**Aural Choreography and the Threshold**

PIERRE BOULEZ

*Répons*

In retrospect, and perhaps even at the time, *Répons* seems or seemed to mark a new phase in Pierre Boulez’s compositional activity. Long accused – unfairly and uncomprehendingly – of having taken refuge in his conducting activities, the composer, fresh from leading performances of the *Ring* in Bayreuth and the premiere of the three-act version of Berg’s *Lulu* in Paris, responded to a commission from South-West German Radio for the Donaueschingen Music Festival with this large-scale work for six soloists (cimbalom, first piano, xylophone/glockenspiel, harp, vibraphone, piano 2/synthesiser), sizeable chamber orchestra (two flutes, two oboes, two clarinets, bass clarinet, two bassoons, two horns, two trumpets, two trombones, tuba, two violins, two violas, two cellos, double bass), and live electronics. (Not, of course, to forget the conductor!)

That first version, begun in 1980 and performed in 1981, was about seventeen minutes long; a version about twice the length was heard at the BBC Proms the following year; what we shall hear tonight (twice, in different seating arrangements, so as better to appreciate the work’s – and performance’s ‘aural choreography’) lasts almost three-quarters of an hour. It remains a work-in-progress, Boulez’s original ‘intention’, for whatever that might be worth, having been to create a work of full-concert length. The score as it stands, gives the date, tantalisingly as ‘1981/…’, and Boulez, in a 1988 interview Peter McCallum kept his counsel concerning ‘completion’: ‘Well, at one point, the work will be finished, but I don’t know when exactly.’ Ever one to seek literary parallels, he went on, ‘I compare it with Proust, whose novel just expanded and expanded. … I still have to add chapters, but at the same time, what is written is definitely written and will be part of the final work.’

*Répons* was also Boulez’s first work, arguably the first masterpiece by any composer, to be realised in the studios of IRCAM, the Institut de Recherche et Coordination Acoustique/Musique (Institute for Research and Coordination in Acoustics/Music), which is itself far from the least of the composer-conductor-thinker-agitator’s achievements. Having been invited in 1970 by Georges Pompidou to create a centre for musical research and creation, that had been another of the urgent tasks triumphantly achieved during the 1970s, whilst Boulez’s detractors sniped at an alleged falling away from composition. 1981 marked, not coincidentally, both the *Répons* premiere and the full advent of the ‘4X System’, consisting of eight processor boards, each of which could independently be programmed to store, to manipulate, and to recall digitised sound waveforms, that is, as Boulez and his IRCAM collaborator, Andrew Gerzso explained, in a 1988 article on *Répons*, ‘sequences of numbers that correspond to the air-pressure fluctuations of a sound’. Also of crucial importance was the Matrix 32: ‘basically a programmable audio-signal traffic controller, routing audio signals from the soloists to the 4X and from the 4X to the speakers’.

It is worth quoting further from that article by Boulez and Gerzso, as a way in both to electronic music more generally, to this work in particular, and to this first, but not last, collaboration between the two (subsequent collaborations would be on *Dialogue de l’ombre double*, …*explosante-fixe…*, and *Anthèmes 2*):

Composers have had essentially one medium through which to express their musical ideas in a form an audience can appreciate: the sounds that musicians can elicit from traditional instruments. With the advent of computers and other equipment for processing digital signals an entirely new means of musical expression has become available. A composer who applies these electronic devices is bounded only by imagination in creating an ‘orchestra’ of sounds.

Music that seeks to integrate computer-generated sounds with traditional instruments presents a great challenge to a composer. Not only must the composer express musical ideas convincingly but also he or she must do so in a manner that is readily translatable into both mediums. Moreover, the ideas must be resilient enough to be passed back and forth between the two mediums during the course of a performance. Otherwise the listener might wonder what role the computer was meant to have in relation to the other instruments and be puzzled (and perhaps even repelled) by the lack of coherence.

Exploring possible musical relations between computers and traditional instruments requires much communication between composers and those who design computer hardware and software. Through such collaboration, electronic devices can be constructed that serve the composer's immediate purpose while preserving enough generality and flexibility for future musical exploration – a task complicated by the fact that the composition's musical complexity is usually not commensurate with the technical complexity needed for its realisation. What appears to be a simple musical problem often defies an easy technological solution. Perhaps for the first time in history a composer has to explain and formalise the way he or she develops and manipulates concepts, themes and relations in a musical context in order for technicians (who may have little musical training) to bring them into existence. These are the kinds of problems we confront at … IRCAM.

Problems and opportunities, then – as ever, with technological advances in the history of music. It certainly did no harm, though, that Gerzso was – and is – certainly not a technician with ‘little musical training’, but rather a musician with a thorough grounding in both composition and, as flautist, performance. At present, he directs teaching at IRCAM, as well as coordinating interaction between the institute’s artistic and scientific activities. Experience of *Répons*, and the musical challenges it presented, will have done no harm in preparation for those roles, for it is equally crucial to note the challenge that musical problems issue to technology, as well as *vice versa*. ‘Coordination’ is perhaps the crucial word in the institute’s title, and is equally crucial to our understanding of *Répons*.

Let us turn more strictly to the work itself. *Répons* refers to ‘responses’, in this case to responsorial Gregorian Chant, precentor and choir in alternation. That sets up two relationships to be explored within the work: one between soloists and the instrumental equivalent here to the choir, and also the spatial element brought about by physical separation – and movement in space of the sounds heard. Boulez disavowed in that 1988 interview the spectacular for its own sake – one hears this also in, say, his supremely *musical* performance of a work such as Mahler’s Eighth Symphony – and said that what interested him was ‘this relationship between pitch, form, space, and time … which affects the very writing of the piece in every detail.’ And so, ‘the writing for the orchestra in the centre, for instance, is very different from the writing of [*sic*] the soloists at the perimeter, because – and this comes from my experience as a conductor – I know that when players are close to you they can follow your gestures immediately.’

One must have one’s wits about one to ‘follow’ the quasi-expository Introduction; yet, following everything in a single performance is no more possible than it is in Wagner. It is more advisable to inform oneself up to whatever point one wishes, and then to enjoy, to let the piece take one where it will. Entrance of electronics will inevitably direct aural – perhaps, visual – attention towards the periphery, the location of the soloists and speakers. (A ‘possible seating plan’ follows a compendious list of ‘Production equipment to be provided on site’ in the score.) Different instrumental attacks and decays in turn have different implications for sound transformation.

One example of maintenance of coherence between instrumental and electronic worlds, to which Gerzso draws attention in his booklet note for the CD release, is that of the soloists’ arpeggiated chords. As the soloists take their turns, so are the chords in turn transformed by electronics, ‘in such a way that the arpeggiated chords are themselves arpeggiated. The overall result of the soloists and the transformed sounds together is that of an arpeggio of an arpeggio of an arpeggio.’ Moreover, the pitches of the successive arpeggiated chords themsevles are all ultimately derived from a seven-note vibraphone chord, through familiar operations such as transposition and combination, each instrument taking from another and yet remaining in touch with the first. Oppositions multiply and, in a sense, attract. Meter returns, joining and indeed transforming his earlier works’ opposition between ‘smooth’ (chaotic and irregular) and ‘striated’ (regular, repeated notes) time; so does ‘symmetrical’ harmony. Ornamentation and proliferation – the SACHER hexachord ever in the background, not necessarily to be heard – abound.

Think again of that phrase ‘aural choreography’ – and there is surely ‘visual choreography’ in perusing the score alone. Though stereotype may still present Boulez in fierce, polemical, ‘Darmstadt’ mode, he has an exquisite sense of fantasy; indeed, he collaborated with the ‘equine choreographer’, Bartabas, on performance s of *The Rite of Spring* and *Symphony of Psalms*. More fundamentally, the spatial element is crucial, just as in Stockhausen’s *Gruppen* – another work now ‘traditionally’ performed twice – or in the Venetian works of Giovanni Gabrieli. Gerzso has rightly spoken of a ‘never ending mirror-effect’; electronic transformations respond to instrumental writing, and ‘a chain of answers crosses over to … [the domain] of electronic writing.’ It induces both anxiety and exhilaration that one will never quite hear the same performance, never quite hear the same ‘work’ twice; such is the essence of music as well as its history, in which Boulez more clearly than ever takes his rightful place.

That returns us to technology. Boulez largely kept his distance from earlier electronic music, suspicious of the inhibiting, even imprisoning, effect pre-recorded tapes had upon performance. We need not condescend toward, for instance, Luigi Nono’s *…sofferte onde serene…*, nor indeed to Boulez’s own experiments of the 1950s; as we attain our distance from them, they too take their place in the mutable canon. However, the reassertion of performing contingency, enabled by the advent of ‘real-time’ transformation technology, heralds the late twentieth century’s most distinguished composer-conductor’s crucial first foray into this world. Selecting a single masterpiece from Boulez’s œuvre is as foolish as it would be for Mahler’s; *Répons* nevertheless looms over his subsequent work, just as *Le Marteau sans maître* had before. *Répons* has become, if not quite ‘the threshold’, as Boulez once said of Webern, then a crucially important staging-post in the history of modernist music.