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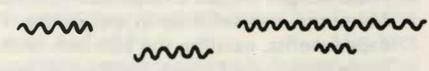
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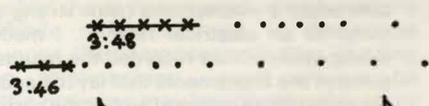
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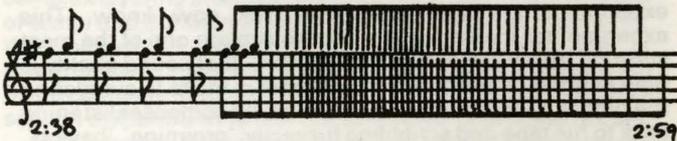
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Example 4

flutters 2 voices  5:42

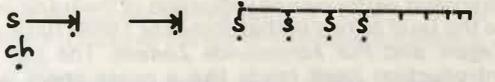
clicks 2 voices  3:48
3:46

staccati 2 voices  2:26



sibilants

- s —————> (quick sharp cut-off)
- sh —————> st
- sh —————> t
- s —————> ee
- s —————> oo
- sh —————> t



STOCKHAUSEN — MIKROPHONIE I

SIMON EMMERSON

It is often true that important ideas are based upon misconceptions or misrepresentations of the truth. From 1964 to 1966 Stockhausen broadcast a series of lectures on West German Radio under the general title 'Do you know music which can only be heard over loudspeakers?'¹ In each lecture he covered a particular studio and its key works: the first series, broadcast monthly, covered GRM and Studio Apsome (Paris); WDR (Cologne), RAI (Milan); Warsaw and Brussels; Stockholm, Helsinki, Reykjavik, Copenhagen, Toronto; Tokyo and Columbia-Princeton (New York). It is significant that by 1964 the polemical comment on — and even outright rejection of — 'non-purist' electro-acoustics had almost entirely disappeared. Although still two years before the shatteringly pluralist ideas of *Telemusik* and *Hymnen*, Stockhausen had already moved, as we shall see in examining his 'live electronic' works of the mid-1960s, from the 'additive' synthesis of the electronic *Studien* (1953-54),

through the impulse-based synthesis of *Kontakte* (1959-60) to the 'subtractive' synthesis of *Mikrophonie I*: the sound object is given in all its complexity and is then manipulated to even greater differentiation of its richness.

However, in the very first lecture Stockhausen said:

We hear now the composition *Tam-Tam IV* of 1950, by Pierre Henry, for many years one of Schaeffer's closest associates. I understand by the title that for this piece Henry recorded sounds of a tam-tam on tape and then proceeded to work on the taped material... If however one transposes such a sound very high (from a recording), as at the beginning of the following work, its entire character changes beyond recognition. It is thus clear that quite new sounds are obtainable through the transformation of natural (let us rather say, 'familiar') sounds.²

I have quoted the text quite fully, as both the misconception and the creative consequences of it are in evidence. In 1950 and 1951 Henry created a collection of short 'essaies concrètes' under the title *Le microphone bien tempéré*. Five of these 'essaies' have the title *Tam-Tam* and all are simple transformations of 'prepared piano' sounds! Henry had 'discovered' the prepared piano in about 1948 quite independently of John Cage, whose first trip to Europe was made in the very year of the foundation of the 'Club d'Essaie', the precursor of the Groupe de Recherches Musicales at French Radio. Listening to *Tam-Tam IV* in hindsight, it is too easy to be surprised at this extraordinary slip of the ear. Henry's work is full of metaphors: to Bach, to jazz and, more importantly, instrumental metaphor. Henry studied (as did Stockhausen) with Messiaen, and while Messiaen's *Et exspecto resurrectionem mortuorum* is interestingly contemporary with *Mikrophonie I*, his use of the tam-tam and 'gamelan' groupings of percussion instruments can be seen as early as the *Turangallila* Symphony of 1948. Henry's piano is prepared to an extreme degree — see the record sleeve photograph to the reissue of the work on the INA/GRM label³ — and the title *Tam-Tam* is intended to cover a multiplicity of sounds within the 'framework' of the piano, just as the real tam-tam stands at the root of Messiaen's 'gamelan'.

Therein lies the creative consequence for Stockhausen in the 1960s. For indeed the final sentence of the quotation above was at least one line of development for the composer, and although there remain very important differences in the approach to order and structure of these transformed 'sound objects', it was still a giant step towards a position he had apparently forsaken after the 'concrete' *Etude* of 1952.⁴ If *Mikrophonie I* is in some senses the fruit of this rediscovery of the given 'object', then it comes as no surprise to see Chion and Reibel writing in *Les musiques electroacoustiques*:

A violent and massive work, *Mikrophonie I* illustrates well how an apparently banal procedure like amplification can surpass more refined electronic treatments in acoustic and musical consequences... *Mikrophonie I* belongs, with *Stimmung*, to the family of monolithic works of Stockhausen, in which it is not a question of experimenting with mixing and integrating opposites, but of affirming one thing and one alone.⁵

To which I must add my own feeling that while *Mikrophonie I* was perhaps the nearest to the French approach that Stockhausen had come for years, he never truly developed this 'monolithic' one. The text book view of electro-acoustic music history is confused. In moving away from the rigidity of the 1950s — the 'additive' system noted above — to *Mikrophonie I*, one cannot simply argue that the 'musique concrète/elektronische Musik' divide has vanished. And to argue further that the materials in *Telemusik* and *Hymnen* are 'found objects' in the sense of the French school is to ignore a whole dimension of their associative meaning. In short, the path is not straight from pure electronics to collage, but very crooked with several culs-de-sac and even more 'through roads' only partly trodden. *Mikrophonie I* lies in this last category. A new and diverse generation of composers has carried on this work almost unnoticed.

The mid-60s were a time of great experimentation for Stockhausen, who referred (in relation to *Mixtur*, written in July and August 1964, hence during the preliminary composition of *Mikrophonie I*) to 'the freshness and gaiety of those adventurous days'.⁶ While, of course, all Stockhausen's works contain an element of surprise, a new idea exploited, it is to this period that such experimentation with the physical materials of 'live' sound excitation are confined. The original experiments were carried out by the composer and Jaap Spek in the summer of 1964:

I had bought myself a large tam-tam for my composition *Momente* and set it up in my garden. I now made some experiments, exciting the tam-tam with a great variety of implements — of glass, cardboard, metal, wood, rubber, plastic — that I collected from around the house, and connected a microphone (with strong directional sensitivity) to an electrical filter... made audible over a loudspeaker... we recorded the results on tape... used some of the implements that lay to hand as the mood took me and at the same time I probed the surface of the tam-tam with the microphone as a doctor probes a body with the stethoscope.⁷

Indeed Hugh Davies reports that Stockhausen's wife found many implements lost from the kitchen on the composer's work bench!⁸ Stockhausen then organised this free experimentation into the work we now know. This experimental method partly goes to explain one of the most startling attributes of the printed score: that sound quality is now defined in words and no attempt is made to overdefine the timbre. One can imagine the startled composer listening back to his tape and scribbling furiously: 'groaning', 'baying', 'cracking', 'grating', 'whimpering', 'shrieking', etc. — there are at least 68 such descriptions in the score. In principle the performers themselves experiment to discover the best materials available to fulfil this sound quality; as with other Stockhausen scores, however, a second, 'performing' version is to be published which will indicate the exact materials used in the first performances, as well as the chosen orderings of the various 'moments'.⁹ This reliance on given verbal instruction is a strange relative both to the more extended performance indication of the traditional score and to the later purely verbal scores of 1968-70 (*Aus den sieben Tagen* and *Für kommende Zeiten*). The list given in the introduction itself reads like a prose poem with the most immediate association for the reader.

Mikrophonie I is performed by two entirely symmetrical groups of three performers. Two of each group are firmly on one side or the other of the tam-tam. The first performer of each activates the tam-tam with the materials assembled, according to instructions in the score; the second wields the microphone (sometimes with a resonator, such as a tube or cup) and the score indicates both the distance of the microphone from the source of vibration and the distance from the tam-tam surface in a clear graphic manner. The third performer of each group sits in the audience at the centre of the four-speaker amplification system, operating the band-pass filters and potentiometers (i.e. loudness controls) for sound distribution. This antiphony is the least developed of the work's large-scale parameters; with some exceptions (the 'tutti' moments) the groups play alternately, albeit interlocking their individual moments to those preceding and following. Nonetheless the spatial dimension does allow a considerable degree of differentiation of sound structure to be underlined.

The moments themselves, as in *Mixtur* and in *Momente* itself, are intended to be self-sufficient and musically independent of each other. (I refer readers to other fuller discussions on 'moment form' in Stockhausen's work.)¹⁰ They are therefore in unnumbered loose-leaf form ready for the montage of a performance version. Most are titled by the sound-description words already mentioned; one refers to the moment 'Schnarrend'. As in *Mixtur* and *Stimmung* (but not *Momente*), the moments are of equal value and may be slotted into the given 'connection scheme' with a few a priori conditions. It is at this point that *Mikrophonie I* makes a unique contribution to the notation of musical interaction.

In 1963 Stockhausen composed *Plus-Minus*. While being a breakthrough in terms of the free notation of parameter change ('+' = higher, louder, longer, etc.; '-' the opposite), the score is complex and unwieldy, relying on the performers to write out a given version. In *Mikrophonie I* Stockhausen developed his idea of 'Veränderungsgrad' ('scale of rate of change') so that this itself becomes a simple parameter of music. Each connection between two moments is defined by the combination of three 'operators', one from each of the following three columns:

I	II	III
≅ similar	+ supporting	↗ increasing
≠ different	neutral	→ constant
⊖ opposite	- destroying	↘ decreasing

This enormous simplification of the combinatorial possibilities allows the performer to react more freely at the

given point of connection; so () (in fact printed vertically) is 'opposite and increasingly destroying the previous moments of the opposite group', with the exception of the tutti moments which have strong anchoring functions in the form plan. While moments may, in theory, be positioned in any sequence, the composer adds that 'in doing this the connection relationships... must always be considered'.¹¹ In fact the ordering may be considerably more limited than at first appears. As in all Stockhausen's works of the mid-60s, many of the proportional systems of structure are based on the Fibonacci series and its multiple derivatives. Unlike *Mikrophonie II* and *Telemusik*, the durational form plans of which are easily seen, *Mikrophonie I* has much more complex layering and ordering of its components with the use of tempi and duration scales. There are three tutti moments, the longest of which, Tutti 157, embodies one of Stockhausen's recurrent ideas: the use in one short section of the complete materials of the whole composition. There is a section of *Mantra* in which the same type of process occurs.

Mikrophonie I has received only one, not entirely adequate, performance in this country to date, and the recorded version¹² does little to show off its extremely diverse spatial and aural contrasts. The score does help in the elucidation of the sounds and may encourage its reappraisal as perhaps one of Stockhausen's most experimental scores and one which might more fully be followed up and developed.

NOTES:

¹ Published in full in Karlheinz Stockhausen, *Textezur Musik 1963-1970, Band 3* (Cologne: Verlag M. DuMont Schauberg, 1971) pp. 242-289.

² *Ibid.*, p. 244; also quoted (in English translation) in Robin Maconie, *The Works of Karlheinz Stockhausen* (London: Oxford University Press, 1976), p. 186.

³ Pierre Henry, *Le microphone bien tempéré* (INA/GRM AM006.08) (UK distribution by Harmonia Mundi).

⁴ No. 1/5 *Etude* (Konkrete Musik), 1952, created in the Paris 'musique concrète' studio.

⁵ Michel Chion and Guy Reibel, *Les musiques électro-acoustiques* (Aix en Provence: Edisud, 1976), p. 159 (translated by the author).

⁶ *Texte... Band 3*, p. 52; also quoted in Maconie, *op. cit.*, p. 189.

⁷ *Texte... Band 3*, pp. 60-61; also quoted in the introduction to the score (Karlheinz Stockhausen, *Mikrophonie I* (London: Universal Edition, c1974), UE 15318, p. 3).

⁸ Hugh Davies, 'Working with Stockhausen', *Composer*, no. 27 (1968), pp. 8-11.

⁹ *Mikrophonie I 'Brüsseler Version'*, UE 15319. The moment-order choice and connection scheme for the Brussels version are given in the score already published (see note 7), p. 7.

¹⁰ Notably Roger Smalley, 'Momente', *The Musical Times*, vol. 115, no. 1571 (January 1974), pp. 23-28; no. 1574 (April 1974), pp. 289-295.

¹¹ Introduction to the score (see note 7), p. 6.

¹² *Mikrophonie I* (CBS New York 32110044, Paris S77230, ited and prefaced by Dieter Schnebel, but the editor of this new volume, Christoph von Blumröder, has retained the usual format. The book is a collection, divided into five sections, of writings practically all of which have been published before.