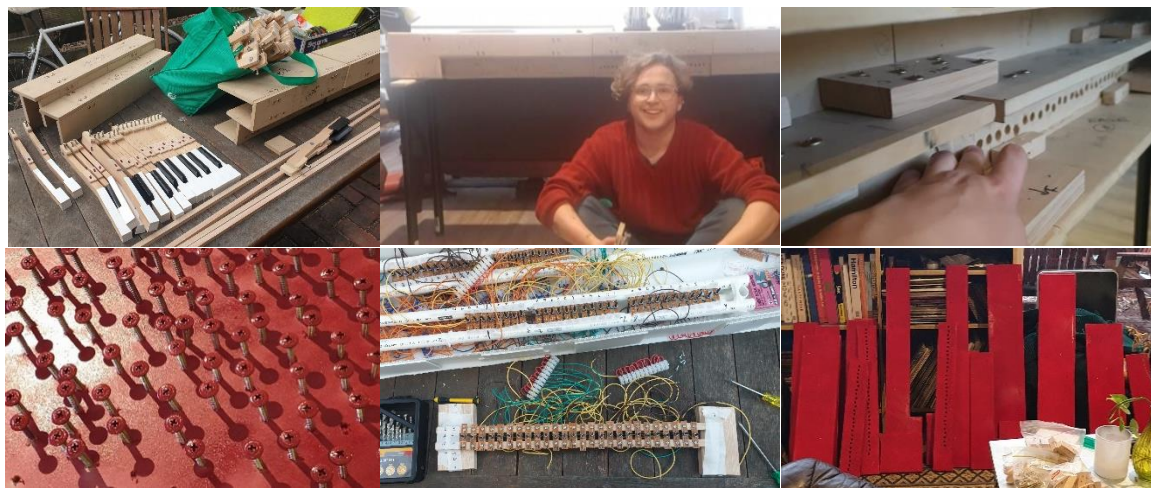


Under Fire – Exegesis  
Oliver Brown  
October 2021, Naarm/Melbourne



## Outline

*Under Fire* is an interactive instrument-system installation piece. It was conceived, designed and realised by Oliver Brown (he/him), an emerging composer and multimedia artist working in Naarm/Melbourne, Australia. The work's visual, interactive and conceptual focal point is a set of 88 piano keys, which were rescued after replacement during servicing of the instruments at Princes Park Secondary College.<sup>1</sup> *Under Fire* explores concepts of obsolescence and destruction, inverting and reframing the keys' original fate. This exegesis elucidates the work's theoretical context, as well as elaborating upon some of the conceptual considerations arising throughout the compositional process.

## Contextual Review

*Under Fire* represents a synthesis of and elaboration upon two musical-compositional lineages. The first of these is the **keyboard**, having spanned applications from harpsichord to baby-grand, glockenspiel to player-piano, and more recently, to MIDI controller. The keyboard is ubiquitous, stemming from its instantly identifiable and iconographic visual form; its ready legibility of chromatic pitches; and its imposing presence both physically (the gleaming grand-piano) and in manuscript (not many instruments are afforded a master-stave). The development of the acoustic piano as an instrument-object in twentieth-century experimental music is typified by the contemporaneous composer-performers John Cage and David Tudor. In *A Valentine Out of Season* (1944), Cage extended Henry Cowell's earlier explorations of extended piano

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<sup>1</sup> In Naarm/Melbourne's inner-north suburbs; the school has a specialist music program. I am grateful to the school administration for the kind donation of the keys. Special thanks to Melanie Saunders, who facilitated the process from initial conversations to delivery.

techniques in “preparing” its strings by inserting a variety of foreign objects therein.<sup>2</sup> Alvin Lucier articulates the magnitude of this innovation in that Cage “chang[ed] the nature of the piano entirely,” altering its modes of sound production to achieve percussive timbres.<sup>3</sup> David Tudor then furthered this (literal) dismantling of the instrument’s traditional function by “eviscerate[ing]” a piano during a 1967 concert.<sup>4</sup> *Under Fire* represents my own attempt to develop this trajectory.

The second relevant compositional lineage is **Danger Music**, a genre of experimental music associated with the Fluxus movement.<sup>5</sup> Typically incorporating strong theatrical and performance-art elements, Danger Music’s appellation captures the violence and/or physical extremism required of practitioners. One such artist – who mutilated not a piano but string instruments – is Charlotte Moorman. Her iconoclastic performances included dashing a now-splintered violin across a pedestal;<sup>6</sup> on another occasion Moorman bowed an ice-cello until it melted.<sup>7</sup> Her one-time roommate, Yoko Ono, was also a practitioner of Danger Music. For *Cut Piece* (1964), Ono sat onstage and invited audience members to cut off her clothes bit-by-bit.<sup>8</sup> Danger Music artists invited attack during their anti-institutional and often destructive practices, both physically (in performance) and verbally (in reception). It is this invitation which I incorporate into *Under Fire* – albeit with a significant modernisation of the performances’ unsustainability.

### Conceptual approach and methodology

While Danger Music’s patent refutation of classicism is appealing, I have often found its profligacy to be unpalatable. It is evidently demonstrative and cathartic to debase traditional instruments, being the embodiments of canonical musicality that they are. But the methods involved in Danger Music are *expensive*, from the irreparably destroyed instruments to the often exorbitant props. I imagine many students would *love* to fling their instruments off a rooftop – especially when practising a particularly arduous piece – but it would be feasible for few! The omnipresent current-day anxiety around sustainability seems particularly antithetical to such wasteful compositional procedures. I identified a parallel between the obsolescence of my set of

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<sup>2</sup> Cage, 1944. For further description of the coins, rubber, bamboo and bolts (et al.) used by Cage, as well as the specificity of their insertion and an account of one performance of the work at Wesleyan, see Lucier’s *Music 109: Notes on Experimental Music* (2012), pp. 128–131.

<sup>3</sup> Lucier (2012), p. 129.

<sup>4</sup> The concert took place atop the Department of Physics’ cyclotron at the University of California Davis. A description and photo-essay of the concert – the piano’s remains remained *in situ* for several months until the Music faculty were contacted by maintenance staff insisting on its removal – is given by Douglas Kahn in *Source: Music of the Avant-Garde* (2011), p. xi, 4.

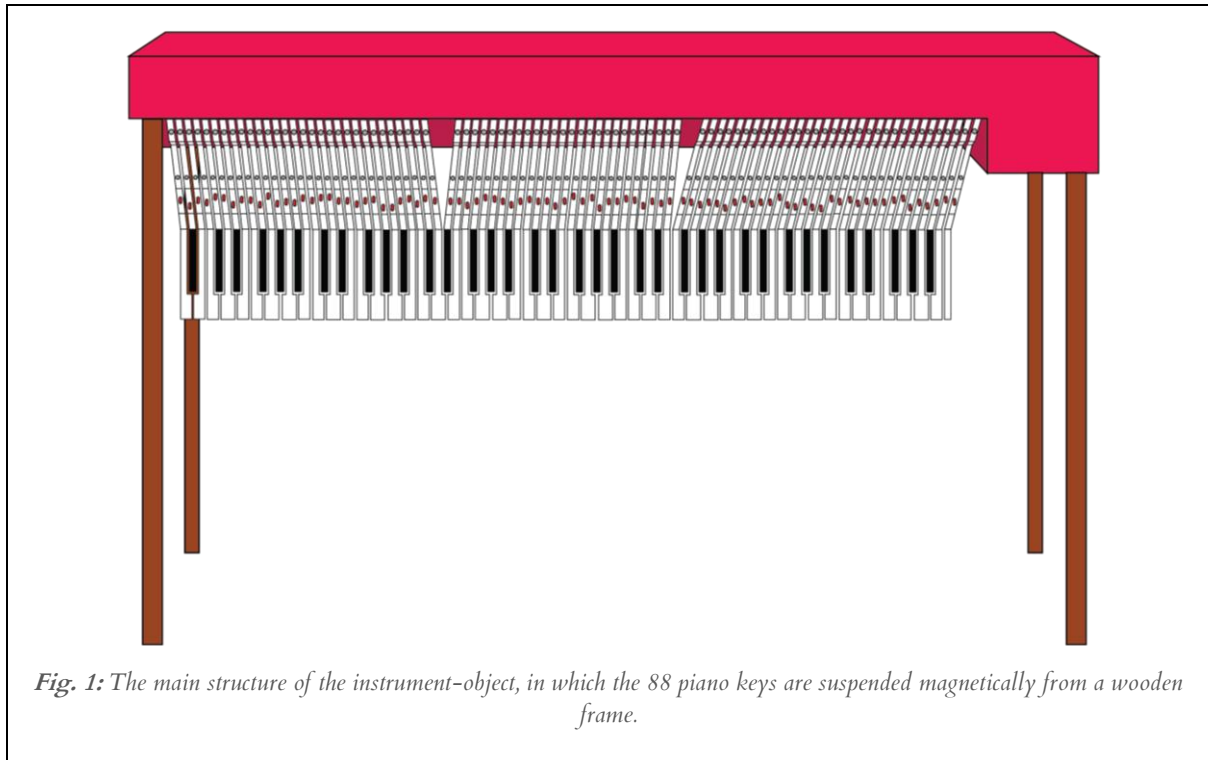
<sup>5</sup> See Michael Nyman’s excellent history of Nam June Paik’s *Danger Musics* and the genre as a whole in *Experimental Music: Cage and Beyond* (1999), p. 86 onwards.

<sup>6</sup> Greenberger, A, 2016, ‘Breaking the Sound Barrier: Cellist Charlotte Moorman’s Avant-Garde Actions Remain Provocative’, ARTnews.

<sup>7</sup> The work was conceived by Jim McMillan. For further explanations of the work, see The Cello Museum, *Ice Cube Cello Played by Charlotte Moorman*; Dillon (2014), *Topless Cellist: The Improbable Life of Charlotte Moorman* by Joan Rothfuss – review and Moorman (1972), *Untitled (Charlotte Moorman performing Ice Music, Roundhouse Theatre, London, August, 1972)*.

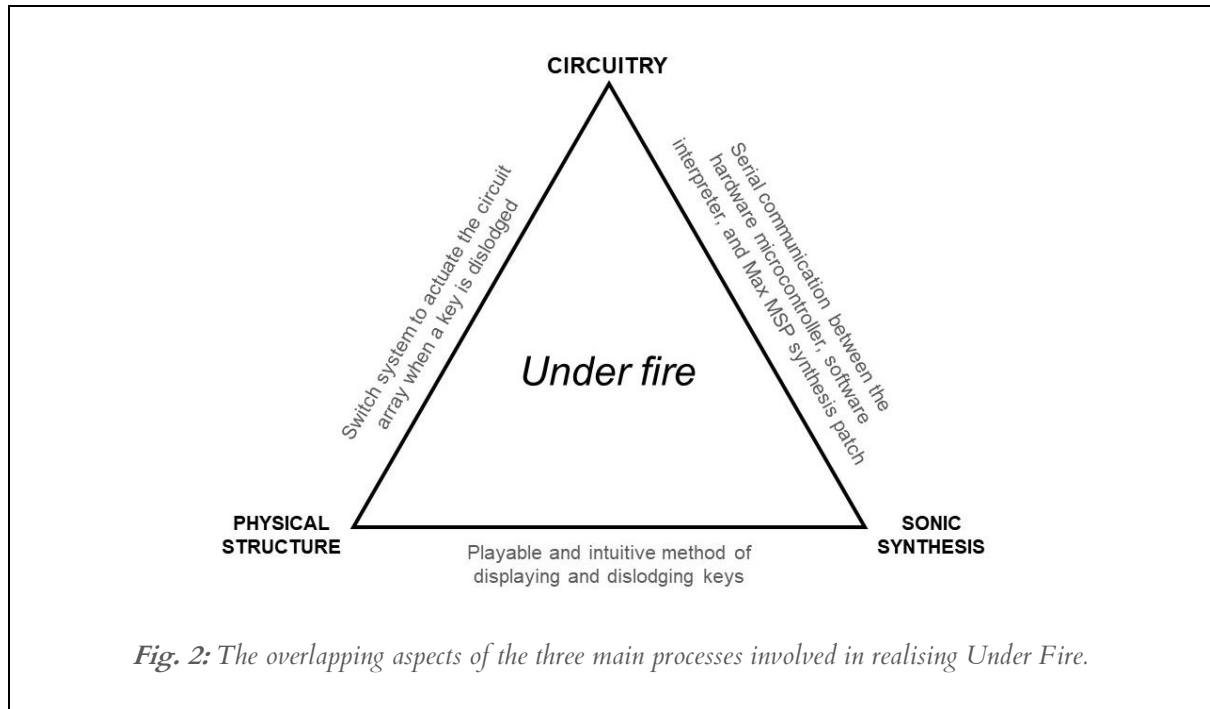
<sup>8</sup> See ‘Yoko Ono, *Cut Piece* (1964)’, n.d., Museum of Modern Art: MoMA Learning.

piano keys and the somewhat nihilistic, obliterative manner in which Tudor and Moorman approached traditional instruments. So instead of definitively destroying my keys, I began developing an instrument-object which could be dismantled violently but then – crucially – *rebuilt* for perpetual performance. I designed a frame in which the keys are suspended vertically (see *Fig. 1* below). Participants “attack” the keys by firing foam bullets<sup>9</sup>; the keys’ dislodgment triggers electronic signals which result in sonic output.



The realisation of *Under Fire* has proceeded along three broad lines: electronic CIRCUITRY; physical STRUCTURE; and sonic SYNTHESIS. Each of these processes have been largely independent, overlapping only in aspects of physical design (see *Fig. 2* below). While the limited scope of this exegesis precludes more specific methodological explanations, each process has generated interesting conceptual challenges that are worth discussing as a means of critical commentary.

<sup>9</sup> Hence ‘*Under Fire*’.

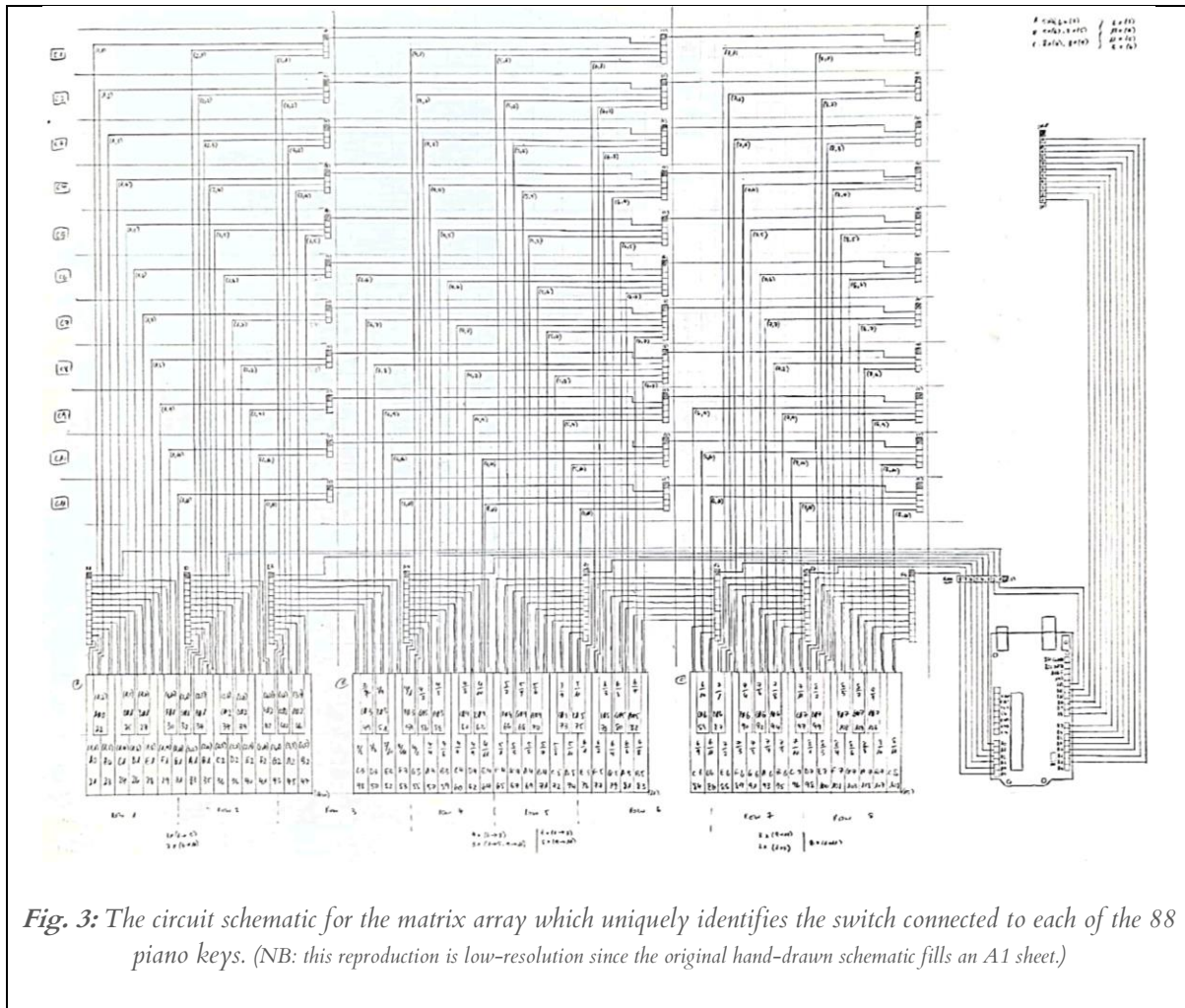


### Critical commentary

The incorporation of both hardware and software ELECTRONICS in *Under Fire* represents a modernisation of the piano/keyboard that extends Cage and Tudor’s advances. The Arduino microcontroller used to convert switch actuations to MIDI data is an excellent example of this – composers working before the turn of the millennium had nowhere near this kind of consumer-level digital processing. Furthermore, Arduino’s ethos satisfies my ethical-compositional concerns around the (in)accessibility of destructive works. Arduino software is completely free; open-source circuit schematics enable cheap third-party replications. Throughout *Under Fire*, I have used only cost-effective tools and materials. This home-built approach has proven fortuitous given the ongoing Covid-19 lockdowns; the entirety of the STRUCTURE and CIRCUITRY have been fabricated in my backyard using only my limited toolkit and online instructional resources.<sup>10</sup>

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<sup>10</sup> My reference to “online instructional resources” would be incomplete without gratefully noting the contributions of Aaron Wyatt (my individual tutor this semester) to the process – without his expertise in programming I would’ve spent many, many more hours puzzling over C++ libraries (and I already spent a fair few).



**Fig. 3:** The circuit schematic for the matrix array which uniquely identifies the switch connected to each of the 88 piano keys. (NB: this reproduction is low-resolution since the original hand-drawn schematic fills an A1 sheet.)

The interactive modality of *Under Fire* is also an important conceptual aspect of the overall installation. It was important to me that the STRUCTURE operates intuitively, engaging audiences in a playful and explorative manner. Firing foam bullets at the keys augments the semiotic intensity of attacking the instrument-system with elements of youthfulness and frivolity. This juxtaposition of irreverent form with conceptual content aligns with the aesthetics of the Flux-objects produced by Fluxus artists.<sup>11</sup> “Playing” *Under Fire* is redolent of a carnival shooting game – yet here a shot on-target wins you a sonic fragment, rather than a novelty plush giraffe.

Determining the SONIC content of the triggered sounds is an aesthetic question to which there were several viable solutions. Should the sounds be tonal, with the bullets’ impact thus mapped pitch-wise? Or else, extrapolating from Cage’s percussive preparations, should tonality be usurped altogether? A hit could trigger field recordings, or “incorrect” pitches...or anything else! Ultimately, I decided to maintain the pitch content of each key; the possibility of generating cascading tone clusters where a key spins out and dislodges its neighbours was too enticing to

<sup>11</sup> Note that here I speak of Fluxus as a whole, not just the Danger Music subgenre/offshoot. Good examples of Flux-objects with a form-content dichotomy analogous to *Under Fire* are innumerable. To name but a few: *A Flux Corsage* (Friedman, 1966-76); *Fluxbox Containing God* (Vautier, c.1966); *Time* (Maurer, 1972). These are all described and contextualised in Baas (2011), *Fluxus and the Essential Questions of Life*.

forego. This conventional toning has been expanded electronically by means of harmonic synthesis and dynamics processing. The time elapsed between triggers is used to control the ADSR envelope of subsequent notes, as well as parameters for reverberation and other manipulations.

### **Conclusion**

The conceptual basis of *Under Fire* combines a dismantling of the conventional keyboard with an exploration of violence and obsolescence. Ultimately, *Under Fire* interrogates the destructiveness of many works from the Danger Music movement while offering a modernised, experimental treatment of the piano. This is achieved through a combination of technology and a carefully articulated irreverence. It represents a fruitful example of practice-led research into twenty-first century modes of engaging with traditional instruments while simultaneously propounding the recognition and incorporation of contemporary sociopolitical issues.

**Word count:** 1080

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