
The Soma Mat and Breathing Light

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Abstract

We present the experience of using the prototypes Soma Mat and Breathing Light. These are designed with a somaesthetic approach to support a meditative bodily introspection. We use light and heat as modalities to subtly guide participants to turn their gaze inwards, to their own bodies. People trying our prototypes reports on a feeling of relaxation, softer movements, and an increased awareness of their own breathing.

Author Keywords

Somaesthetic design; body awareness; somaesthetic experience; relaxation, bodily introspection

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

Introduction

The design of the Breathing Light and Soma Mat [2] (see figure 1) is the result of a somaesthetic design exploration at the Mobile Life Centre in Stockholm, together with IKEA and Boris Design. The two prototypes aim to support a meditative bodily introspection subtly guiding participants to turn their gaze inwards, to their own bodies. The user experience can serve several purposes: a way of body awareness through introspection, enriching the somatic

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What Feldenkrais is:

Moshe Feldenkrais sought ways of extending our ways of being in the world through reminding us of the different ways any habitual movement can be done [1]. As an example, to stop breathing, you can contract the muscles of your throat, you can contract or expand your diaphragm, you can close your lips or you can push your tongue up. In the lessons the movements are extremely aware, sending signals back through the nervous system that can be decoded and extend on our repertoire of movements. From this you can choose between old or new response patterns according to what is best suited to the present situation. A body scan is included, where you go through and focus separately on the experience of each body part.

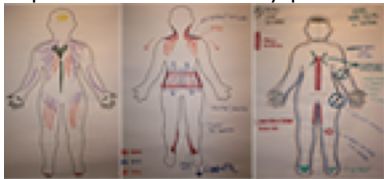


Figure 2: Experienced body sheets, where participants were allowed to reflect and articulate their bodily experiences on an outline of a body in drawing or text.

appreciation and sensitivity, and as a medium for winding down in our everyday life.



Figure 1: The Breathing Light and Soma Mat

A range of new technologies surrounds us — biosensors, interactive clothes, and wearable computers. A whole space of possibilities for body-based interaction has been opened. But despite all the work we have seen on designing for embodiment, the actual corporeal, pulsating, live, felt body has been notably absent from both theory and practical design. Most design work has taken a quite instrumental view: Our bodies are there to be trimmed, perfected, and kept free from illnesses and bad influences [4]. By data fed back to us, we are supposed to change our behavior to the better. To provide an alternative design stance, we have explored somaesthetics theories and bodily practices aimed to gain better sensitivities of your own body [6].

Somaesthetic Theory

Somaesthetics is an interdisciplinary field grounded in pragmatist philosophy and phenomenology [6]. By combining *soma*, the body, with *aesthetics*, our sensory appreciations, the attention is drawn to our bodily movements as part of our ways of being and thinking. A key premise of the somaesthetic philosophy is the insight that all our experiences and interactions happen through our body. To improve our somaesthetic appreciation, we need to shift out of habitual movements, like when walking, breathing, standing, breaking those patterns to find novel ones. The premise is that a limited movement repertoire limits our repertoire of experiences. This becomes obvious to us when we try to change our movements, as when, doing sports in a different manner [3]. Shusterman also points to the necessary practice for improvement of body awareness, like yoga, meditation, Feldenkrais or Alexander-technique. In our design work we engaged in Feldenkrais-exercises (see side bar). Other designers have engaged in other introspective bodily practices to ground their design: palpable experiences of touch [5], biofeedback loops [3], and meditation [7], to name a few.

The Soma Mat and the Breathing Light

The Soma mat (see side bar, next page and figure 3) uses directed heat stimuli to subtly guide your attention to different body parts. The mat can be used as a support for guided meditation, for body scanning, in Feldenkrais-sessions or simply for relaxation. Integrated into the mat, are a number of heat pads that can provide spatially directed heat pulses, and also a pair of speakers. An application on a mobile phone is used in conjunction with the mat, where a number of pre-recorded Feldenkrais-sessions with voice

Using the Soma Mat

Kara chooses a body scan session on the mobile and lies down on the mat. The pre-recorded instructor guides her: *"How does your body contact the floor right? Now your heels, your right heel? Left heel? Is there any difference between how they contact the floor?"* To gently guide her attention and hinder her thoughts to wander, the mat heats up underneath her right heel and then her left heel. The warmth comes on slowly and leaves slowly. So subtle she barely notices it, but still aiding her in the body scan and creates a warm, pleasurable experience.



Figure 3: The Soma Mat and the spots where it heats up in sequential order.

instructions can be selected. Each session is complemented with a synchronized script that controls the heat pads in the mat, so that heat stimuli is provided to the part of the body referred to in the instructions. The Soma mat is designed with materials and interactive technology that aims to support a compound experience. Body scanning and Feldenkreis [1] aim at making us more aware of our bodies and all the different ways we can move and act. This is achieved through engaging participants in very slow movements, while simultaneously directing attention to the different parts of our bodies and how they interact. Here, the carefully tuned thermal stimuli serve to guide and sustain attention to different body parts. Substantial effort was put into tuning the timing and intensity of the heat stimuli, so that the stimuli itself does not become the centre of attention. While engaging in these somatic exercises you sometimes feel quite vulnerable. Pains, aches and bodily memories surface during the lessons. Therefore the mat is built using "memory foam" of a certain thickness to create an embracing feeling, without hindering your ability to move freely. The pattern sewn onto the mat helps you place your limbs in the correct places to feel the heat that slowly arrives and leaves to help you direct your attention to different muscles and body parts.

The Breathing Light (see side bar, next page and figure 4) is a lamp that measures your breathing, creating an ambient light dimming in cadence with your breathing. There are speakers built into the light module where you can choose background sound, like sound of waves, bird songs or the wind blowing. The light can be used as a reflection aid on your breathing and body. In addition it creates room for winding down.

When turning your attention inwards, you need to shut out the external world. Therefore the lamp provides an enclosed space around your upper body, with a certain atmosphere that feels safe and embracing. This is achieved using string curtains that create peaceful patterns with slow responsive movements when touched. Inside this enclosure a distance sensor is placed that senses breathing by measuring the displacement of your chest. The sensor controls a lamp inside the module, creating rhythmic pulsating light, where the light changes intensity in synchronization with the breathing. Substantial effort was put into finding the right subtleness and timing, intensity, and warmth of the light, in order to achieve an *intimate correspondence* between the perception of the breathing and the light, so that the light is perceived as an extension of the body, creating a deepened experience for each breath.

The Soma Mat and the Breathing Light can preferably be used in combination. When entering the mat, with the module above you, you feel enclosed and taken care of.

Experiencing the Prototypes

Let us provide some participant accounts, to give a sense of what will be experienced when using the prototypes. We had 22 participants trying out our prototypes in a one-hour study. After being introduced they spent 30 minutes doing a body scan in the prototypes. Before and after the session they were asked to articulate their bodily experience on body sheets (see figure 2), followed by an unstructured interview. Overall the experience was very positive and many participants expressed that they wanted one of these at home as a relaxation tool. One participant

Using the Breathing Light

Kara lies down under the lamp her favourite relaxation track with bird song is on. She closes her eyes and becomes aware of her breathing. She breathes deep down in her stomach and holds her breath for a bit and exhales. The light follows her breathing pattern dimming in and out. Slowly she gets into a rhythm and the light is cadence with it. The external world drifts away, she feels fully immersed and in sync with her breathing pattern. After the session Kara slowly tunes back into the room.



Figure 4: The Breathing Light and how it, when breathing in, dims in and breathing out, dims out.

expressed the whole experience as: *"I liked when I crawled in there, because then I looked at the strings and they flickered like this, and swayed a bit, it gives quite a comfortable feeling, I think. It is cherishing, soft and warm. And the light too, and the things that are in there and the warmth coming from the surface is inside your body, it also makes you relax better."* Since we talked to the participants before and after the experience there were many reports on perceived bodily changes: *"[After] The movements become different, more soft. I don't intentionally think that I should be moving in a certain manner, it becomes more intuitive, the body feels more like, how should I put it, like a snake, instead of being static."* Another participant's reflection after a session was: *"The difference from when I entered in the beginning and breathed, 'oh, how do you breathe again?' and how I was breathing towards the end, it has really gone much deeper."*

In terms of choice of modalities and materials, the participants talked about the experience in terms of: *"I liked the cocoon. I think its nice to, it's a good way to kind of zone out and be in your own space, your own personal space [...] It was helping me focus at least more on myself and on my body without it, it would have been impossible to focus on those things."* and *"I liked the mat as such, it is very nice to lie down on it. You kind of sink down a bit in the foam. And this subtle, subtle warmth that was just enough, but it helped the relaxation [...] in my opinion you get a completely different relaxed feeling from this mat."* The heat in the mat also became guiding: *"it (the heat) can be very handy when you are not following, to fetch you back to where you should be"*

Summary

Through Soma Mat and Breathing Light, we have explored ways of designing for somaesthetic appreciation. By learning, improving and playfully engaging with movements involving our muscles, nervous system, and senses, we extend on our experiences and create for better ways of being in the world. The Soma Mat and Breathing Light subtly encourages exploration of and better somatic awareness of your own body.

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