‘Just the job for that lazy Sunday afternoon’: British Readymades and Systems Music

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This paper is concerned with definitions and their change and application over time and space. Take the term ‘systems music’, or its associated terms, ‘systems’ and ‘systemic music’, also ‘systematic’ music. Nobody seems to know exactly what these terms mean. In fact, the use of the term ‘systems’ became so vague that although it had appeared in the first New Grove of 1980, ‘systems’ disappeared as a definition in New Grove II in 2001. This would imply that ‘system’ is not only an old term, but a meaningless one. Is the term ‘system’ just another synonym for ‘process’, a way of structuring minimal music? Is the term ‘system’ just outdated slang for repetitive minimalism? ‘System’ has been considered to be either a synonym or an archaism for repetitive music, sometimes both, at different times and to different scholars. However, there is a reason for bringing back the term ‘systems music’, with a clear definition. If we return ‘systems music’ to the group of British experimental composers who first used it, we find that it is also of use as applied to some music by this group today. Even so, we must clarify the use of the term ‘system’ within British experimental composition, because the way that each composer uses it depends on the time and situation in which it is used.

In its widest possible definition, systems music has many points of similarity to American repetitive process music. In general, both British systems and American minimalism can be described as using processes that in most cases can be expressed numerically. When the governing process is exhausted, the piece ends. Steve Reich’s phase pieces, such as Come Out (1966) and It’s Gonna Rain (1965), use simultaneous presentations of a given material, each presentation having a different duration that can be expressed numerically, as can the differences in tempo between each player in Morton Feldman’s Piece for Four Pianos (1957). Terry Riley’s In C (1964) proceeds through limited performance indeterminacy⁠¹ using fifty-four thematic elements of varying lengths, so it, too, could be said to have a numerical basis, as could Reich’s later additive constructions in Drumming (1970-1) and Music for Eighteen Musicians (1976). The numbers governing these pieces either work at a thematic level (as in In C), variably (as in the choice of tempo in Piece for Four Pianos), or act simply and evenly throughout. However, the numerical constructs in most British systems tend to occur at a microcosmic level, and in strict systems, this level is note-to-note.

⁠¹A piece that is indeterminate as to performance offers composed variables that can be altered in performance, as opposed to compositional indeterminacy, in which compositional elements are determined by means that are beyond the direct control of the composer (as in dice throws or paper imperfections). These results are then fixed in notation for performance. In C has limited performance indeterminacy in that each performer can determine the number of repetitions of each thematic element. However, the number of repetitions is limited, so that the group moves through the material in roughly the same time.
Like American repetitive minimalism, British systems are an experimental invention, and like American minimalism, systems can be divided between ‘modern’ experimentalism and ‘postmodern’ experimentalism. I have dealt with this distinction more closely elsewhere. In short, ‘modern’ experimentalism comprises the technical aesthetic that had its backgrounds in American pioneers like Ives and Cowell and in non-Americans like Erik Satie, but which flourished and obtained a coherent aesthetic in the era of indeterminacy (most strongly from Cage’s 4’33” through the 1950s New York School, to Fluxus and lastly in Cornelius Cardew’s The Great Learning (1968-71)). ‘Modern’ experimentalism and its backgrounds differ from the twentieth-century avant-garde tradition in fundamental attitudes toward the nature of music, music construction and narrative, and of influence (particularly in the use of non-Western philosophy). The underlying perceptions of ‘postmodern’ experimentalism are similar to those of ‘modern’ experimentalism: the avoidance of a central tradition and a linear historical progression, a lack of monumentalism, and an emphasis on philosophical and psychological associations, especially, in the case of postmodern repetitive music, through hypnotic or meditative perception. However, ‘postmodern’ experimentalism often celebrates traditional narrative discourse and a love of consonance not often found in modernism. This distinction is not hard-and-fast: In C both uses modern experimental performance indeterminacy and postmodern consonances.

The split in the British systems ‘family’ between modern and postmodern experimental styles comes somewhere between random systems, best shown in the earliest of John White’s Machine series (1968-75) of repetitive pieces using compositional indeterminacy, and later, phrase-based systems. Strict systems, found systems and Readymades show both modern and postmodern experimental traits. However, it is best to introduce British systems somewhat centrally in chronological order, by beginning with strict numerical systems, which flourished first in 1973-74. Christopher Hobbs defined systems music as works ‘whose structure and/or note-to-note procedure [are] determined by a priori numerical systems’. This is the ‘governor’ definition, referred to in my 1983 interview with Michael Nyman, and accepted in Michael Parsons’ article on systems and art. Brian Dennis quoted Hobbs in The Musical Times in 1974; moreover, he distinguished systems from earlier repetitive music.

It is difficult to determine precisely at what point repetitive music becomes ‘systemic’. If we take Chris Hobbs’s definition of the latter as ‘music in which the

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4 The late Jonathan Kramer set out defining features of postmodernism in music most clearly, especially in his articles, ‘Beyond Unity: Toward an Understanding of Musical Postmodernism’, in Elizabeth West Marvin and Richard Hermann, eds., Concert Music, Rock, and Jazz since 1945 (Rochester, N.Y.: University of Rochester Press, 1995), 11-33; and ‘The Nature and Origins of Musical Postmodernism’, in Judy Lochhead and Joseph Auner, eds., Postmodern Music/Postmodern Thought (London: Routledge, 2002), 13-26. There is, to some extent, the sense that much of what is central to postmodernism comes from experimentalism (Kramer called it an ‘attitude’), which makes such ‘postmodern’ music as that of Thomas Adès and other composers from the central academic tradition sit uncomfortably with music by experimentalists.

5 Christopher Hobbs, letter to author, 21 May 1982.


structure and note to note procedure are dictated by a numerically expressible construct', some of the pieces so far discussed come close to this. Chance [for instance, John White’s Gothic Chord Machine (four reed organs, 1970), which is compositionally indeterminate] and individual choice [Riley, In C and Rzewski, Le Moutons de Panurge (1969), which are indeterminate as to performer choice] are replaced by precise numbers of repeats or the segments themselves are numerically derived.8

For the first year of their work together as the Hobbs-White Duo (1973-76), Hobbs and John White specialised in percussion music that most closely fits Hobbs’s definition. Other British experimentalists, particularly the duo of Michael Parsons and Howard Skempton, composed and performed systems music, mostly for unpitched percussion, and John Lewis and Dave Smith created systems for piano.

**Systems Music, Systems Art, and Strict Systems**

Systemic music took its processes and its name directly from British systems art, which itself was influenced by Constructivist art and the movement called de Stijl. The systems group of artists was co-founded in 1969 by Jeffrey Steele and Malcolm Hughes, which they launched that year with a manifesto and an exhibition in Finland. However, earlier process art using the same or similar methods dates as early as 1960 in the British Constructivist movement (Anthony Hill’s *Prime Rhythms* uses prime numbers to determine the composition of the art work).9 Steele brought British experimental composers to the Portsmouth College of Art, where Parsons and Gavin Bryars worked, and Hobbs, White, and Skempton were guest lecturers. Given the antipathy of the British musical establishment, both conservative and modernist, to the ‘Cardew School’ of British experimentalism,10 art and drama schools had been the main, and for some time the only, place for experimental composers to teach.11 Steele’s systemic paintings, *Series Sg*..., ‘designed to exhibit the maximum range of aesthetic possibilities of diagonal symmetry’,12 was limited to black-and-white ink lines (Ex. 1).

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8 Brian Dennis, ‘Repetitive and Systemic Music’, *The Musical Times*, 115/1582 (December 1974), 1037. Brackets are mine, following topics that Dennis had covered in previous paragraphs.


10 This term is used by Lewis Foreman in a dismissal of British experimentalism. See the section on the confusion over the definition of systems later.

11 Dennis was rare in obtaining a place as a lecturer in the music department of Royal Holloway College, although he was hired at first in music education rather than composition.

12 Jeffrey Steele, ‘*Series Sg*…’, explanatory text to accompany the works.
Untuned percussion was ideal for strict musical systems, as it tended to neutralize expression. The Hobbs-White Percussion Anthology contains the greatest collection of numerical systems, most of which are strict systems;\textsuperscript{13} other strict systems pieces occur in Christopher Hobbs: Duo Percussion Pieces, 1973-75.\textsuperscript{14} Christopher Hobbs’s Number Piece 1 (1973) is typical of ‘strict’ numerical systems, as it presents an alternation of wood blocks and cymbals rung at increasing and decreasing intervals of time. The following example (Ex. 2) is Hobbs’s reconstruction of a graphic representation of the system, which preceded a traditionally notated performance score. In this graphic representation, the bracketed numbers above the noteheads (10, 10, 10, etc., followed in system three by 11, 12, 13, and so on to 20, 20, etc.) indicate the interval of numbers of units between the initiation of each block or cymbal entry (these units translated into quaver lengths in the performance score). The numbers under the initiation of each four-note block or cymbal entry is the speed that each note follows.

\textsuperscript{13} Christopher Hobbs and John White, Hobbs-White Percussion Anthology (London: Experimental Music Catalogue, 1975).

\textsuperscript{14} Published privately by the composer, 1983; 2nd edition, Leicester: Experimental Music Catalogue, 2000.
Ex. 2: Christopher Hobbs, *Number Piece 1*, for wood blocks and cymbals (1973), graphic representation of score.

The system begins with, first, all blocks together, followed ten units later by all cymbals separated by a one-unit rest, blocks by two and so on from every unit to every twenty units, as noted under the beginning of each entry. When the blocks reach a point where each of the four notes are separated by a rest of twenty units (at the first block entry on system three), the initiation of the following cymbals entry extends to eleven units, then twelve to the following block entry, and so on (shown
in the brackets above the third, fourth, and fifth systems), until the second cymbal entry of system four, which occurs twenty units after the previous block entry. From this point until the end, the entrances remain twenty units apart. After the second twenty-unit initiation (in the fifth system, under Hobbs’s “etc.”), the interval between each note of the four-note entries lessens, first to nineteen in the cymbals, to eighteen in the blocks, and so on, until the unison occurs in the final block entry. Thus there are two systemic processes: the interval within each four-note entries (its perceived tempo) and the interval between the onset of each four-note entry. The tempo process is palindromic, beginning and ending with the blocks in unison; the onset process is directional, moving from ten to twenty units and then remaining thus for the duration of the piece. The overlap between elements of the two processes helps to obscure their existence.

In the final performing edition, the system is further revealed in the notation, but it is further obscured as well. Hobbs decided on a time signature of 5/4 to accommodate both the ten-unit (quaver) onset intervals at the beginning; thus the first twenty-one bars begin the first twenty-one entries, making the system easier to follow (Ex. 3).


However, the performing edition obscures the alternation between the instruments by dividing the blocks and cymbals between the two performers. The division of the parts no longer appears in a linear fashion, with blocks on one staff and cymbals on another, but rather in two blocks and two cymbals on each staff. This practical obscuring of the system is not unlike the way that Webern’s *klangfarbenmelodie* obscures both the set forms and their canonic presentation in the Symphony, Op. 21.
Aside from the system itself, other elements are left free. Hobbs extends durations within each entry to give the illusion of horizontal linearity. Thus, the first cymbals entry, evenly spaced at one quaver apart although divided across the two staves, consists of the notated durations of crotchet, crotchet, semibreve, and a quaver tied to a dotted minim. As blocks have a quick decay and cymbals, marked ‘l.v.’ (laissez vibrer), have an extremely long one, these notated durations have no correlation either with the system or with the resultant sound. Hobbs also beams notes of one entry group with those of another (as in the beamed block and cymbal group in the lower staff in b. 21). Both of these ‘additions’ to the strict system are entirely in aid of performance practicality and give the feeling of a line in each part when, in fact, the ‘systemic’ line is divided between the two performers. These notational presentations do not alter the fact that the systemic entries are rigid, but they do obscure the system in the notation.

This kind of practical manipulation of the indeterminate elements of the piece—the duration of each entry is not specified in the working notes, only the intimation of an equal duration for all notes due to the filled-in noteheads—is, perhaps, indicative of a typical ‘experimental’ interest in sticking rigidly to the rules of the piece, while playing with any factors that lie outside them. Hobbs has provided a short electronic realisation of the opening, using drum sounds instead of wood blocks, to heighten the perception of the system (Audio Excerpt 1).

Audio Excerpt 1: Christopher Hobbs, Number Piece 1 (1973). Electronic realisation by the composer. Used by kind permission.

The Systems ‘Family’: Random Systems

‘Systems’ were publicly introduced in two articles, ‘Repetitive and Systemic Music’, by Brian Dennis, in 1974,16 and ‘Systems in Art and Music’, by Michael Parsons in 1976.17 Both authors use the term ‘systems’ to refer to strict British numerical systems, such as Number Piece 1. Thus, the most important readily available resources for systems music emphasise strict systems rather more than other related processes. However, the short fashion for strict systems coincides with Brian Eno’s Obscure series of recordings, which displays a range of systemic processes. As composers chose to record works written over a number of years, this series featured not only strict systems, but also earlier systems based on random numbers and on other structural types (Readymades and ‘found’ systems). Michael Nyman used numerical processes in his early work (as in his 1-100 (1975) and Bell Set (1971), recorded in 1976 on Decay Music, on Obscure Records).18 In the former, Nyman aborted a simple additive process on ‘The Blue Danube’ Waltz due to length (it was intended to be a bar-by-bar version of Rzewski’s note-for-note additive process in Le Moutons de Panurge). Instead, Nyman produced systems by categories of chords (triads, sevenths, and so on) in numerical groupings (analogous to Hobbs’s ten-twenty unit groups in Number Piece 1). The recorded version was an amalgam of four simultaneous presentations of 1-100, which is not only typical of the approach Brian Eno took to the Obscure se-

15 This game-playing element can be seen most strongly in the text pieces (also called ‘verbal’) pieces that form the body of work amassed by the Scratch Orchestra in its pre-Marxist phase (1969-ca. 72).
16 Dennis, op. cit.
17 Parsons, op. cit.
18 Michael Nyman, Decay Music (Obscure 6, 1976).
ries as a whole (Hobbs’s *Aran*, on *Ensemble Pieces*), used substantially enlarged orchestration for its recording), but also typical of systemic layering (as in Hobbs’s double numerical system in *Number Piece 1*). Bell Set also used multiple elements, here rhythmic structures, in an additive fashion not unlike strict systems, even though it, like other additive-process pieces by British experimental composers, was composed before the formalisation of strict systems through Hobbs’s definition.

British experimentalists used numbers to determine the structure of other pieces in other ways. The associations in these other pieces to strict systems in music are so distinctive as to form a British systemic ‘family’. The earliest is random systems, best seen in John White’s *Machine* series. White, who is as important to postmodern British experimentalism as Cardew was to modern British experimentalism, originally used random procedures—chess moves, dart board throws, random number tables—to generate his processes. As such, the main difference between random systems and strict systems has to do with the source of the numbers used, as the systems in many random Machines occur at a microcosmic, note-by-note, level.

According to White, in all Machine pieces:

> the sounds tend towards a sort of ragged consonance, the procedures usually involve much repetition with changes happening almost imperceptibly over large spans of time, and the atmosphere is usually pretty calm and unruffled, however fast the pace of the music.

White wrote that his *PT Machine* (1969) was ‘the result in sound of reading random number tables in the same way as one would read a thriller’. This emphasis on consonance is, like *In C*, typical of this transitory period between modern and postmodern experimentalism. White’s two descriptions of his Machine music as emotive (‘calm and unruffled’) and communicative are typical of White’s approach to music in general. These extra-musical associations are also more typical of postmodern music than modern music, with its scientific, internal references.

An important early work, *Drinking and Hooting Machine* (1969), appeared on the Obscure album *Machine Music*, which contains the largest recorded collection of these early systems available.

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20 Hobbs uses simultaneous number systems in his current *Sudoku* series of pieces (2006–).

21 John White, quoted in Michael Nyman, ‘Believe It or Not, Melody Rides Again’, *Music and Musicians*, 20/2 (October 1971), 27.

22 White, in programme note for the premiere of *PT Machine* by Intermodulation, Queen Elizabeth Hall, 18 October 1970.

23 White has claimed that his piano sonatas, which he has been writing since 1956, are ‘like entries in a diary’ [White, interview by author, 7 March 1983].

In this excerpt (Ex. 4), one of four similar sub-groups, the numbers 1-10 indicate the number of repetitions of pitches and their alterations—‘sip’, ‘swig’, ‘gulp’, ‘as is’—on bottles ‘of a favoured drink’. The bottles are blown across to produce the pitches, which, as the contents of the bottle are drunk, lower until the bottle is empty. There are several versions of this piece, each using different methods of systemic generation. For the first version, for four performers, White used numbers found in *Ram-
dom Sampling Numbers, by L. C. H. Tippett. (White and Hobbs later preferred the Table of Random Permutations, edited by Lincoln E. Moses and Robert Oakford, memorialised in Hobbs’s Lincoln E. Moses Comes Down from the Mountain (1973)). The second version of Drinking and Hooting Machine, for any number of performers, used telephone numbers chosen by the performers themselves. The Experimental Music Catalogue version—the ‘official’ version, above—uses random numbers of unspecified origin that are fixed in performance. However, White has created other versions since, using an adaptation of change-ringing permutations.

Despite these variations, the resultant sound world is determined by the acoustics properties of bottles and the alteration in pitch that results when the contents are drunk. White wrote in the notes for Machine Music, ‘the effect of this piece [Audio Excerpt 2] has been compared to that of a large aviary full of owls all practising very slow descending scales’.


Readymades

The Promenade Theatre Orchestra (the PTO), founded by White, was a group of composer-performers (as well as White, PTO regulars included Alec Hill, Hugh Shrapnel and Christopher Hobbs) who all contributed to its repertoire of random Machine and Readymade systems music. Hobbs was the strongest proponent of the musical readymade, following Marcel Duchamp’s visual art ‘readymade’, in which an everyday object is presented as the artwork, usually with little or no alteration other than the presentation itself. This concept is best known in Duchamp’s urinal, Fountain (1917). However, Duchamp’s Bicycle Wheel (1913) combines two unrelated objects, a bicycle wheel attached upside-down by its fork to the seat of a wooden stool, to form the artwork. Although this predates Duchamp’s acknowledged ‘readymades’, the combining principle is similar to the musical readymade. In Hobbs’s The Remorseless Lamb (1969), the found object is a piano duet arrangement of Bach’s ‘Sheep May Safely Graze’. Hobbs used random procedures to change the order of each part’s left and right hands by bars, rather than determine the note-by-note process, so the organisation occurs at a larger level—by bars—than strict or random systems. This leaves the piece recognisable, albeit without the narrative impetus of the original.

There are also readymades in which the system itself is the found ‘object’. To some extent, this applies to Christopher Hobbs’s work for a concert in 1969 in set-

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26 This version is published in Brian Dennis, Projects in Sound (London: Universal Edition, 1975), 45-6. This book is intended for school children and is simplified. The performers are limited to a ‘favoured’ (rather than ‘favoured’) drink, with orange juice suggested.
27 White was unsure whether the EMC version was made using random numbers, but thought that if it had been, he would have obtained the numbers from Tippett; Dave Smith, in his catalogue of White’s compositions (unpublished), notes that it uses ‘smaller (random) numbers than the first version’, suggesting Tippett once again. Smith labels the EMC version ‘official’.
28 John White, telephone call to author, 7 November 2007.
29 John White, Liner note to Drinking and Hooting Machine, in John White and Gavin Bryars, Machine Music (Obscure OBS8, 1978).
30 Brian Dennis attended and played in some of the early meetings.
ting Samuel Beckett’s novel *Watt*, a novel that is ‘an account of the grotesque and improbable adventures of a fantastically logical Irish servant and his master’. *Watt* has several permutational passages. One particularly relevant passage uses a permutation of vocal sounds:

Mr Spiro now replied to these questions, that is to say he replied to question one and he replied to question three. He did so at length, quoting from Saint Bonaventura, Peter Lombard, Alexander of Hales, Sanchez, Suarez, Henno, Soto, Diana, Concina and Dens, for he was a man of leisure. But Watt heard nothing of this, because of the other voices, singing, crying, stating, murmuring, things unintelligible, in his ear. With these, if he was not familiar, he was not unfamiliar either. So he was not alarmed, unduly. Now these voices, sometimes they sang only, and sometimes they cried only, and sometimes they stated only, and sometimes they murmured only, and sometimes they sang and cried, and sometimes they sang and stated, and sometimes they sang and murmured, and sometimes they cried and stated, and sometimes they cried and murmured, and sometimes they stated and murmured, and sometimes they sang and cried and stated, and sometimes they sang and cried and murmured, and sometimes they cried and stated and murmured, and sometimes they sang and cried and stated and murmured, all together, at the same time, as now, to mention only these four kinds of voices, for there were others. And sometimes Watt understood all, and sometimes he understood much, and sometimes he understood little, and sometimes he understood nothing, as now.

This permutation of four types of vocal delivery (of a type that gives the system 1; 2; 3; 4; 1, 2; 1, 3; 1, 4; 2, 3; 2, 4; 3, 4; 1, 2, 3; 1, 2, 4; 2, 3, 4; 1, 2, 3, 4) retains the order of the original group. Hobbs wrote, *Watt* presents simple systems—in fact, they’re permutations—a system needn’t be as clearly finite as those in *Watt*.

Change ringing presents permutations of a more complex nature, like systems, and was a common readymade source for early systemic processes. PTO member Alec Hill’s *Large Change Machine*, for instance, uses the Plain Bob bell-ringing hunt (Audio Excerpt 3).


However, any organised numerical system could be used as material for a found system. In Hobbs’s *Aran*, the title refers to a knitting pattern for an Aran sweater that provides the structure for freely chosen sonorities and instrumentation. Here *Aran* is played by the PTO. (Audio Excerpt 4).


**The Hiatus in British Systems**

The Promenade Theatre Orchestra, and the Hobbs-White Duo that followed, salted their Machines and Readymades with a healthy postmodern ironic humour and a

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33 Hobbs, letter to author, 31 October 1983.
casual disregard for monumentalism—resulting in the PTO advert written by White: ‘just the job for that lazy Sunday afternoon’. It is precisely this kind of sensibility that particularly marks British experimentalism, and is the reason that the creation of expressionless strict numerical systems by British experimental composers did not last long.

Michael Nyman distanced himself, at least as late as 1980, from strict systems:

My own music, which I consider to fall into the experimental category..., is, however, related to seventeenth- and eighteenth-century variation forms, while systems music in general is related, however distantly, to serialism.\textsuperscript{34}

Thus in 1980, Nyman was comparing his work with the strict numerical systems of the mid-1970s. Confusingly, he also uses ‘systems’, in the same article, as the act of any process. By 1976 Hobbs and White had already moved from percussion to piano duet and their secondary instruments—bassoon, trombone and tuba—writing mostly tonal music, labelled ‘empirical’ by Parsons. In his article, Parsons notes Hobbs’s and White’s disinterest in systems and attributes it to ‘their teaching work at the “Method”-based Drama Centre’.\textsuperscript{35} This was certainly true of the late 1970s, both in the Hobbs-White Duo and in Hobbs’s and White’s separate projects as pianists.

As a compositional procedure, most British experimentalists tended to use the term ‘systems’ to mean strict systems, preferably for percussion, after 1973. When I interviewed Nyman, Hobbs, White, Dennis, Parsons, and Skempton in 1983, only Parsons maintained that he still used systemic processes. This attitude toward systems and its strict interpretation was only temporary, however. White was already working again in repetitive presets on Casio keyboards in his pop-influenced \textit{Spanish Sketchbook} (1981) and other works. Both the medium of programmable digital keyboards and the generic rock and pop sources that White and Nyman, in particular, preferred. By 1985, White was happily using systems again, due to the addition of a Yamaha music computer and samplers, for his ‘electric symphonies’. These ‘electric’ systems generated and permuted layered ‘riffs’ rather than note-by-note processes. Nyman’s ground-bass repetitive models (usually layered with shorter motivic statements), although not as strictly generated as those of White, fall within a kind of general systemic sensibility in terms of the sound world presented. Hobbs, Dave Smith and Ben Mason (until he disowned experimentalism in the late 1980s) also were drawn to rock and pop music repetition.

\textbf{Confusion over the Definition of Systems Music}

If the participants became less interested in strict systems by the late 1970s, the compositional establishment outside experimentalism in Britain had always been either indifferent or outright hostile to the composers within it. Lewis Foreman was typical, in that he found British experimental music too well known to ignore and too alien to include in a survey of British music in the mid-1970s.

The claims of certain vigorous pressure groups for different avant-garde and experimental composers have been considered, and it is hoped that a balance has been achieved.... Probably the cause most vigorously fought in this respect is for Cornelius Cardew and his ‘school’.... The wasteland of indiscipline and

\textsuperscript{34} Michael Nyman, ‘Against Intellectual Complexity in Music’, \textit{October}, 13 (Summer 1980), 83.

\textsuperscript{35} Michael Parsons, ‘Systems in Art and Music’, 816.
politically inspired changes in the very nature of music itself is more insidious than the stylistic problems of the Fifties when strict serialism was found not to be the liberating influence many had hoped it to be. 36

Foreman’s ‘balance’ relegates the British experimentalists to a rather inaccurate entry in a section entitled ‘Other Composers’, under ‘Cardew and his “school”’. 37 White is listed separately, where the PTO is mentioned as being ‘devoted to permutational, number games or ‘machine’ music and instruments such as reed organs, toy pianos, chimes, etc.’ 38 In 1975, Hobbs, Parsons, Shrapnel, and Bryars were more closely associated with White than Cardew, but the editor and contributors showed little interest in exploring this relationship.

Such ignorance and reluctance to engage with the subject also inhabits the article on systems music in the 1980 New Grove Dictionary of Music and Musicians. In the entry, ‘system ii’, Paul Griffiths, asserted that ‘system’ was 1) introduced in the 1960s; 2) that ‘systematic’ music is also called ‘minimal’; 3) that this music consists of ‘extended motifs or groups of motifs, as in much of the work of Riley’, or 4) the repetition itself might be governed by a system, as in Glass, Reich, or Hobbs and White. Griffiths also lists Young and Cardew as being involved with repetitive music, which, since this occurs in the middle of the article, must be synonymous with ‘systems’, even though neither Parsons nor Dennis called Cardew a systemic composer. Lastly, Griffiths writes that ‘[t]he origins of systematic music may be traced to some of Satie’s pieces and the early works of Cage, but more particularly to the music of Bali, black Africa and India’. Griffiths’ first referenced source, Brian Dennis’s 1976 article, clearly makes the distinction that systems are a type of repetitive music, so not all repetitive music is systemic, and that the distinction is the numerical system. Griffiths also changed the adjective ‘systemic’ to ‘systematic’, to the point of ‘correcting’ Brian Dennis’s title to ‘Repetitive and Systematic Music’. Griffiths’ other source, Nyman’s Experimental Music: Cage and Beyond, mentions systems only as a general term for process, as it was written before the use of strict systems. 39

Thus, the most common understanding of ‘systems’ is as a generalised synonym for repetitive minimalism. Most references to ‘systems’ in a casual search will include Roger Sutherland’s EstWeb article in 1992, where he defined ‘systems music’ as ‘a term which has been used to describe the work of composers who concern themselves with sound continuums which evolve gradually, often over very long periods of time. The most well known of these composers are Steve Reich, Philip Glass, and La Monte Young’. 40 Before this, in Intégral, in 1988, Dan Warburton

37 Ibid., 183-4. The composers listed are Cardew, Hobbs, Parsons, Shrapnel, Skempton, each with short descriptions of their studies and representative pieces, and the names of Gavin Bryars, Alec Hill, and Michael Chant. Lumping Bryars, whose studies, background, and activities were geographically different, in a ‘school of Cardew’, is less accurate than describing Harrison Birtwistle as ‘school of Peter Maxwell Davies’, as at least Birtwistle and Davies studied together in Manchester.
38 Ibid., 198.
wrote that systems music, as a term, was ‘originally used in connection with Nyman’s music [and] is currently in vogue with the British rock press’. Finally, in *Wikipedia*, the article on minimal music in the versions from 22 October 2005 to 9 December 2006 gave ‘systems’ as an archaic synonym: ‘Previously the term process music or systems music was used, particularly for music constructed using fairly strict rules’.

No wonder the term is not used, as it is not even understood properly. There is still little interest today in experimental minimalism from the British establishment, although there is quite a lot of interest outside it. There is only one British university with a specialist in British minimalism and no university in Britain with a full-time academic specialising in British experimental music. If anything, there are far fewer venues for concerts willing to mount experimental postmodern music than there were in 1975, when Foreman published *British Music Now*. It has proved nearly impossible to publish anything about systems or experimental indeterminacy in British peer-reviewed journals, whereas there are regular features on the orthodox composers mentioned above, as well as their ‘schools’. It is small wonder that many American delegates heard about modern systems for the first time at the Bangor minimalism conference that led to these web proceedings; sadder still, it was also the first time many British participants had access to this information.

**British systems in their cultural context**

However, if we look at British experimental music as a separate musical culture, with its own working methods, terminology, even aesthetic, it is easy to find that there is a wider understanding of systemic processes that has its own history and variants, some of which are still in use. Associations common to British systems composition arise not only from the work of British systems artists, but also Dada, and literary models. There are also associations with pop and folk culture, as in the use of cancanology and knitting patterns.

The original impetus for repetitive systems comes from American repetitive minimalism, but British systems differ in that they have no direct ethnic influences, associations with Eastern meditation, nor conscious hypnotic effects. Instead, associations favours British experimental values, techniques, and aesthetics that I have written about elsewhere: mainly eclecticism from a wide range of historical sources and humour. Further, there is an emphasis on sentimentality. This sensibility shows up in the work of sympathetic composers, such as Ian Gardiner, whose series of minimal pieces based on London tube stations included the fictional Hobbs End, based on the Nigel Kneale film *Quatermass and the Pit*. It may well explain why Steve Martland’s music, though repetitive, is neither systemic nor experimental.

Systemic processes in the larger sense continue to be used by British postmodern experimentalists. While strict numerical systems were unpopular in the very late 1970s and early 1980s—when the first *New Grove* article came out and when I did my interviews—systemic processes in the larger sense never really went away. Systems applied best to certain types of instrumental combinations. The full nineteenth-

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43 The Experimental Music Catalogue web site receives over one hundred hits a day for information on both modern and postmodern British experimentalism and orders from around the world.
century baggage associated with grand pianos (the range, the desire for technical brilliance and sonic effects) was attractive to Hobbs and White, as well as to Smith, who were all excellent pianists. This cultural association gave the focus of the later Hobbs-White Duo and their later solo efforts over to through-composed eclectic styles. However, as mentioned before, the introduction of cheap Casio electronic keyboards in the very early 1980s and later digital music programs made numerical systems more attractive. John White’s work in the late 1980s and early 1990s exhibits both systemic process and humour, as in Pagina Tres Puella. In this work, the captions from ‘glamour photos’ of topless women featured on page 3 of The Sun newspaper were translated into ‘dog Latin’ (inaccurate schoolboy Latin) and chanted on limited pitches to an electronic systemic accompaniment studded with ‘novelty’ electronic effects (whistles, animal noises, and so on). Hobbs has recently systematised Sudoku puzzles (newspaper puzzles using hexadecimal numbers (0-9 and A-F) in a 16 x 16 grid) for the medium of Apple GarageBand music software. Hobbs’s Sudoku Pieces, numbering about sixty at the time of writing, is typical of the postmodern experimental approach to music. The software is an entry-level application that comes bundled free with new Macintosh computers. Hobbs normally uses stock royalty-free loops supplied with the software or with sources that, like White’s ‘electric’ pieces, are trivial, even silly. These trivial sources are often set quite seriously; conversely, serious sources are often set in a humorous context.

Larger motivic systems—in which bars of newly composed material are systematically manipulated in the same way as found material is manipulated in readymades—never really left. Michael Parsons focussed on systematised intervals in piano music of statuesque calm, interspersed with through-composed works influenced by Nordic and Balkan landscapes. Dave Smith used systemic generation in his Fifth Piano Concert (1994). The fourth member of the PTO, Hugh Shrapnel, used motivic systems as late as the 1990s. Hobbs and White concentrated on collections of short pieces or used systems to build larger structures: as in White’s four little symphonies or Hobbs’s Extended Relationships and False Endings (1993), systemic manipulation of the texts of soap opera synopses. Furthermore, Hobbs has for the most part abandoned actual Sudoku grids to write Sudoku processes ‘freehand’, an ‘eclectic’ approach to a process that could, in other hands, be analogous to serial techniques, as strict systems had seemed to Nyman in 1980. The willingness of these composers to take up and discard what would be an important generative process if they were composers of the central avant-garde tradition is a strong indication of the cultural distinctiveness of British postmodern experimentalism. The prospect that those who discard such processes may return to them as needed, rather than following a progressive musical evolution, shows a strong indication of the distinction of the values of this group of composers. The larger family of British systemic processes is dynamic and, as has been proven over the last forty years, will appear, disappear, reappear, and change as is needed by its practitioners.

44 Such as his Fourths and Fifths (1977; published by Frog Peak Music <http://www.frogpeak.org/>).
45 As well as his many Piano Concerts (numbering now eleven), Smith has written music for his duo with John Lewis, for John White’s late 1970s ensemble Garden Furniture Music, music for political functions, and other works, using a wide variety of generative techniques and influences.
46 Shrapnel’s music, in particular, tends toward a gentle good humour and sentimentality, and possibly because of this, is more often through-composed than systemic.