

## My concrete life

Ten years ago this month the founding father of musique concrète, Pierre Schaeffer, died disillusioned that music was still stuck at its "do-re-mi" stage, despite his lifelong attempts to open it up to all sounds through his GRM organisation and his philosophical treatises. Here we reappraise his radical undertakings to shape noise and sound into the sonic building blocks of a future music.

On 24 August 1944, normal broadcasting was interrupted on Radio Paris, as the station triumphantly declared that Allied forces had liberated Paris from the occupying Nazis. "La Marseillaise" was played, and extracts from Victor Hugo and André Gide were read out. Simultaneously, a secret transmitter gave a prearranged signal to priests across the city to ring out their church carillons. Thousands of Parisians sang out from their open windows in a celebratory moment that transcended local space, briefly uniting the people through a spontaneous, directed outpouring of sound, music and joyful noise.

The co-ordinator of these momentous transmissions was Pierre Schaeffer. His name has become synonymous with the invention of musique concrète, a term that, over half a century later, is loosely employed to describe a range of sonic processes involving the use of recorded sound, from sampling to hiphop cut-ups, avant turntablism and tape based music. But are these really the true descendants of Schaeffer's theories, and how much do we really know about the man? After all, he might have scoured the retreating Nazis on air, but for him, a new musical front was opening up. "After the war," he wrote much later, "in the 1945-48 period, we had driven back the German invasion but we hadn't driven back the invasion of Austrian music, 12 tone music. We had liberated ourselves politically, but music was still under an occupying foreign power: the music of the Viennese school." In France during the post-war decades, aside from his status as composer and founder of the GRM (Groupe de Recherche Musicale), he was famous as a prolific cultural commentator on radio and TV, the author of many works on music, theory, philosophy and even fiction, an academic, researcher, and communications theorist. His writings reveal a utopian thinker on a par with such 20th century colossi as Marshall McLuhan, Le Corbusier, Buckminster Fuller and John Cage.

For the English speaking world he is only, essentially, the founding father of electronic music – largely, perhaps, because the important tracts in which he documented his discoveries and theories, such as *À La Recherche D'Une Musique Concrète (In Search Of A Concrete Music, 1952)* and *Le Traité Des Objets Musicaux (The Treatise On Musical Objects, 1966)*, have never been translated into English. This has left a chronic hole in the wider understanding of the nuances of Schaeffer's life, work and motivation. Marking a double commemoration – 95 years since his birth and ten since his death in Aix-en-Provence – this month offers a timely opportunity to reassess the composer who, it has been claimed, took it on himself to "open music up to all sounds".

Pierre Schaeffer was born in 1910 to a family of musicians in Nancy. After attending a religious school, he went on to study music analysis under the composer Nadia Boulanger. At the same time, with the help of Jesuit tutors, he won a place at the prestigious Polytechnique (known as 'X') in Paris. In 1934 he studied telecommunications engineering at another college, Supélec. In this succession of exposure to music, the arts, technology and early broadcasting, the seeds of his future career were sown.

In 1936 he successfully applied for a job at Radiotélédiffusion Française (RTF), the French national broadcasting service. As the employee of a large institution, the young engineer was introduced to the kind of conflicts he would address for the rest of his life – not only technically between acoustic/electric, reality/artifice and musicianly/non-musicianly values, but also the conflicts of internal politics, having to learn sly manoeuvres around administrative immobility. In the long relationship with the broadcasting service that followed, he worked himself into a privileged position as an engineer who could indulge his musical aspirations through access to cutting edge technology. "My first works in 1936," he wrote in 1973, "were dedicated to studying new electroacoustic conditions which were imposing themselves into sonic information. The notion of 'hi-fidelity' effectively indicates a metamorphosis: the transfer of a sonic phenomenon directly into its own space of reception. This transfer involves not only physical constraints but also a transformation of the perceptive field. I therefore had to occupy myself immediately with defining new forms of soundcraft and with the teaching of its artisans."

With the onset of war and the German occupation, he was posted to the town of Vichy, where he was involved in Jeune France, a national movement to bring art to the people and create various cultural initiatives. He had no connections with the notoriously pro-Nazi regime there, which actually dismantled Jeune France. In fact he is often said to have been involved in the Resistance movement, although he remained guarded about his role. "My contacts with the resistance movement weren't direct," he wrote in 1988. "When they happened, the instructions were to stay undercover, behind the lines... and that I would be more useful there where I was." After 1942, he was back in Paris as director of RTF's Studio D'Essai (experimental studio), where he built the clandestine radio transmitters that he would eventually use to herald Paris's liberation.

In his first 12 years as a radio engineer, Schaeffer realised that radio and its institutions – which to an 'early adopter' like him was still the most powerful symbol of futurity in the pre-televisual age – possessed the resources to acquire and design new equipment, and therefore provided the perfect setting for sonic research. Schaeffer's examinations of sound in the Studio D'Essai during these mid-1940s years, took on a quasi-metaphysical, mystical hue. The radiophonic medium had captivated his imagination: "This miracle machine, this chamber of wonders," he later called it. Shortly after the death of his first wife in 1943, he met the theosophical thinker Gi Gurdjieff, a lifelong inspiration and guru. In 1943-44 Schaeffer's big project was writing and producing an ambitious serial, *La Coquille À Planètes (Universe In A Shell)*. Transmitted in

1948, this was a monumental 'radio opera' in eight one-hour instalments, a synthesis of speech, noise and music, which required Schaeffer to create sound effects poetically complementing the dialogue and Claude Arrieu's soundtrack.

Although the beginning of the 20th century had been marked by enormous transitions in the visual arts – Braque and Picasso's cubism blowing apart perspective based illusionism; Marcel Duchamp's readymades nailing the coffin door closed on art as imitative medium; the labour-intensive technocratic production of cinema – the sonic arts took almost half a century longer to fully open up to the changes wrought by technology. The Italian Futurists had taken early prophetic steps to invent a symphony of metropolitan noise, but the movement failed to make a significant dent on general music practice. Curiously, surrealism largely ignored music as a medium; that group's emerging ideas of automatism, accessing the unconscious, etc, were barely applied in the sonic realm – André Breton, in fact, castigated most music as a terminally bourgeois artform.

Yet already by the start of World War Two, disconnected incidents pointed to fresh possibilities. During a residency at a dance school in Seattle in 1939, John Cage discovered a pile of Victor test tone records in a tiny radio station next door, and used these in conjunction with the station's variable speed turntables in a composition entitled *Imaginary Landscape No 1*. In 1944 Egyptian composer Halim El-Dabh created 'soundscapes' with wire recorders at the Middle East Radio Station in Cairo. But, as French writer and composer Michel Chion recollected in his biography of Pierre Henry, "Before Schaeffer, the vast majority of experiences of noises, recorded or live, had remained isolated and unchronicled. It's that which resolved him to make them progress, and instigate a channel so that they could develop; a place where he could encourage composers to come from all sides: the Groupe De Recherches De Musique Concrète (GRMC) in the bosom of the RTF. Those two bodies were musique concrète's father and mother."

Like so many artistic breakthroughs, musique concrète began with a timely accident. At the beginning of 1948, Schaeffer took a trip to the Alps where he made the following observation: "In today's world, people return to nature using ski-lifts, snow tractors, kandahar bindings, ultra-light alloys. And so, perfectly equipped, with chrome shoes, asbestos gloves, nylon clothes, they savour the clean mountain air. They find themselves caught between two fires, which burn and freeze them at the same time. One has to find a way of expressing that." Back in the Studio D'Essai, Schaeffer inadvertently scratched a record, making a musical phrase repeat itself. His ear suddenly heard this for what it was: an isolated snatch of sound locked in what he called a "sillon fermé" (closed groove). He never forgot the wonder of hearing this locked groove, repeating over and over until the brief fragment began to take on a new meaning, like a word recited over and over until it takes on an alien ring. "The closed groove," he wrote in *À La Recherche's* diary entries covering this period, "which itself was only a procedure, had such an enormous effect, so radically opposed to the logic of all known musical discourse, that it dictated a new starting point."

The scratched shellac triggered off feverish months of experimentation with the studio's in-house cutting lathe. "I have in mind a symphony of noises," he wrote in March 1948. "After all, there is already a symphony of psalms. I go to the sound effects department of the Radiodiffusion Française. There I find clappers, coconuts, klaxons, bicycle horns. I imagine a scale of horns. There are gongs, bird whistles. How pleasing to know that an administration is concerned with bird whistles and regulates their acquisition on a dutifully recorded application form." He 'prepared' a piano by filling it with wooden, metallic and rubber objects, rescued the pipes and innards of a broken organ from the bomb-damaged Cavallé-Coll-Pleyel organ factory, and collected various bells, all of which he recorded as source sounds. He discovered that by pressing the record button a moment after striking a bell, the attack was cut off leaving only the 'pure' vibration of the bell, now resembling an oboe. By turning up the volume of its decay, he could stretch it unnaturally. He cut a series of such sounds, each to its own disc.

He called these deracinated noises 'objets sonores' (sound objects): extra-musical noises liberated, unleashed from their physical source, and reconfigured as building blocks of a potentially infinite new language. He became hypnotised by the notion of a "fragment of sound that has neither beginning nor end, burst of sound isolated from any temporal context, crystal of time with sharp edges".

Here at last was a sonic art that mirrored the surrealists' automatist practice, where the sound of real life could imprint itself on a tape or a record groove like a frottage. But Schaeffer swiftly took things further; the materiality of these discoveries pushed him onwards with a vigorous energy. Some days later, surrounded now by stacks of discs containing his sound objects, he postulated an organ whose keyboard might trigger sounds off the discs, which he could mutate and mix in three dimensions: an instrument "capable not only of replacing all existing instruments, but every conceivable instrument, musical or not".

In the studio he'd by now pretty much colonised, he assembled several turntables and began creating short pieces by mixing together the sounds enclosed in his loops, cutting the whole 'composition' with the shellac lathe (capacity was three minutes to a side). By now he had found a name for his methods: "This approach to composing with materials drawn from the given experimental sound data, I will call it – to coin a phrase – musique concrète, to indicate the compulsion where we find ourselves, not towards preconceived abstract sounds, but to sound fragments that exist concretely, and which are considered as defined and whole sound objects, even and above all when they evade the elementary definition of do-re-mi."

By Easter 1948, he was already dissatisfied with the small range of noises he could get from his percussion objects and prepared piano; he was also thinking outside the boxy studio. "Certainly the idea of a concert of locomotives is exciting. Sensational. Too much. I've already forgotten the failure of my organ pipes. Why would whistles, stoked by the boilers, be any more interesting? But I need, once again, to be instructed by experience."

On 3 May, he set out for the railway station at Batignolles armed with his tape recorder. "Six locomotives at the depot, as if surprised in their resting place. I ask the drivers to improvise. When one begins, the others will reply. These locomotives definitely have their own individual voices. One is hoarse, another raucous; one has a deep organum, another is strident. I record with passion the dialogue of these pliable whales." Two days later, having found more recordings of trains speeding on tracks in the radio library, Schaeffer set about the business of arranging the sounds. "I have composed a

score. Eight introductory measures. Accelerando given to a solo locomotive, then a tutti of wagons. Rhythms. There are beautiful ones. I have isolated a certain number of leitmotifs which need to be linked together in counterpoint. Then slow down and stop. Cadence of buffer strikes. Da capo and reprise – more violently – then the preceding elements. Crescendo...

"It is hard not to let oneself be led by these records," he continued. "As soon as a disc is placed on the turntable, a magical force enchains me, compels me to submit to it, so monotone it becomes. Do you let yourself be carried away because you are in the thick of it? Why wouldn't we play it on the radio, three minutes of 'pure wagon', alerting people that you only need to know how to listen, that the whole art is to hear? Because they are extraordinary to listen to, if they are approached in that special spiritual state that I'm in at the moment. How much I prefer them in their raw state, rather than as vague compositions (decompositions) where I have finished by wearily isolating eight pseudo-measures of a pseudo-rhythm..."

This piece, achieved with no small measure of struggle and self-questioning, eventually became known as the *Étude Aux Chemins De Fer (Railway Study)*. On 20 June 1948, the trains appeared in a Radio Paris programme called Concert Des Bruits (Concert Of Noises), comprising five of Schaeffer's études: the exquisite *Étude Violette* (entirely sourced from a prepared piano); the *Étude Aux Tournequets* (spinning tops); *Étude Noire* (an orchestra tuning up); and *Étude Pathétique* (pots and pans).

Recent over-use has weakened the term 'experimental music', but Schaeffer was using a forensic method that properly suits the definition of experimentation. In order to answer a question (eg can music be made from the sound of a train?), or test an assertion (eg concrete sound can be as musical as a symphony), a series of practical investigations were conducted under controlled conditions, observations made and noted down, results tabulated and conclusions drawn. This work is included on the three CD survey of Schaeffer's music, *L'Oeuvre Musicale* (INA/GRM).

A man alone

*"There is no one instrument to play musique concrète. This is the major difficulty. Instead one must imagine an enormous machine, of a cybernetic type, capable of carrying out millions of combinations, and we haven't reached that point yet" – Pierre Schaeffer*

In 1949, with the help of RTF's technical genius Jacques Poullin, Schaeffer designed and built a series of high-end machinery to help him edit, manipulate and modulate his sounds, which he was now recording on magnetic tape. These included the phonogène (sound creator), which varied the pitch and speed of tape playback; the morphophone, with multiple tape heads generating primitive delay and echo effects; and the spectacular pupitre d'espace (space desk), a construction of four electromagnetic 'halos' in which a performer could gesturally diffuse sound throughout a concert hall.

Schaeffer was already attracting a following. The studio in Rue de l'Université became a melting pot and stimulating cultural environment where friends, artists and intellectuals would stop by to talk, sing and help to record sounds. "Almost all the musicians we had called upon until then practically ran away from this musical task, full of difficulties and surrounded by the barbed wire of technology. Composers, conductors, virtuosos had passed through the studio. We also had recourse to jazz musicians, confident in their ability to improvise and their agile sense with sound matter." But he was on the lookout for other collaborators in that year, while assembling the early version of a longer work that bore the name *Symphonie Pour Un Homme Seul*. "We were looking for a drummer," he recalled in 1980, "we'd had enough of banging clumsily on boxes, scratching on sound objects. We said to ourselves, 'After all, the music academy turns out good drummers' – and I believe it was at that point that someone told me about Pierre Henry."

Pierre Henry was the first official member of the new circle. Where Schaeffer was cool, scientific, measured, the much younger Henry was a revolutionary firebrand, calling for "all music to be destroyed"; for the refinement of classical music to be reduced to the material realm, from the 'sacred' to "a relationship with cries, laughter, sex, death. Everything that puts us in touch with the cosmic, that is to say, with the living materiality of planets on fire..."

The working relationship that flourished between Schaeffer and Henry soon bore fruit, in the shape of the *Symphonie Pour Un Homme Seul (Symphony for A Man Alone)*, premiered on 18 March 1950 at the first official concert of musique concrète in Paris.

"I decided to choose my initial elements from the opposite field to that of music: from noises. I wouldn't be using mechanical noises with sharp edges, with regular cycles and a clean timbre, but noises stripped of any formal element. I was thinking of live and organic. The Man Alone had to find his symphony in himself, not only conceiving music abstractedly, but being his proper instrument. A man has much more about him than the 12 notes of the singing voice. He shouts, he whistles, he paces, he strikes his fist, he laughs, he groans. His heart beats, his breath accelerates, he pronounces words, shouts out, and other shouts answer him. Nothing echoes a solitary cry more than the clamour of crowds."

The *Symphonie* is the first fully realised work of musique concrète. Originally presented in 22 sections, the final 12-movement version compressed many of the ideas Schaeffer and Henry had been working on into 20 minutes – a scintillating sequence where all the elements of transformed instruments, abstracted percussive noises and the human voice are entwined. The opening "Prosopopée" features the disembodied, existential cry of "Ahoj there!", but that 'man alone' is soon joined by a cacophony of voices, the babbling chipmunks and reverse-echo chorus of the "Scherzo", the cut-up female purring of "Erotic", the wizened incantations of "Collectif", all using techniques that would become the staple of later turntablists. The mallet-driven "Cadence" is an exercise in perpetual deceleration, and the *Symphonie* closes with the shrieking friction-drones of the "Strette".

"The *Symphonie For A Man Alone* imposes itself immediately as an event," comments Michel Chion. "Half cinematic, half musical, it manages to keep a fine balance between these two directions. Its phrasing and overall shape are subtle and precise, of a different order to Schaeffer's first *Études*. Most of all it captivates, breathes, dreams and makes you laugh.

The press greeted the event with words ranging from prudent to tragic.”

Schaeffer's and Henry's next work, a music drama based on the ancient myth of Orpheus, would cause the Paris School to enter the mythology of New Music. It was performed twice, two years apart, as *Orphée 51* and *53*, during which time Henry had begun composing his own works and was asserting himself as a force to rival his father figure. The 1951 version, a melange of whirling concrete sounds, harpsichord, viola and two vocalists, was a response to a mountain of questions: “Which end to start from? Should you give yourself the materials at the beginning, then trust your instincts? As for the score, how should it be fixed? How to imagine in advance the thousands of unforeseen transformations of concrete sound, and how to choose from hundreds of samples, when no classification, no notation has yet been fixed?”

*Orphée 53*, revised and premiered in Germany two years later, achieved infamy at what became known as ‘the battle of Donaueschingen’. Uproarious booing greeted it, but this was no bourgeoisie épatée: the crowd was outraged by the inclusion of ‘backward-looking’ classical allusions alongside the disembodied tape noise. Musique concrète had reached its Waterloo.

In 1952 Schaeffer formalised the Studio or Club D'Essai into the Groupe De Recherche De Musique Concrète (GRMC). His followers ranged from young composers or musicians suffering ennui with the stagnation of a conventional musical training, to the cream of the European avant garde such as Stockhausen, Boulez and Xenakis. Many who lasted the distance became the core of the later, world famous sonic laboratory, the GRM (Groupe De Recherche Musicale), established in 1958. These included Luc Ferrari, Ivo Malec, François Bayle, Michel Chion, Bernard Parmegiani, Christian Zanesi, Michel Redolfi, François-Bernard Mache, Guy Reibel, Denis Dufour, François Delalande, Jean Schwartz, Beatriz Ferreyra, Alain Savouret, Philippe Arthuys, Robert Cahen, Edgardo Canton and many more.

Typically, Schaeffer, Henry and their assistants would convene at the studio every day, and occasionally weekends at Schaeffer's country house outside Paris. Morning till night was spent generating sounds according to Schaeffer's will. “It was completely anarchic,” recalls Luc Ferrari.

But Schaeffer's responsibilities at RTF meant he was frequently called away on other business, leaving Henry nominally in charge, although he was engrossed in completing his own compositions. On his return Schaeffer would frequently adopt a highly critical tone towards his acolytes – many who were present speak of tensions and temperamental clashes.

Schaeffer seemed tetchy, under pressure; changes were afoot in the world of New Music. Stockhausen, Boulez and others paid visits to his Paris studio, but there were clear differences in approach; Stockhausen's own research in the WDR studio in Cologne was oriented towards pure electronic music, while Boulez was still bound up in reinventions of serialist composition. Luc Ferrari: “The Paris studio was the first, and the young adventurers like Stockhausen and Boulez came there, but they didn't all see eye to eye with Pierre Schaeffer. They didn't consider him a musician, but only a ‘bruitiste’, which in their sense was pejorative. As for Schaeffer, he preferred to throw himself into his research, rather than pursue his compositions.” Schaeffer felt his own work, grounded in the measurable materiality of noise, was superior. Ferrari again: “It was an interesting area because it made possible the calibration of sounds, which was the dream of serial musicians, to be able to calibrate sounds in all dimensions, be it harmonics, pitches, intensities, etcetera.”

In 1958 the truculent Pierre Henry, annoyed at always being treated as Schaeffer's assistant, was asked to leave. Ferrari comments, “The anger between Pierre Schaeffer and Pierre Henry is still vague... they were like a couple of lovers getting sick of each other.” Taking his own tapes with him (still a bone of contention with the GRM), Henry left to set up a private studio at his home, where he continues to produce work today as one of France's most celebrated contemporary musicians. But Schaeffer had reached a watershed. As Ferrari puts it: “We entered another period of Pierre Schaeffer's life, as he became the head of department, the administrator who has above all invented an important thing called the ‘research service’.”

After 1958, Schaeffer never returned to composition, apart from a few very short *Études*, part of a project which preoccupied him for much of the 1960s, which resulted in the monumental *Traité Des Objets Musicaux* and its companion piece, the three LP set *Solfège De L'Objet Sonore*. (Solfège is a musicological term referring to the elementary building blocks of musical language, best rendered in English as ‘do-re-mi’.) Impossible to summarise, the 700-page *Traité* is an extensive journey deep into the base elements of sound, music and creative listening; as well as being a pedagogical tool, a visionary tract, scientific manual and philosophical rumination. Alongside the key concept of “l'objet sonore”, Schaeffer added “l'écoute réduite” (reduced listening), which he defined as “a way of hearing which consists in listening to a sound *for itself*, as a ‘sound object’, forgetting its real or supposed provenance, and of the meaning that it may carry.” The LPs formed a ‘sound bank’ or dictionary of sounds created by Schaeffer and his assistants, each with a spoken introduction by the man himself, including harmonic sequences, sitar overtones, white noise, sinewaves, “deceitful sound” and “reflective themes”. Listeners were invited to produce their own compositions from this sonic alphabet.

Sophie Brunet, Schaeffer's biographer in 1969, put it this way: “With the LP set *Solfège De L'Objet Sonore*, the intention expressed in his first work had been accomplished at last: a simple invitation to listen. More than composition: a collection of sonic examples with commentaries. More than structures: only comparisons. In the interim, Schaeffer discovered principles of classification, elaborated a typology and morphology of sound objects, defined a vocabulary which allowed him to make it comprehensible and direct the attention of his listeners towards the things which he wanted them to hear.”

### La grande disillusion

Paris's social unrest in 1968 posed a dilemma for Schaeffer. He would still call himself an ‘anarchist’, but as the director of a state run research facility (the Service De La Recherche) within the renamed ORTF that had grown to involve more than 200 staff, he was equally part of the establishment. His department, which was supplying sounds and music for radio and TV (including the cult sci-fi cartoon *Les Shadoks*), was an expensive waste of taxpayers' money, complained one French newspaper in 1974: a full one per cent of ORTF's annual budget was spent on little more than 100 hours of airtime per

year. And, as the figurehead, Schaeffer himself was in the firing line. "The problem with the Service De La Recherche," continued the report, "is that Schaeffer's personality often masks, if not dominates, the machine he has created."

Additionally, French intellectual thinking was in flux, with new avenues of thought proposed by the post-structuralism of Jacques Derrida and others. Schaeffer was not convinced. As composer Christian Zanesi explains, "He believes that harmony is the foundation of everything: harmony of the spheres, harmony of the planets, the interaction of one another, the division of things in octaves, things that are natural. So when he hears about this structuralist theory, at first serial in nature but later on a generalised structuralism, in which everything equals everything, he views this as a Marxist concept with which he cannot agree, and he fights it. Someone like him, when he fights, he fights... He says, 'Shit, we live in the country of Debussy, Couperin and Ravel, and we're getting involved with something that doesn't hold together. With everything we produce, this conception of music, which is a much more poetic, graceful and sophisticated conception of music, is beginning to disappear.'

"Except for Pierre Henry, who seems to possess a degree of magic in order to take flight with his sounds. He's the only one he respects. But he's not so fond of that music. He believes that something extremely fundamental has been lost. "Schaeffer is not at all in that category," Zanesi continues. "He has huge doubts about all of his work. He continuously shouts at everyone, telling them what they're doing is no good, we're not there yet, we're in a pre-musical period, we're not in the music. Perhaps one day we will be, but this phenomenon should absolutely be analysed, turned over in all directions, to try to understand things."

Schaeffer still had his supporters, but his organisation was an easy target for critics who considered it a grande folie. While finishing his two-volume bible of communications theory, *Machines À Communiquer* (1970), he was being squeezed to justify his department's budget expenditure. Another GRM composer, Ivo Malec, recalls this having a knock-on effect on his colleagues. "There's a structure in place, and since Pierre Schaeffer is a very enlightened man about bureaucracy, he knows that budgets will come more easily if a visual production is being proposed, since he cannot have a budget just for research. Real products were necessary. He knew very well that music alone could not be sold, that in fact it could be dropped entirely... but on the other hand, if he had music composed to go with images for experimental films, that could be a much more commercially viable product."

The last straw came as Pierre Boulez was put in charge of the new Ircam facility, opened with great fanfare in 1977 as a beacon of French sonic innovation in electronic and computer music. As Ivo Malec remembers, "In 1974, when Pierre Boulez made his announcement at the Théâtre De La Ville to define and explain the Ircam programme, I was there, and what he said was word for word Pierre Schaeffer's programme from 20 years before, without once mentioning the name of Pierre Schaeffer.

"Boulez came to the [GRM] studio because he wanted to see what was going on and he did something absolutely appalling, unworthy. He didn't understand anything about the whole thing. It was a form of study, and I had the impression he blamed everyone for not understanding anything ..."

Although Schaeffer continued to write after his official retirement, disillusionment bubbled to the surface during an extraordinary interview with Tim Hodgkinson in 1985: "There is no progress," he insisted. "The world changes materially. Science makes advances in technology and understanding. But the world of humanity doesn't change. We are just like the caveman who makes a tool out of a flint, a tool for survival, but also a deadly weapon: we haven't changed at all. In music there are new things, synthesizers, tape recorders, etcetera, but we still have our sensibilities, our ears, the old harmonic structures in our heads. We're still born in do-re-mi."

Ivo Malec believes that in the final years of his life, "Pierre Schaeffer hated contemporary music. He only liked classical music. He swore only by Bach." Malec recalls confronting him in one of the GRM's weekly meetings, saying: "'You are acting as though Jesus Christ forbade people to become Christians.' I said, 'You know, Pierre, I believe that you do not like music.' He froze, then looked back and said, 'It's because I love music too much.'"

To this day, GRM composers regularly present their work at Radio France's Olivier Messiaen Concert Hall, often diffusing the sound through the complex spatial Acousmonium system developed by composer François Bayle in 1974. The composer is a lonely conductor of an orchestra of loudspeakers, spatialising the sound from a control panel in the auditorium. But despite the slightly threadbare feel to some of these recitals, the fantastic wealth of frequencies and sound variety in this body of work, much of which exists on CD on the INA/GRM label (see last year's five CD set *Archives GRM*), remains phenomenal and unparalleled. This music's microscopic finesse is the direct descendant of Pierre Schaeffer and his team's long, utopian sonic quest. Of course, it's a long way from the radiophonic event that briefly brought the population together that day in the midst of World War Two, although, towards the end of his career Schaeffer still kept a higher, more universalist purpose in view. As he told an interviewer in 1974, "I could have continued a career as a composer or a writer. I preferred to build a human structure, to make a life-work involving people. To create an institution which, after 15 years, can 'socio-analyse' its own risks and dangers. It's fascinating..." • *L'Oeuvre Musicale and Solfège De L'Objet Sonore are rereleased in September on INA/GRM. Thanks to Jaqueline Schaeffer, Christian Zanesi, Jocelyne Tournet, Annick Carpillon and Serge Vejvoda*