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**Abstract**  
This paper introduces a series of new musical instruments that have been designed to address questions relating to performative virtuosity in the area of ensemble-based improvisation. The intentionally exploited inconsistent nature of these instruments raises questions around traditional notions of instrument mastery and opens up possible methods of reconfiguring the performer-instrument relationship.

This paper is an attempt to introduce not only a new series of musical instruments, but also an approach to the instrument-performer relation in improvised performance. I will begin by briefly describing the context in which the instruments were created, followed by a discussion on a type of performative virtuosity afforded by these instruments.

A series of largely metallic instruments were created in a collaboration between me and designer-makers Neil Fawcett and Kiran Singh, as part of my practice-led PhD research project *The Development of Dialogic Music* (2001-2004) at the University of Central Lancashire (UK) (Figure 1).
Figure 1: The Tromba Marina (left) and Disc One (right). The design of the stainless steel Tromba Marina is based on the wooden medieval instrument of the same name, with significant alterations to bridge design. Disc One, which is approximately 5 feet in height, consists of a mild steel supporting frame and a removable brass disc. Other versions of this instrument employ discs of aluminium, nickel, stainless and mild steel.

(Photo by Dave Schofield, © Paul Stapleton)

In this project I sought to investigate, through a range of corroborative reflective practices, the many relationships at play within specific forms of ensemble-based improvisation. The instrument creation process played a key role in the research, employing both user-centered and heuristic design methods. The resulting behavior of the instruments themselves (as will soon be elaborated) significantly contributed to the study. The instruments have since been reemployed in a broad range of contexts, including the site-specific works of UK-based interdisciplinary performance group theybreakinpieces (of which I am a co-director), as well as in the practices of several other academics, students and professional artists.

Figure 2: This image of the Bowl Cello shows one of its many possible affordances. In this instance the instrument is bowed across its aluminium string while changes in pitch are produced by applying pressure on the top of its mild steel body.

(Photo by Dave Schofield, © Paul Stapleton)

A noteworthy attribute of the instruments is their ability to resist mastery. Mastery here is described in the traditional terms of the instrument-virtuoso relationship, where the instrument is a tool to be learned and controlled to achieve the tasks intended by the performer (or composer). Although these new instruments can be described as ‘learnable,’ the experienced performer must at times adapt to the inconsistent nature of these metallic forms as they are acted upon. It should be noted that such a dichotomy between instruments that one can or cannot master is highly limited in that all instruments are controllable to different degrees for reasons ranging from the technical proficiency of the instrument maker to the cultural context in which they are utilized. However, an appreciation of mastery resistance in musical instruments can be explicitly employed to reconfigure a musician’s approach to the instrument-performer relationship. This reconfiguration is particularly interesting in the context of improvisation, where the musicians must respond not only to the spontaneity of other performers, but also to the instruments themselves.

Improvisation

It is within improvisation that these newly developed instruments are most effective. Although the instruments can potentially create interesting or unique timbres, which can be organized through scoring or sampling, it is their tendency towards chaotic behavior combined with their lack of historically prescribed performance techniques that allows for their contribution towards spontaneous co-authorial musical activities. Improvisation has often been valued for its ability to challenge the orthodox notion of the composer’s authorial preeminence and the resulting emphasis on the authentic
representation and reproducibility of scores. However, we are reminded by musician/researchers such as Derek Bailey and Bruce Ellis Benson that dualistic understandings of composition and improvisation have significant limitations. In On the Edge: Improvisation in Music a four episode BBC television series, Bailey demonstrates that composed musical works are often designed to be suggestive rather than merely prescriptive, allowing for interpretation and extemporization in the act of performance. Although this is primarily established by reference to practices outside of western classical traditions, Bailey highlights the performance of harpsichordist Lionel Salter as a return to the improvisatory tradition in the work of Mozart [1]. The interwoven nature of improvisation, composition, and performance is elaborated in detail by Benson, who claims: ‘Composers never create ex nihilo, but instead “improvise”… on the tradition in which they work. Performers – even when performing music that is strictly notated – do not merely “perform” but also “improvise” upon that which they perform’ [2]. Although such an understanding could function to relativize improvisation, the act of prioritizing non-hierarchical approaches to performance found in some forms of music making remains a potent form of resistance to dominant monologic practices. What remains key in my approach to ensemble-based improvisation is the value placed on the spontaneous collaborative inventions between performers and their environment. Further, it is the nature of the instruments, which extend this collaboration beyond the limits of human intentionality.

**Affordances**

It is possible to describe the nature of instruments, despite their obvious inanimate state (or lack of subjective intentionality), by way of ecological psychologist James J. Gibson’s *theory of affordances*. Gibson describes affordances as follows: “The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill... It implies the complementarity of the animal and the environment” [3]. My instruments afford bowing to create audible sound, but this is only one of many potential relationships that can be formed between these objects and myself (Figure 2). Along with a significant number of other sound making actions, they also may afford visual appreciation, lifting, throwing, and sitting (although uncomfortably). They do not afford particularly good shelter from the elements (although this may be different for smaller creatures), nor do they afford eating. The visual information provided by the images of my instruments will for most people provide ample evidence of their inedibility. Affordances of environments (a place, object, other person, event, etc.) are discovered through relational perception, i.e. simultaneous perception of oneself and the environment. Although Gibson focuses primarily on visual perception, it would appear that other forms of perception (sonic, proprioceptive, etc.) assist us in our ability to identify what the environment affords. For Gibson, affordances are objectively present but not value-free, a position that recognizes a human’s (or animal’s) psychosomatic involvement on the one side, and the nature of the environment (existing independently from human perception) on the other. It is important to note that the act of perceiving an affordance is subjective in nature, shaped by one’s own personal experiences as well as cultural conventions, and thus may also include misperception of affordance.

The process of learning to play an instrument involves a knowledge of affordances. In the case of my instruments, this knowledge is learned primarily through one’s own explorations of timbre and texture, rather than a set of prescribed performance techniques employed with respect to an orthodox tonal system. This is largely because the instruments do not afford tonal reliability, thus allowing for the prioritization of other sonic relationships. Despite their lack of tonal reliability, the instruments do afford a complex array of sound producing actions, which range in behavior from predictable to unrepeatable. A performer can hit certain sections of the instruments with a fair amount of confidence that a percussive sound with intended attributes will be produced. The performer can also apply friction to other parts of the instruments with equal confidence that the dynamic level of the sound will be what she intended, but the pitch and timbre may differ substantially from her previous attempt at a similar action. We should be familiar with situations that contain similar levels of variance including: the act of driving a car in a environment that contains variable road, traffic, and weather conditions; the act of playing team sports; or in the act of conversation with one’s partner. In each situation it is our tacit knowledge of potential affordances, combined with our pre-reflective ability to prioritize contingencies when the situation varies from our initial expectations or intentions, that leads us towards successful action.

**Body-Image and Body-Schema**

Our ability to employ knowledge embodied in our prenoetic relations with our environment can be further explained through philosopher Shaun Gallagher’s description of the *body image and the body schema* in his recent book *How the Body...*
The motivation for the creation of these instruments and the elaboration of this approach are both aesthetic as well as political. Following Bakhtin’s notion of the political nature of all language, monologic approaches to music making replicate and reinforce the hegemonic tendencies of the present day global ‘free’ (i.e. corporate welfare) market economy. A common example of the division of labor (mental and physical) is found in the hierarchy of the modern orchestra, as a machine for the reproduction of a single composer’s designs mediated only by the will of the conductor. In many popular forms of music, ‘live’ performances must often aim to replicate the products that led to their popularity, thus demanding a high level of fidelity to the chart album’s recording. In some instances, the need for reproduction found in such musical commodities extends into the visual, as evidenced in the consistently hierarchical layout of the orchestra, or in instances where pop concerts are merely a restaging of music videos. Although these forms of music production remain dominant within the current framework of neoliberalism, music making
practices that resist such ideologies are prevalent. A significant form of resistance can be found in the performance of dialogic improvisation, as both an act of ecologically situated social relation and as a form of sonic pleasure. In this situation, virtuosity can take on a new meaning, one that moves away from individual mastery towards an ethically responsive relation, a care that is not merely neo-humanist but one that concerns itself with a relationship that has long been a source and a responsibility of music.

References


Author Biography
Dr Paul Stapleton is an artist-researcher born in Southern California, currently based at the Sonic Arts Research Centre, Queen's University Belfast, Northern Ireland. His primary research interests are: new musical instrument/sound sculpture design; experimental improvisation; dialogic approaches to performance; social web technologies and performance archives; site-specific and environmental intervention art practices; and performance research methods. Paul is also a founding member and co-director of the UK-based performance group theybreakinpieces.

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