he performs a synthesis able to let us sense the mysteries of the Universe and to draw us along a mystic pathway, attaining thus the magic of Tibetan mandalas. The time has come to quote the famous maxim that Plato got engraved on the pediment of his Academy in Athens: “*He who does not know geometry, shall not enter*”, and to conclude with the words that Paul Claudel wrote in his Journal: “*Music is the soul of geometry*”.



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Walter Gropius

le carré bleu

Ce numéro du Carré Bleu ne respecte pas le programme tout en étant monothématique. Peut-être ne sera-ce pas un cas isolé: tout tourne autour de la musique, par trois réflexions simultanées, très différentes entre elles. Frédéric Rossille qui, à l'occasion de la rencontre à l'Institut Finlandais de Paris pour les 40 ans du Carré Bleu, a composé la pièce pour piano "The Architect" que l'on écoute en accédant à notre site web, occupe tout le dépliant par sa "Musicalité de l'œuvre plastique de Victor Vasarely" où il cherche une réponse à sa question: "Peut-être, existe-t-il une corrélation entre deux méthodes artistiques comme la musique et la plasticité?"

Le recto de l'Annexe – qui d'après les programmes devrait être dédié chaque fois à un architecte d'une région différente – est tout à fait respectueux de la consigne et illustre quelques œuvres et expérimentations fort intéressantes de l'architecte libanais Bernard Khoury.

Le verso propose une synthèse des résultats de l'édition 2006/07 de l'"Appel international à idées - une idée pour chaque ville". Parmi plus de 100 groupes participants le Jury (Lucien Kroll, président; Jaime Lopez de Asiain, Massimo Locci) a choisi des projets de jeunes diplômés d'Algérie, Autriche, Finlande, France et Italie, avec dix « lauréats » gagnant les stages offerts par d'importantes agences architecture européennes et 6 recevant une mention. L'édition 2007/08 – envisagée pour l'automne prochain – a été présentée au mois de mai à Palerme lors de la réunion des Commissions Nationales de la Méditerranée pour l'UNESCO - "Synergies Méditerranéennes: vers un développement durable dans le respect de la diversité culturelle".

Francesco Fiotti, jeune architecte italien qui s'occupe de la relation entre la Musique et l'Architecture depuis longtemps, a soigné "Multivers – des parcours possibles entre l'espace et le son" articulé en trois parties "Horizons élastiques / D'autres mondes / Monade ouverte".

Attila Batar s'est joint à nous avec "Sound, Noise and Silence" un texte de large envergure soutenu par une vision extraordinaire qu'il serait mieux de publier simultanément. Les limites éditoriales ne l'ayant pas permis, "Sound, Noise and Silence" va être le prochain numéro de La Collection, mais il est déjà disponible (en anglais, français et italien) sur www.lecarrébleu.eu.

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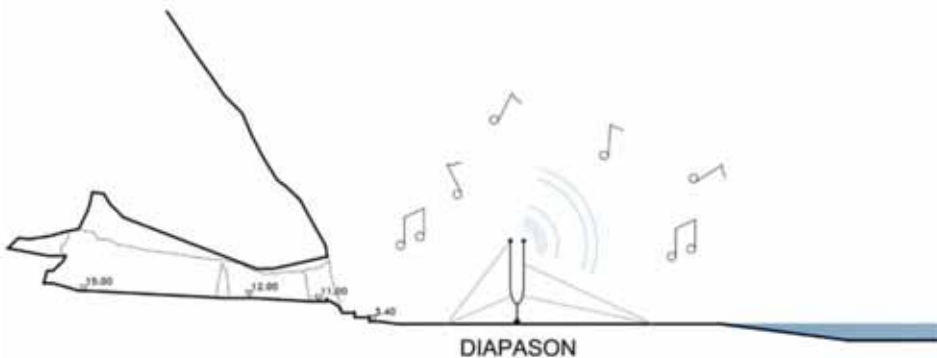
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Edoardo Persico

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