Searching for the Perfect Beep

Nicolas Collins

What has the computer done for working musicians? After fifteen years as a 'computer music composer' I can confidently list the following benefits:

1. Efficient writing of letters to get gigs – an economical substitute for an agent.

2. Sequencing and notation software – an economical substitute for musicians and copyists. These software packages haven't changed the nature of music, but (for better or for worse) they have made life easier and increased profits for film composers, jingle writers, and the whole of the pop music industry.

3. 'Non-destructive' digital editing – as the term implies, a much less dangerous editing tool than the razor blade; a boon to the indecisive.

4. New timbres – most electronic instruments still lack the complexity of acoustical instruments, but they do offer a continuum between the simplest sound(a single sine wave) and the total randomness of white noise; in this way, they provide muscle for the Cagean edict of not distinguishing between 'musical sounds' and 'noise'.

5) Lack of control – in music there is a common belief that computers expand and improve one's control. In fact, the dynamic range and the control of fine detail is very crude in electronic instruments, offering only a fraction of the 'touch' available on acoustic ones. More interesting is the behaviour of an electronic instrument that is out of control.
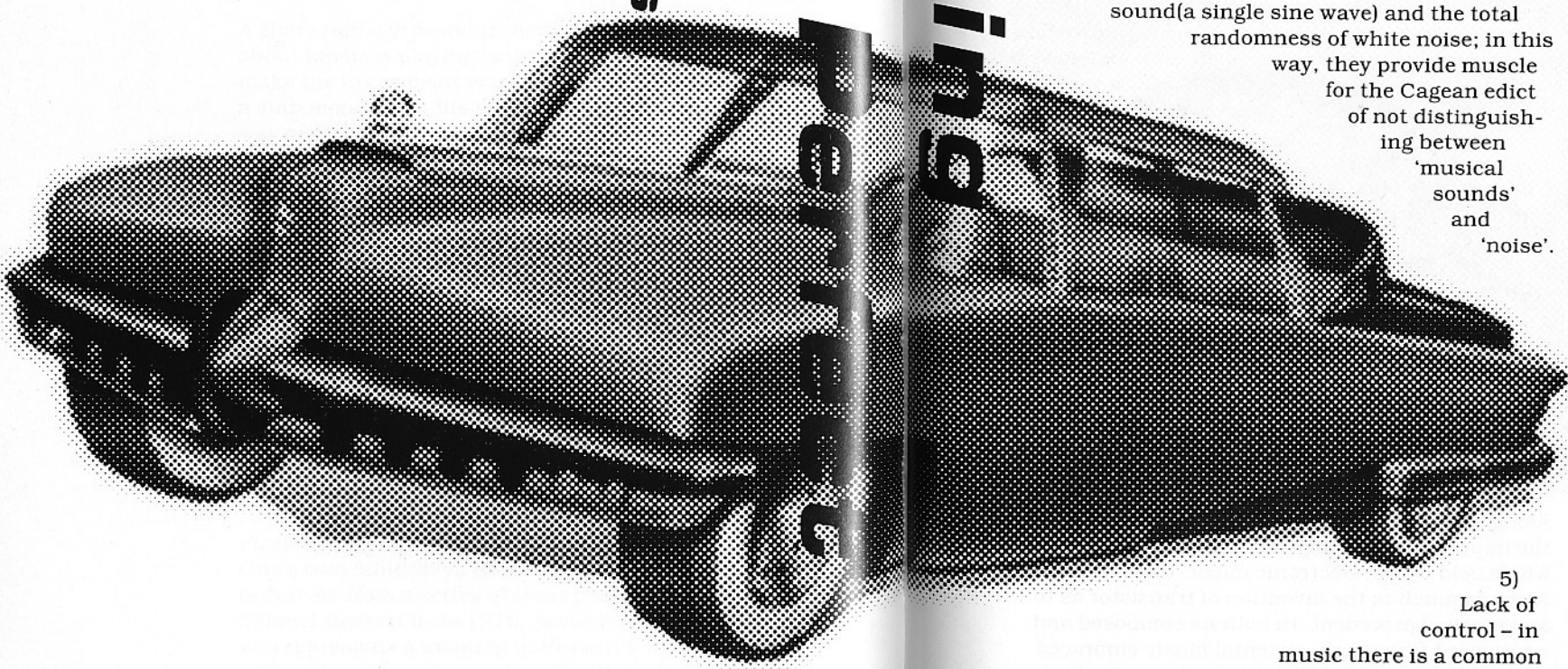
Some of these advancements have utilitarian value only. Others have the power to change the very nature of music. But music is a conservative art form, and even the most stepwise of innovations, such as notation software, have only been slowly accepted by mainstream academic composers. Most technology has been ghettoized by the musical establishment: there is 'music' and there is 'electronic music.' Outside of academe the lines are not so neatly drawn. Much has been written about the role of electronics in pop – from the evolution of the recording studio, to the singular importance of the electric guitar, to the rapid assimilation of synthesis and sampling instruments. But pop is a formulaic music, tied strongly to song format; evolving technologies have influenced its sound but seldom its structure.
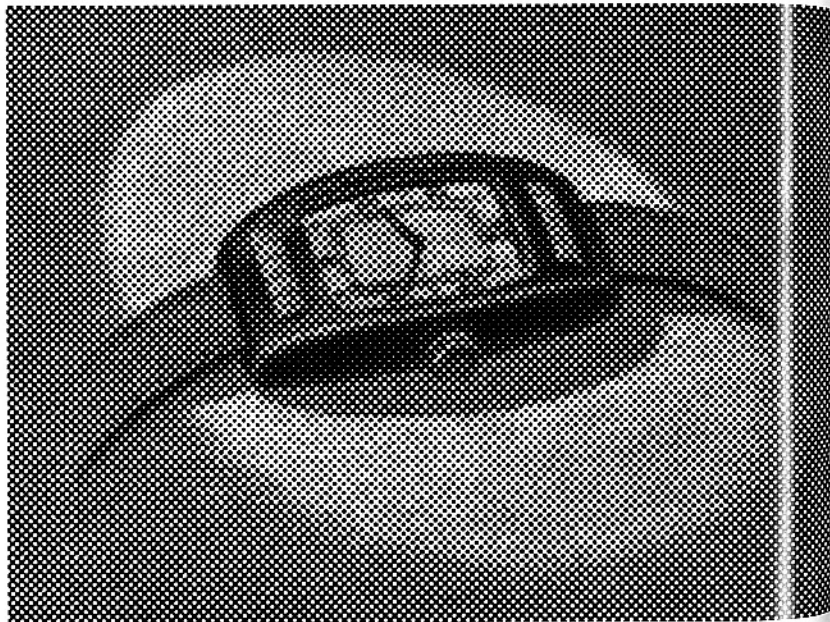
Along music's more experimental fringe, however, the impact of technology has been profound. The whole field of 'live electronic music' owes its existence as much to the invention of transistor as to any musical precedent. In both its composed and improvised forms, experimental music embraced an even larger world of 'acceptable' sounds than pop: David Bowie changed the sound of pop by gating reverb on a snare drum, but Alvin Lucier played the snare drum with his amplified brain waves, and did it ten years earlier. To composers such as Lucier or David Tudor, who were schooled in Cagean aesthetics, electronic technology presented oppor-

tunities for radically new structures and forms. It also redefined the nature of the 'instrument' with free-air controllers such as the *Theremin* or Michel Waisvisz' *Hands*. Other composers discovered in the computer both collaborators – an artificially intelligent player – and methods, such as algorithmic composition.

At the same time, improvising musicians recognized that electronics – from Speak & Spells to Macintoshes – presented a uniquely hospitable habitat for fortuitous accident. An electronic accident can be a total disaster (silence) or a wonderful thing (contained chaos). The old improvisor's admonition 'if you make a mistake, repeat it and it will sound less like a mistake' acquires new significance in the Rube Goldberg-esque world of live electronics. No matter how wrong it is, a wrong note on a traditional instrument has a finite duration, under the direct control of the player. Much electronic sound, however, consists not of a directly articulated event but a process set in motion, and such a process often takes its own sweet time to complete. And the shambolic meanderings of a circuit gone awry provide an evocative exposition of the limits of human control and its negotiation with external incident.