

## THE PRIMER: SPECTRAL COMPOSITION

[The Wire, issue 237, November 2003]

Sound as a physical phenomenon has dominated the imagination of avant garde composers during the later 20th century. None has been more obsessed by it than the school of spectral composers. 'Spectrality', according to one of its founders, Romanian pioneer Horatiu Radulescu, is not about composers with an interest in the occult or who like dressing up as spooks, but instead involves searching out the "deep structure of sound" revealed in its harmonic spectrum. The search for "Music... older than music", as one of Radulescu's titles has it, was anticipated by Xenakis and Stockhausen, among others. Until this point, Western composition had long spoken the language of tones, defined through melody, harmony and rhythm – music which leaves the inner nature of sound unexplored. It's this conception which spectralism challenges. Essentially, the spectralist idea is that one single sound is also a resonant acoustic complex.

During the 60s, avant garde composers were rejecting the straitjacket of serialist complexity – giving rise, in America, to the minimalism of Reich, Riley and Glass. In Europe, Stockhausen's search for the inner nature of sound influenced a group of composers intent on analysing the sound spectrum. By the mid-70s, Radulescu, Gérard Grisey and Tristan Murail were producing the style of music which became known as 'spectralism'. Connotations of spectres and apparitions are unfortunate; this music works with the harmonic spectrum, and it can be strident as well as ghostly or numinous. Like the minimalists, spectral composers came to reject the mathematical abstractions of serialism. Kaija Saariaho was struck by how "[Grisey's] music, and Tristan Murail's, sounded completely different to the serial harmonic structures which were based more on abstraction, or some intellectual game, than the actual sounding result". Minimalism and spectralism both neutralised their materials, notably melody, in order to make the form transparent, but in other ways couldn't be more opposed. Spectralists wanted to advance the modernist project, an alien concern for minimalists. And although spectralism began as a reaction against serialist complexity, most listeners would regard it as in many ways just as complex.

Like minimalists, spectralists – not only second generation figures such as Saariaho and Jonathan Harvey, but also the founders themselves – have moved away from the pure original vision. But what exactly is that vision? Hugues Dufourt wrote an article that referred to "musique spectrale", and the label was picked up by writers and journalists. But artists hate labels, and spectral composers are no exception. Radulescu refers to the "spectral technique of composition" rather than "spectral music", and Grisey maintained that "Spectralism is not a system... like serial music or even tonal music. It's an attitude. It considers sounds, not as dead objects that you can easily and arbitrarily permute in all directions, but as being like living objects with a birth, lifetime and death." Grisey insisted that the basic unit of music should be the sound, not the note on the page.

What does it mean to treat sounds as 'living objects' – what Radulescu referred to as "sound plasma"? There's an echo of John Cage's desire to let sounds be themselves, but though intuition must take over, spectralists are equally concerned with the science of sound itself. Radulescu described spectral techniques as "a conceptual reply (2000 years later) to Pythagoras, and a realisation of the intuitions of both Hindu and Byzantine music, which were closest to natural resonance".

The Ancient Greek philosopher and mathematician Pythagoras investigated the physical properties of vibrating strings, and discovered that its natural harmonics divide into mathematical proportions. Thus the ratios of the first three overtones of the harmonic series – the main intervals of the musical scale, the octave, fifth and fourth – were discovered. Pythagoras unified the scientific and the spiritual, and the notion of music reflecting the divine harmonic structure of the universe was taken for granted by thinkers from Plato to Isaac Newton. But musical authorities debated whether in tuning systems, Pythagoras's holy purity of the numbers was paramount, or the judgment of the human ear.

Spectralism isn't alone in seeking this paradoxical union of ancient/primitive and modern. Xenakis's exploration of microtones and sliding sound masses is echoed in spectralism, but neither his "texture music", nor Ligeti's – also cited by spectralists – is based systematically on the harmonic spectrum. What microtonal composition, proponents of different tuning systems such as Just Intonation, and spectralism have in common is a modification or rejection of equal temperament which underlies not only the tonal system of major and minor keys, but also the serial system which attempted to supplant it. Equal temperament is an artificial system which divides the octave into 12 equal semitones – the white and black keys on a conventionally-tuned piano – and distorts the intervals a little to make changes of key possible. Spectral composers want to turn back to something closer to the natural harmonic series. Every note or tone is the fundamental, or lowest tone, of its own harmonic series or spectrum of overtones, which equal temperament distorts in its drive to uniformity. In a sense, spectral composers are reversing Schoenberg's atonal revolution through a return to fundamental tones – paradoxically, spectralism can echo tonal music's pull towards a key centre, if not its modulation through different keys.

Spectralists find serialism too abstract, and also too conservative in limiting itself to the 12 tones of the tempered scale. Composers such as Harry Partch and Lou Harrison (and perhaps Terry Riley), who use microtonal inflections, would agree with Grisey's commitment to "the nature of sound, which is basically not tempered". Just Intonation is a tuning system used by the likes of La Monte Young and Lou Harrison which attempted to follow the natural harmonic series. But spectralism's interest in microtonality concerns timbre rather than tuning systems. Melody is downplayed in favour of a fascination with the tiny intervals in the higher overtones.

French composers such as Debussy, Varèse, Messiaen and Boulez deployed colour intuitively, and spectralists seek to systematise this approach. But the most crucial influence was Edgard Varèse, whom Grisey described as "the grandfather of us all". Although Varèse did not diverge from equal temperament in his use of conventional orchestral instruments, he used batteries of percussion, including sirens which allowed him to create glissandos, in order to subvert traditional orchestral sonority, anticipating the electronic instruments he pioneered in the 1950s compositions *Déserts* and *Poème Électronique*. Varèse's music embodies the spectralist principles that 'harmony = timbre', and 'melody = rhythm'. Colour or timbre is seen as a combination of various pitches; electronically, rhythms can be sped up to produce coloured tones, so rhythm is timbre too. But spectralists are not interested only in the harmonic spectrum; they analyse noise – resulting in an inharmonic spectrum – as well as musical tones. As Jonathan Harvey commented: "A lot of spectralists use... distorted notes, or noises, made of complex overtones. You get them in percussion instruments and most of the sounds of daily life... So there's no longer a sharp division between 'noise' and 'musical tone'."

A lesser but still significant influence was the Italian composer Giacinto Scelsi, whose mature style, evolved during the 1950s, breaks down the single note, focusing on the smallest variations of pitch, rhythm and dynamics – apparently he cured himself of depression while in a psychiatric hospital by playing the piano for hours on end, striking a single note and letting it fade away. But a more immediate precursor is Stockhausen. The classics of electronic music which Stockhausen composed in the 1950s and 60s showed vividly how what we hear as one harmonious sound – a struck note on the piano, for instance – can be deconstructed into a set of individual overtones. In the vocal composition *Stimmung* from 1968 Stockhausen used overtones up to the ninth partial. It's a one-off in his output, but the founders of spectralism took note.

In his electronic music Stockhausen pursued the analysis of sound, and spectralism is often allied with electronic composition – frequencies can be measured with absolute precision, and the spectrum built up very precisely. "You don't need to be interested in computers and electronics to be a spectral

composer", Kaija Saariaho has commented. "But it's true, they often go together, because you're interested in creating new kinds of sounds..." Paradoxically, though, spectralism's two founders, Grisey and Radulescu, almost entirely avoid electronics. Grisey believed that for composers, the built-in obsolescence of electronic instruments creates almost insuperable difficulties, describing how "if you write a piece for electronics, you're constantly forced to renew the system to make it still available for the concert hall" – for instance, the once ubiquitous Yamaha DX-7 is already outdated and will soon disappear completely. But like Xenakis, Grisey's orchestra sounds "electronic", and he wrote that he "applied principles originating in electroacoustic studios to instrumental writing".

You might wonder whether the nature of sound is something that scientists rather than composers should investigate – early spectral compositions by Grisey's *L'Itinéraire* group have an air of the research lab. More contentiously, why does the insistence on the 'natural' offer a guarantee of artistic virtue, let alone interest? In practice, however, the scientific ideal has been muted in various ways. Spectralists have extended equal temperament rather than abandoning it, often using the nearest quartertone or sixthtone approximation to the ideal pure pitch; Grisey, Murail and even Radulescu use tempered approximations of pure intervals as much as actual pure intervals. And as already noted, the harmonic series is only part of spectralism; these composers are also concerned with distorted spectra, and inharmonic spectra (noise). The spectral approach continues to offer a fundamental resource for the avant garde in contemporary composition. The music of major figures not usually thought of as spectralists – composers such as George Benjamin, Magnus Lindberg and James Dillon – is informed by spectralism, while younger adherents such as British composer Julian Anderson, whose debut disc is slated to appear on Argo, continue to draw on its insights.

Edgard Varèse

The Complete Works

DECCA 460208 2XCD 1918-61, recorded 1992-8

"I dream of instruments obedient to my thought and which with their contribution of a whole new world of unsuspected sounds, will lend themselves to the exigencies of my inner rhythm". Edgard Varèse (1883-1965) pursued his dream in the face of hostility and indifference, eventually realising it in the 1950s with the advent of relatively primitive electronic technology. Varèse's early compositions, before his emigration to the US in 1915, belonged to tradition of Debussy and Ravel; they were destroyed in a fire, or maybe, as Pierre Boulez has suggested, by the composer himself. Most of the subsequent small but massively influential output was for conventional forces, supplemented by batteries of unusual percussion and with complements of brass in place of strings. Finally, in 1953 Varèse received an Ampex tape recorder from an anonymous donor, and began collecting material for the tape parts for the orchestral composition *Déserts*. His elemental power is alien to the classical orchestra, but for Decca's digitally recorded double set, on *Amériques*, *Arcana* and *Déserts* conductor Riccardo Chailly forces it from The Concertgebouw Orchestra: never have the progressive, cataclysmic eruptions of *Amériques* sounded more shattering. No doubt the taped electronic interludes of *Déserts* have lost some impact against the orchestral passages, but this hardly justifies Pierre Boulez's perverse decision to omit them entirely from his recent recording on Deutsche Grammophon. Chailly's set is the most complete and definitive edition of Varèse for this generation at least.

Giacinto Scelsi

5 String Quartets/String Trio/Khoom

MONTAIGNE NAÏVE 782156 2XCD 1944-74, recorded 1988

Radulescu and other spectralists have referred to the influence of Scelsi (1905-88). This recently reissued two disc set by The Arditti String Quartet, made in 1988, provides an ideal document of his musical development. Scelsi's concern with the inner nature of sound resulted from a prolonged

spiritual crisis he endured in his forties. He later explained his quest for sound's "third dimension": "... Sound is round, but when we hear it, it seems to have only two dimensions: pitch and duration. The third dimension, depth, is there, but somehow... it escapes us. The upper and lower (less audible) harmonics sometimes give us the impression of a vaster, more complex sound beyond duration and pitch, but it is difficult for us to perceive its complexity... In painting, there is of course perspective... [but] despite all the experiments with stereophony and so forth... we have not yet succeeded in creating an impression of sound's real spherical dimension." Perhaps this elusive vision is what spectralism aspires to. The chamber compositions here includes the first, untypically serialist, String Quartet from 1944 and landmarks from the subsequent decade of experimentation. Scelsi was an eccentric aristocratic recluse, and there are almost no photographs of him – he wrote that composers shouldn't corrupt music "by living in an obtuse way and by having the stupid habit of having photographs made of themselves and showing themselves with their blunt noses". But like the artist formerly known as Prince, he had a symbol – the Zen sign of a sun above the horizon – which he offered to admirers who foolishly asked for a picture. Perhaps there's now a reaction to the Scelsi cult, with Boulez describing his music as "transcribed atmosphere" - though not everyone would regard that as an insult.

Karlheinz Stockhausen

Stimmung

HYPERION CDA66115 CD 1968, recorded 1986

Stimmung literally means 'tuning' or 'being in tune' (Stimme = voice). Stockhausen's 1968 composition for six singers had a decisive impact on spectral composers because of its pioneering use of vocal harmonics. Each tone is the 'fundamental' for a series of overtones, which are contained within it. These harmonics aren't always audible, but if the singer's tongue and lip positions are gradually altered, they can be revealed. Stockhausen's young baby needed to sleep during the day, so he "began humming, did not sing loudly anymore, began to listen to my vibrating skull... trying out everything myself by humming the overtone melodies. Nothing oriental, nothing philosophical..." Stockhausen used each overtone as the fundamental of a further harmonic series. He had recently visited Aztec ruins in Mexico, and half of the piece's 51 sections involve rhythmic phonetic patterns inspired by Aztec, Aboriginal and Ancient Greek divinities. There's a dimension of performer choice in ordering them – each player is given a 'chart' which they interpret themselves. This version by Singcircle, directed by Gregory Rose, was premiered in 1977 and revised in consultation with the composer. Stockhausen exploits the full range of vocalising from spoken parts via Pierrot Lunaire speech-song to nonsense syllables which make you wonder whether the Master ever heard the Goon Show song "Ying Tong Tiddle I Po".

James Tenney

Forms 1-4: In Memoriam Edgard Varèse, John Cage, Stefan Wolpe, Morton Feldman

Hat[now]ART 2-127 2XCD 1993, recorded 2002

James Tenney was a disciple of Cage, **but** Radulescu described him as "the most strict" of his precursors who approached spectral technique, adding that his music is "sometimes too theoretical... it's like a very beautiful theorem". Since the 70s the American composer has often turned to the purest spectral method of drawing his material from the overtone series of a single fundamental tone. The four Forms on this superb Hat ART disc by MusikFabrik, also adopt Cage's method of "time bracket notation", with its element of performer choice, that underlies the latter's late Number pieces. Each Form consists of a series of bars or time segments lasting 20-30 seconds, the duration of tones depending on the duration of a full bow or breath, or the decay time of percussive sounds from piano, harp, guitar and vibraphone. Form 1, the Varèse tribute, is less microtonal, and throughout the pieces, Tenney, atypically, adapts to equal tempered tuning. In contrast, Form 2, for Cage, is composed of overlapping layers of microtonal sound, generating 'beating' or interference phenomena. There may be something to Radulescu's comment that the music is too theoretical, but it is cool rather than cold.

Tenney's pieces appear here with Varèse's Octandre, Cage's Seven, Wolpe's Piece and Feldman's Numbers.

Horatiu Radulescu

String Quartet No 4: Infinite To Be Cannot Be Infinite, Infinite Anti-Be Could Be Infinite

EDITION RZ 4002 CD 1976-87, recorded 1989

Born in 1942 in Bucharest, Horatiu Radulescu, the original spectralist, has a totally singular vision, pursued in almost complete isolation. Taught by an even more neglected compatriot, Stefan Niculescu, in the late 60s Radulescu moved to Paris, where independently of Grisey and Murail he developed his own version of spectralism. He attended IRCAM, Pierre Boulez's foundation for research into music and acoustics, but commented that "Boulez is believing so much in the serial scale of 12 that the whole history of music for [him] was only on millimetric paper, whereas the spectra are on logarithmic paper..." There is nothing in contemporary or any other music quite like Radulescu's most quixotic creations, such as the fourth string quartet played here by The Arditti Quartet with a tape part for a further eight quartets, constituting an imaginary 128-string viola da gamba. (Radulescu usually avoids electronics, and it's only practical considerations that prevent this tape part being played by live instruments.) The scale of the conception is colossal: these 128 open strings form a "spectral scordatura" of the 36th to 641st frequencies of a giant harmonic spectrum, though I wonder whether even this structure is big enough to bear the weight of interpretation which Radulescu places on it. The surrounding eight quartets represent "earthly living conditions" while the single quartet in the centre is driven by the "quest of the Eternal", through 27 spectra which the composer compares to a journey through 27 solar systems. That kind of journey would tax even committed astralists as Sun Ra or the luminaries in Ken Hollings's recent Destination Out feature (The Wire 233). This is music not just for the contemporary composition ghetto - noise and trance devotees need to hear it. My only worry is whether that 641st overtone is a little flat...

Horatiu Radulescu

Piano Concerto 'The Quest'

CPO 999589 CD 1996, recorded 1996

Clepsydra/Astray

EDITION RZ 1007 LP 1982-3, recorded 1990

Radulescu's "sound icon" is a grand piano lying on its side so that the strings can be bowed; on Clepsydra, 16 icons are placed round the audience to produce a tremulous yet static "sound plasma". It's a beautiful, resonating experience. The Quest features a grand piano in normal position, normal tuning and played from the keyboard. The first movement is constructed on a monumental scale, the braying horns, reminiscent of Tibetan religious music, yielding a hieratic feel. Ortwin Stürmer and The Frankfurt Radio Symphony Orchestra could have done with more rehearsal time – there are discrepancies with the printed score, a problem with more recordings of contemporary music than one likes to think about. Neglected by record companies, few recordings of Radulescu's music are currently available, though you might track down, and Sensual Sky on Ades 204482, and Inner Time II on Montaigne.

Gérard Grisey

Les Espaces Acoustiques

ACCORD 465386 CD 1975-85, recorded 1996-7

Gérard Grisey is clearly the eminence grise of spectralism. Born 1946, he studied with Messiaen and Henri Dutilleux, and founded the spectralist group L'Itinéraire with Tristan Murail and others in 1973. During the next few years he composed the first works of spectralism; this double CD set presents his first major spectralist project, which progressively expands in instrumental resources, from the "Prologue" for solo viola to "Transitoires" and "Epilogue" for full orchestra. There's some justice in Grisey's later comment that "Today, Les Espaces Acoustiques seems to me like a great laboratory in

which the spectral techniques are applied to various situations (from solo to full orchestra). Certain pieces even have a demonstrative, almost didactic aspect..." By the time of *Quatre Chants Pour Franchir Le Seuil* (see below), Grisey had entirely sublimated that experimental aspect into a transfixing artistic vision. ("Modulations" from 1976-78, part of *Les Espaces*, has also appeared on an Erato recording by Boulez and Ensemble Intercontemporain.)

Gérard Grisey

*Quatre Chants Pour Franchir Le Seuil*

KAIROS 0012252KAI CD 1997-98, recorded 2000

A contemporary classic of spectralism, though Grisey described this late work (1997-98) as postmodern – and it contradicts his earlier disavowal of declamation and rhetoric in favour of music "which is more a state of sound than a discourse". This wondrous and strange song cycle – the title translates as *Four Chants For Crossing The Threshold* – was the last score the composer completed before his sudden death in 1998. The four texts – all reflections on crossing the threshold into death – are from French poet Christian Guez Ricord, who died in 1989; an ancient Greek poetess; from the Babylonian Gilgamesh epic; and words from an Egyptian sarcophagus. Threshold is also a key concept in spectral composition, which is concerned with the passage from the harmonic to the inharmonic (noise), from rhythm to timbre, from fusion to diffraction. But this is a song cycle with words rather than phonemes, singing rather than vocalising, and so melody, which spectralism had rejected, reappears. Soprano Catherine Dubosc is eerily effective, while Grisey shows his mastery of percussion effects; Klangforum Wien get to play steel pans like Trinidadians never imagined them. Details of orchestration, such as the way the machine-like burr at the conclusion of *La Mort De L'Humanité* turns out to be two bass trombonists in tandem, taxed to the limits of their sustaining powers, compel the listener's attention.

Tristan Murail

*Mémoire/Erosions/Ethers/Les Courants De L'Espace*

ACCORD 4659002 CD 1976-9, recorded 1978-80

*Treize Couleurs du Soleil Couchant/Winter Fragments/Bois Flotté*

ACCORD 4725112 CD 1978-2000, recorded 2003

Murail was Grisey's most important partner in the development of spectralism, though to this writer his music is somewhat less compelling. The first disc, one of a series on French label Accord, presents the composer's early essays in spectralism, from 1976-79. Murail is a devotee of the early electronic instrument the ondes Martenot, the solo instrument on *Les Courants De L'Espace*, played by its original virtuoso, Jeanne Lorient, and the phase-shifting, ring-modulated ondes produces timbral complexes which are perceived as harmonies when played by the orchestra – this highly abstract piece plays on this ambiguity. *Mémoire/Erosions* is, in contrast, a rather academic exercise, an instrumental simulation of a reinjection loop where sounds are progressively recombined. The *Winter Fragments* disc offers an excellent review of Murail's more recent output.

Garth Knox

*Spectral Viola: Pieces by Radulescu, Grisey, Murail, Haas and Scelsi*

Edition Zeitklang EZ100124032824000191 CD 2003 1957-2000, recorded 2002

A brilliantly conceived and executed programme – Grisey on Kairos, Radulescu on Edition RZ and Knox are the essential recordings of spectral music. Violist Garth Knox transcends the single-instrument format, most obviously through resonance effects beloved of spectral composers. Grisey's *Prologue* spirals outward from the conventional tempered scale, with live electronic "virtual resonators" smearing the line of the viola, and later, filling the sound envelope with noise. Real resonators feature on *Solo For Viola D'Amore* by German composer Georg-Friedrich Haas, based on a detuned chord of E – the antique instrument's sympathetic strings, amplified by depressing a volume pedal like the sustaining pedal of the piano, create a gorgeous flourish, broadening the range of

textures in this beguiling piece even to harp-like pizzicatos. Haas (born 1953) has often been attracted by spectral techniques (see the Kairos disc below). Radulescu's *Das Andere* involves extraordinarily virtuosic exploration of the highest harmonics on the instrument.

Claude Vivier

Prologue Pour Un Marco Polo/Lonely Child/Zipangu/Bouchara  
PHILIPS 454231 CD 1980-81, recorded 1996

Vivier, born in Montréal in 1943 of unknown parents, was beginning to gain recognition just before his murder in Paris in 1983. A student of Stockhausen, Vivier was an intensely individual composer whose personal life was woven into his work – he was gay, and inspired by the search for both his family (his parents are unknown) and a religious vocation. He turns out to be one of the most exciting spectralists, and Philips should be ashamed of themselves for deleting this visionary set of interpretations by the Asko and Schoenberg Ensembles, conducted by Reinbert De Leeuw. Vivier's music is mostly vocal, the words written in a language invented by the composer, and harmonised spectrally. Bouchara features soprano Susan Narucki against a progressively microtonal instrumental backdrop; the singing dissolves into wild vibrato before relative harmony is restored, with a dadaist gesture in conclusion. But the ritualistic *Prologue Pour Un Marco Polo* offers the most absorbing realisation of Vivier's artistic vision. An *Atma* disc also featuring Bouchara, and with other pieces including *Trois Airs Pour Un Opéra Imaginaire*, is still in print (*Atma* ACD22252 2001).

Jonathan Harvey

*Mortuos Plango, Vivos Voco* (with compositions by Dufourt, Ferneyhough and Holler)  
ERATO ECD 88261 1980

*One Evening.../Advaya/Death Of Light/Light Of Death*

ADES 206942 CD [now released by ACCORD] 1993-8, recorded 1999

*Tombeau De Messiaen* (1994); *Mortuos Plango, Vivos Voco* (1980-99); *Four Images After Yeats* (1969); *Ritual Melodies* (1990-99)

SARGASSO S28029 CD recorded 1999

"HORAS AVOLANTES NUMERO, MORTUOS PLANGO, VIVOS AD PRECES VOCO" – I count the fleeting hours, I lament the dead, I call the living to prayer. This is the inscription on the huge black bell of Winchester Cathedral, which with the voice of his son Dominic – then a chorister there – forms the sound material for Harvey's best-known piece, *Mortuos Plango, Vivos Voco*. Born in 1939, Harvey underwent a "Stockhausen conversion" in 1966, as he explained in an interview in *The Wire* 192. But this vision was anticipated by his father's piano-playing, where "there were effects of pedalling where tones impalpably blend with each other, and extraordinary harmonies would resonate from the piano... There was this vast unification of the whole sound in one object, rather than an argument like a melody..."

Realised at Boulez's IRCAM in 1980, *Mortuos Plango* features seamless transformations of bell and voice, interwoven with synthetic simulations. *Bhakti*, Harvey's second IRCAM piece, features live instruments and electronics, and combines serial techniques with spectral analysis. But then Harvey is an eclectic composer, not a card-carrying spectralist. The pieces on the *Sargasso* recording in particular feature a range of styles, with music from all periods for solo piano, piano with tape, and electronic music both pure and *musique concrète* in inspiration. Both *Mortuos Plango* and *Ritual Melodies* were remixed for this release. By the time of *Ritual Melodies* from 1990, Harvey was more confident in rejecting recorded sounds entirely, relying on sounds generated artificially by computer – his collaborator Jan Vandenheede made simulations of Indian oboe, Vietnamese koto, Tibetan temple bell, shakuhachi and Western and Tibetan chant. *Le Tombeau De Messiaen*, performed by Philip Mead – a tribute to the French composer written in 1994 – combines equal tempered piano with a tape part featuring piano sounds tuned in 12 natural harmonic series. The tape music moves in and out of equal tempered tuning, shadowing the real piano sounds and creating a numinous aura round the live player.

The Erato disc includes a performance by Boulez and Ensemble Intercontemporain of Antiphysis by Hugues Dufourt. Dufourt, born in Lyons in 1943, was one of the founding spectralists. The piece is an abrasive essay in early spectralism from 1976 for flute and chamber orchestra, which almost succeeds in depriving the solo instrument of its pastoral connotations.

Kaija Saariaho

Graal Théâtre/Solar/Lichtbogen

ONDINE ODE 9972 CD 1986-94, recorded 2001

Private Gardens

ONDINE ODE 9062 CD 1998

The music of Gérard Grisey and Tristan Murail was a revelation to Finnish composer Kaija Saariaho. At IRCAM, she recalled, "Gérard [Grisey] was analysing instrumental sounds... he made the orchestra sound like no orchestra before." Some early spectral composition had an air of the research lab, but from her first orchestral composition *Verblendungen*, this was never true of Saariaho's music – though she is too individual a composer to be tied to any particular school. As well as analysing instrumental sounds, she also uses environmental or natural sounds to create more tension, often resolved step by step to pitched sound. Her sound-world runs from textures of captivating delicacy to the most industrial electronic soundmasses. *Lichtbogen* from 1986, for nine musicians and live electronics, is music of utmost refinement; *Io* for chamber orchestra, tape and live electronics, realised in 1986-87 at IRCAM, is a tough, gritty listen. The shimmering *Six Japanese Gardens* for percussion and electronics, created on the composer's own Mac, is in contrast a series of impressions of gardens she visited in Kyoto, and a tribute to Toru Takemitsu.

Georg Friedrich Haas

Nacht-Schatten et al

KAIROS 0012352 KAI CD 1991-99, recorded 2002

Garth Knox's *Spectral Viola* featured a solo piece by Haas for viola d'amore, which this selection of orchestral pieces, performed by Klangforum Wien, matches in quality. Haas, born in Graz, Austria in 1953, always felt constricted by the system of equal temperament, and during the last decade particularly he has incorporated spectral methods in his compositions. As with other composers indebted to spectralism, Haas's music shows other influences including tonal associations. "Wer, wenn ich schrie, hörte mich" – literally, "Who, if I cried out, would hear me?" – is a haunting evocation of entropy; the music repeatedly attempts to energise itself and repeatedly breaks down. A cataclysm occurs a third of the way through, and as the music speeds up while descending in pitch, the effect is vertiginous and disorientating. The middle section is muffled, heard as if through gauze, with tintinnabular percussion and elephantine horn-calls asserting themselves as the music makes a final doomed effort at movement - a remarkable composition.

James Dillon

ignis noster/helle Nacht 1986-92, recorded 1994

AUVIDIS MONTAIGNE MO782038 CD

An encounter between New Complexity composition and Ancient Greek philosophy under the auspices of The Grateful Dead. Heraclitus, the pre-Socratic philosopher who believed the world was in perpetual flux, is a confessed influence on Scottish composer James Dillon. Pythagoras is in there too, with the material of *helle Nacht* treated spectrally, derived from the partials of a single, low (virtually sub-audio) frequency. This orchestral recording, with The BBCSO conducted by Arturo Tamayo, was sponsored by the Rex Foundation, set up by Grateful Dead guitarist Phil Lesh. Dillon, Ferneyhough and Finnissey make up a trilogy of New Complexity writing. But like the writers of Old Complexity – the Elliott Carter of *Night Fantasies*, the Schoenberg of *Erwartung* – Dillon seems to abandon thematic writing for free-flowing stream of consciousness. *helle Nacht* (Bright Night) is a teeming, shimmering body of bright sound; *ignis noster* (Our Fire) is darker and more violent.



Percussion is a vital feature of both works, including prominent steel drums in *ignis noster*. This is difficult, disturbing music. □ Thanks to Philip Clark, Bob Gilmore, Garth Knox, Brian Marley and Ian Pace