This article was written for the exhibition catalogue *Soiva kuva – Resonant image* on the occasion of a joint exhibition by Tapio Lötjonen, Juan Antonio Muro and Tapani Tamminen at the Rovaniemi Art Museum, Rovaniemi, Finland during 13.9.2014 – 12.1.2014.

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Music, painting, colour and abstraction

It is not that rare for visual artists to engage actively in music as a source of inspiration or pleasure, or for musicians to paint and draw in their free time. What is less frequent, though, is what we encounter in this exhibition: Three artists, who are *professionals* in *both* music and painting. They do not dabble in one or the other of the arts as a pastime or pleasurable relief from their more 'serious' artistic occupation, but engage in both artforms with the same dedication (or have done so in some phase of their lives). They have submitted their works for criticism in public exhibitions and concerts and are fully conversant in the discourse of both fields of art.

Several unavoidable questions arise from the theme of this exhibition. It is significant, I think, that all three exhibited artists have chosen an abstract idiom for their paintings. Is this a coincidence, or is it some kind of reflection of their involvement in music? Does the abstractness of the images echo the often underlined 'inherent abstractness' of music? Secondly, is there a correlation of musical expression and visual expression – in the works of these particular artists? (I use the word expression here to mean artistic creation in general). Thirdly, can music express something that is beyond the compass of visual art and, can visual art manifest something that cannot be expressed with music? The question of correspondence between these two arts invites the inevitable and often posed further question of the possible correspondence between tones or harmonies in music and individual colours and colour relationships in painting?

My interviews with the artists in this exhibition confirmed my impression that artists rarely make direct comparisons between their own art and other art forms. The autonomy of the art form as well as its particular culture, history, habits and accumulated tacit knowledge are seen as unique and irreplaceable. It is therefore not really surprising that none of the artists in

this exhibition have tried to relate forms or colours directly with musical sounds. Music is music and painting is painting. None of them admit to having had synesthetic experiences of any kind. Making paintings and making music have been for each one of them autonomous idioms with their particular techniques, rules and possibilities. This does not mean that the artists have kept their painting and music totally isolated from each other. Tapani Tamminen's (b. 1937) oeuvre features some musical titles (Flamenco and Music I from 2005 and *Invitation to the Dance* and *Music II* from 2006), but they are distinctly few. Juan Antonio Muro (b. 1945) has composed music after his own paintings (one will be performed at the opening of this exhibition), and he has even painted and composed music simultaneously. "Well, I had to try it!... It was very interesting...", he remarks amusedly. For Tapio Lötjönen (b. 1940) both music and painting, the enjoyment and making of them, seems to be source of great pleasure. For him playfulness, at times even a boyish mischief, seems to be in the forefront in both art forms. Lötjönen, a former clarinettist in symphony orchestras and chamber ensembles, finds ideas and inspiration for his paintings in jazz, among other things. Is this where the twirling and jagged lines and bouncing spots in his paintings come from? Are they the counterparts of melodic and rhythmical improvisation?

All three artists were reluctant to see direct correlations between for instance sounds and colours. The possibility of a correspondence between musical and pictorial form and rhythm was not entirely refuted. The greatest, but by no means only, difference between the two artforms is, of course, their relation to time. In music it is explicit, often highly organized and unidirectional; in painting it is implicit, free and much dependent on viewing habits and subjective experience.

Music is often seen to be closer to emotions than painting – perhaps because it happens in real time and is sensed physically by the whole body. Tapani Tamminen's answer to this question adds interesting detail to the matter: "Music is emotionally strong and rich. But painting can also attain these qualities, intimately. For me painting is about intimacy." Things are not this or that, black or white. Perhaps painting is able to deal with emotional reaches that are outside scope of music.

We arrive here at the much-debated matter of self-expression in art. In answer to my question: Are you able to say in your music something that cannot be expressed visually, and *vice*

versa, Juan Antonio Muro exclaims: "I have never wanted to 'say' anything! When I want to say something, I write! I am an extrovert – I have already 'expressed' everything, when I walk into my studio." This answer may surprise some lovers of art, but I am certain that one would get a similar answer from a great proportion of artists. Are they emotionally cold or inhibited? The answer is no, for in relation to emotions there is a decisive difference between expression and self-expression. The American philosopher Susanne Langer says in her book *Philosophy in a New Key: A Study in the Symbolism of Reason, Rite and Art*: "...music is not self-expression, but formulation and representation of emotions, moods, mental tensions and resolutions – a logical picture of sentient, logical life, a source of insight, not a plea for sympathy". (Langer 1971, p. 222). The same could surely be said of painting. In this light, Muro's reply is perfectly understandable, and he adds: "...I never create anything only for myself. I want to awaken in other people a need to pause and discover something in themselves."

Painter-musicians

There are a few quite famous representatives of painter-musicians. One long neglected example is the Lithuanian painter-composer Mikalojus Konstantinas Čiurlionis (1875–1911), who was fully trained in both professions and practised composition and painting throughout his life. he developed from contemporary symbolist and expressionist influences a highly individual style in both artforms. Čiurlionis is considered by Lithuanians as one the founders of the nation's cultural identity, holding a similar status in Lithuania as Jean Sibelius and Akseli Gallen-Kallela have in Finland. (Andriusyte-Zukiene 2002). Paul Klee (1879–1940) and Wassily Kandinsky (1866–1944) were contemporaries of Sibelius, Čiurlionis and Gallen-Kallela and they, too, were accomplished amateur musicians: Klee a violinist and Kandinsky a cellist. Čiurlionis's highly expressive music and mysterious art had caught the eye of the ever-vigilant Kandinsky, and in 1910 he invited Čiurlionis to take part in the *Neue Künstlervereinigung* exhibition in Munich. Unfortunately, the invitation arrived too late and Čiurlionis was unable to participate.

Some ten years later both Klee and Kandinsky were teaching in the newly formed Bauhaus. One of their colleagues there was the American-born painter Lyonel Feininger (1871–1956). Feininger came from a family of professional musicians and was exposed to music from very

early on. He continued playing and composing music until 1927, when "he abandoned musical composition, probably because of the time it took away from his painting", writes Barbara Haskell. "By then, however, the structure of polyphonic counterpoint had become the basis of his fine art" Haskell says, and quotes Feininger as saying: *Bach's essence has found expression in my paintings* – *The architectonic side of Bach whereby a germinal idea is developed into a huge polyphonic form*. "To the end of his life, he credited Bach with having been his *master in painting*", Haskell summarizes. (Haskell 2003).

A lesser-known example of painter-musicianship is Odilon Redon (1840–1916). According to contemporary accounts the Redon was an accomplished violinist. He frequented the musical and literary salon of Madame Rayssac, where he befriended the composer Ernst Chausson and played the violin in performances of Beethoven's trios. Redon's exquisitely coloured pastel works are redolent with the atmosphere of the symbolist-expressionist era. In 1993 Tristan Murail, one of the inventors of 'spectral' music, composed a piece for chamber orchestra, *La Barque mystique*. The title and the inspiration for the work were taken from a series of Redon's pastels by the same name.

In post-revolutionary Russia, the musician-painter Mikhail Matiushin (1861–1934) gathered around himself a group of students while carrying out research and experiments in the Institute for Artistic Culture (GINKhUK) in Petrograd during 1923–26. In true Russian tradition of philosophical mysticism, the goals of the experiments carried out in Matiushin's *Workshop for Spatial Realism* were no less than to formulate a universal language, to redesign the world for the masses outside the 'dead' museums and to produce a new kind of human being. Matiushin believed that these goals were reachable in part by developing "extended vision" that spatially encompassed 360° and which could sense the mystic "fourth dimension", allowing the invisible energy of the universe to become visible through colour. (Tillberg 2003). Today Matiushin is known as one of the foremost painters of the Russian Avant-Garde movement and is remembered for composing the music for Aleksei Kruchenykh's futurist opera *Victory over the Sun*, for which Kazimir Malevich designed the decor. Matiushin's theoretical text *A Treatise of the Violin based on Quarter-Tones*, publication 1912, was influential in the founding of a short-lived Russian group of "ultrachromaticists", who based their musical expression entirely on micro-intervals. (Centre Georges Pompidou 1979, p. 480).

Painters inspiring musicians

In addition to artists, who have been either professionally or non-professionally active in more than one artform, there are visually sensitive musicians, who do not express themselves in visual art, but whose works have nevertheless been influenced or inspired by visual art. Morton Feldman, an American composer, who exerted a major influence on the development minimalist and 'indeterminate' music, composed works dedicated to some of his artist friends who worked in New York during the 1950s and '60s. For Franz Kline (1962), De Kooning (1963), Rothko Chapel (1970) and For Philip Guston (1984) are all slow-moving and sometimes extremely long chamber music works. Feldman has said that his music was influenced by all of these artists as well as by Jackson Pollock and Robert Rauschenberg. One wonders whether the hovering, immobile quality of much of Feldman's music is a reflection of the same qualities of some of the paintings he admired. It is likely, also, that he was inspired by the 'lack of composition' in Pollock's works and by the uninhibited freedom in Rauschenberg.

Music inspiring painters

There are also visual artists for whom music has not only been a source of pleasure, but also an inspiration or affirmation of their visual ideas. Known examples in Finland include Lars-Gunnar Nordström, who found jazz music and his highly rhythmic Concretist idiom in painting more or less simultaneously. Some pieces of music can evoke strong visual images in one's imagination, but can a painting evoke the experience of music? Are some paintings more "musical" than others? Music and visual art share some verbal concepts such as harmony, rhythm and colouration, but are they true counterparts? One example of a painter, whose works have been called musical by critics (and who did not, to my knowledge at least, play any instrument) is the American abstract colour-field painter Richard Diebenkorn (1922–1993). I would tend to agree with this description, Particularly Diebenkorn's late *Ocean Park* paintings have something in their colour relationships and subtle forms that remind one of classical harmony and counterpoint. The paintings' compositions and colours are clear without being explicit. They have a solid underlying structure, but in their translucency, they evoke space, light and air, rather than the structure itself. Is this a hallmark of great music, too? Diebenkorn loved music, particularly Bach and Mozart, which he sometimes listened to while painting. Looking

at reproductions of the *Ocean Park* series, It is not surprising, but still one is puzzled as to what exactly conveys the feeling of musicality, and do all people experience it.

In search of a universal correspondence

Could the two sister arts be parallel expressions of the same 'things', springing from the same source, but being filtered through different media? Perhaps they could be physical manifestations of an intangible 'universal energy' or higher reality. This idea was nursed by Kandinsky, Mikhail Matiushin and Frantisek Kupka – all pioneers of abstract painting and all either professional or amateur musicians. These artists drew their inspiration from the esoteric philosophies and 'occult knowledge' (as well as popularized sciences) that were floating around during the end of the 19th and the beginning of the 20th century.

The theories of universal correspondence or materialization of 'universal energy' were mediated to the avant-garde artists in both Russia and Western Europe by the theosophy of the New York -based Russian expatriate Helena B. Blavatsky and the anthroposophy of her follower Rudolf Steiner. (See for example Sixten Ringbom in The Spiritual in Abstract Painting, 1890–1985). Both movements based their ideologies on a wide mixture of sources. As Margareta Tillberg points out in her book *Coloured Universe and the Russian Avant-Garde – Ma*tiushin on Colour Vision in Stalin's Russia 1932: "The eclectic theosophical cosmology combined sacred Buddhist and Hindu texts, mystery religion, Gnosticism, Neo-Platonism, Western ancient and modern occultism, with additions from the natural sciences, archaeology, medicine and evolutionism." (Tillberg 2003, p 174). Other influences that fired the imaginations of artists and writers of the fin-de-siècle onwards included James Clerk Maxwell's discovery of electromagnetism (that asserted the universality of radiation energy), Helmholtz's experiments in neurophysiology and the new discipline of psychophysics (which analysed connections between outer stimuli and inner sensations). In addition to these, pantheism as a form of universalist thinking inspired many of the Russian avant-garde artists. (Tillberg 2003, p. 173-4). Some writers add to the list Einstein's (special) theory of relatively (1905), which includes the concept of space-time.

A slightly different (and perhaps more sober) kind of universalism is to be found in Goethe. In his 'Theory of Colours' (*Zur Farbenlehre*, 1810) Goethe briefly touches on the question of the correspondence of colours and musical sounds:

Colour and sound do not admit of being directly compared together in any way, but both are referable to a higher formula, both are derivable, although each for itself, from this higher law. They are like two rivers which have their source in one and the same mountain, but subsequently pursue their way under totally different conditions in two totally different regions, so that throughout the whole course of both no two points can be compared. Both are general, elementary effects acting according to the general law of separation and tendency to union, of undulation and oscillation, yet acting thus in wholly different provinces, in different modes, on different elementary mediums, for different senses. (Goethe 1985, p. 298:748)

Goethe was a major influence on Rudolf Steiner. Goethe's statement supports one aspect of universalist thinking while blankly repudiating another: Goethe admits that colour and music have their source in *the same mountain*, but that after running their course through their *different provinces*, they may not be compared. It must have been of interest to Rudolf Steiner and many artists who read Goethe that he parallels the mountain, the source for the two artforms, with *a higher formula* with its *higher laws*, which presumably are universal and therefore applicable (in some undefined way) to both music and painting.

Even without getting involved in any mysticism, one can reasonably ask in the case of music and abstract art: if – and particularly when – they do not represent anything immediately sensible, what do they represent or embody? Furthermore, is it possible that they *do* spring from the same mountain, that their source is an intangible, ineffable something that resides perhaps in human consciousness, in a Jungian universal subconscious or some other repository of shared ideas and experiences.

The problem of meaning

Many theories have been formulated about meaning in both music and abstract art. Instead of attempting a comprehensive survey, I will present some ideas that seem relevant and of spe-

cial interest to our theme. One is the phenomenon of *synaesthesia*, the union of the senses that so occupied the minds of the symbolists and the early abstract painters. Another is Goethe's notion of a higher formula or law that is supposed to govern both fine art and music. A third and often-repeated theory asserts that music and fine art comprise languages and syntaxes of their own, with vocabularies of "signifying forms". Such theories often include the possibility of translating the forms of one language to the forms and "sentences" of another (as in programme music, which might present an auditory equivalent of a visual scene or event). One theory that does away with the necessity for a direct comparison of the products of both artforms, but which still allows for a connection, is provided by Susanne Langer. She says that art is the formulation of ideas and feelings into expressive symbols. These symbols are not interchangeable with or translatable to discursive, propositional language or other artforms. According to Langer art, indeed, is not a language; it is a form of knowledge, a symbolic expression of thought and of life experience. Reading Langer, one realizes that it is not necessary to resort to either mysticism or positivism in this matter. The subject matter of 'abstract' art and 'abstract' music is in the art and music itself: they are logical transformations of sentient and intellectual experiences that cannot be verbalized. I shall return to this idea at the end of the text.

A union of the senses

Most of us can experience the association of sensation in one sensory modality with those of another. We say that reddish colours are "warm" and bluish ones are "cold"; the taste of lemon may be described as "sharp" and a sound as "soft" or "rough". Such comparisons are made, in the case of most us, through association or metaphor. The sensation in one modality does not literally and neurologically trigger a simultaneous sensation in the other. It evokes it in our imagination. This kind of associative thinking is sometimes called *cognitive synaesthesia*. But there is another form of synaesthesia, referred to as *genuine synaesthesia*, which does not rely on imagination or cognitive association. Richard Cytowic is an American neurologist, researcher and writer on synaesthesia. He has conducted extensive tests on genuine synesthetes and has written several books on the subject, including *Synesthesia: A Union of The Senses* (2002) and *The Man Who Tasted Shapes* (2003). To give the reader a proper picture of synaesthesia, I quote Cytowic at length:

The word anesthesia, meaning "no sensation", shares the same root with synesthesia, meaning "joined sensation". It comes from the Greek syn, union + aesthesis, sensation. It denotes the rare capacity to hear colors, taste shapes, or experience other equally strange sensory fusions whose quality seems difficult for the rest of us to imagine. For example, my voice would be not just something that is heard, but also felt, seen or tasted. A synesthete might describe music whose sound looks like "shards of glass", a scintillation of jagged, colored triangles moving in the visual field. Or seeing the color red, a synesthete might also perceive the "scent" of red.

Synaesthetic percepts are neither a conventional perception nor an image. They possess a curious spatial extension and dynamism, and are involuntary, automatic, and consistent over time. Synaesthesia is "abnormal" only in being statistically rare. – Present knowledge of synaesthesia can be summarized as follows: It runs in families in a pattern consistent with X-linked dominant transmission... Female synesthetes predominate with a ratio of at least 3:1. Synesthetes are preponderantly non-right-handed and have additional features consistent with anomalous cerebral dominance. They are mentally balanced and normal – indeed bright – in the conventional sense, and possess excellent memories. (Cytowic 2002, p. 2).

Cytowic stresses that synesthetic experiences of for example associating musical sounds with colours and patterns are real for their subjects; they are not hallucinations, but they are entirely private. Although they have been found to occur the same way for the synesthete through decades of experiencing, no two synesthetes have been found to systematically associate the same sounds with the same colours or patterns.

Cognitive synaesthesia, which Cytowic refers to as metaphor, etc., is a universal ability in humans and may be a key factor in artistic creation. I shall return to this point later. Genuine synaesthesia, on the other hand, is extremely rare; only one in 25,000 have it and the vast majority, 90%, are female. (Cytowic 1995, Tillberg 2003, p. 146). So, the likelihood of a male being a genuine synesthete is in the order 1:250,000. Still, some artists are known to be genuine synesthetes – and almost are male. According to Cytowic, the composers Zoltan Kodaly, Olivier Messiaen and Duke Ellington had coloured hearing. The writer Vladimir Nabokov was a well-known grapheme-colour synesthete (as were many other members of his family). Composer György Ligeti apparently had both grapheme and sound-colour synaesthesia, as report-

edly has the French pianist Helene Grimaud. Also, the painter David Hockney, who was examined for synaesthesia by Cytowic, has coloured hearing. Synaesthesia may be more common than is realized, so little and so recently has it been properly researched. Many people have lived to be adults before they have learned that they are synesthetes, and are often surprised at the fact that others do not experience the world as they do.

A lot of attention was given in the arts and elsewhere to the idea of synaesthesia during its heyday in the period between about 1860 and 1930. After that it was forgotten, until Richard Cytowic and a few other scientists turned their attention to it in the 1990s. During the era of the Symbolism and Post-Impressionism in visual art and Late Romanticism and early atonality in music many artists and musicians *claimed* to have synesthetic abilities or experiences. Among composers, who have reported experiencing or seeing musical tones or keys in colours or *vice versa*, were Franz Liszt (1811–1886), Nikolai Rimsky-Korsakov (1844–1908), Alexander Scriabin (1872–1915) and Jean Sibelius. For lack of adequate documentation, it is no longer possible to prove or disprove the authenticity of their synesthetic experiences, but one must remember that during 1860–1930 synaesthesia was seen as one of the forms of heightened sensitivity and spirituality that were considered the hallmarks of exceptional creative talent. For this reason synesthesia, just like spiritualism, was *à la mode* in the salons of Paris and other European centres of art.

Wagner, colour and the Gesamtkunstwerk

Richard Wagner (1813-1883) was an important precursor of multisensory art and a trailblazer of modern ideas across the arts. In his "musical dramas" Wagner insisted that action, rhythms, melodies, harmonies, scenography, costumes and colours serve the dramatic and psychological truthfulness of the work. The purpose of the orchestra was no longer to merely accompany the singers, but to blend with the drama and to express the unconscious thoughts and feelings of the protagonists, such as their contradictory or unconscious desires and sexual urges.

Wagner revolutionized musical structure. With his chromaticism and "unending melodies" he stretched the traditional major-minor tonality to its limits. Wagner's chromaticism was not

merely a way of transferring from one chord and scale to another; from his opera *Tannhäuser* (1845) and especially *Tristan and Isolde* (1859) onwards it was used as an independent psychological element that was derived from the drama. Wagner has also stated that it was his aim to create music in which the orchestration and harmonic development would make "colour itself become action".

The term 'colour' or chromaticism does not always refer to a visual quality in music – in fact it rarely does. More often chromaticism simply means the presence of semitone intervals or 'dissonances', deviations from the major-minor tonality. A semitone or seventh-interval added to a major or minor chord is a typical example. Such additions were regarded in ancient music as "colourations" of the melody line – hence the term "chromatic". A prolific use of chromaticism, as in the late-romantic music of Alexander Scriabin, Alexander von Zemlinsky (1871–1942), and Arnold Schoenberg (1874–1951) led to a gradual dissolution of major-minor tonality. Whether such use of chromaticism is experienced as analogous or evocative of *visual* colour depends ultimately on many factors, such as the context of the music's performance and the expectations and listening mode of the audience.

Kandinsky meets Schoenberg

On New Year's Day 1911Wassily Kandinsky attended in Munich a concert of Arnold Schoenberg's music. The music consisted of Schoenberg's two string Quartets, Op. 10 (1907–8) and Three Pieces, Op. 11 (1909). Kandinsky made sketches of the concert, which he used later for his painting, Impression III (Concert) 1911. Franz Marc, who was also present, wrote to Auguste Macke after the concert:

A Musical event in Munich gave me a strong jolt – a chamber music soirée by Arnold Schoenberg … The audience behaved like hoi polloi … Can you image a music in which tonality (i.e. the holding of a certain key) has been completely abolished? I continually had to think of Kandinsky's great composition, which likewise admits no trace of key, and also of Kandinsky's 'leaping flecks' as I was listening to this music which lets every note struck stand for itself (like white canvas between the colour flecks!). Schoenberg proceeds on the assumption that the concepts of consonance and dissonance do not even exist. A so-called dissonance is merely a

consonance with larger intervals.... Schoenberg, like the Association, is convinced of the irresistible dissolution of the laws of European art and Harmony." (Maur, p. 32–33)

Later that year Kandinsky and Schoenberg met. They expressed their mutual admiration for each other's work and Kandinsky invited Schoenberg to join the *Blaue Reiter* Association. Around 1910–12 Kandinsky sought a justification for abandoning figuration altogether. Like many other artists of this epoch, he was concerned that painting would be reduced to mere ornament. We see from his versions of the *Blaue Reiter Almanac*, that he first turns to Theosophy and esoteric images, such as those of the theosophists Annie Besant and Charles W. Leadbeater for a source and justification of his abstracted forms. He planned to include many references to Rudolf Steiner in the Almanac. Kandinsky was much influenced by these theories in his article *On the Question of Form* Kandinsky wrote: "The world is full of resonances. It constitutes a cosmos of things exerting a spiritual action. The dead matter is a living spirit." (Lankheit 1974).

In the final 1912 version of the Blaue Reiter Almanac, which was edited together with Franz Marc, Kandinsky replaced all the references to esoteric philosophies and occult knowledge with texts on music. Already in *Über das Geistige in der Kunst* (On the Spiritual in Art) Kandinsky discussed the synesthetic connection between colours and the sounds of musical instruments. He included in the 1912 Almanac two paintings, a song and an article on music by Schoenberg as well as compositions from Schoenberg's pupils Anton Webern and Alban Berg. (Lankheit 1974).

Schoenberg was a painter as well as a composer and musician. In fact at one time, when depressed with his lack of acceptance as a composer, he considered taking up a career as a visual artist. Painting entered Schoenberg's life and work in two ways. Firstly, he painted and drew throughout his life; secondly, his radical compositions brought him in contact with likeminded avant-garde visual artists. Schoenberg was largely self-taught, both as a painter and as a composer. To develop his skills as a composer, he spared no time or effort in carefully studying the works Bach, Mozart, Beethoven, Wagner and Brahms. He analysed their harmonies and rhythmic structures to find the logical constituents of their expression. This meticulous analysis lead to his invention of an entirely new musical expression, dodecaphony.

In contrast to this, Schoenberg's attitude to learning visual art was – at least according to his own words – quite the opposite: he denied all influences, examples and teachings and emphasized the spontaneous, unfettered and theory-free nature of his painting. There is, of course, a parallel here with his desire to shed off the burden of models and culture in his music; but as a visual artist he seems to have wanted to reach the same mountain peak with one leap that as a musician he was prepared – quite voluntarily and knowingly – to conquer via a path that required great intellectual and spiritual exertions.

According to Theodor Adorno, Schoenberg "removed colour from the realm of the decorative and raised it to the position of a full-blooded compositional element." Here is a direct parallel with the transformation of colour as an element of visual art: it, too, ceased to be a decoration or subservient addition to form and narrative. Schoenberg's effort, like Wagner's, to free music from the constraints of tonality was dictated by his aspiration for expressive freedom. He was not seeking abstraction of a formal kind but a new tonal and harmonic structure that could give expression to innermost feelings.

In a letter to Kandinsky on 24 January 1911 Schoenberg wrote: "Art belongs to the *unconscious*! One must express oneself *directly*! Not one's taste, or one's upbringing, or one's intelligence, knowledge or skill. Not all these *acquired* characteristics, but that which is *inborn*, *instinctive*." (Sims 2002, p. 71).

The well dressed, somewhat aristocratic surface of Kandinsky and the perfectly ordinary middle-class appearance of Schoenberg concealed two like-minded radicals. The two men were revolutionaries of their artforms. Together they sought, not some new abstract formalism, but new kinds of *significant forms* and *expressive symbols* that could embody their changed world experience. This is the goal that they shared and not any interchangeable language of forms.

Olivier Messiaen's inner vision

The French composer Olivier Messiaen (1908–1997) is besides Schoenberg the composer whose music is perhaps most often linked with visual colour. But Messiaen's colour derives from quite different sources than Schoenberg's.

Messiaen developed his musical ideas relatively independently, paying little heed to both the prevailing traditions and radical movements of his time. He was unconstrained by the rules of traditional Western counterpoint, rhythm and harmony. Quite often Messiaen's music evokes a static effect of simultaneity, rather than a successive, forward-reaching dynamism, which is the hallmark of Western classical music. Paul Griffiths writes in *Oliver Messiaen and the Music of Time* that the diatonic chords used by Messiaen "...are objects of contemplation, not subjects of action, or they are elements to colour some large design." Griffiths likens the sonata forms used by Messiaen in some of his early compositions to 'iconostases', because they lack the tension and dynamics of a traditional sonata. (Griffiths 1985, p. 15–16). Furthermore, Paul Griffiths says: "Instead of a metre ... Messiaen's music is most frequently tied to a pulse, which insists that all moments are the same, that the past, the present and the future are identifiable." (Griffiths 1985, p. 15).

When Messiaen later left traditional tonality, he linked his *modes of limited transposition* to colours and numbered them from one to seven, leaving some of them unnumbered, very similarly to how Newton treated the spectrum. According to Griffiths, Messiaen has said that he thought of a spectrum of chords as early as 1928-9, when composing his *Seven Preludes for piano*. In *Couleurs de la cité céleste* (Colours of the Heavenly City) from 1963 there are colour notations throughout. According to Griffiths, "The form of this work is entirely dependent on colours... the frequent appearances red and blue chords in *Couleurs de la cite celéste*... can be seen as looking not only to the jewels of the New Jerusalem but also to the prefigurings of those splendours in the windows of the *Ste Chapelle* and of *Notre Dame de Chartres*..." (Griffths 1985, p. 205).

The spectral colours of jewels and pearls, recurrent in sacred and mystic writings, are central compositional material of Messiaen's music. He has said of his second mode that it "turns through certain violets, certain blues and violet-tinged purple" and that the third mode "cor-

responds to an orange with pigmentations of red and green, touches of gold and also a milky white with iridescent reflections like those of opals." (Griffiths 1985, p. 204–5).

Messiaen mentioned Robert Delaunay as his favourite painter "... not only because he is a forerunner of abstract painting, and so very close to what I see when I hear music, but above all because he created a very subtle and at the same time violent way of treating relationships between complementary colours, especially by the principle of 'simultaneous contrast' and 'Orphism'." (Griffiths 1985, p. 204).

Messiaen's audible complementary colours are very similar to visual complementaries. He divides, for example, a cluster of twelve notes into two chords, which are complementaries of each other. The idea is totally analogous to creating a cluster of "white" or colourless light by mixing complementary coloured lights such as magenta and green or ultramarine and yellow. Messiaen employed colour as a highly elaborate structural basis for his compositions. To enjoy his music, one does not need to know this structure – the presence of the colour is so strong that one can enjoy it directly.

In an answer to a question about synesthesia, Messiaen denied having this faculty: *When I hear music, and also when I read a score, I see internally, with the mind's eye, colours that move with the music.*" (Griffiths 1985, p. 203). According to Cytowic, there are not only many forms, but also many grades of synaesthesia. Perhaps Messiaen was a synesthete without knowing it.

The art of abstraction

Susanne Langer's philosophy in a new key offers alternatives to both the mechanistic and mystified interpretations of the creative act. According to Langer, music and visual art are expressive symbols of ideas and feelings. They are the result of transformation of experience into something universal. In them we can recognize patterns of human life and experience, because they are distanced from the immediate and the personal.

The ability to *see internally, with the mind's eye*, to imagine, is to construe significant forms and patterns, symbols that carry universal meaning. This internal seeing and hearing, the abil-

ity to visualize, is essential to artistic creativity. The artist must use metaphorical and symbolic thought to transfer ideas and experiences to a level of universal cognition. I would argue that, in one form or another, it is also the precondition of the appreciation of artworks. The ability to open oneself to the richness of associative thought, to the power of symbols, is the key to the full enjoyment of art. Susanne Langer says:

... I strongly suspect, though I am not ready to assert it dogmatically, that the import of artistic expression is broadly the same in all arts as it is music – the verbally ineffable, yet not inexpressible law of vital experience, the pattern of affective and sentient being. This is the content of what we perceive as "beautiful form"; and this formal element is the artist's "idea" which is conveyed by every great work. It is this, which so-called "abstract art" seeks to abstract by defying the model or dispensing with it altogether; and which music above all arts can reveal, unobscured by adventitious literal meanings. That is presumably what Walter Pater meant with his much-debated dictum, "All art aspires to the condition of music." (Langer 1971, p. 257)

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