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Designing Performer Training: Digital Encounters with Things and People

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Designing Performer Training: Digital Encounters with Things and People

This article investigates how digital technologies can be used to enhance the relational aspects of performer training. Saner and Robinson reflect on a practice as research project, *Enactive Encounters*, where they use poor technology and everyday objects to create participatory learning environments. The teacher-student relationship is challenged and transformed into playful interactions between participants through enactive encounters that aim to embody different aspects of specific training practices.

Keywords: digital training, relational pedagogy, enactivism.

Introduction

Discussions of digital technologies in the context of theatre and performance often revolve around what they *do* to theatre as a medium. Is the digital an insurmountable threat to the immediacy of live performance? Does it inherently oppose what lies at its heart: presence? But just as what is essential to the theatre can be contested, so can the impact of digital technology. An alternative perspective holds that the digital era is not a break but a progression in the history of theatre and that it follows, continues, extends and enhances theatre's unique agenda precisely by challenging our understanding of the embodied present.

In *Theatre & the Digital*, Bill Blake notes the evasiveness of the term digital itself as 'an ever multiplying and mostly impossible-to-pin-down referent' (2014, p. 11). This article will address the impact of digital technologies in performer training by discussing a specific practice as research project, *Enactive Encounters*, and trying to 'pin down' how digital and non-digital technologies operated within this particular example. The technology examined will be digital audio, delivered to wireless and non-wireless speakers and/or headphones through tablets and smartphones as control

interfaces. The focus of the discussion will be on how digital technologies lead to a reconsideration of embodiment in performer training, both in terms of particular practices or exercises, but also as a reassessment of training itself as a series of designed, mediated and co-created embodied experiences, regardless of technology.

Enactive Encounters is a Do-It-Yourself performer training toolkit in development. As a project, it investigates how digital technologies can open up possibilities that are otherwise unavailable, particularly by enhancing the space of performer training and, perhaps consequently, challenging the authoritative position of the trainer. We ask: What opportunities arise through the introduction and embedding of digital technology within performer training? How are human-to-human interactions in the context of performer training affected by technology, especially in terms of interactive dynamics and power structures? This article will address these questions by discussing the merits and shortcomings of *Enactive Encounters* and critically articulating choices within our process of investigation.¹ At the time of writing, *Enactive Encounters* is still as yet a prototype with instances of public testing but not a public object. In this respect, the article is an opportunity to reflect on our discoveries in preparation for the next stage of the work.

From Shared Presence to Coexistence: Digital Pedagogies

¹ We will critically discuss the studio sessions through which the project developed and draw on observations and participant feedback (documented on audio/video and collected through questionnaires) from three instances of public testing: *Enactive Interactions and Performer Training without a Tutor* (participatory workshop for the Performer Training Working Group at the TaPRA conference, Bristol, 6 September 2016); *Becoming Tortoise* (participatory installation, Studio 3, Goldsmiths University of London, 10 December 2016); and *SpazioTeatro* (weekend workshop, San Salvario, Turin, 21-22 October 2017).

The starting point for *Enactive Encounters* was *Göçmen Adımlar / Migrant Steps*, a community theatre project where Saner worked with Turkish-speaking migrant women in London. This project brought together embodied performer training based on a laboratory theatre model with psychogeographic practice. Through a process of walks and workshops, participant-performers were guided to devise and perform an ensemble theatre piece composed of their autoethnographic writing and creative responses to selected acting exercises.

The aim of *Enactive Encounters* was to capture the process of performer training that informed this project in such a way that it could be accessed, adapted and applied by anyone anywhere independently, particularly other migrant women in different cities with the desire to investigate their environments through walking and theatre-making. Taking inspiration from Louise Wilson's socially engaged scenography in *Warnscale* (2015) and Sibylle Peters' inter-generational Live Art-making 'kit' *Playing Up* (2016), we set out to construct an object or mode of transmission which would build on *Migrant Steps* and facilitate what Frank Camilleri calls 'auto-didactic' processes within other socially-engaged contexts (2015, p. 17). Discussing the merits of digital technologies in the context of actor training, Camilleri identifies 'accessibility' and an emphasis on the 'visual' as opposed to the verbal 'as fundamental elements in a pedagogy that may lack the role (but not function) of teacher' (2015, p. 21). In addition, we limited ourselves to low-cost and widely available materials and technologies, in order to render the final output cheap and easily replicable.

As a case study into how this could be achieved on a micro scale, we chose a single exercise called Stepping. The Stepping exercise focuses on a simple action: taking a step with one foot and retreating, while keeping the other foot rooted to the ground. In the process of doing the exercise, and each time it is revisited, this action is

repeated while paying attention to different stimuli, points of contact, or imaginative associations and working with the mechanics of balance, weight distribution, and extension. While it is possible to express the work in the form of a relatively simple set of instructions, within its simplicity the exercise invites complex and nuanced processes. Thomas Wilson uses a diagrammatic approach to unpack the ‘anatomy’ of an exercise (2016). Following this model, one could identify that the mechanism of Stepping embodies (or perhaps ‘trains’) the principle of psychophysicality by exercising an external shape of finding extension from a position of rootedness simultaneously with the internal sensations of extending beyond one’s balance and retracting to a place of composure (see Figure 1).

In Stepping, this dual anatomy operates and unfolds through three non-hierarchical layers: firstly, the technical layer where the performer achieves relative ease, internally and externally, with uncomfortable, awkward, precarious positions; secondly, an imaginative or associative layer where the feelings, images and memories that appear through the repetition are given increasing space to texture the movement; and finally, an emotive or narrative layer where a sense of immediate flow permeates the action, often rendering it no longer recognisable as the exercise. It is the role of the trainer to observe the work of the participant closely and use side-coaching—verbal instructions or physical indications—and subtle changes to the (re)wording of the exercise in order to encourage the participant to stay in any one of these levels or gently guide them towards another.

This presents the first challenge for our investigation. The immediate feedback of the trainer is a key element of the exercise. Indeed, as Mark Evans points out regarding movement training, this exercise too ‘demands the shared physical presence of tutor and student; the generality of a text cannot deal with the specificity of the body’

(2009, p. 11). It is through close attention to the participant's precise embodiment of the exercise that the instructor is able to guide them, which in itself is an embodied form of listening and watching. How can we capture the embodied nature of the exercise remotely, independently? How can we maintain the precision of the journey and create the possibility of leading the person doing it in the right direction without being there, having a sense of what they are doing and providing immediate feedback?

Evans continues that any notation of an exercise runs the risk of being either too subjective, too deeply informed by the experience of the person giving the account, or too perfect, reflecting the point of view of an idealised, possibly non-existent student. Furthermore, written text is first experienced by being read; this discursivity invites the reader to have a cerebral rather than visceral response, at least initially (Evans 2009, pp. 12-13). In Stepping, verbal guidance operates through a flow of action-reaction between trainer and student in a shared space. The instructor notices specific habits or tendencies, pays attention to modifications in how an action is embodied and notes when a new possibility opens up; then gently guides the student towards or away from such routes by making subtle, or sometimes quite direct, suggestions: 'work with the whole spine,' 'what happens if you extend the foot beyond what is comfortable balance-wise?' or 'look where you are stepping, wait to be sent back.' These are *not* instructions that would apply to all students at all times, but rather specific indications for specific situations.

Is the trainer the only person who can issue this type of guidance? In the same article mentioned above, Camilleri sets out to 'deconstruct the teacher-student assumption with the aim of shedding light on....the impact of technological innovation on actor training, but also on the other underlying premise involving the shared or otherwise status of physical space' (2015, p.17). Camilleri problematises the centrality

of the teacher-student relationship and asks if other ways of learning can retain the functionalities of 'student' and 'teacher' whilst relativising or negotiating these specific roles. Drawing on examples such as self-teaching ensembles and individuals, workshop leaders who may themselves be students, or directors who 'teach' not as a form of training but towards a performative outcome, he points out the non-fixity of these roles and the fluid nature of their defining functions (2015, pp. 18-20). Camilleri's emphasis on rethinking the 'status' of the training space is a key point of departure for *Enactive Encounters*. Digital technology can be used not only to overcome the 'teacher-student assumption' and to conceive remote, independent modes of training that reconfigure the physical training space and the assumption that it is shared by a teacher and a student. It can also enhance the relational and participatory aspects of that space and *how* it is shared by teachers and students.

In an article discussing the ethical implications of assessment design, Kristin Hunt underlines the participatory nature of learning, highlighted in relational approaches to pedagogy: 'Much like relational art, relational pedagogy constructs instructional design as an invitation into intersubjective exchange rather than, or in addition to, a system for disseminating knowledge' (Hunt 2014, p. 202). Instead of engaging predictably with a pre-given set of activities with a pre-given set of results (which Hunt describes as 'cooperation,' citing sociologist Jonas Aspelin), learners in a truly relational pedagogic environment are in 'coexistence' which 'involves participants interacting intersubjectively in a way that is necessarily unpredictable' (Hunt 2014, p. 201). The space of learning is conceived as an interactive environment that provides opportunities for 'intersubjective exchange' with the promise, but not mechanical end result, of learning.

The digital can become a tool for creating such spaces. Whether its impact is deemed positive, negative, or indifferent, there is a level of agreement that the digital invites performance as a discipline to rethink performativity and the embodied subjectivities of all involved (Dixon 2007, Salter 2009, Causey 2016). Writing on the ecology of a performance imbued with the technical/technological, Chris Salter observes that the impact of technology, including the digital, is both on the space of performance and our interactions within that transformed environment, and consequently, on the way we understand agency itself through the introduction of ‘new forms of hybrid human and machine subjectivities’ (Salter 2009, p. 29). Within the context of performer training, technology has the potential to revise the bodies, subjectivities and functionalities of the performer-in-training and the performer trainer and to create spaces of interaction and coexistence.

Enactive Pedagogic Spaces

The act of knowing, states Jerome Bruner, is not just ‘passively receiving and associating stimuli from the world’ (Bruner 2006, p. 1). Rather, ‘cognition is a product of the body and the ways in which it moves through and interacts with the world’ (Bruner 1965, p. 1007). Francisco Varela and his collaborators develop this idea of knowing through the body to define a model of cognition called Enactivism. According to the enactive approach, subjects and their bodily encounters make the world through the emergence of rich and complex forms of significance and relevance. Cognition is thus founded on the activities of autonomous beings that ‘enact and bring forth their own domains of meaning and value’ (Thompson and Stapleton 2008, p. 23). Fundamentally, enactivists argue that we make sense of the world through the sensory and motor capabilities of our bodies as we interact and engage with others and our

environment.

An *enactive space* builds on this view of cognition to define a technologically-enhanced, seemingly autonomous environment that is capable of knowing and responding to the bodies that occupy it. Pedagogically, an enactive space can be understood as a space where enactive learning, or learning through action, takes place. *Enactive Encounters* seeks to build a pedagogical enactive space that is capable of responding to the specificity of a performer's body, providing immediate feedback, hosting auto-didactic encounters while allowing a re-negotiation of roles and relationships and generating coexistence amongst equal partners.

Examples of enactive spaces can be found in the field of Human Computer Interaction (HCI) which draws on a theoretical framework rooted in phenomenology and embodied cognition. In 'BioMuse to Bondage: Corporeal Interaction in Performance and Exhibition,' Atau Tanaka defines enactive interaction as 'a research area of human-machine interaction where understanding of a technology system is based on multi-sensory input and motor responses resulting from active forms of engagement' (Tanaka 2012, p. 159). Tanaka discusses two examples of his practice. The first is a wearable device called *BioMuse*, which tracks the forearm muscle movements of the wearer, translates impulses into sound and feeds them back as resonant vibrations to the same area. The second, *Bondage*, is an exhibition where the movement of the viewers' bodies in a gallery space in front of a photograph projected onto a series of screens is tracked and physicalized both on the projection and in the space itself through visual and sound effects.

While both examples generate a unique sense of intimacy and haptic feedback, they nevertheless belong within the broader field of live electronic music, with its

increasing experimentation with *biosensing* and *sonification*.² These techniques use wearable and/or environmental sensors and/or transmitters to interpret and represent the activities of performers and/or participants within a space as ‘acoustical events’ (Tanaka 2012, p. 159). In simple terms, technology that can capture movement and translate it into sound transforms everyday spaces into enactive, musical spaces. Instead of physically playing a traditional instrument, a performer (or gallery viewer in the case of *Bondage*) interacts with a space to create live music compositions.

As Tanaka also observes, technology (and the interaction with the technology that creates unexpected, hybridised effects) becomes a spectacle that can both connect and separate the performer and the audience. Especially in *BioMuse*, the virtuosic engagement of a performer with the technology divides the space and the roles enacted therein into those who actively participate and others who observe and hear (perhaps in awe), highlighting the performative quality of this particular type of interaction, rather than the pedagogic. The audience’s attention is drawn ‘to the instrument and techniques for playing it,’ as they aim ‘to gain a base understanding of the mechanisms in play’ (Tanaka 2012, p. 167). The object itself becomes the focus of attention and the technology the key performer. However, Tanaka holds that this initial reaction then gives way to a second stage where the audience finds an empathetic relationship with the performer as ‘the physicalization immerses them in sound and image where

² Other examples include Imogen Heap’s compositions using Mi.Mu Gloves (Heap 2015) and projects such as Sense/Stage (Baalman 2017) which aim to render wireless sensor platforms commercially available and applicable to a variety of academic and professional artistic contexts.

instrument and process can be forgotten, and hopefully become transparent' (Tanaka 2012, p. 167).

In our attempt to apply the principle of enactivating space into a pedagogic context, we find that this initial sense of spectacle and the division of roles present a challenge. Bruner asserts that a learner's 'active autonomy of attention...is the antithesis of the spectator's passivity' (1999, p. 72). Due to what Bruner would describe as elements of 'an entertainment-oriented, mass-communication culture' (1999, p. 72), examples of HCI in electronic music tend to produce passive reception as opposed to interaction, particularly in those who are positioned to watch an active participant or a virtuosic performer.³ Furthermore, these practices often use highly advanced technology, with costs and complexity inapplicable to the aims of our project. A different question drives our research: Can poor, low-cost technology be used to enhance a space, indeed to create enactive spaces, and also to resist the sense of spectacle that invisible high-cost technology often arouses?

Enactive Encounters employed a technique called 'Wizard of Oz.'⁴ This approach utilises human wizards, armed with everyday technology such as Bluetooth

³ While the subtle choices in Tanaka's work achieves a visceral engagement in audiences and participants, we found mainstream examples of enactive spaces using biosensing and sonification to generate passive amazement, for example in Imogen Heap's TedEx presentation where she performs the magical generation of music through hand gestures (TEDx Talks, 2015).

⁴ The Wizard of Oz method (WOZ), coined by John F. ('Jeff') Kelley, is named after the famous fictional character who uses trickery and technology to appear to the subjects of the Emerald City as magical and powerful. Whereas in the examples discussed above, a space or object automatically responds to a participant's movements (for instance through sensors, receptors and the algorithmic translation of movement to sounds), here actual

speakers and tablets, to simulate the interactions between a participant and a space, thereby enactivating it (see Figure 2). While initially, we applied this method due to financial limitations, eventually it led to one of the key findings of the project: that enactive pedagogic spaces host dynamic relationships between participants *via* technology as opposed to the preconfigured interactions between a participant and a space or an object.

We investigated how a space could be made enactive using sound, narrative, pre-recorded instruction, everyday objects such as chairs and umbrellas, and hybrid objects embedded with technology. Returning to Wilson's diagram, we experimented with using "Props"/objects, music/sounds, environment and relationship to others', in other words what Wilson calls 'extraneous components (i.e. those not of the performer's own body) [which] are optional elements that might serve as (additional) levers in the exercise' (2016, pp. 212-213) as key components to construct different ways in which the exercise could be interpreted and replicated. We called each iteration an enactive encounter in recognition of the fact that it was not a simple transactional relationship between a participant and a space (or the wizard simulating a responsive space) but rather an encounter in which both sides were reacting to stimuli, based on instructions, in open-ended, unknown ways. These encounters did not exemplify an enactive space as such, as they did not create an autonomous and responsive environment. However, they marked a space in which enactive modes of engagement between participants were

people do (or at least 'approximate') the complex job of technology. Especially if these 'wizards' and their devices are hidden, a participant might fall under the illusion that it is indeed the space that magically responds to and interacts with them, hence the name Wizard of Oz. Customarily, this method is employed in usability testing in the field of design.

made possible through the use of technology. While some of the encounters engaged participants individually, most engaged pairs in such a way that one created the environment and, to some extent, the stimulus for the other to do the exercise, to step and retreat.

Out of these different iterations, we will be looking closely at three examples: Creak, Thunder, and Tortoise. All three involve two participants, one doing the Stepping exercise and another responding via the digital technology. For the sake of clarity, we will call the role of the doer Participant 1 and the responder Participant 2, bearing in mind that these roles are interchangeable. Although they recall the roles of the student and the trainer to some extent, Participant 2 is neither the bearer of a pedagogic responsibility nor an authority in determining how each encounter unfolds. Both parties respond to each other, following a set of instructions.

An Enactive Encounter Using Wearable Technology: Creak

Creak plays with the idea of using creaking floorboards as a stimulus for the action of stepping and retreating. Participant 1 wears a sock on the foot to be used for stepping and, inside the sock, on or near the ankle, places a portable speaker, connected via Bluetooth to a mobile device held by Participant 2 (hence, wearable technology). This device is pre-set with three different creaking floor sound effects. The instructions invite Participant 1 to take a step and retreat, without any additional information. The instructions for Participant 2 read: **‘You are a creaking floor.** Your partner will be performing an exercise called “Stepping” in which they take a step with one foot. As soon as their foot touches the floor press any highlighted pad on the iPad screen. The sound will play for as long as the pad is pressed...’

At the most basic level, sound helps overcome the ridiculousness of the exercise by providing a reason for the action. The creaking repels the foot of Participant 1, or compels them to try stepping on a new location. It brings an element of surprise and thus resists the self-consciousness or dry technicality that sometimes accompanies repetitive movement. Sound also enhances the range of feelings that are embedded in the action of extending out and retracting back in: awkwardness, playfulness, discomfort, silliness, courage, pride and willingness to test one's own physical boundaries. Placing the speaker on the ankle delivers sound in a localised manner so as to provide a lo-fi and effective haptic response. The sound is not only heard but felt as concrete vibrations. The kinaesthetic aspect augments the embodied experience, invigorating the participant's enthusiasm to go beyond comfortable choices and to test their balance or lack thereof further.

The sound trigger (and thus the digital technology), however, also presents a problem: even if Participant 2 is accurate with their timing, there is still a delay between the foot landing on the floor and the sound file being played due to the latency inherent in Bluetooth technology. This creates a distraction and serves as a reminder that the floor is not *really* responding to Participant 1's actions, their shift of weight onto a new spot or their bounce off from one spot to return to standing. The circuit of action-reaction, including the human and the digital, brings about a time-lapse that challenges the sense of immediacy and the impulse of the kinaesthetic response.

Sound (with all its imperfections) highlights the relationality of the action and the intersubjective nature of the learning experience: as Participant 1 is invited to listen and respond, Participant 2 is invited to look and respond, engaging in the action together. We observed in public testing that through experimentation and play, participants developed an awareness of the delay and found ways to make up for it or to

exaggerate it further. Participant 2 would pre-empt the arrival of Participant 1's foot on the floor by triggering the clip slightly in advance; or they would wait and trigger the creak obviously late, either inviting Participant 1 to continue with the shift of weight beyond what is comfortable or catching them unawares at a moment when they think the chance for a creak is over. The imprecise relationship between foot and sound emphasised precisely the humanity of Participant 2. Ultimately, this was not a perfect, well-oiled machine, but rather a flawed, inaccurate, yet playful interaction, developing unpredictably as both parties experimented and created new knowledge simultaneously.

Upon reflection, the sound delay, as well as the human aspect which complicates the delay further, prove to be an asset as opposed to a shortcoming. Matthew Causey describes 'bugs and glitches' as elements of digital technology that are often incorporated into performance practice in a way that allows performance to 'think digitally, returning the system back against itself' (2016, pp. 432). These components serve as reminders of the artificiality of the performance environment (and in this context, the training space) and the interactions therein. Causey identifies this as 'an aesthetic of failure, disruption, noise, and interference that promotes spontaneity and randomness' (2016, p. 434), which we observe as a playful participatory learning environment.

Creak embodies the principle of coexistence by capitalising on, as opposed to reducing, unpredictability: it involves two participants who co-create the training experience. It is through their interactions with each other, not the technology, that the space is made enactive. Drawing on the enactivist approach that knowledge is constructed socially 'by an agent through its sensorimotor interactions with its environment, co-constructed between and within living species through their meaningful interaction with each other' (Rohde 2010, p. 31), Creak intentionally

assigns Participant 2 the dual role of both environment (creaking floor) and social other (trainer/observer).

The two participants play *together* with cause and effect and the dynamics of power. Participant 2 can build up a feeling of predictability by responding accurately to footfalls, then suddenly decide not to trigger a clip at all, leaving Participant 1 in a creative moment of waiting, extended on the edge of their balance and open. Or, breaking the logic of the creaking floor, Participant 2 can activate the sound when Participant 1 is not expecting it, or playfully trigger a sequence of different creaking effects for the same footfall. Participant 1 can enter into a dialogue with the floor to test different places for different sounds, even though they know Participant 2 is controlling it. While testing the floor they can also test Participant 2 to play along by being too quick or unpredictable. To draw on Varela's formulation, the two participants collaborate as they are 'bringing forth of a world' (Varela et al 1991: 206), in the form of co-created games, such as 'catch me if you can!' or 'made you jump!'. The rules of the exercise loosen and the exercise becomes a dynamically-changing learning activity, (re)formed through the interaction of the participants.

Associative Encounters: Invitations to Imagine

The principle of coexistence at work through co-created games applies in all the enactive encounters discussed in this article. In all three examples, Participant 2 responds to the actions of Participant 1 through an audio trigger. However, the content of the sound and the spatial suggestion serve to emphasise different layers of the exercise. While Creak encourages a playful interaction on a technical level, drawing both participants' attention to the relationship between a foot and a floor, Thunder serves as an invitation to the imagination.

In Thunder, Participant 1 works with an umbrella, a hybrid object with a portable speaker placed at the centre. Instructed to hold the umbrella as steadily as possible, Participant 1 is invited to take a step outside the umbrella and retreat back in. And repeat... The speaker is connected to a mobile device pre-set with sound effects of rain (on a continuous loop that can be turned on and off) and thunder (short sound effect which plays once when triggered). The instructions for Participant 2 read '**You are thunder**' and direct them to press two sound buttons on an iPad screen 'whenever [they] feel appropriate.'

The umbrella is an evocative object, both symbolically and environmentally; even without the sound effect, doing the Stepping exercise holding an umbrella conjures up an image of stepping into the rain and retreating back under cover. Following the use of this object in *Migrant Steps*, the umbrella also represents and embodies the shell of a tortoise. It indicates a space of safety, as well as a kind of weight or baggage that restricts one's movement.

Physically, the umbrella as object adds to the embodied element of the exercise and serves as a tool to make sure the participant works with extension and contraction. A participant comments: 'it was like a challenge to me – hold the umbrella more still, step further, control/enable my breath...' Holding the umbrella as steadily as possible is challenging which in some ways solidifies the sense of there being a spatial anchor to which to return. Creating a visible, concrete boundary, the umbrella defines a tangible inside/outside, not as invisible marks on the floor, but as a sense of mobile space around one's person. Through this materiality, the object also creates an affective context for the repeated action, even without the technology. Stepping in and out of the umbrella brings up feelings associated with being at or away from home, feeling protected or exposed; the steps become transgressions or returns to one's self and to safety.

Technology, specifically sound, can be used to enhance this perceived boundary, reinforcing or inverting the feelings of being inside or outside and confirming or disrupting the notion of a safe ‘inside’ space. Inspired by the use of Perspex half-spheres suspended from the ceiling into which visitors could step to immerse themselves down to their chin in an audio environment at the exhibition *The Voice* (Wellcome Trust, 14 April 2016 to 31 July 2016), we insert a portable speaker in the umbrella (see Figure 3). Enhanced with sound, the umbrella becomes a hybrid object: it still retains its weight, length, height as Participant 1 works with it, but now it also works in a way similar to Creak to stimulate actions. Participant 2 randomly triggers or stops continuous sounds of rain and shorter effects of thunder. They create an atmosphere for Participant 1 which can match or challenge the associations of the umbrella.

Compared to the sense of direct action-reaction with the object in Creak, Thunder is subtler. There is not necessarily a causal relationship between the sounds and the physicality of the steps; instead, the sound has more of an effect on Participant 1’s emotional state. In a way, the sounds of rain and thunder operate as nuanced forms of side-coaching: through suggestion, Participant 2 can make the other participant feel wet, cold, threatened or miserable, which in turn can influence or shape the steps, to a degree. One participant writes in the questionnaire: ‘The thunder felt as if it added a given circumstance to the physical action and prompted an entwined response – fear and the need to stay safe under the umbrella.’ The use of the Stanislavskian terminology ‘physical action’ is worth noting. The associative power of sounds of rain and thunder, along with the obvious connotations of the umbrella, provide a subtext for the action of stepping, encouraging Participant 1 to commit to the action on a deeper level and bring the imagination into the exercise (see Figure 4). Furthermore, this subtext can also be

shared by Participant 2. One participant recounts that while being thunder, ‘I saw myself in my partner’s shoes. Brought up my uncertainties, fear of unknown.’ These comments reflect the embodied and empathetic nature of attending to a student’s work that was highlighted in the initial discussion of the exercise. The combination of sound and object generate a shared space for the participants, inviting them to commit to a heightened sense of awareness of their partners’ and their own actions and responses.

However, for others, the suggestive power of sound used in this way can seem restrictive. Following the exercise holding the umbrella, another participant writes: ‘I felt most self-conscious when “realist” possibly “narrative” elements were introduced – the thunder/rain + umbrella combination.’ In contrast to the others, this participant feels the emphasis on the given circumstances or the context of the action is an alienating force that evokes self-consciousness. It becomes too much, too real, too awkward, perhaps overly prescriptive as a suggested context for the exercise.

Tortoise: Narrative Encounters

The final example is Tortoise. This enactive encounter uses audio recording to embed segments of the children’s story *The Foolish Tortoise* (Buckley 1977) within each step.

Participant 1 puts on wired headphones and is invited to take a step and retreat.

Participant 2 also puts on headphones, connected to the same source, and holds an iPad which has a grid of 41 buttons, each containing a segment of the story, ordered sequentially. The instructions for Participant 2 state: ‘**You are a storyteller.**’ They are asked to watch Participant 1 and trigger each button in order every time they feel a step has reached its destination until they run out (see Figure 5). The story is as follows: A tortoise feels too limited by her shell and decides to go out into the world without it. She faces numerous dangers, becomes frightened, is almost eaten by a snake, misses her

shell and finally tries to return to its security. Yet instead of climbing back into its 'shell-ter' (as the original story concludes), in our retelling she ends on a note of uncertainty: 'But her shell was nowhere in sight.' The two participants hear the story unfold and experience this open-ended finale together.

The Tortoise enactive encounter investigates how narrative can be used in order to guide a participant to embody the exercise to the extent that it can be forgotten, transgressed. At the beginning, the stepping is transactional. A step is taken in order to hear how the story continues. As in Creak, there is a step and a response. Gradually, the imaginative/associative elements become more prominent: the tempo-rhythm of the steps change, the duration of each step alters, the extension and retraction of the body become more and more affected by the segments of the story heard. A participant comments: 'The relationship with the text/sound [changed during the exercise]. It started to affect my tempo/rhythm/attunement. And finally, my steps.' Eventually, a synergy or convergence emerges between Participant 1's embodied experience and the actions described in the story, triggering an emotional response. For example, upon hearing the lines 'a fish swam up, the tortoise fled,' a moment of fear and a sudden impulse compels Participant 1 to retreat their step, inviting them to echo the protagonist through their actions. The steps begin to embody and build an empathetic relationship with the tortoise: a nervous, brave or hesitant step, a fearful or discreet retreat. Identifying with the tortoise, one participant writes, 'I felt vulnerable without my shell.' The empathetic relationship with the shell-less tortoise is evident in this comment, even though there is no such instruction asking participants to characterise or play the tortoise.

The story of the tortoise also brings a sense of progression into the experience, as her journey urges the participant on. Although there is no explicit instruction to keep

going until the end of the story, participants have done this in all instances of public testing. A palpable and creative tension appears between wanting to remain stationary to protect the tortoise from whatever might follow, and a desire to take a step and let the story unfold. Even when Participant 1 knows the story has ended and they are left without a shell and without any more audio segments, they keep taking a step, and then another. The knowledge that the end of the story has been reached is overshadowed by a desire to continue, or as one participant puts it, a 'willing the tale on.' Is it hope that is evoked: do participants think each time they take a step that they might help the tortoise find her shell? Or do they find pleasure in embodying the tortoise's lostness? Whatever its substance, a strong emotional attachment is found.

Participant 2's involvement in this encounter is also more nuanced and multi-dimensional than in Creak or Thunder. The role transforms from simulating environmental responses to each step to that of an omnipotent narrator, changing the relationship between the two participants. Participant 2 controls the timing, rhythm and pace of the story as they choose how long each step remains extended in search of the next segment. As such, they can add pauses to emphasise moments in the story or quicken the narrative for dramatic effect. They can choose to relieve or enhance tensions as the tortoise's journey is embodied through Participant 1. If so inclined, they can play Participant 1 like a puppet, or at least direct and orchestrate their experience as a witness armed with a control panel. In this respect, Tortoise emphasises the power of Participant 2 as the composer of an experience. Although the latter is still in collaboration with and in observation of Participant 1, this time their sense of control is enhanced. One participant admitted in conversation after a public testing that she wanted to exert authority over all the participants as she observed all the simultaneous encounters happening in the space, not just *her* tortoise. The role of the

witness/storyteller encourages a further awareness and investment in the encounter as the increased authority over the other becomes evident, palpable. Yet the sense of control comes with a heightened level of attention to the partner's embodied experience and an empathetic, and equally embodied, focus on the unfolding of the audio story alongside the actions. The world of a wandering tortoise is called forth, while the participants hone their skills in listening and responding through this intersubjective exchange.

Conclusion

In searching for a way to use digital technology to overcome the necessity of a shared, live physical space between trainer and performer-in-training, *Enactive Encounters* constructed enactive pedagogic spaces where participants co-created the training experience, through their interactions with each other, *via* the technology. Steve Dixon, while historicising the digital, asks what a computer brings that is not already there or achievable in different ways. He suggests that 'the computer is commonly employed as an agent for the remediation of old and established artistic forms and strategies rather than as a means of originating authentically new performance processes and phenomena' (Dixon 2007, p. 37). For our work, this position raises an important question: Why not have a participant use a big clown car horn and match this forbidding, ridiculous sound to each step of the exercise instead of sounds amplified through various speakers and objects? For Tortoise, why not have somebody read a segment of the narrative out loud for each step?

In *Enactive Encounters*, the use of technology hybridises the wizards (whom we called Participant 2). They are at once an active participant (sound or atmosphere provider, or narrator) *and* the enactor of a responsive space. The technology also locates the sound. In the example with the car horn, compared to the analogue encounter where

someone sounded a horn whenever they step, the tech-enabled encounter would be Participant 1 stepping in a space covered in car horns, taking inspiration from Patrick Furness' *Isle Love Dogs*.⁵ Similarly, in *Tortoise*, the correspondence of the worlds of the participant and the tortoise is accentuated by the ability of the technology to become invisible. A story is delivered into the ears of the participant while a simple action is repeated, transporting them into different, simultaneous temporal and spatial realities. As Causey observes, this is a unique ability of digital technology to evoke 'asynchronous time registers and multidimensional spatial configurations' (2015, p. 434). Without digital technology, perhaps Participant 2 would need to whisper the story into Participant 1's ear to achieve the same sense of interiority. Such analogue encounters would provide opportunities for playful interaction, but they would be less directed, less precise, less haptic.

On the other end of the spectrum, we could have built fully-technological systems such as the enactive environments mentioned earlier which, through a network of sensors and transmitters, would be able to respond to each step. Would this have been preferable? Perhaps with a digitally enhanced carpet, able to sense shifts of weight and the placement of feet and translate these into a range of creaking sounds, or segments of narrative or randomised atmospheric sound effects, we would resolve the imprecise, at times haphazard, nature of action-reaction in our enactive encounters. However, such a system would have a finite set of possible outcomes, based on the complexity of the

⁵ An example of a low-tech surface that translates steps into sound is Patrick Furness' installation titled *Isle Love Dogs*. In this work, Furness piles an abundance of squeaky dog toys on the floor and invites gallery visitors to walk on and interact with them.

algorithm at work. Our cheap, DIY version is wholly relational and infinitely unpredictable as it relies on the whims, choices and shortcomings of human beings.

Furthermore, such a technologically enhanced environment could mislead Participant 1 to attempt to exhaust or solve the system rather than to engage in open-ended interaction. Chris Salter tests the possibility of building an enactive performance environment where a human and non-human agent can co-create. He notes a particular tendency to try and figure it out, by matching gestures/actions directly to environmental responses: 'This longing for direct input/output coupling of human actions and machine-initiated, environmental response is certainly culturally conditioned through forms like video games, the branching models of primitive interactive media like CD-ROMs or dialogic, mimetic theories of human-computer interaction' (Salter 2009, p. 40). The possibility of deciphering the rules of the game is tempting and counter-productive for pedagogic purposes. Yet for us the solution is not to create more and more complex systems that are undecipherable but rather 'to design a subtle and hence more simple model of interaction' (Salter 2009, p. 40) which in its nuances contains inexhaustible unpredictability.

Camilleri assesses the possibilities of various digital and/or hybrid forms to challenge conventions, and concludes that there has not yet been a 'radical paradigm shift' (2015, p. 26). Although we cannot argue that *Enactive Encounters*, still a work-in-progress, has indeed introduced a paradigm shift, we would like to suggest that it has provided new insight into the performer training space and the interactions therein. Our work with technology incites what Dixon calls 'a genuine re-evaluation of models and a rethinking of artistic and communicational techniques and paradigms' (2007, p. 37), in this case a rethinking of the work not of the performer-in-training, but of the trainer. We are not looking to replace the live interaction between a performer trainer and a

performer-in-training, but rather to investigate different ways of recreating a similarly dynamic relationship in the absence of a trainer. This objective compels us to identify what a trainer does, in order to be able to translate it into an encounter with technological, analogue, or hybrid objects and interactions with others through these objects. We find that the trainer creates a safe and playful environment, observes the student attentively and guides them through an experience which has physical, imaginative, and emotive/narrative layers. Yet the most significant discovery for us is that an exercise is not a thing-in-itself, administered and regulated by the instructor; rather it is an experience that is designed, delivered, mediated and co-created. In this respect, a trainer does not need to be someone who holds prior knowledge but rather a learner who is committed to experimenting with the instructions, tools and technologies at hand, in intersubjective and open-ended ways, in spaces of coexistence.

In order to effectively build a pedagogic enactive space, it is necessary to carefully deconstruct the original form of an exercise. Our cross-disciplinary collaboration between designer and performer/trainer followed a four-stage process: 1. One participant does the exercise, while the other observes. 2. Both participants reflect on the experience from their specific role. 3. Participants discuss ways in which the available technology can be used to enhance interesting moments found during the trial. 4. Technology is used to put those ideas into practice. This process was repeated until something significant about the exercise was captured in a replicable format.

All the enactive encounters are derived through this process, including Creak, Thunder and Tortoise. Each encounter is developed to enhance specific characteristics of the exercise discovered during experimentation, employed as a focus in further investigation and refined in the final outcome. Each hones in on one of the layers outlined earlier (although all the layers are present in all the encounters as well): Creak

inspires the technical, Thunder the associative or imaginative, and Tortoise the narrative or emotive. In each of these, there may be a set of skills sought, such as an increased sense of balance, acute self-awareness, an ability to use the imagination/memory playfully, a sense of rhythm and the skill to surrender to a flow, or the ability to sustain a playful sense of Stanislavski's *magic if*. However, when recreated as an interaction between participants, these skills or affinities are no longer pre-given directions or milestones, but rather they are opportunities for an embodied experience and a sense of coexistence that may or may not follow. Perhaps this reflects all training situations, yet *Enactive Encounters* makes this unpredictability of the learning process palpable. It highlights the fact that it is not just the student (or Participant 1) but also the trainer (or Participant 2) who engages on all these layers, sometimes all at once, sometimes one at a time.

As such, no *one* encounter captures the totality of the exercise as described at the beginning of the article. Each presents a concession. Yet taken together, the different encounters compensate for the limitations of the other. This is enabled by the necessary deconstruction and reconstruction of the original form, achieved only through a healthy resistance to seeing any one element as precious and an acceptance that in translation the exercise will transform. Seeing every exercise or every self-contained unit of practice used in a training environment as a designed experience is liberating. It breaks the dichotomy between the presence/absence of a trainer, and instead invites us to see what happens between the different agents who interact through the exercise or the training practice. As a participant comments, the relationships taking place in our enactive environment are 'playful and conversational' and participants are 'listening and responding more attentively, yet perhaps in a light-hearted way.' Similarly, the space that brings different enactive encounters together itself is found to be 'like a

playground,' and 'like an everyday experience, [but] one that [is] more amplified and concentrated' (see Figure 6).

These remarks hint at the future direction of how digital technology can be used to enhance the accessibility of performer training and the space of the learner. While headphone theatre is becoming increasingly prevalent, we see a valuable opportunity in using audio technology in performer training. Audio guidance in performer training has the potential to give students the chance to engage in a range of self-led activities while exercising control over the space and time of their training. Furthermore, working in groups using hybrid objects through enactive encounters enhances the learners' independence by putting students in the position of the trainer. Taking on the role of Participant 2 invites one to pay attention to the minutiae of an exercise as performed by another, not as someone who evaluates, but as someone who co-creates a pedagogic experience, providing invaluable embodied insight. However, we are also acutely aware of the implications of such a process in terms of time. Deconstructing and reinterpreting one exercise as a series of enactive encounters took us three years. How feasible would such an approach be for an entire training regime or a self-led devising and training process as initially envisioned? Recognising our limitations, this article proposes a method and serves as an invitation to other performer trainers and designers to reconfigure their practices in the shape of low-cost and accessible enactive encounters.

References

- Baalman, M. (2017). "Wireless sensing for artistic applications, a reflection on Sense/Stage to motivate the design of the next stage", paper presented to New Interfaces for Musical Expression, NIME 2017, Copenhagen, May 15-19, 2017. Retrieved February 28, 2019, from <http://homes.create.aau.dk/dano/nime17/papers/0059/paper0059.pdf>
- Bruner, J. (1965) "The growth of mind" *American Psychologist*, 20(12), pp. 1007–1017.
- Bruner, J. (1999). *The Process of Education*. Cambridge: Harvard University Press.
- Bruner, J. (2006). *In Search of Pedagogy Volume I*. London: Routledge.
- Buckley, R. and Carle, E. (1977) *The Foolish Tortoise*. London: Simon and Schuster.
- Camilleri, F. (2015) "Towards the study of actor training in an age of globalised digital technology" *Theatre, Dance and Performance Training*, 6(1), pp. 16-29.
- Causey, M. (2016) "Postdigital Performance" *Theatre Journal*, 68(3) pp. 427-441.
- Dixon, S. with Smith, B. (2007) *Digital Performance: A History of New Media in Theatre, Dance, Performance Art, and Installation*. Cambridge, MA and London: MIT Press.
- Evans, M. (2009) *Movement Training for the Modern Actor*. New York: Routledge.
- Furness, P. (2015) *Isle Love Dogs*. Retrieved March 3, 2019, from <http://patrickfurness.com/isle-love-dogs/>
- Heap, I. (2015) *Sculpting music with Mi.Mu gloves / TEDxCERN*. Retrieved February 28, 2019, from <https://www.youtube.com/watch?v=7oeEQhOmGpg>
- Hunt, K. (2015) "Classroom Cons and Assigning Activism: Ethical Issues in Relational Pedagogy" *Theatre Topics*, 25(3), pp. 199-207.
- Peters, S. (2016) *Playing Up: A Live Art Game for Kids and Adults*. London: Live Art Development Agency.
- Rohde, M. (2010) *Enaction, Embodiment, Evolutionary Robotics*, Paris: Springer Science & Business Media.
- Rozendaal, M.C., Heidingsfelder, M.L. & Kupper, F. (2016) "Exploring embodied speculation in participatory design and innovation." In the 14th Participatory Design Conference. New York: ACM Press, pp. 100–102.
- Salter, C. (2009) "Environments, Interactions and Beings: The Ecology of Performativity and Technics" in *Interfaces of Performance*, ed. by Maria Chatzichristodoulou et al. Farnham: Ashgate, pp. 27-42.

- Tanaka, A. (2012) "BioMuse to Bondage: Corporeal Interaction in Performance and Exhibition." in *Intimacy: Across Visceral and Digital Performance*, ed. by Maria Chatzichristodoulou and Rachel Zerihan. Basingstoke: Palgrave.
- Thompson, E., & Stapleton, M. (2008). "Making Sense of Sense-Making: Reflections on Enactive and Extended Mind Theories." *Topoi*, 28(1), pp. 23–30.
- Varela, F. J., Rosch, E., & Thompson, E. (1991). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge: MIT Press.
- Wilson, L. (2015) *Warnscale: A Land Mark Walk Reflecting on Infertility and Childlessness*. Leeds: Louise Ann Wilson Company.
- Wilson, T. (2016) "An anatomy of an exercise" *Theatre, Dance and Performance Training*, 7(2), pp. 212-213.

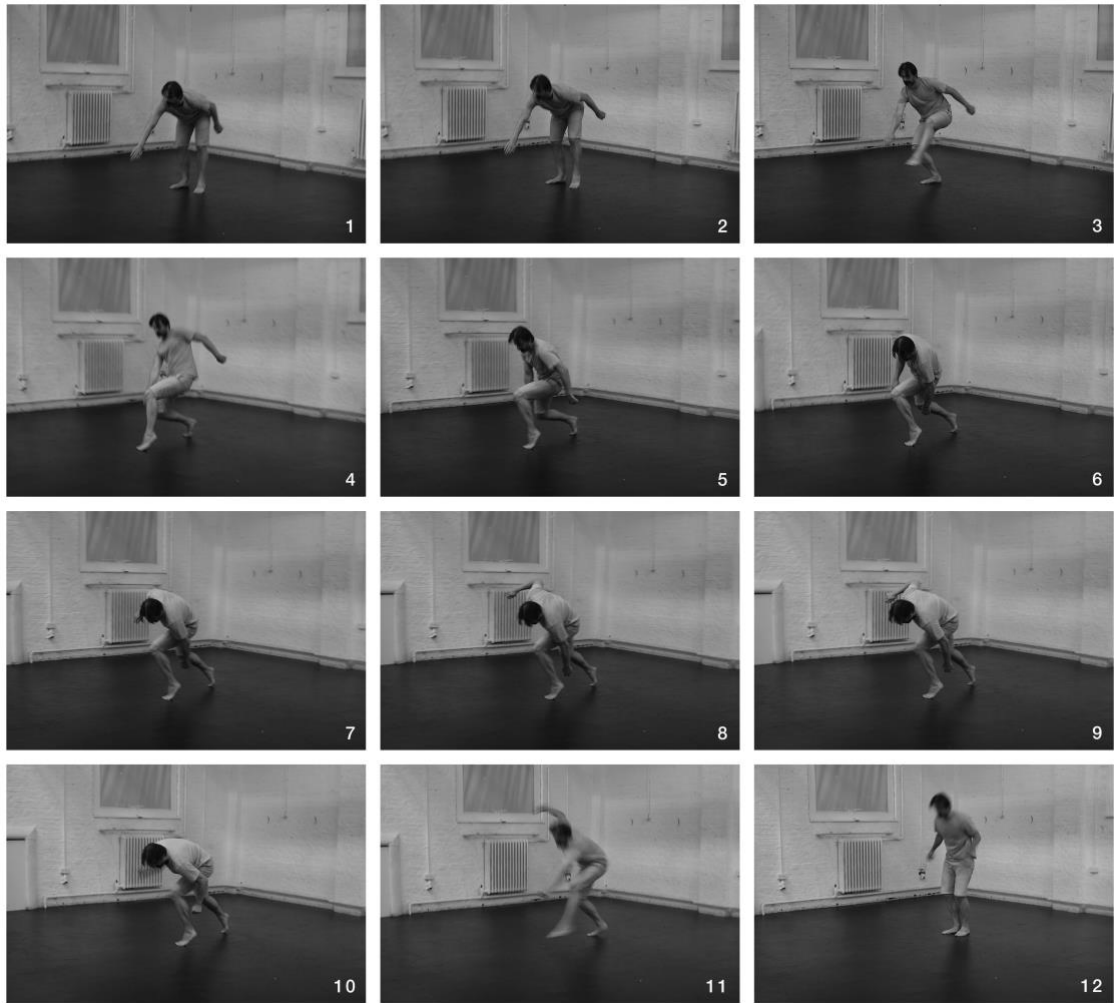


Figure 1. Robinson does stepping in our first studio experiment

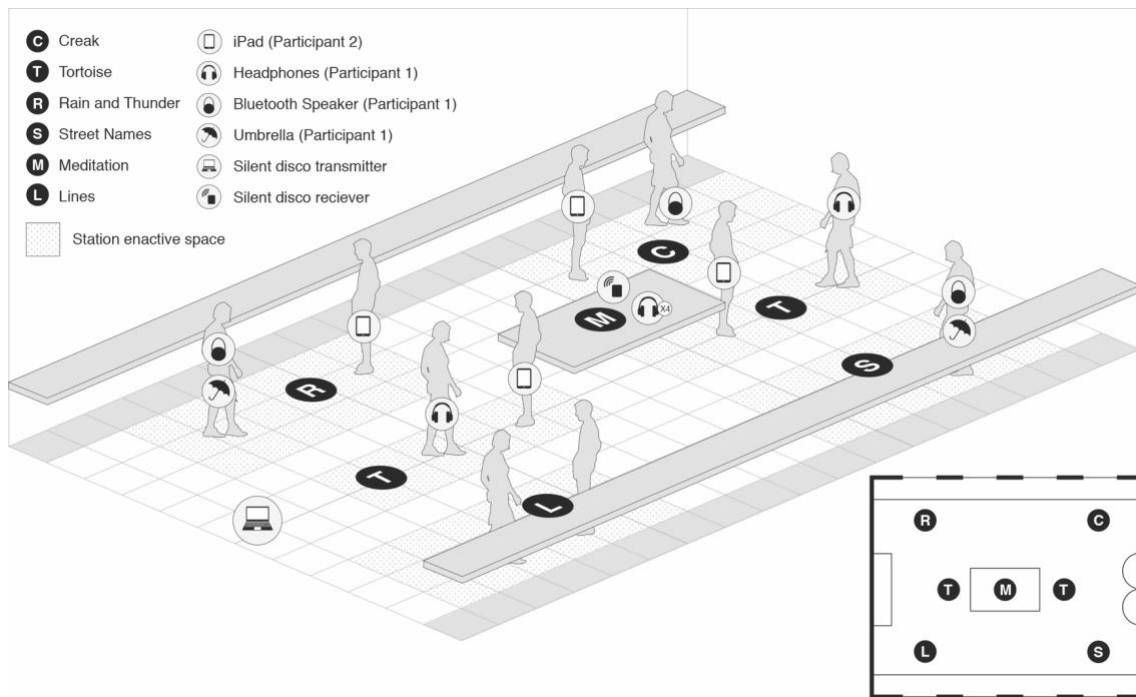


Figure 2. Enactivating the Training Space: Diagram showing seven enactive encounters set-up during public testing at the Theatre and Performance Research Association (TaPRA) Conference, University of Bristol, 2015.



Figure 3. Umbrella as hybrid object.



Figure 4. Thunder: A participant does Thunder during public testing in Turin as part of the *SpazioTeatro* project.

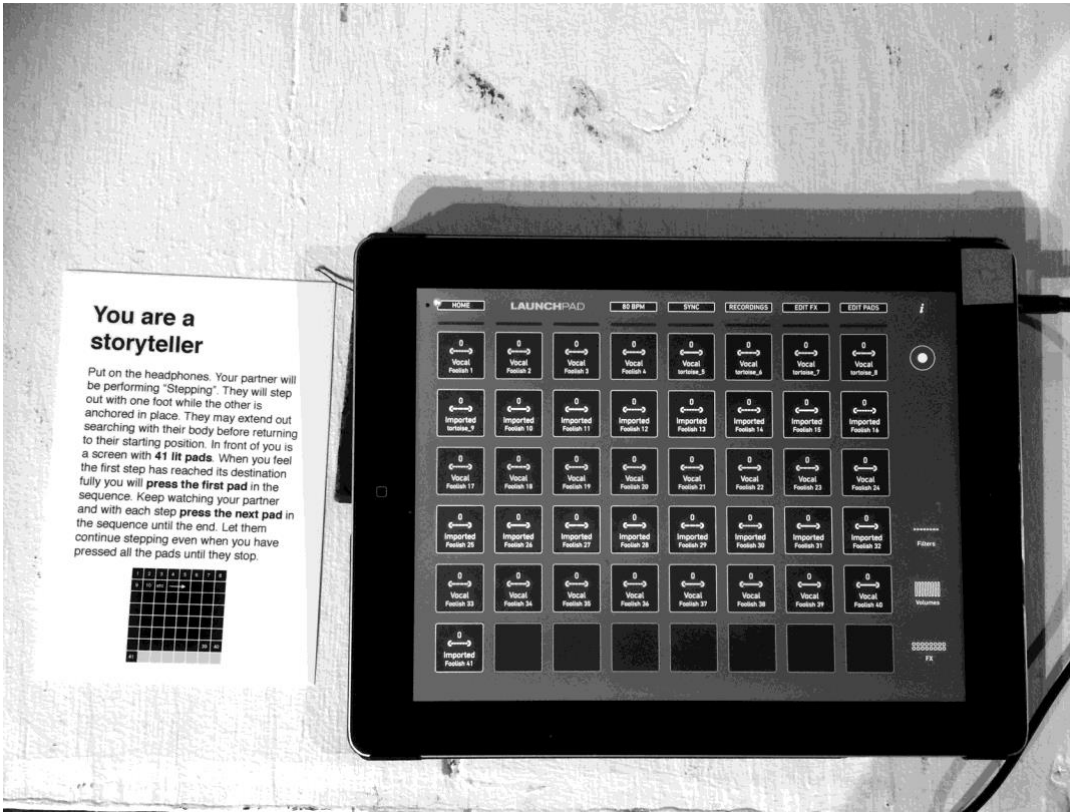


Figure 5. Tortoise tools.

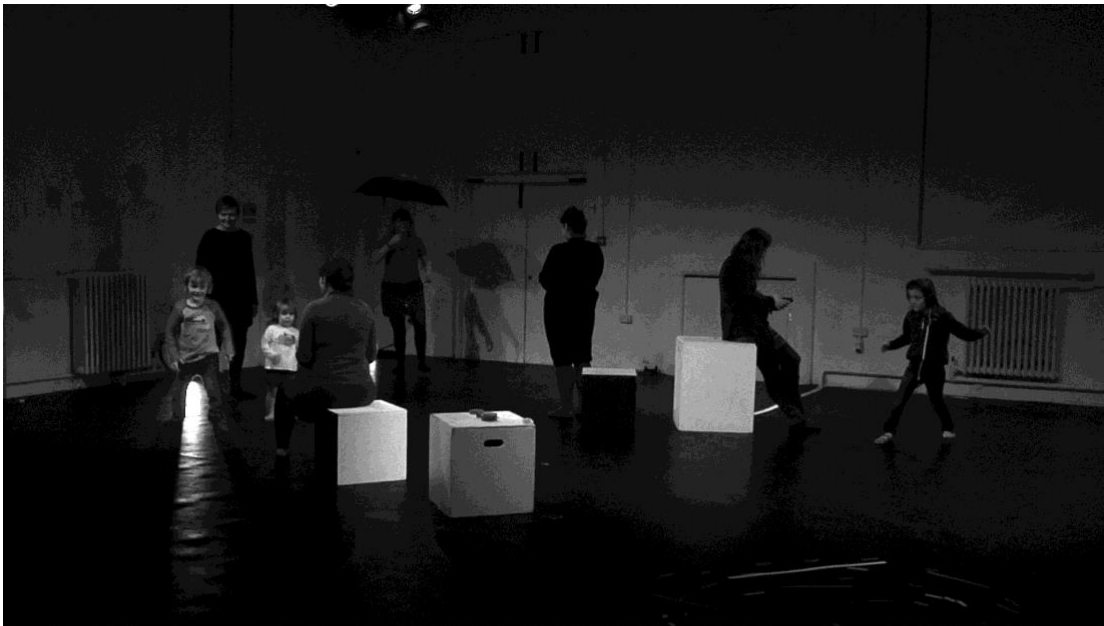


Figure 6. An enactive training space: Video stills from *Becoming Tortoise* showing participants interacting with Tortoise and other enactive encounters during public testing at Goldsmiths, University of London.