

## THE TOUCH OF THE STETHOSCOPE: SHAPING CONTEXT IN INTIMATE PERFORMANCE

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**Abstract:** When tools like the stethoscope and electrocardiogram are appropriated for use beyond their intended purpose – for example in music and dance performance – how does the training of foreign users shift the framing of sound, and therefore what types of sounds from the body and apparatus come to be analysed or considered? Can we qualify the difference between a doctor and a composer listening to the heart through a stethoscope? How do the motives and methods of practitioners inform what they hear, and how they touch – to the exclusion of sensory processes beyond their frame of reference? As a choreographer and composer working with heart rate sensors, we do not seek to reveal or represent the invisible workings of the heart. Rather, in our performances and installations, the sonification and haptification of heart rhythms – along with the noise produced by the apparatus and its use – are a means to compose a context for intimate listening and touch between performers and visitors at the edges of appropriateness.

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### Introduction

We are not meant to touch hearts. Hearts are away, hidden, at the centre where they can't be got at. Protected. Vital. The seat of the soul. If a heart is touched, it can only be a miracle. When Christ's heart appears to a medieval saint, when the heart of a miser is touched with mercy, when a surgeon opens a ribcage and mends a heart, it is a miracle. Otherwise do not touch.<sup>1</sup>

It is exceptionally rare to hold a beating heart, and yet we sense its behaviour and effects daily. In a moment of panic or fear, we may feel our heart pounding in our chest. Lying in bed, we can probe for our pulse, or place an ear to our partner's chest. Heart rate sensors like stethoscopes and electrocardiograms let us listen more closely, or at least differently, to cardiovascular enunciations. When listening, our interpretations of these acoustic and electrical biosignals relate to our disciplinary training and goals, as well as conceptions of the heart as anatomical, physiological, religious, romantic, emotional, spiritual, metaphorical, magical, moral and musical.<sup>2</sup>

With the development of the stethoscope in the early nineteenth century, doctors shifted away from immediate auscultation (i.e.

<sup>1</sup> Louisa Young, *The Book of the Heart* (London: Flamingo, 2002), p. xx.

<sup>2</sup> James Peto, ed., *The Heart* (New Haven: Yale University Press, 2007).

listening to the heart and lungs with an ear directly to the chest), in favour of mediate auscultation (i.e. listening through a stethoscope).<sup>3</sup> As Michel Foucault outlined in *The Birth of the Clinic*, the stethoscope – as ‘solidified distance’ – reinforced cultural sensibilities of the time regarding appropriate touch and proximity between doctor and patient, based on religious and cultural concerns of modesty and morality, as well as class-based prejudice.<sup>4</sup>

Jonathan Sterne discusses mediate auscultation as a ‘technical approach to hearing’ and ‘a highly structured activity that requires practice to perfect’.<sup>5</sup> In order ‘for the sounds produced by mediate auscultation to signify properly – that is to say, indexically – it demands a facility with technique, a certain level of virtuosity’.<sup>6</sup> As a ‘practice of perception’ mediate auscultation emphasises the autonomy of hearing, as well as ‘a particular kind of framing of sound’ in which ‘only sounds inside the frame were to be analysed or considered. The sounds of the apparatus itself, and the other sounds accompanying auscultation were to be ignored’.<sup>7</sup>

In our project *III: Synchronism*, we use digital stethoscopes and transducers to invite the public to listen-through-touch in three simultaneous events: first, a spatialised audio installation derived from the live stethoscope signals; second, a large-scale paper sculpture with haptic feedback interpreted from the stethoscopes; and thirdly, a one-on-one encounter in which the stethoscopes – and the impossible goal to synchronise the beating of our hearts – shape a context for immediate and mediate contact between strangers.<sup>8</sup>

### The Choreographer/Performer’s Perspective

I stand alone in a dark booth. I am anticipating – but also trying not to anticipate – the next visitor. With one hand I press a digital stethoscope to my chest. In the other hand a small transducer pulses, giving me a tactile interpretation of the audio signal from the stethoscope. I feel my pulse rise and fall with each slow inhale and exhale. I keep my eyes closed, even as I hear someone enter the booth and stand inches in front of me. I can smell them. I hear them fidget and shift their weight on their feet. I hear their breath.

I wait until what I interpret as nervous energy begins to settle, all the while observing my own heart throbbing in my hand. Then, I open my eyes. In the moment that I open my eyes, a flood of judgments about this stranger surface; I take in their height, weight, gender, race, age, clothing, tattoos, piercings, and stance. I know that I am going to invite this individual into shared touch, and I have no way to know who they are outside of this encounter. Outside of this encounter, we would likely keep an ‘appropriate’ distance. Here now, in this booth with these objects, we must negotiate the boundaries of ‘appropriate touch’ for each of us, and for us together.

I offer the visitor the transducer I have in my hand. We hold it together, skin touching around the cold, pulsing metal. In a precise

<sup>3</sup> Jonathan Sterne, ‘Mediate Auscultation, the Stethoscope, and the “Autopsy of the Living”’: Medicine’s Acoustic Culture’, *Journal of Medical Humanities*, 22/2 (2001), p. 117.

<sup>4</sup> Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, trans. A.M. Sheridan (London: Tavistock, 1973), p. 164.

<sup>5</sup> Sterne, ‘Mediate Auscultation’, p. 117.

<sup>6</sup> Sterne, ‘Mediate Auscultation’, p. 134.

<sup>7</sup> Sterne, ‘Mediate Auscultation’, p. 122.

<sup>8</sup> Temoa Naccarato and John MacCallum, *Synchronism*: <https://iii-iii-iii.org/portfolio/synchronism> (accessed 18 January 2018).

and progressive choreography of gestures, I introduce a second electronic stethoscope and transducer such that we each press a stethoscope to the other's sternum, and a transducer into different points on each other's bodies. We share our own heartbeat with our partner, letting it pulse and resonate in their skull, cheek, neck, belly, back. The task of touching with these objects collapses the distance between us, and we find our way into an awkward, asymmetrical embrace. By the time we are entangled, slowly shifting and negotiating our embrace, we feel the movements of each other's breath and beating heart both through the transducers, and directly beneath the skin.

In each encounter, the immediate and mediated touch involved in listening to our hearts through the surfaces of our entangled bodies shifts the role of the stethoscope and transducer from that of representational tools meant to reveal the invisible workings of our hearts, towards tools intended to shape a context in which touch – and listening through touch – are available as a mode of consensual interaction between strangers (see [Figures 1 and 2](#)).



Figure 1:

*III: Synchronism*, one-on-one performance and installation by Teoma Naccarato and John MacCallum (photographer: Robert Zbikowski © CC BY-NC 2017)



Figure 2:

*III: Synchronism*, one-on-one performance and installation by Teoma Naccarato and John MacCallum (photographer: Robert Zbikowski © CC BY-NC 2017)

### The composer's perspective

In the public space outside the booth, we hear and, should we choose, feel, traces of an encounter between two people. The sound, which fills the space through a number of speakers placed throughout, pulsates at times, but is also rich with noise. We know the premise of what is happening inside the booth: two strangers are meeting for the first time, using these tools that are producing this sound to try to synchronise their heart beats. Perhaps some of us have already had one of these encounters in the booth, others might be waiting their turn, and still others are simply there because it is a public space. We mingle and chat casually, at times pausing to listen when a particularly salient moment emerges out of the texture, and at other times raising our voices a bit to be heard above the swells in volume that follow, in some way, the encounter taking place.

This encounter is for them, not us. The process of their encounter is unique, it develops according to a logic that is mutually shaped by these two people through time. We cannot access it, but not only because we are physically separated from them. They are engaged in a process we are not. They are shaping their context in which touch takes on meaning, and we should not disturb that process.

Outside the booth, traces of their encounter manifest in sound as well as subtle pulsations that travel across a large, curving paper structure that runs through the space. The curves of the paper are invitations to envelop ourselves in the pulses of others. The sounds of the digital stethoscope are filtered, segmented, delayed and recombined with attention to the noisy, parasitic artefacts in the signal. Pulsations emerge out of the noises of breath, clothes, skin and, from time to time, muffled voices. In its recontextualisation these noises carry the same importance as the normal objects of interest one seeks when using a stethoscope. They are sonic traces of searching, and negotiation.

We know something of what is happening in the booth, but we are not in it, we are not in the process with them, and we do not shape the logic that is developing in this moment, nor are we bound by it. This is not to say that we play no role in it – surely they are aware of



our presence as they go about their task – but our experience of their interaction can only be a model that we creatively and performatively construct by piecing together the necessarily incomplete traces that are themselves wrapped in artifice (see Figures 3 and 4).

Figure 3:

*III: Synchronism* by Teoma Naccarato and John MacCallum, Image of haptic sculpture, Photo by: Ian Winters, © CC BY-NC 2017

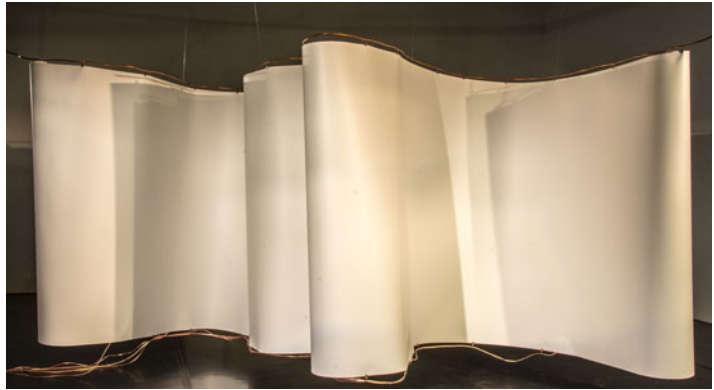


Figure 4:

*III: Synchronism* by Teoma Naccarato and John MacCallum, Image of haptic sculpture with guests interacting, Photo by: Ian Winters, © CC BY-NC 2017



### Conclusion

In *III: Synchronism*, the boundaries of mutual curiosity and consent are negotiated through touch – that is, the touching of sounds from the heart, and the touch of the sound of the heart. We appropriate and recontextualise the stethoscope in order to use its authority to permit and mediate contact between strangers. Through the multiple materialisations of the audio signals from the stethoscopes in the public and private spaces, we investigate the perceptual and moral boundaries that govern the emergent visibility, audibility, and touch-ability of ‘foreign’ hearts and bodies.