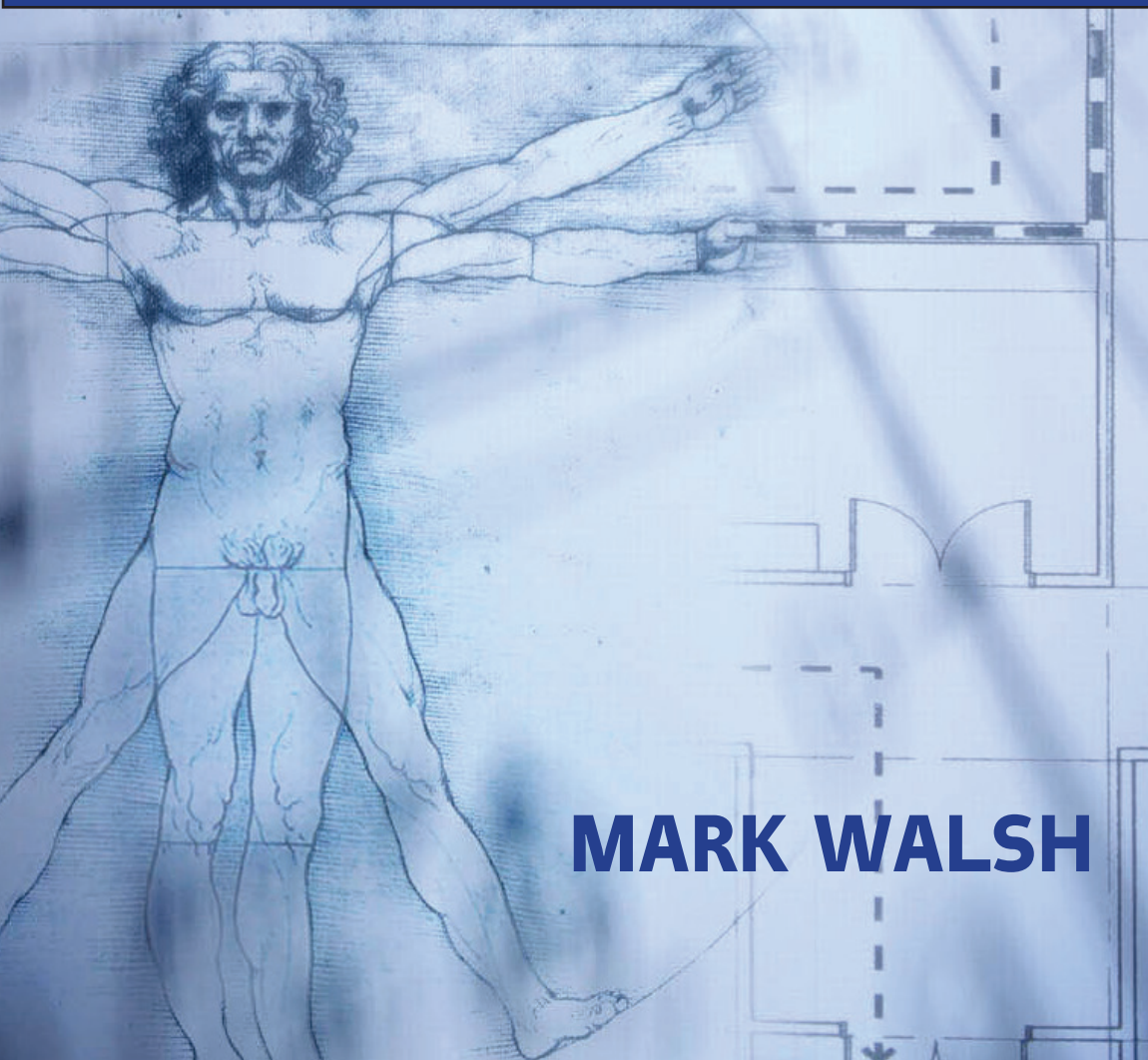




# THE BODY IN COACHING AND TRAINING

AN INTRODUCTION TO  
EMBODIED FACILITATION



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# 2

## Science, philosophy and culture

Alexandra Vilvoskaya<sup>1</sup>

This chapter is for those of you who wish to delve deeper into the underlying science and philosophy of embodiment. For those of a purely practical bent, the first part can be skipped, though much richness will be lost. The cultural aspects of embodiment are also worth at least reflecting on.

### **Reflection exercise: Philosophy of the body**

What is the body to you? Complete this sentence as many times as you can in 3 minutes: 'My body is . . .'. See if there are any patterns. Reflect on how you learnt your view of the body at school and in your family. What views on the body do you find 'weird'? Which of the following do you agree with:

- The body is a brain-taxi that carries my head around.
- The body is sinful.
- We must learn to control our bodies.
- The body is a tool to be used well.
- I am not my body, I am a spiritual being.
- The body is the main way in which I communicate.
- The body is my playground.
- The body is a channel.
- The body is my source of inspiration.
- The body is my temple.
- The body is a source of pleasure.
- I am my body.

### **The purpose of this chapter**

When we deal with people, every one of us embodies their understanding of what being human is, whether explicitly or implicitly. As embodiment specialists, we inevitably build our work around our own ideas regarding the role and nature of human embodiment. We use models, methods and tools that

correspond to our perception of what it means to be an embodied human being. And they in turn shape our views.

To this day there isn't any definitive answer to questions such as, 'What is embodiment?' or 'How does the fact that we are all embodied influence . . . (insert your own word)?' Every specialist has their own answers to offer. The aim of this part of the book is not so much to provide an ultimate definition of embodiment, but rather to illuminate the ideas that have intertwined to shape the phenomenon we call embodiment.

## What is embodiment? – advanced

In some sense, all of the history and culture of humanity can be viewed through the lens of their relationship to the body. The relationship between the body and the *soul / mind / consciousness / spirit / etc.* has long fascinated philosophers, scholars and poets. Looking back on the history of people's perception of the body, it becomes evident that it has taken decades of scientific research and at least a century of philosophical reflection to reach our present-day understanding of embodiment.

In the broadest sense, the word 'embodiment' (as a corpus of ideas and concepts) denotes the fact that the body is not only a physical object that possesses external traits, capabilities and inner workings. The idea is that our experience of our body, is an aspect of our subjectivity. This experience is not just 'there' – it has value and affects various aspects of our lives (nearly all of them, in fact), whether we're dealing with workplace success, relationships or economic or political issues (you will see how this works in the examples that follow).

The latest scientific research convincingly proves that our behaviour, emotions and cognition are mostly shaped and informed by the processes of our body – the inner physiological reactions in relationship to our environment and, more explicitly, by the changes in muscle tone, breathing, posture, quality of movement, etc.

Curiously, while older texts predominantly make use of the word 'body', the word 'corporeality' appears in *Webster's Dictionary* in 1651:

*In various religions, including Christianity, corporeal existence is often called the opposite of spiritual existence, and corporeal existence, unlike spiritual existence, is often said to be contaminated with evil. The word is also often used by philosophers, especially when considering the nature of reality.*

This very word was used by philosophers up to the beginning of the 2000s to describe the phenomenon of the body as subject.

According to Noah Webster, the word 'embodiment' entered the English language in 1828 and was defined as a physical representation. It has only been in the last 15 years that we have started to use it to describe a unity of body and . . . (insert your own word), and as an overall term for practices that support this growth/return.<sup>2</sup>

Every specialist working in the field of embodiment probably has their own definition of embodiment and you may come across a large variety of explanations. However, they all have several ideas in common:

- Embodiment is directly linked to psychology, emotions and spirituality and affects them.
- Our embodied experience influences our life, including our social life, and predetermines a significant part of it.
- Engaging with the body (e.g. bodywork), doing body practices (e.g. yoga) and bringing mindfulness to the body help us develop and shape our life.
- Psycho-physical integrity is a scientific fact.

If we were to differentiate an embodied view of human beings from the views that were commonly held just a few decades ago, we would focus on the following aspects:

- The unity, integrity and simultaneity of subjective (felt and experienced from within) and objective (observable and variable) embodiment.
- The interdependence and simultaneity (scientific fact) of our physiological, psychological and visible embodied processes.

‘If you think your body and mind are two, that is wrong; if you think that they are one, that is also wrong. Our body and mind are both two and one’, said Zen Master Shunryu Suzuki, and this is clearly not an easy theme! I feel that this quote captures the essence of embodiment. If it sounds complicated, think of quantum objects that are both wave and particle. In that same way, embodiment is both material and . . . (insert your own word). When people ask, ‘what is embodiment?’, they are effectively asking for an answer to one of humanity’s oldest philosophical questions, so it can get dense quickly!

## **Embodiment: scope and history**

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There are several key paradigms we can single out when discussing the relationship between the body and the mind / psyche / etc.

### **The body is an object**

Historically speaking, the first and, perhaps, still the most widespread idea is that the body is an object – a thing that possesses objective characteristics and has some kind of internal structure. This objective view of the body stems from the history of medicine and the work of ancient physicians who dissected corpses – non-living objects indeed – in order to understand the inner workings of the human body.

This view of the body has been and still is useful. In fact, much medical progress in curing disease and improving the duration and quality of people’s

lives is as a result of this approach. Modern engineering solutions are created precisely because their calculations take the body as an object into account.

Meanwhile, the body-as-object approach has led to what we now call *disembodiment*. The body is seen as something separate that brings discomfort or suffering (and yet it can also be a source of pleasure). However, little attention is generally given to connection with the body and to its expression. Christianity has played a large role in this by frequently describing the body as a source of sin (the body that has desires). This is of course the mainstream view and it's worth noting certain esoteric mystical traditions would take the opposite stance. The Church in Europe also pushed a body-mind split for political reasons as a kind of division of territory between themselves and science: 'OK, you get the body, but don't go near the spirit if you want to live – that's our domain!' The latest advancements in technology – from cars to computers – encourage sitting and rapid information processing, both of which are numbing, as is the move to more controlled indoor environments which provide less rich and variable sensorial experiences (as opposed to being outside with rain or sun on your skin, and wind in your hair, for example – nature through change and discomfort reminds us we're alive!). The history of the past two centuries filled with wars and trauma has also contributed to the fact that people prefer not to feel or notice their bodies – as a Russian, this is very obvious.

The idea of disembodiment is commonly linked to the ideas of Descartes – he is 'blamed' for popularising the idea of the body as a machine. This is not, however, a fair representation of Descartes' views on the human body: the parts of the manuscript in which he described his ideas of the relationship between the physical and the emotional were banned from publication during the Inquisition; however, these historical details may not seem particularly significant to us today. The idea that the body is a machine, that we can study its design, ensure its proper functioning and fix it if necessary, became rather widespread and favoured in modern Western culture.

Unfortunately, disembodiment has its consequences. Perceiving the body as an object leads to objectification, which is reflected in today's cult of athleticism, youth and polished beauty. Another consequence is the rise of violent social practices, from cult practices like male and female genital mutilation ('circumcision'), to treating humans as 'cannon fodder', to the dehumanising workplace frame of human 'resources' that reduces people to machine parts.

Starting around the beginning of the twentieth century, a new perspective on the body emerged, influenced by psychoanalysis, the scientific revolution, the First World War and other cultural and social events. The idea of a mind-body connection gained popularity. Those very ideas have shaped the field of body psychotherapy.

### **The body as a container**

In this paradigm the body is thought of as a container: inner conflicts, psyche, soul and character are expressed and revealed through the shape of the body, tensions, breathing patterns and other symptoms of the body. The body can express and make visible our inner conflict and discord.

If you would like to find out more about the evolution of attitudes towards the body in the context of body psychotherapy, I refer you to the works of Alexander Lowen, Wilhelm Reich, Lisbeth Marcher and other body-centred psychotherapists of the twentieth century. Embodiment as a modern field is built upon their work.

The primary idea shared by these various approaches is that the body is a vessel or container that reveals the tension and disharmony of the spirit. The body is like a bag with a raging cat inside, struggling to break free, or a clogged hydraulic system that displays the effects of its failure on its surface (such as rust, etc.). The most important thing that body psychotherapy has done in terms of developing the concept of embodiment is that it established the link between the inward and the outward. Moreover, it has brought about a renewed interest in the body and contributed to the popularity of Eastern body practices (yoga, qigong, etc.), as body psychotherapy itself has borrowed many ideas and concepts from traditional Eastern practices. The sexual revolution of the 1960s and the notion that tension in the body creates mental complications and therefore chronic muscle tension should be reduced are also a result of this line of thinking.

It is curious to observe how ideas of embodiment have evolved from the Freudian 'the body is a place where inner conflicts are played out' to Bodynamics' (Lisbeth Marcher<sup>3</sup>) 'right of the body to . . . (existence, autonomy, freedom, sexuality, etc.)' as an integral part of an individual's human rights. In other words, through the twentieth century the body shifted from being perceived as a place (what) to being an expression of the subjective (who).

### **The body as messenger**

Performative practices and dance movement therapy moved along the same lines, acknowledging the inseparability of body and mind. To paraphrase Marshall McLuhan, 'The body is a message. The body is a messenger.'

Key ideas for this next step for understanding the body is the body as a message: through the body we learn what we need for a more holistic and healthy life. We can listen to the voice of the body and movement and discover a new understanding of ourselves.

The idea of the body as a symbol became widespread. We express ourselves and tell our story through the body and movement (see Andrea Olsen's *Bodystories: A Guide to Experiential Anatomy*<sup>4</sup>). We can also 'read' another person by the signs of their body – the entire idea of body language is based on this assumption.

The same ideas were taking shape in performance art. The best-known examples of this are Butoh, the modern Japanese dance, and acclaimed performance artist Marina Abramovic'. Both have reached an understanding of the body that is at the heart of the embodiment approach. Interestingly, performance art also places importance on 'others', which is an aspect that will be discussed in this book. One of the aims of a performance as an art form is to influence the viewer. My body allows me to do something not only



for myself – to express or heal myself – but also for others, to influence others through my embodiment. Here is what Marina Abramovic writes about the audience of ‘The House with the Ocean View’, her 2002 performance: ‘People would come like drunks – instead of a shot of vodka they came to have a shot of this connection with the eyes.’<sup>5</sup>

This idea is also present in the performances of other artists who highlight the socio-economic aspect of embodiment. Take, for instance, Russian protest artist Petr Pavlensky, whose stunts such as sewing his own mouth shut, are a clear illustration of his message: ‘My body is a model of society’.

The idea that you can read the body like a book or tell your story with the body proved to be significant and promising in the field of facilitation and therapy. The semiotic approach to embodiment (the body as a symbol) paved the way for art therapy, expressive practices and the opportunity to express oneself more freely through body modifications, such as tattoos, piercings and other outward forms of self-expression.

These notions became increasingly popular in the second half of the twentieth century and sound like common sense – it is hard to imagine that a mere 30–50 years ago they sounded innovative and eccentric. ‘Body language’ as an idea is now a part of daily life, and the success of popular entertainment shows such as ‘Lie to Me’,<sup>6</sup> and the interpretation of politicians’ gestures during important interviews and debates, show people’s fascination with it.

### Postmodernism and embodiment

Another substantial shift in the perception of embodiment was created by the works of French postmodern philosophers and other great thinkers who devoted much attention to the body. Since present-day ideas of embodiment are guided by postmodern views, we can draw a dotted line connecting the two.

First, it is necessary to mention the works of Maurice Merleau-Ponty.<sup>7</sup> In a sense, he was one of the first authors to contribute to our present-day understanding of the body as subject.

#### Key ideas of Maurice Merleau-Ponty

- The body is emphasised as the primary site of knowing the world.
- The body and that which it perceives cannot be disentangled from each other.
- The articulation of the primacy of embodiment led him towards what he would call ‘indirect ontology’ or the ontology of ‘the flesh of the world’.

The concept of the body-subject involves not only the claim that the body is a ‘subject’, but also, conversely, that the human subject is a ‘body’.

The next important brush stroke on the canvas of the development of the ideas surrounding embodiment is postmodern research. The key ideas of

postmodern philosophers that contributed to our understanding of embodiment are:

- The experience of the body's experiencing is constructed socially.
- The construction of corporeality is politics.
- There is no single correct way of describing and experiencing your corporeality.
- The body has symbolic value.

Michel Foucault primarily addressed the relationship between power and knowledge, and how they are used as a form of social control through societal institutions. He wrote: 'In every society, the body . . . is caught up in a system of constraints and privations, obligations and prohibitions.'<sup>8</sup>

Today, the idea of the body and power over our body is widely known. The way various forms of body politics (medical, educational, marketing, etc.) shape and manipulate our corporeality has been studied in detail. For instance, feminist and gender studies have examined the politics of sexuality and reproduction that reduce a woman to her body, which patriarchal society considers a kind of childbearing machine and an object for sexual harassment. Medical sociology and medical anthropology have devoted a great deal of attention to biopolitics, which arose out of reflections on certain medical rituals and routines that turn patients' bodies into objects to serve the needs of the physician's or surgeon's practice. Science fiction, in particular cyberpunk, and socio-cultural research on the application of high-tech solutions turn to the issue of tech policies of the body – the interaction between humans and technology, AI, biotech, etc.

Pierre Bourdieu emphasized the corporeal nature of social life and stressed the role of practice and embodiment in social dynamics. He developed the bodily capital concept and the 'habitus' concept. He wrote: 'The first thing that allows me to classify a person as a hippie, a businessman, a French intellectual, a peasant, etc. is his corporeality, the way he moves in space, the way he holds his body.'<sup>9</sup>

There are several other names and ideas around which the philosophy of embodiment revolves. Their influence on present-day sociology and neuroscience is evident both in the development of cognitive studies and research into artificial intelligence.

Francisco Varela, Chilean biologist, philosopher and neuroscientist, developed an original yet controversial approach to cognition. This approach, which has come to be called the enactive view,<sup>10</sup> is aimed at overcoming the mind-world dichotomy felt by many to be a hindrance to the development of a mature psychology. In Varela's enactive view, the world and the cognitive organism determine each other: the organism selects relevant properties of the physical world, and the world selects the structure of the organism, during their respective co-evolutionary history. An important tenet of the enactive approach is in fact that cognition is embodied. This claim represents a crucial step towards the development of a new trend of research in cognitive sciences, where the cognitive process is investigated without abstracting from the conditions in which it takes place. In fact, the statement that 'the body matters' for cognition has

consequences for the conception of the body and the mind and contains indications for research on the loop between perception, cognition and action.

Thomas Csordas, professor of anthropology and religion, spent decades researching religious healing, and in his book *Body / Meaning / Healing*<sup>11</sup> claimed embodiment as a paradigm for anthropology. While we do not focus on this topic much, it must be said that Csordas's ideas have given some serious scientific definitions of embodiment a new flavour. He writes that embodiment is 'the existential ground of culture and self' and even called embodiment 'a phenomenology of the body'. Another valuable dimension Csordas has contributed to our work is that

*within the paradigm of embodiment . . . we are interested in a phenomenology that will lead to conclusions both about the cultural patterning of bodily experience, and also about the intersubjective constitution of meaning through that experience. A principal characteristic of embodiment is the collapse of the dualities of mind and body, subject and object. The collapsing of dualities in embodiment requires that the body as a methodological figure must itself be nondualistic . . .*

Contemporary reflections on corporeality contain two curious aspects. The first is that the idea of non-duality as a principle of understanding corporeality is being adopted both by humanities specialists (philosophers, sociologists, anthropologists) and scientists, particularly neuroscientists. They follow different paths and find themselves in opposition to each other at times, yet today they speak of the integrity, inseparability and non-duality of the body and . . . (insert your own word here).

No less curious is the fact that sociologists and anthropologists were the original 'suppliers' of these integral ideas (they were the most vocal, at any rate). In some sense, scientific research is only just catching up with the humanities as it attempts to find experimental evidence for the idea of unity and integrity and struggles to overcome the methodological problems of such research (more on that in Chapter 3).

### **Reflection questions**

- What ideas look more familiar to you after reading this? Are some implicit even if you have only just seen them articulated?
- What ideas do you use most often in your life or for your work?
- How do these different implicit ideas influence your professional practice?

## **The seven main influences of the embodiment field**

As we look at the development of the ideas and practices of embodiment, we can single out several key areas that shaped its landscape. They are the practical fields from which the images, notions, techniques, observations and language of embodiment stem.

There are seven sources and seven components of present-day embodiment (any one of which is so broad, my brevity here will miss much out).

### **Yoga and meditation**

The idea of mindfulness lies at the heart of any kind of embodied work. The ability to notice the expressions of your body, to be aware of your breath, posture and movement, and to distinguish between the various sensations in the body is the starting point for embodied work. Furthermore, various forms of meditation are now part of the foundation of a great number of embodied practices.

The practice of yoga has a long-established tradition of body mindfulness. It is probably the most widespread and easily accessible means for building awareness of the body, especially for those influenced more by body-accepting tantric<sup>12</sup> traditions than body-denying transcendent ones. Not all meditation and not all yoga can be considered an embodied practice, however, if the emphasis is either just physical exercise (many modern types of ‘yoga’) or sees body and spirit in opposition, in a way analogous to mainstream Christianity. It should be said though, embodiment as we know it today is deeply rooted in yogic and meditative practices, which are a major influence on most, if not all, seminal teachers.

### **Somatic psychotherapies**

Body psychotherapy and dance movement therapy<sup>13</sup> have contributed significantly to the development of the notions of embodiment, as have more recent embodied trauma therapies such as Somatic Experiencing. The very idea of an intimate body-mind connection first appeared and was significantly developed in the field of body psychotherapy. Today body psychotherapy is being infused with ideas of embodiment, which has produced a shift from its original view of the body as a means of expressing psychic conflict.

### **Bodywork**

The development of somatic practices and various forms of bodywork resulted in the spread of ideas and methods that highlighted the role of changing a person’s bodily state and retraining the body. The embodied work we do is often about retraining the body, where we restore natural movement and tap into new possibilities.

### **The martial arts**

Much of present-day embodiment has its origins in the martial arts. These practices, particularly those that originated in Asia, aim not only to physically train the body, but also to build up a warrior’s spirit. Managing your state, regulating

your stress response, staying focused on the interaction with your partner are all practices that embodiment has drawn from the martial arts.

### **Western somatics**

Western awareness-based body arts such as Feldenkrais, Hanna Somatics, the Alexander Technique and Bodymind Centring are now a major influence on the field of embodiment. Although some would see ‘somatics’ and ‘embodiment’ as synonyms, to me these fields, while awareness-based, may or may not have a personally transformative element, and may be simply health practices. They certainly form a connected tradition.

### **Theatre, performative arts and improv**

Another area that has contributed to the field of embodiment is theatre. The premise of acting training (notably that of Michael Chekhov, Stanislavsky’s work and other ‘method’ acting techniques) is that a character is born out of an expression of the body. A gesture inspires a phrase and a pattern of movement inspires a character. Improv, in turn, helps train attention and freedom. Improv comedy is also something of a ‘wildcard’ modern influence on the field.

### **Dance**

The perception of dance in the twentieth century and its forms have also been a source of inspiration for embodiment. Through the exploration and development of dance and dance training, an understanding of the link between emotions, states and movement emerged. We also cannot fail to mention the role of the system for describing movement designed by Rudolf Laban that is widely used in embodied work.<sup>14</sup> As well as contemporary dance (which may or may not have strong embodied elements), partner dance has an embodied wing and conscious dance (e.g. 5Rhythms) is certainly an embodied practice, and gaining in popularity to rival yoga.

## **But is it ‘embodied’?**

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It is important to note that despite their affinity to embodiment (and the use of identical tools), there is a difference between body practices and embodied practices. We can practise to become stronger, healthier, or to master some kind of bodily or motor skill. And that is a great goal. But we need both awareness and an aim to develop the whole person to turn this body practice into an embodied one. Just training the body is not embodiment, it’s exercise, and we need both mindfulness and the self-development focus to call it ‘embodiment’, in our view. Bodywork and somatics focus on the body, but

usually fail to enquire how this newly found sensitivity helps us address the challenges of our everyday lives.

## Top down vs. bottom up – form and freedom

Embodiment is grounded in mindfulness practices, but is not limited to them: becoming aware of your state is not enough – you have to be capable of changing it. The martial arts and yoga, which although they have achieved perfection in the art of managing your state and mastering shapes (so include choice not just awareness), often do not leave room for freedom of expression. They are ‘form’ or ‘top – down’ practices, rather than ‘freedom’ practices (aka ‘bottom up’) which involve more of a process, or unfolding, model. Body psychotherapy is mostly oriented towards body retraining.

See Mark’s book *Embodiment* for more on this.<sup>15</sup> Figures 2.1 and 2.2 show first just *some* of the scope of embodied practice today, and the roots discussed in graphic form.

**Figure 2.1** Scope of the embodiment field

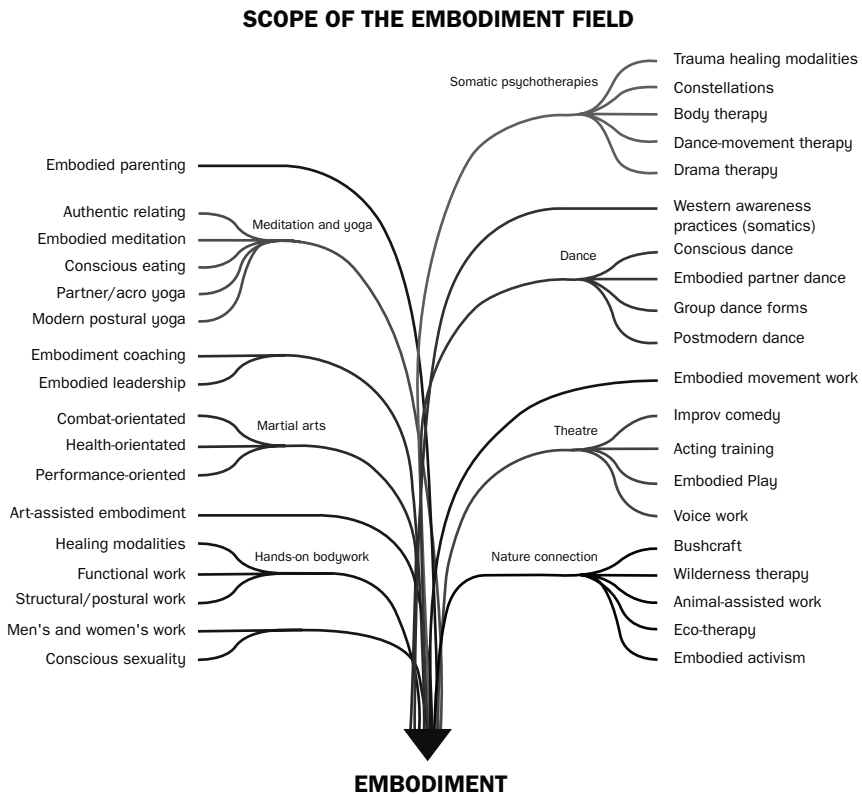
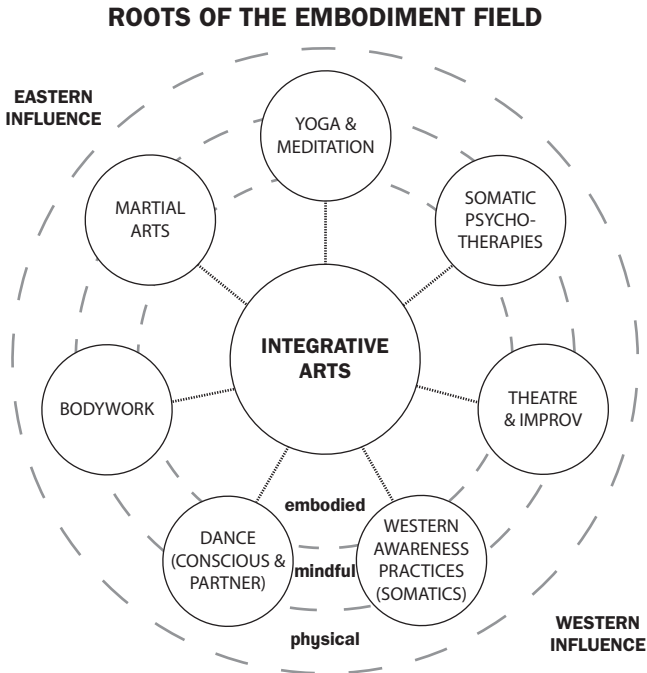


Figure 2.2 Roots of the embodiment field



## **Relation to mindfulness, body language, EQ, etc.**

When someone comes across the notion of embodiment, they almost inevitably think they are familiar with it: ‘Isn’t that the same as . . .?’, or ‘Oh, it’s like . . ., right?’

Sometimes such identification and connection to something they had experienced hit the nail on the head. Today, many practices and approaches rest on the ideas of embodiment. And yet, it is helpful not only to note the similarities and differences, but also to examine the premises of those practices in greater detail. This is especially important for embodied facilitators whose clients will often address such questions to them. We will explore some of these distinctive features from the perspective of the emotional intelligence model.

### **Emotional intelligence**

The term ‘emotional intelligence’ became widely known in 1995 after Daniel Goleman published a book of the same name on it.<sup>16</sup> Goleman’s model is not the only model of emotional intelligence, or EQ, though. One thing that all the models have in common, however, is their focus on the skills of noticing and managing the emotions of yourself and others.

Today, there is general agreement among scientists that the phenomenon we call an ‘emotion’ is an integrated psycho-physiological process which cannot be

isolated from a bodily response (a popular metaphor describes emotions as our body's way of translating corporeal information into the language of the mind). The emotional intelligence model we will be using in this book is based on Goleman's emotional intelligence model with the addition of an embodied dimension (EQ can be seen as a subset of embodied intelligence, in fact). This model offers a similar set of four skills: awareness of your embodied state, managing your embodied state, awareness of the other's embodied state and influencing the other's embodiment through your own.

### **Body language**

Body language is the first thing that comes to mind for many when we talk about how changing your posture can change a situation or influence others. The difference between embodiment and the concept of body language is its depth. Body language is what lies on the surface, like a suit you try on. It doesn't matter whether it looks good, whether it's the right size or if it's fitting for the occasion. Body language is a system of signs constructed and established within a culture. Following this metaphor, embodiment is more about choosing the clothes that are right for you at this particular moment and achieving a perfect fit. Body language does not involve a person becoming aware of their posture and movement and finding a personalised embodied solution. Embodiment, however, is just that. Another way of looking at this is that body language *expresses* who and how we are, but embodiment also *creates* it – the arrow goes both ways with embodiment.

### **What the science says**

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Another question that is often asked is whether embodiment is 'scientific' or based on science. Our culture trusts in science so it's a very natural question. And it's true to say 'yes', there is some good research and understanding that are evidence – based, but the scientific base for embodiment is not solid for now in all areas for reasons that will become apparent.

Today it is evident that science, which is based on the paradigm of objective<sup>17</sup> knowledge and uses corresponding tools (to quantify the results of experiments, validate the data obtained, conduct meta-analyses, etc.), faces certain methodological challenges in the study of embodiment. The challenge is in the understanding of the body and corporeality. Traditionally, scientists have viewed the body as an object, while the embodiment paradigm presupposes the subjective nature of corporeality. Although it is becoming more common for modern research to build bridges between objective knowledge of the body as an object (e.g. measuring various parameters) and the subjective experience of the body, it is unlikely that the hard problem of consciousness (the problem of explaining how and why sentient organisms have qualia or phenomenal experiences – how and why it is that some internal states are felt states) will be resolved in the near future. This very problem may serve as the foundation of



the scientific substantiation of the ideas and practices of embodiment. We are greatly looking forward to this.

In 2013, a reassuring piece of research was published: it seemed to prove that simple practices or postures affect not only the subjective perception of one's state, but also objectively measurable parameters (I am referring to the research carried out by Amy Cuddy<sup>18</sup>). Sadly, we cannot at present consider this research proof that embodiment is a kind of 'objective reality' rather than simply a corpus of wonderful ideas and decades-old practices, or that our embodiment shapes our way of being in the world. To claim this would be premature (I will consider this case in a further paragraph).

Nonetheless, judging by the amount of available research, there is growing scientific interest in embodiment. There are at least two fields of study, embodied cognition and trauma research, which have accumulated an impressive body of scientific data that confirm that 'something along those lines does exist'. A massive field of study that deals with many of the same issues is mindfulness. We will examine several studies in order to identify meaningful scientific data that will allow us to gain a better understanding of what happens during embodiment practice as well as give us some ideas for our practice and work.

### **Embodied cognition**

Embodied cognition is the theory that many features of cognition, whether human or otherwise, are shaped by aspects of the entire body of the organism. The aspects of the body include the motor system, the perceptual, bodily interactions with the environment and assumptions about the world that are built into the structure of the organism.

*Our brains take their input from the rest of our bodies. What our bodies are like and how they function in the world thus structure the very concepts we can use to think. We cannot think just anything — only what our embodied brains permit.<sup>19</sup>*

– George Lakoff

Furthermore, research in the field of embodied cognition focuses primarily on the mind (cognition) and examines empirical correlations between certain kinds of cognitive processing, sentence comprehension and types of perceptual/motor performance. Many studies have been conducted in this dynamically developing field, resulting in a collection of valuable findings. For instance, it has been discovered that people who are experiencing ambivalence move from side to side more than people who are not experiencing ambivalence. The inverse correlation – that a physical lack of stability may lead to ambivalence – has also proved to be true.<sup>20</sup> Or that Europeans do shift their bodies forwards and backwards when they think about the future or the past respectively.<sup>21</sup>

The study of the functioning of the different parts of the brain during cognitive processes (perception, decision-making, assessment, etc.) also occupies

the field of embodied cognition (and that is where it converges with the field of neuroscience). A book we can recommend to those who wish to familiarise themselves with such studies is *Sensation: The New Science of Physical Intelligence* by Thalma Lobel,<sup>22</sup> which contains a wealth of such research (unfortunately, not all of the research could be reproduced or verified with a larger sample size, which, in turn, does not necessarily mean that the findings are false or that the hypotheses of the studies were not confirmed).

## Neuroscience

There is a commonly held hope that if we thoroughly understand the processes that take place in the brain, we will be able to overcome a great number of challenges that we as individuals and humanity as a whole face. These expectations are not groundless, but there is no telling whether ultimate knowledge in this field is attainable in our lifetime.

A particularly fascinating approach is that of radical embodied cognitive neuroscience, a relatively new branch of cognitive science that looks to ecological psychology and dynamical systems theory to understand the contribution of bodily capacities to cognitive processes.<sup>23</sup> It is 'radical' in claiming that cognitive scientists need new conceptual tools if they are to understand the ways in which cognition depends on the body in its interaction with the environment. Embodied approaches to cognitive science stress the many and varied ways in which an animal's environmental niche offers resources for the animal to act on. The individual has bodily skills and abilities that are refined and perfected through practice for dealing adequately with the possibilities for action the environment offers. One aspect that is highlighted in this framework is the 'inseparability of emotion and cognition in the brain and the deep dependence of emotional processes on the whole body of the living organism in its practical skilled engagement with the environment'.<sup>24</sup>

Thus, in recent years we have witnessed a gradual paradigm shift in cognitive science. As Mark Johnson writes:

*Western culture has inherited a view of understanding as an intellectual cognitive operation of grasping of concepts and their relations. However, cognitive science research has shown that this received intellectualist conception is substantially out of touch with how humans actually make and experience meaning. The view emerging from the mind sciences recognizes that understanding is profoundly embodied, insofar as our conceptualization and reasoning recruit sensory, motor, and affective patterns and processes to structure our understanding of, and engagement with, our world. A psychologically realistic account of understanding must begin with the patterns of ongoing interaction between an organism and its physical and cultural environments and must include both our emotional responses to changes in our body and environment, and also the actions by which we continuously transform our experience. Consequently, embodied understanding is not merely a conceptual/propositional activity of thought, but rather constitutes our most basic way of being in, and engaging with, our surroundings in a deep visceral manner.*<sup>25</sup>

Parallel to these developments, a view has emerged according to which the things we commonly understand as ‘cognition’ or ‘emotions’ are not predetermined, but are rather created and constructed by humans as they engage with their environment and interpret it, based on their cultural preconceptions. A vivid description, substantiation and explanation of this view are provided by Lisa Feldman Barrett:

*We find that your emotions are not built-in but made from more basic parts. They are not universal but vary from culture to culture. They are not triggered; you create them. They emerge as a combination of the physical properties of your body, a flexible brain that wires itself to whatever environment it develops in, and your culture and upbringing, which provide that environment.*<sup>26</sup>

The way we choose to interpret the signals of the body is driven by our previous experience, determined by our culture and takes the shape of a prediction: ‘In every waking moment, your brain uses past experience, organized as concepts, to guide your actions and give your sensations meaning. When the concepts involved are emotion concepts, your brain constructs instances of emotion.’<sup>27</sup> Therefore, the question that comes to the fore in embodied work is one that our teacher Paul Linden often asks his students: ‘What do you do in your body?’

Another fruitful field of neuroscientific research is the study of mindfulness. With meditation becoming part of people’s everyday lives and parlance, and new research opportunities opening up daily, the issue of what happens to the brain during meditation and how this affects the various aspects of our lives is increasing in popularity. It is evident that meditation practices have a positive effect on our health. The strongest scientific evidence to date that meditation has positive health benefits comes from two meta-analyses (analyses of data pooled from multiple studies) of meditation research. The first meta-analysis of 47 trials with 3,515 participants found that people participating in mindfulness meditation programmes experienced less anxiety, depression and pain.<sup>28</sup> The second meta-analysis of 163 studies found evidence that meditation practice is associated with reduced negative emotions and neuroticism, and the impact on patients of meditation was comparable to that of behavioural treatments and psychotherapy.<sup>29</sup>

Despite numerous studies on the impact of meditation on the brain, no definite answers are forthcoming. However, the following research is illuminating. One meta-analysis pooled data from 21 neuroimaging studies examining the brains of about 300 experienced meditation practitioners.<sup>30</sup> The authors found that eight brain regions were consistently altered in experienced meditators.

#### **The eight brain regions altered in experienced meditators**

- *Rostrolateral prefrontal cortex*: a region associated with meta-awareness (awareness of how you think), introspection and the processing of complex, abstract information.

- *Sensory cortices and insular cortex*: the main cortical hubs for processing of tactile information, such as touch, pain, conscious proprioception and body awareness.
- *Hippocampus*: a pair of subcortical structures involved in memory formation and facilitating emotional responses.
- *Anterior cingulate cortex and mid-cingulate cortex*: cortical regions involved in self-regulation, emotional regulation, attention and self-control.
- *Superior longitudinal fasciculus and corpus callosum*: subcortical white matter tracts that communicate within and between brain hemispheres.

The specific ways in which the brain regions changed varied by study (different studies used different neuroimaging measurements), but changes were seen in the density of brain tissue, thickness of brain tissue (indicating a greater number of neurons, glia or fibres in a given region), cortical surface area and white matter fibre density.

The effect of meditation on these particular brain structures appeared to be about ‘medium’ in magnitude – effect sizes that are comparable to the roughly ‘medium’ effects of many other behavioural, educational and psychological interventions.

At this stage, we need to be careful not to overgeneralise, overvalue or oversimplify what we have already learned from neuroscience research on meditation or what we could learn from it.

## Posture research

As previously mentioned, great hopes have been placed on the scientific validation of the things that embodied practitioners have known for decades: that one’s embodied state affects one’s actions, emotions, thinking, social interactions, etc. The study conducted by Amy Cuddy in 2013 was meant to bring that into being. Media coverage and her popular TED talk<sup>31</sup> have contributed to the popularity of this study, which was dubbed ‘power posing’. Unfortunately, in the years following its publication, researchers failed to replicate this work.<sup>32</sup> We could address the reasons it could not be reproduced (it seems that we are dealing with a case where researchers discovered something they did not have a methodological framework for, which significantly complicated the process of describing their experiments and the possibility of their replication). Or we could discuss the hype around this study. However, the issue of posture influencing various aspects of a person’s life has become popular as a direct result of such research and has given rise to a series of other fascinating studies. They may still be in need of validation, but their findings present great interest.

Posture may to some extent affect one’s self-perception. Participants who were randomly assigned to hold expanded (vs. contracted) poses – under the guise of a cover story about holding different body positions to test the accuracy of wireless electrodes – wrote significantly more self-statements than

those who assumed contracted positions. Jackson et al. tested whether this finding was replicable and extended this research by aiming to characterise the process by which it occurred.<sup>33</sup> One hundred and twenty-eight female students were randomly assigned to hold either expanded or contracted postures. They completed surveys measuring two general classes of potential mediators ('broaden-and-build' and 'narrow-and-disrupt'), body self-objectification as a moderator, and four indices of self-concept size. Posture was not found to affect self-concept size, nor was it moderated by self-objectification. Though there was no effect on self-expansion, in exploratory analyses, assigned posture affected one of the broaden-and-build measures: psychological flexibility.

Posture can also affect one's memory and mood. Peper et al. investigated the effect of posture when sitting in a slouched or upright position on recall of either negative (hopeless, helpless, powerless or defeated) memories or positive (empowered or optimistic) memories.<sup>34</sup> Two hundred and sixteen college students sat in either a slouched or an erect position while recalling negative memories and then in a second step, recalling positive memories. They then sat in the opposite body position while recalling negative and then positive memories. Eighty-six per cent of the students reported that it was easier to recall/access negative memories in the collapsed position than in the erect position, and 87% of the students reported that it was easier to recall/access positive images in the erect position than in the collapsed position.

Golec de Zavala et al. have shown that yoga posture can have an effect on self-esteem (and do so more effectively than 'power poses'),<sup>35</sup> while Peper et al. have reported that body posture may change stereotype threat response.<sup>36</sup> The latter study investigated the effect of posture on mental maths performance. Participants rated the maths task significantly more difficult while sitting slouched than while sitting erect.

### Attitudes towards science

Science is a way of knowing and an important one – it is, however, not the *only* way of knowing. This is apparent to most people – for example, few of us would want to select a life-partner, or even choose a job, 'scientifically!' Two common mistakes I see students make are:

- To privilege science above all else – undermining the importance of subjective enquiry in embodiment, which *by definition* concerns subjective awareness! This is disempowering and misses the very heart of embodied learning.
- To use cherry-picked science to justify existing beliefs and practices. This is a misuse of science and fundamentally dishonest. I have done my best not to come at this chapter with a 'science says we're right' approach, which is, sadly, very common. Embodiment is not a religion, and also doesn't need justifying with science! Mark and I believe that the appropriate relationship between science and embodiment is one of mutual respect and enrichment. The common ground is that both are empirical, but they are fundamentally also different and therefore complementary.

**Reflection questions**

- How attached are you to scientific knowledge? In what ways is it great, in what ways is it wanting? Are you against science in some way<sup>37</sup> or 100 per cent for it?
- Is it important to you to have any scientific base for your embodiment or professional practice? Do you use research or evidence-based data to develop your practice, or to justify it?

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## Cultural embodiment

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**Reflection question**

*Do how you move and stand influence how where you are from?*

Every time we discover body reactions or habits in ourselves or others, we rarely have a firm grasp on what caused this embodied expression. When we walk without putting our weight on the back of the foot or feel a constraint in our shoulders, is it an expression of an individual habitual pattern, a reflection of our physical capabilities, a reaction to a certain relationship, to the environment or a current context (a pebble in our shoe or a shirt that is too tight)? Or is it a reflection of our cultural pattern?<sup>38</sup>

If we keep in mind that our embodied patterns (our personal embodiment) are the result of the interaction of a particular person with their environment, we cannot ignore our experience of interacting with our cultural environment – the cultural aspect of embodiment. ‘Cultural embodiment’ is the name we give to the aspect of our patterns that correlates to our experience of interacting with our current and historical cultural environment (the cultural features of the place we live, the historical experience of various communities, the peculiarities of social and professional groups, the history and narratives of families, etc.).

It’s not easy to speak about cultural embodiment as it’s a small, under-researched and politically loaded field. There are not too many scientists in this field because it’s very socially sensitive. So the very first claim we need to declare: When we speak of cultural embodiment, bear in mind that this is not the same as a stereotype such as ‘All X are Y’, or ‘that’s because he/she is X’. A study of our own embodiment and the embodiment of others through the lens of culture may uncover the unique, idiosyncratic nature of various groups, help us experience connection and belonging and serve as a valuable resource.

Cultural studies generally approach embodiment from the perspective of body language and examine the meaning behind certain gestures, movements and facial expressions. While this is undoubtedly fascinating and may help us understand each other better, it is important to note that cultural embodiment

is deeper than that. Cultural embodiment is about the embodied features – posture, movement, reactions – characteristic of members of a particular cultural group. It is the way we identify ‘our tribe’ (people who come from the same country or cultural group as we do) and know when we encounter someone from a different culture (‘they are not like me’).

A simple definition of culture is, ‘how we do things around here’, and this *of course* includes the body as a way to enact this.

### **Reflection exercise**

Have you ever been in another town or country and identified someone there as coming from your town or country? What did you notice about them? Which aspects of their embodiment brought you to this conclusion? What did you identify as ‘familiar’ in their embodiment? Can you spot certain nationalities on a beach, aikido dojo or ‘black-tie’ event, or in another context where people are all dressed the same?

This simple exercise helps us discover how embodied cultural patterns may manifest themselves. People who travel a lot or work in popular tourist destinations often easily identify the nationalities of the people they meet. For some it is an important professional skill – identifying a potential buyer’s cultural embodiment and addressing them in their first language may well boost sales.

When we spend an extended period of time living in a cultural environment, we tend to soak up the embodiment of the people around us and become a little like them. Thus, we nurture certain responses and reactions and acquire the opportunities and limitations of this embodiment, its corresponding world – view, traditions and way of thinking. This is particularly evident in our childhood experience where we follow the example of the adults around us and adopt their embodiment. These may be family patterns or geographical patterns.

### **Reflection exercise**

Think of a place where you spent a significant amount of time as a child. Choose a neutral or pleasant memory to think back on. Try to reconstruct the place in as much detail as you can. Think of the people you were with (preferably the people who lived nearby, whom you met in the street or at the shop, rather than family members). Choose memories that are either neutral or pleasant. How did they move, walk, stand or sit? Try to recall some details of their posture. Try adding some of these embodied nuances to your body right now, and exaggerate them a little if necessary. Does it feel familiar? Are there situations in which you feel this way? How natural does this kind of embodiment feel for you? How are these embodied patterns manifested in your life today? What can they affect? What opportunities and limitations, advantages and disadvantages do they create for you?

In our globalised world it is vital to appreciate the cultural aspect of our corporeality. Not only does this allow us to understand each other better, but also has great practical value. Because cultural embodiment comes out when we are faced with certain situations and triggers, being mindful of this allows us to work with intergenerational and cultural trauma, gender differences and other topics.

Stereotypes (which generally communicate perception rather than fact) often take the form of statements, such as ‘Russians are gloomy and dangerous’ or ‘Brits are stuck-up’ or ‘Americans are loud and overly confident’ or ‘Brazilians are fun’, etc. Such descriptions reflect our perception of another person’s embodiment, which is rooted in our habitual cultural embodiment. When we measure their embodiment against our own, it is easy to notice that they are ‘different’ or ‘wrong’. This is unsurprising, as culture is a kind of norm. In this way, our own cultural embodiment creates an image of what a ‘correct’, ‘normal’ embodiment should look like, and subsequently affects the way we perceive different embodiments. However, if we ‘try on’ a different cultural embodiment, if we literally start doing what a person from another culture is doing in their body, we will be able to access the states, values, opportunities, constraints, affections and world – view held by this other culture. Exploring culture through the body builds empathy and understanding.

As we study cultural embodiment, we turn to the facts: what am I or the other person doing with my body? We describe cultural embodiment through the intention of the body, the quality of movement, the details of the posture, the tension or relaxation, the nuances of the breath and the gaze, the way one produces sounds, as well as other aspects of one’s embodiment. This allows us to set aside our interpretations, stereotypes and evaluation, leaving us with the facts. At the same time, these facts give us a clearer image of how our embodiment creates our way of being, our outlook on life and an underlying logic for our reactions. They may also allow us to understand certain traditions or cultural habits better.

Very often cultural patterns are the result of the history of a group of people. When we become aware of our cultural patterns and discover their link to historical circumstances and events, we can give ourselves more choice and change things in our lives. This may refer to the historical events of a particular region or nation (or a group of people), a religious or professional community, a generation, etc.

For a long time I had to share a fridge with a friend of mine. At a certain point I noticed that we had very different approaches to food. I would always try to fill the fridge up – I brought tons of food home whenever I had the chance because I wanted there to always be food in the house. His strategy, however, was to consume the food he bought as quickly as possible, while it lasted. We grew up in the same city, but in a different year and in a different economic situation. My childhood coincided with a deficit of food in the city: we would buy it whenever it was available in the shop. As a result, I learned to jump at every opportunity to buy as much food as I could and squirrel it away because there might not be any in the shop tomorrow. My friend grew up amidst a deficit of both food and money: even if food is available today, there is no guaran-



tee it will be available tomorrow, that's why we have to eat as much as possible now. The reaction of our bodies was the same – it was a grasping response that manifested itself in two different ways because it arose out of two different sets of social circumstances. This is an example of how cultural patterns may be not only national, but also generational, and of course other subcultures exist within any nation, and across nations, so I am not equating 'culture' with nation-state, it is just convenient to talk about nationalities.

### **The 'culture' of practices**

We all have a certain bias that stems from our habitual embodiment. It may be the result of our personal embodiment (the patterns shaped by our personal history) or our cultural embodiment. It affects our assessment and perception, our ideas and embodied practices. It may also be a reflection of our cultural and professional embodiment.

Based on your own experience of embodied practices and your professional field, what do you find 'best' or 'most effective'? Here are several examples from our work at the Embodied Facilitator Course (EFC) that unites people of various professional and cultural backgrounds.<sup>39</sup>

Specialists whose embodied practice is connected to the martial arts or yoga tend to respond positively to form-based sessions and exercises that have a clearly defined hierarchy, rules of conduct and time-frame. Specialists whose embodied practice lies in the field of conscious dance (5Rhythms, Movement Medicine, Open Floor, etc.), improv or performative arts may find such sessions and exercises challenging and may experience feelings of resistance and protest. The inverse is true as well. Therapists often want to talk more about their own EFC culture (which has a martial arts bias of 'just practice'), and can get quite upset and provide very clever rationalisations as to why their familiar way is better. People often experience the habitual patterns that are shaped by our culture (i.e. norms and traditions) and our practices as 'right', while everything else seems 'wrong'. On our course we use various types of practices (our aim is to give participants more range in the patterns that are available to them), which enables participants to notice their habitual embodiment and explore how embodied practices shape our embodiment and affect our preferences.

### **Professional 'culture'**

Another aspect worth mentioning is professional preference. For instance, a strict time limit is set when participants debrief an exercise (in pairs, small groups or one larger group). This is generally well-received by business trainers and often triggers specialists whose practice involves hearing everyone out and following every detail of what they say – psychotherapists, somatic practitioners, etc. Such situations can also be used to notice the 'cultural' patterns we have acquired as a result of our profession.

Different professional cultures shape different embodied patterns. For example, we have observed that teaching (which includes business trainers) often

nurtures a 'talking' pattern (the habit of assuming the role of a leader in an interaction), while therapy, coaching and narrative practice often nurture a 'listening' pattern (the habit of assuming the role of a follower in an interaction). At EFC we draw participants' attention to these professional patterns and work on giving them more range, which can be both challenging and delightful.<sup>40</sup>

## Shadow

Another aspect of cultural embodiment which may have practical value is the issue of shadow and trauma. It is clear that various groups may find certain topics triggering and have an embodied reaction to them. These sharp emotional and embodied reactions often uncover our cultural embodiment.

When we study cultural embodiment at EFC Russia, for instance, we explore attitudes towards power. The history of Russia is full of traumatic events connected with the issue of power, so it is unsurprising that it triggers a great deal of shadow and trauma in the body. The most common reactions are 'freeze' and 'flop', a kind of passive aggressive behaviour that manifests itself in irresponsibility, fear of punishment and lack of initiative. People with a different cultural background, say, Israelis, are more likely to have a 'fight' response in the same circumstances.

More than that, every culture (both national and professional) will have its own distinctive response to the 'big three' shadows – power, money and sex. In the UK, for instance, the most loaded topic seems to be money (especially related to class), whereas sex is more of a taboo in the USA than most European countries (dependent on region and subculture as ever<sup>41</sup>). When we discover such aspects of cultural embodiment, we can examine the effect of these cultural patterns on our lives more closely, and not be victims of them.

## Gender

Another interesting cultural observation is related to gender differences (another aspect we carefully examine in our training programmes and with clients). Every culture possesses its own gender norms that shape gendered embodiment. They can be found in the intention of a person's body (inward vs. outward), how wide apart they place their feet (the famous 'man-spreading / woman-minimising'), the position of their head, the direction of their gaze, the features of their movement, etc. The embodiment of men and women in certain cultures (for instance, in Central Asia, Japan or Slavic countries) is so great that we can speak of a distinct gendered cultural embodiment in those regions. In other countries, these differences are not so noticeable, or may reverse 'traditional' patterns (particularly in The Netherlands and Nordic countries where women may well stand with a wider stance than men, for example, and interrupt more frequently in training and occupy more space verbally<sup>42</sup>).

Being aware of gender differences in people's embodiment and taking this into consideration when working with clients form an important competency for an embodiment specialist. At the turn of the century, a curious discovery

was made regarding the stress response of men and women, which was as much a product of culture as it was of evolution, which is confirmed by an analysis of animal studies: men (males) generally display the ‘fight’ and ‘flight’ stress responses (see Chapter 4), while women (females) often display a ‘tend-and-befriend’ response.<sup>43</sup>

Note that within the embodiment world there are both radical feminists and staunch conservatives, and both positions are enriched by an embodied approach.

## Trauma

Over the past few decades, our understanding of the phenomenon of trauma has improved significantly. Not so long ago, the term ‘trauma’ was understood as a serious event that had severe psychological or neurological consequences, and was often associated with various symptoms of post-traumatic stress disorder (PTSD). Today it is obvious that ‘trauma’ is in fact a state of the nervous system. One way of putting it is that it is ‘a strong stress response that is constantly present in the body’ that we can detect in various types of behaviour, emotional disorders, difficulties in building relationships and social adjustments, physical illnesses, embodiment, etc. In other words, ‘trauma’ does not necessarily refer to some specific events in a person’s life, but is always connected to the body.

Historically speaking, the term ‘psychic trauma’ was introduced by German neurologist Albert Eulenburg in 1878,<sup>44</sup> while the term ‘traumatic neurosis’ as well as one of the first theories on the subject was penned by Herman Oppenheim in the 1880s. Based on the observations he made in 1883–1888, the young neurologist noticed that women and men suffered from nervous and mental symptoms as a result of the accidents they had experienced. In a way, technical and scientific progress contributed to the emergence of this concept: new factory equipment and the railway became the source of accidents and disasters. Railway accidents were frequent and tragic, and newspapers quickly picked up stories of the crashes and the generous compensation awarded in court – all of this created a new social context with its own idea of trauma. Railway accidents created an urgent need for doctors to comprehend and explain the rather strange set of symptoms that J.E. Erichsen had already outlined in his book in 1866<sup>45</sup> and other doctors had written about in medical articles. A whole range of ‘nervous symptoms’ was cited, including changes in thermal sensitivity, gait, reflexes, handwriting, digestion, respiration, memory, sleeping cycles and sexual potency, some of which appeared immediately after the accident while others could appear days, weeks or even months after the event.

The wars of the twentieth century, from the First World War to the events of the Gulf War, have in a way contributed to the development of research into trauma and its treatment. The consequences of the Vietnam War in particular provided a powerful impetus to the development of our present-day understanding of trauma. This process had an important political subtext: a group of Vietnam veterans, known as the Vietnam Veterans Against the War, launched a political campaign that lasted nearly ten years and which eventually resulted in

the recognition of PTSD and its inclusion in the DSM-III, a classification system for psychiatric disorders. It was discovered that the symptoms of the new diagnosis were characteristic not only of Vietnam War syndrome, but could also be observed in women who had been raped, children who had been abused, and so on.

Today it is clear that a person does not have to go through a war, have an accident or be physically abused in order for their nervous system to function 'in survival and protection mode' – that is, an unbalancing of the sympathetic (excitatory) and parasympathetic (inhibitory) branches of the autonomic nervous system, and to produce bodily, psychological, intellectual and social symptoms of trauma. The above-mentioned events, however, do produce the strongest stress response and may radically change one's life. If something that directly threatens one's life and health happens, it is highly likely that the nervous system will go into survival and protection mode. States associated with a life-threatening experience are now called shock trauma. However, it is now clear that there are many more reasons why the nervous system can become unbalanced, including long-term adverse childhood experiences (known as 'developmental trauma'), such as bullying, interpersonal and social difficulties in the family, etc. Another reason can be the experience of a family before the birth of a child or cultural trauma, which can be passed on from generation to generation through the embodiment, attitudes and taboos of the people around them.

In 2016, a wave of #imnotafraid messages swept across social media in Russia, in which women – and some men – related stories of the sexual harassment and abuse they had experienced. As a result, many women sought help from me and my colleagues, saying that they felt as though this had happened to them, too, although it hadn't. As we searched for the reasons for such a physiological response and other symptoms (insomnia, anxiety, mood swings), what we uncovered were family narratives that were implicitly passed on from the older women in the family through their embodiment, reactions and words, which created such a response.

Unlike developmental trauma (the way the relationships and conditions of one's childhood affect one's adult life), which has been thoroughly studied, the study of cultural trauma and the transfer of trauma from generation to generation has only recently begun. In 2015, for instance, Rachel Yehuda<sup>46</sup> published her research on mass trauma survivors and their offspring. The latest results reveal that the descendants of people who survived the Holocaust have different stress hormone profiles than their peers, perhaps predisposing them to anxiety disorders. Resmaa Menakem's work on intergenerational racially linked trauma in the USA is also instructive.<sup>47</sup> In summary, for practitioners: it is important to be aware of the possibility of cultural, oppression-linked and intergenerational trauma, and be able to see it in a client's embodiment, and not just personal trauma.

Researchers use different models to express their ideas of what happens in the body when it is in survival and protection mode. For example, one of the pioneers and leading authorities on the subject of trauma, Peter Levine, writes that trauma is the result of an incomplete instinctive reaction of the body to a traumatic event – a flight, fight or freeze reaction. According to Levine,

traumatic symptoms, such as helplessness, anxiety, depression, psychosomatic complications, etc., arise from the accumulation of residual energy that was mobilised in response to a traumatic event and found no release. Thus, the purpose of the trauma symptoms is to retain this residual traumatic energy. In order to escape this trauma, one must complete the traumatic reaction, release the remaining energy and restore the upset processes. Levine called his method 'somatic experiencing'.<sup>48</sup> Pat Ogden, Bessel van der Kolk, Francine Shapiro (EMDR) and others have also made a huge contribution to the understanding of traumatic processes and methods of healing.

The consensus among leading experts regarding trauma is that faced with a challenge or threat, the body mobilises its resources to protect and successfully resolve the situation. Such a reaction of the body, according to Hans Selye, is a stress response.<sup>49</sup> In the normal course of events, having coped with the task, the body returns to its normal functioning and restores balance to the sympathetic and parasympathetic nervous system. Yet in some situations, the stimulus can be so strong (shock injury) or so long-lasting (development trauma) that a strong stress response seems to become 'stuck' in the body: its proper functioning and balance are not restored. Physically, we will observe and feel a lasting stress response, the purpose of which is to protect the body from threat. This level of body functioning is known as 'survival mode'. It may not be in any way related to one's real current context: there may not be any real threat or danger, but the nervous system, our embodied patterns and other contributors to the stress response will continue to alert us to potential danger.

This response can manifest itself in many different forms, depending on the pattern that has established itself in our body. It can be a habitual 'freeze' response: a numbing or an urge to be 'invisible' (it's as though the person wants to hide – trauma therapists say they 'hide inside their bones'); hyper-arousal, a common form of the 'flight' or 'fight' response; or a 'lack of energy' (hypo-arousal), which is characteristic of the 'flop' response.

Today, Stephen Porges' polyvagal theory of trauma<sup>50</sup> serves as the foundation for understanding the physiological processes of trauma. His research has focused on how neural regulation of the physiological state influences behaviour and how these mechanisms are related to how we interact socially. The main idea is that three neural circuits form a phylogenetically ordered response hierarchy that regulates behavioural and physiological adaptation to safe, dangerous and life-threatening environments:

- **Parasympathetic** (most ancient): 'A primitive passive feeding and reproduction system creating a metabolic baseline of operation to manage oxygen and nourishment via the blood.'
- **Sympathetic** (newer): 'A more sophisticated set of responses enabling mobility for feeding, defence and reproduction via limbs & muscles.'
- **Social engagement** (most modern): 'A sophisticated set of responses supporting massive cortical development – enabling maternal bonding (extended protection of vulnerable immature cortex processors) and social cooperation (language and social structures) via facial functions.'

The autonomic nervous system (ANS) is commonly defined as the part of the nervous system that is involuntary and maintains essential functional balance. The ANS is usually divided into two complementary branches, sympathetic and parasympathetic. In the new triune theory, a third set of mainly involuntary survival functions is identified and described. This new theory recognises an additional nerve group because its actions are also involuntary and critical for survival. In addition to being a dual reciprocal action between sympathetic and parasympathetic, the ANS now becomes triune and sequential, with a regulatory hierarchy from new to old.

Being able to distinguish these reactions is important for several reasons. First, if we recognise these reactions, we can create and apply different types of restorative techniques (for example, that is how the practice of 'social centring' was invented).

Second, this allows us to use different methods more ethically and 'calibrate' their intensity. When the body is stuck in a stress response and the level of cortisol is high, we cannot learn (that is, no new neural connections are being made and therefore we cannot change our habitual pattern). Moreover, cortisol destroys existing synaptic connections. That is why it is important to regulate the intensity of the stimulus so that the client can cope with the resulting stress response.

### **Windows of tolerance**

Third, one of the aims of an embodied facilitator is to give their client more range in choosing a course of action, which requires an understanding of the mechanisms of the trauma response. Dan Siegel introduced the term 'window of tolerance',<sup>51</sup> which is used to describe the zone of arousal in which a person is able to function most effectively. When people are within this zone, they are typically able to readily receive, process and integrate information and otherwise respond to the demands of everyday life without much difficulty. During times of extreme stress, people often experience periods of either hyper- or hypo-arousal. Hyper-arousal, otherwise known as the fight/flight response, is often characterised by hypervigilance, feelings of anxiety and/or panic, and racing thoughts. Hypo-arousal, or a freeze response, may cause feelings of emotional numbness, emptiness or paralysis.

The stress of a traumatic or otherwise negative event may have the effect of 'pushing' a person out of their window of tolerance. People who have experienced a traumatic event may respond to stressors, even minor ones, with extreme hyper- or hypo-arousal. As a result of their experiences, they may come to believe the world is unsafe and may operate with a window of tolerance that has become more narrow or inflexible. On the one hand, when a client tests a different kind of embodiment or practice, we may encounter a traumatic reaction, since this new embodiment does not correspond to their individual window of tolerance and is perceived as dangerous. On the other hand, allowing a client to practise in a safe environment and teaching them self-regulation skills for managing their stress response may expand their window of tolerance, allowing for more options in their choice of embodiment.

Another important thing to note is that trauma awareness allows you to create a more ethical and effective practice. In a sense, it is our attitude towards trauma (awareness, the creation of conditions under which the client develops their embodiment range) and marks the dividing line between ethical practice and the kind of practice that does not meet the ethical standards of our community. By the same token, it is of utmost importance to distinguish between real safety and the absence of a challenge. Without a challenge, there is no learning. It simply needs to be calibrated based on trauma awareness and our sensitivity to the client's feedback. A challenge that lies beyond the current boundaries of the client's window of tolerance is meaningless and ineffective.

## Conclusion

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Understanding people's implicit philosophy of the body, their cultural embodiment and their trauma history will hugely support your facilitation efforts. Mark will come back to these themes again in each chapter, to show you specifically and practically how they apply. For now I hope this introduction provides a solid base for the more technical applied chapters that follow.

## Notes

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- 1 Alexandra Vilvovskaya, aka 'Vilya', is Russia's top embodiment teacher and founded The Embodied Facilitator Course Moscow as well as many other courses. She brought tango to Russia after the fall of the USSR and is an expert trauma therapist – Mark.
- 2 Interestingly, the idea that we either grow to, or return back to embodiment, corresponds with conservative and liberal ideas of human nature. Both have value in my opinion – Mark.
- 3 <https://www.bodydynamic.com>
- 4 Andrea Olsen, *Bodystories: A Guide to Experiential Anatomy* (Lebanon, NH: University Press of New England, 2004). First published 1991.
- 5 Marina Abramović, by Laurie Anderson, *BOMB Magazine*, 1 July 2003, <https://bombmagazine.org/articles/marina-abramovic/>
- 6 'Lie to Me', TV drama, Fox Network (2009–2011).
- 7 For example, Maurice Merleau-Ponty, *Stanford Encyclopedia of Philosophy*, 14 September 2016, <https://plato.stanford.edu/entries/merleau-ponty/>
- 8 Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. A. Sheridan (New York: Vintage Books, 1977).
- 9 Pierre Bourdieu,
- 10 Francisco J. Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1993).
- 11 Thomas J. Csordas, *Body / Meaning / Healing* (New York: Palgrave Macmillan, 2002).
- 12 'Tantra' here is not the same as neo-tantric sexual practices but refers to a set of transformative technologies such as breathwork, mantra and visualisation that were added to mindfulness in the Middle Ages. See scholar-practitioner Christopher D. Wallis for more on this – his book *Tantra Illuminated* (Petaluma, CA: Mattamayūra Press, 2012) is a modern classic.

- 13 Note the naming and classification of ‘body therapy’, ‘movement therapy’, ‘dance therapy’, etc. are complex, regionally variable (the USA and the UK, for example) and controversial!
- 14 See, for example, Rudolf Laban, *The Mastery of Movement*, revised by Lisa Ullmann, 4th edition (Binsted: Dance Books, 2011).
- 15 Mark Walsh, *Embodiment: Moving Beyond Mindfulness* (Unicorn Slayer Press, 2019).
- 16 Daniel Goleman, *Emotional Intelligence* (New York: Bantam Books, 1995).
- 17 Note the irony of using the pursuit of objectivity to prove a concept defined by subjectivity!
- 18 Amy J.C. Cuddy, [https://www.ted.com/talks/amy\\_cuddy\\_your\\_body\\_language\\_may\\_shape\\_who\\_you\\_are/transcript?language=en](https://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are/transcript?language=en)
- 19 George Lakoff and Mark Johnson, *Philosophy in the Flesh* (New York: Basic Books, 1999).
- 20 Iris K. Schneider et al., One way and the other: The bidirectional relationship between ambivalence and body movement, *Psychological Science*, 24 (3): 319–25 (2013), <https://journals.sagepub.com/doi/abs/10.1177/0956797612457393>
- 21 Lynden K. Miles, Louise K. Nind and C. Neil Macrae, Moving through time, *Psychological Science*, 21 (2): 222–23 (2010), <https://journals.sagepub.com/doi/abs/10.1177/0956797609359333>
- 22 Thalma Lobel, *Sensation: The New Science of Physical Intelligence* (New York: Simon & Schuster, 2014). A fascinating side-note here is that for people working in robotics and AI this is very much a practical issue as early models that were used for this work failed miserably because they did not take the body into account!
- 23 Anthony Chemero, *Radical Embodied Cognitive Science* (Cambridge, MA: MIT Press, 2009), and the work of (2009), Lisa Feldman Barrett.
- 24 Julian Kiverstein and Mark Miller, The embodied brain: Towards a radical embodied cognitive neuroscience, *Frontiers in Human Neuroscience*, 9: 237 (2015), <https://www.frontiersin.org/articles/10.3389/fnhum.2015.00237/full>
- 25 Mark Johnson, Embodied understanding, *Frontiers in Psychology*, 6: 875 (2015), <https://www.frontiersin.org/articles/10.3389/fpsyg.2015.00875/full>
- 26 Lisa Feldman Barrett, *How Emotions Are Made: The Secret Life of the Brain* (New York: Houghton Mifflin Harcourt, 2017).
- 27 Ibid.
- 28 Madhav Goyal et al., Meditation programs for psychological stress and well-being: A systematic review and meta-analysis, *JAMA Internal Medicine*, 174 (3): 357–68 (2014), <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1809754>
- 29 Peter Sedlmeier, The psychological effects of meditation: A meta-analysis, *Psychological Bulletin*, 138 (6): 1139–71 (2012), <https://psycnet.apa.org/doiLanding?doi=10.1037%2Fa0028168>
- 30 Kieran C.R. Fox et al., Is meditation associated with altered brain structure? A systematic review and meta-analysis of morphometric neuroimaging in meditation practitioners, *Neuroscience and Biobehavioral Reviews*, 43: 48–73 (2014), <https://www.sciencedirect.com/science/article/abs/pii/S0149763414000724?via%3Dihub>
- 31 Amy J.C. Cuddy, [https://www.ted.com/talks/amy\\_cuddy\\_your\\_body\\_language\\_may\\_shape\\_who\\_you\\_are/transcript?language=en](https://www.ted.com/talks/amy_cuddy_your_body_language_may_shape_who_you_are/transcript?language=en)
- 32 Joseph P. Simmons and Uri Simonsohn, Power posing: P-curving the evidence, *Psychological Science*, 28 (5): 687–93 (2017), <https://journals.sagepub.com/doi/10.1177/0956797616658563>
- 33 Benita Jackson et al., Does that pose become you? Testing the effect of body postures on self-concept, *Comprehensive Results in Social Psychology*, 2 (1): 81–105 (2017), <https://www.tandfonline.com/doi/abs/10.1080/23743603.2017.1341178>



- 34 Erike Peper et al., How posture affects memory recall and mood, *Biofeedback*, 45 (2): 36–41 (2017), <https://www.aapb-biofeedback.com/doi/10.5298/1081-5937-45.2.01>
- 35 Agnieszka Golec de Zavala et al., Yoga poses increase subjective energy and state self-esteem in comparison to ‘power poses’, *Frontiers in Psychology*, 8: 752 (2017), <https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00752/full>
- 36 Erik Peper et al., Do better in math: How your body posture may change stereotype threat response, *NeuroRegulation*, 5 (2): 67–74 (2018), <https://www.neuroregulation.org/article/view/18396>
- 37 This is very common in some ‘alternative’ communities which *only* acknowledge the problems with science (and update Facebook about it on their iPhones).
- 38 This is the ‘contexts’ model again from Chapter 1.
- 39 An average year may have 30 people from 15+ countries for example, with maybe 20 kinds of embodied expertise present from aikido to zumba!
- 40 Basically we annoy everyone, and force them to grow – Mark.
- 41 Actually, we have found the whole culture conversation sometimes hard to have with American students who may well have a hyper individualistic cultural frame (the USA is ranked #2 globally for this after Israel), a ‘melting pot’ ethos and see any generalisations as evil prejudice! Germans, too, especially Berliners, can be especially cautious around stereotypes, which is perhaps not surprising! Generally though, Europeans ‘get’ culture more, perhaps due to the proximity of other countries, as do most Asians and South Americans we have worked with.
- 42 But of course we have not had the opportunity to study the peculiarities of gendered embodiment in every country around the world, so the examples provided are limited to our personal observations.
- 43 Shelley E. Taylor et al., Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-flight, *Psychological Review*, 107 (3): 411–29 (2000), <https://content.apa.org/record/2000-08671-001>; Shelley E. Taylor, *The Tending Instinct: Women, Men, and the Biology of Relationships* (New York: Henry Holt, 2002).
- 44 Onno van der Hart and Paul Brown, Concept of psychological trauma, *American Journal of Psychiatry*, 147 (12): 1691 (1990), <https://psycnet.apa.org/record/1991-12791-001>
- 45 J.E. Erichsen, *Railway Injuries of the Nervous System* (London: Walton & Moberly, 1866).
- 46 Rachel Yahuda, <https://www.nicabm.com/trauma-the-impact-of-trauma-on-future-generations/>
- 47 Resmaa Menakem, <https://www.resmaa.com>
- 48 See, for example, <https://www.seauk.org.uk> and <https://traumahealing.org>
- 49 Hans Selye, *The Stress of Life* (New York: McGraw-Hill, 1956).
- 50 Stephen Porges, <https://www.stephenporges.com>
- 51 Dan Siegel, *The Developing Mind: How Relationships and the Brain Interact to Shape Who We Are* (New York: Guilford Press, 2012).