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## Intermodulation: A Short History

ON THE EVENING of Saturday July 26, 1969, in a plastic geodesic dome on Tower Hill, a concert was given by four players who were subsequently to become the initial members of the live-electronics group Intermodulation: Andrew Powell (guitars, keyboards), Roger Smalley (keyboards, electronics), Tim Souster (viola, keyboards, electronics) and Robin Thompson (soprano sax, bassoon, keyboards and guitar). (Andrew Powell was succeeded in 1970 by Peter Britton (percussion, electronics, keyboards).) The concert was characterised by the rough and ready technology typical of electronic ventures at that time. Borrowed amplifiers failed to assert themselves. The dial of an ex-army sine-tone oscillator was nimbly controlled by Robin Thompson with his foot. A Hugh Davies-built ring-modulator nestled in its cardboard box on the floor. The 'visuals' (in the original version of my *Triple Music I*, written specially for this concert) consisted of coloured slides of food, footballers and political events, most of which failed to appear or did so upside-down. The whole occasion was dominated by a PA system lent and personally installed by Pete Townshend of The Who, who could be glimpsed lowering behind the loudspeaker columns throughout the show. Those lucky enough to be connected to this (for those days) mighty array of WEM equipment were able to play very loud indeed: I can remember little else.

### TECHNICAL PRE-CONDITIONS

In 1968 Roger Smalley became composer-in-residence at King's College, Cambridge; I followed suit in 1969. At this time both Andrew Powell and Peter Britton were studying music at Cambridge, both supervised to a certain extent by either Smalley or myself.

King's College made an initial loan of £800 with which three VCS3 synthesizers, a Vox electric organ, a Hohner electric piano, two Ferrograph tape recorders and amplification equipment were purchased. Several subsequent smaller grants were made by King's College, but assistance in the purchase of equipment requested later of the Arts Council, the Gulbenkian Foundation and the Vaughan Williams Trust was refused. All subsequent purchases of equipment, maintenance and running costs were financed by the group itself out of earnings.

### INSPIRATIONS

- 1966 Stockhausen group at the Concert Hall, Broadcasting House, playing *Mikrophonie I* and *Prozession*  
Soft Machine at the Round House with Mark Boyle's lights
- 1967 AMM sessions at the London School of Economics, Commonwealth Institute, etc.  
Cage and Cunningham at the Savile Theatre  
Bedford, Cardew and Tilbury recordings at the BBC
- 1968 Victor Schonfield's 'Sounds of Discovery' concerts, including Terry Riley's *In C*, La Monte Young's *Death Chant* and a concert by Musica Elletronica Viva  
Cream at the Savile Theatre  
The Who at the Marquee
- 1969 Sonic Arts Union at the Round House  
*In C* at the Royal Academy of Music with Francis Monkman, Robin Thompson and Darryl Way  
Cardew's *Schooltime Compositions* at the International Students' House, Great Portland Street  
Cardew's long concert at the Round House including Terry Jennings' String Trio and Cardew's *Great Digest Paragraph 2*

### GENESIS

Realisation of Stockhausen's *Plus-Minus* at the Wigmore Hall in May 1968 by Philip Pilkington (amplified clavichord), Roger Smalley (piano), Tim Souster (amplified viola: 'a poisonous sound')

wrote Christopher Grier) and Robin Thompson (woodwinds).

Realisation of *Plus-Minus* in BBC Maida Vale 1 studio by Gavin Bryars (double bass, piano and tapes: mainly of *Eloise* by Paul and Barry Ryan), Tim Souster (jangle-box, viola, table-harp and tapes) and John Tilbury (organ and tapes).

Roger Smalley's *Pulses for 5 x 4 Players* performed by the London Sinfonietta at the Queen Elizabeth Hall in Autumn 1969 (live-electronic manipulation of instrumental sounds).

Cage concert at the Purcell Room, Summer 1969, including *Variations VI*.

## STATEMENT OF INTENT

I formulated this summary of Intermodulation's aims for the programme book of our Round House Prom in 1974.

What is Intermodulation?

Until recently the term was used only in a technical sense for something to be avoided at all costs: the tendency of certain frequencies when reproduced through loudspeakers to interfere with each other, producing different, unwanted frequencies. Then, when writing about his composition *Telemusik* (1966), Stockhausen used the term in a more loosely metaphorical way to denote the principal electronic technique applied in this tape composition: the integration of many different kinds of highly contrasted music into a new unity.

In 1969 the group Intermodulation was formed with the intention of developing techniques of integration and intercommunication in the field of live-electronics, in which instruments of a more or less conventional nature are extended and transformed by electronic means in a real-time concert situation.

Here the problem of achieving any real integration is intensified by the unpredictable nature of the material concerned; the often completely spontaneous self-expression of four musical human beings, as opposed to the fixed musical objects on tape which may be manipulated in a calculated way in an electronic studio. In seeking a solution to this problem, not only do the players have to be fully and instantly communicative with one another, but they must also develop electronic techniques for the extension and transformation of instrumental sound which enable them to make coherently audible to the listener their reactions to each other's playing.

An example: one player states a musical idea with a certain constellation of pitches, rhythm, timbre and dynamics. A second player may take the pitches of this idea and electronically modulate with them the material he is already playing. A third player may use the rhythm as a means of segmenting the material he is playing. A fourth could imitate or negate the timbre and dynamics of the initial idea, or he could 'simply' remain silent (an important and demanding aspect of free ensemble-playing). The intermodulatory spiral continues with the first player in turn responding to what he has heard, perhaps to an aspect of that idea of which he had not initially been aware and which had only become clear to him through the medium of his fellow players' responsiveness.

This kind of process is not typical of every Intermodulation performance. The group has always played a wide range of music, from semi-improvised pieces, with only a few instructions given by the composer in advance, to pieces with fully notated scores. This stems from the group's belief that the composer today has at his disposal a multiplicity of possibilities, that exclusivity is futile and that all these possibilities are inter-related and mutually influential. Thus when the group performs a text score . . . it brings to it its experience of the performance and/or composition of fixed scores; and when it performs a strictly notated score . . . it tries not to lose hearing the kind of music-making which sometimes arises during the realisation of improvisatory or intuitive music. 'Intermodulations' in the metaphorical sense can be composed as well as improvised. As a BBC recording engineer cryptically noted on his form after a recent recording by the group, . . . 'all intermodulations are intentional'.

## REPERTOIRE

(Works written specially for Intermodulation are marked with an asterisk.)

David Bedford, *Holy Thursday with squeakers\**

Cornelius Cardew, *Material for harmony instruments, Volo Solo, Song of Pleasure (Schooltime Compositions), Great Digest Paragraph 6*

Brian Dennis, *Programmes\** (never performed)

Simon Emmerson, *Chile!*

Andrew Frank, *Dreams of Reason\** (never performed)

Nicolaus Anton Huber, *Von . . . bis . . .*

Adrian Jack, *You told me so yourself . . . \**

Andrew Powell, *The Old Pavilion\**

Terry Riley, *Dorian Reeds, Dorian Viola, Dorian Marimba, Dorian Mix, Keyboard Studies*

Frederic Rzewski, *Les moutons de Panurge*

Roger Smalley, *Transformation, Melody Study I,\* Beat Music* (with orchestra),\* *Monody, Zeitebenen,\* Memories\**

Tim Souster, *Triple Music I,\* Chinese Whispers,\* Waste Land Music,\* Quints Jam,\* Spectral,\* Break, Zorna,\* World Music\**

Karlheinz Stockhausen, *Prozession, Spiral, Pole, Expo, Sternklang*, numerous pieces from the collections *Aus den sieben Tagen* and *Für kommende Zeiten*

Yuji Takahashi, *Bridges*

John White, *P.T. Machine*

Collective Compositions, *Set, Performants, Group Composition No.1*

## SOME MEMORABLE CONCERTS

Yeovil Technical College: the complete realisation of the audience participation aspect of Rzewski's *Les moutons de Panurge*.

Dr Schulz's Wandelkonzert on all floors of the German Institute in London which lent the groups present (Intermodulation, Gentle Fire, Scratch Orchestra, Portsmouth Sinfonia, etc.) a faint and transitory aura of unanimity.

Ely Cathedral concert with Riley's *Dorian Mix* played by viola and sax moving slowly along either balcony of the vast Norman nave. We were joined in the Riley and in Cardew's *Material* by musicological superstar Joshua Rifkin playing harpsichord.

John White's *P.T. Machine* played in a moving paternoster lift in Cologne. The spaces between each player in the lift compartments were too great, so the audience, milling around the ground-floor foyer, were only occasionally reminded that a performance was in progress. John White would have approved. Previously we had played *Dorian Mix* Cologne Cathedral square, thus eliciting complaints from a nearby hotel and headlines in the local press such as 'Electronic Noise Alerts Police'.

A concert best forgotten: Central London Polytechnic Canteen. The 'hall' was in use until shortly before the concert, an impossible condition for electronic music. There was no advertising or organisation. I played *Spiral* on the electric guitar for the first and last time.

The strangest programme we ever took part in was organised by an enterprising teacher at a comprehensive school out in the wilds of East Anglia who was also a lay-clerk at Ely Cathedral, where he organised the concert already referred to above in the face of considerable opposition. The school concert began with a 12th century dance played on recorders and percussion, progressed through the centuries with *Sumer is icumen in*, Claude Gervaise, Byrd, Bach, Schubert, Maxwell Davies, Flanders and Swann's 'Elephant Song', a percussion improvisation 'Creation Ritual' by A.R. Waller, and culminated in a realisation by Intermodulation of a part of *Aus den sieben Tagen*, followed by Rzewski's *Les moutons de Panurge*.

## REACTIONS

Reviewers at our concerts, often at a loss to know what to write about the music, turned their attention to our dress. Gerald Lerner's review of our first public concert in March 1970 was evidence for this. He wrote: '... the first work on the programme [was] *The Old Pavilion* by Andrew Powell (who was present in shoulder-length hair, pink jersey, and yellow scarf). Characteristically this work is long, and seems mindless, and calculated to pierce the ear with the equivalent of five dentists' high-speed drills ... Mr Smalley and his colleagues gave the audience a 'collective improvisation'. This, I confess, called for more physical courage than I possess, and I ducked it, unfortunately missing too, a Stockhausen piece called *Set Sail for the Sun*. But I did hear *Transformation* by Roger Smalley, who is not merely trendy as the flowered shirt, matching tie, and shorter hair indicated in this case.... It is a very serious piece but the difference between visual cause and audible effect has a surreal, almost Marx Bros. comedy in it. "Smalley's magic piano", it should be called.' A (largely perspicacious) review of our Edinburgh concert by Conrad Wilson appeared under the heading 'Novel electronic concert in casual gear'.

But perhaps the most misguided review we ever received came (perhaps inevitably) from Peter Stadlen: not wounding to us so much as to Riley and the whole concept of his beautifully frail scores which can blossom into such marvellous music. Under the heading of 'Group of four notes as Prom piece' Stadlen wrote with his characteristically contorted brilliance: 'I wonder who, if anyone, at the BBC examined Terry Riley's *Keyboard Studies* before it was decided to have them performed by the Intermodulation Group at the Albert Hall Promenade concert late last night. It took me rather less than five minutes to copy the score and I cannot believe that Mr Riley took longer over composing it.'

Response to concerts from listeners varied from the rapturous ('That was an experience') to the hostile ('It's taken centuries of civilisation to get away from these sounds'), but most people in this country,

particularly in London, seemed simply blasé ('How do you think it went?'). Radio heightens, rather than diminishes, the impression that one is working in a vacuum. Occasionally, however, people bother to write, and this closing of the circle of communication was, for me at least, the most satisfying and exciting aspect of the whole venture.

#### HIC JACET?

The last Intermodulation concert took place in early 1976. At that time Robin Thompson had already departed to take up a course of study at the University of Tokyo, and soon afterwards Roger Smalley became a visiting fellow at the University of Western Australia. This brought to a close a career of over 70 concerts in Britain, West Germany, France, Poland and Iran, and numerous broadcasts for BBC, WDR, Radio Bremen and Hessischer Rundfunk. Intermodulation made no records, but its members played on the DGG recording of Stockhausen's *Sternklang*. Whether the group has played its last note remains to be seen.

In a nutshell my advice to those contemplating forming performance groups themselves is: don't. The relative indifference of audiences and record companies (the BBC was a welcome exception), the lack of financial support from our principal funding organisation, the very low level of concert fees in this country, the sheer drudgery of touring with electronic equipment and the unbelievable complications of taking this equipment through customs: all this often made one wish one belonged to something simple and easy, like a string quartet. But communicating with a live audience and exploring new interactive musical possibilities is very habit-forming: in the summer of 1976 I formed a new live-electronics group, 0dB with Peter Britton and Tony Greenwood.

## *Simon Bainbridge*

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