

COMPASSION

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And then there is emotional contagion, which is, in a way, a precursor of empathy. We can, for example, be infected by the stress of another person or group, or by laughter. The difference between empathy and emotional contagion is that in emotional contagion you are not aware that you are feeling the emotion of another person. It's unconscious, and similar to a virus. In empathy, on the other hand, when I feel your pain I'm aware that your pain is not my feeling. I know that this is your suffering and that I'm suffering with you, but also that it's not *my* suffering.

It's about levels of awareness, really. And the more aware you are, the easier it is to separate yourself from a feeling like stress. That's why I am so interested in awareness – it helps you develop tools to tackle whatever situation you are in.

Compassion is yet another social emotion. If I have compassion for you when you are suffering, I don't necessarily have to feel your pain or share your pain – I just feel a strong, warm feeling of concern and a desire to help, to go into action. So it feels very different, too. Empathy is a good thing, and it's usually our first reaction when we are confronted with the pain or suffering of others. But empathy alone can turn into what we call 'empathetic distress'. It's like, 'You are suffering and, because I'm empathic, I become so miserable myself that I am not able to be of any use to you anymore.' In social neuroscience we always emphasise that relating adaptively to the suffering of others means taking this first empathic response, which connects us to others and their suffering, and transforming it into compassion.

You mentioned how stress can be increased or decreased by the social situation we are in – does your research also address how the context of our interactions affects our capacity for empathy and compassion?

One of the constraints in neuroscience is that of course we can't just transport a brain scanner to a public space to see what's happening in interacting brains in natural situations. But we can create somewhat social situations in the lab by manipulating the context a scanned person is in. In one of the classic empathy studies, for example, someone lying in the scanner is made to feel pain in their hand and the pain circuitry in their brain is measured. They then see other people in the lab also being made to feel pain, and we measure their empathic brain responses. And we can change the context in which the other people are perceived by, for example, telling the person in the scanner that the other people receiving pain are members of an 'in-group' or an 'out-group' – either part or not part of their political party, their nation or their football club, or someone who has another religious background, or whatever. When witnessing a member of an out-group suffering pain, the subject's usual empathic neural response to their pain is basically blocked. Some people even experience reward signals – they almost rejoice when someone who they dislike or perceive as a member of an out-group receives painful little shocks. They experience *schadenfreude*. So, by manipulating the context, we can see how empathy comes and goes in seconds. It's a very fragile emotion.

This is incredibly interesting. Would you say that the distinction between in-group and out-group is a cultural construct? Or is it also biological?

It's both cultural and biological. Little children already show a strong in-group/out-group bias. There's usually one child in every school class to whom the other children are cruel. They are influenced very early on by the idea of either belonging to or being outside of a

group. It seems to be an inbuilt evolutionary mechanism for group cohesion, although, of course, the specifics of what makes someone in-group or out-group are cultural. Why do some people think Muslims are different or Christians are different or Jews are different? Why do we form boundaries? That's a cultural belief system that is built up into a collective narrative. And because such cultural narratives correspond to an evolutionary-formed basic mechanism – the propensity to quickly create in-group/out-group distinctions – they are very easily formed and maintained.

I think it's important to address the difference between biology and culture, because people sometimes think that culturally constructed systems are natural, which can be dangerous and reductive.

I totally agree about the dangers of confusing culture and biology. It's a very important distinction to draw. When we show pictures of the brain, people often think what they are looking at is biology and thus somehow genetically determined – that the responses we see are inborn. But this is wrong, because the brain is very plastic. Of course many features of the brain are genetically predetermined, but most of all it is a learning device; it's a big sponge that learns from the culture in which it's embedded.

I wonder whether physical presence plays a crucial role in developing an empathic response to someone – can we also empathise with people we see on social media and in the news?

The same empathic brain responses are captured when you show people movies, or even when they read books or see BBC news clips, but this response can be stronger or weaker. When your partner or someone else very close to you, such as a family member, is nearby, their presence boosts the empathic signal, while when you have a very abstract text, the empathic signal gets much lower. But if you have strong visual images – like wounds or crying babies – then the empathic response is of course stronger again, and the media take advantage of this mechanism.

It can flip into a feeling of numbness, too. Can our empathy pool be filled up, so that we have empathy for the first refugees we hear about having drowned in the Mediterranean, but gradually lose our ability to empathise through growing accustomed to such stories?

Over-exposure can indeed influence the empathic response. Nurses and doctors, for example, who are exposed to suffering every day, develop coping strategies to distance themselves from it. If they always went into empathic resonance, they would burn out. And that is a huge problem in the helping professions. You get into empathic distress, and then you burn out because it's just too much to bear. Or you become cynical, which happens to a lot of surgeons, medics and doctors – their patients just become objects they work with. Obviously these coping strategies are not very adaptive. But we can train people to transform their initial healthy empathic response into compassion – into a caring, loving attitude – and you can't burn out on love. And of course, compassion is always good for the patient – you cannot receive too much love and care!

This is connected to how we got to know each other. In 2011 we did a workshop, which you organised and I hosted in my studio, called 'How to Train Compassion'.

What made it special is that it brought together people with contemplative backgrounds, like Buddhist monks and other contemplative thinkers, with clinical psychologists, neuroscientists and social scientists all working on compassion.

This range of people wouldn't normally work together. As I said, what has always fascinated me about your work is how you successfully bridge all these different fields.

Well, I don't always succeed! Bringing practices from traditions like Buddhism and Christianity into a more reductionist natural science environment is not easy to do. I am part of the Mind & Life Institute, which, back in the 1970s, began sponsoring dialogues between the Dalai Lama and Western scientists to investigate how Western sciences – reductionist biological sciences – could be in dialogue with contemplative philosophical traditions to explore how meditation, training the mind, cultivating inner spaces of consciousness, and so on, could serve humanity. These dialogues bring together people who are experts in what is called the first-person perspective – who can talk from their inner experience of meditating and cultivating their heart and their mind – and scientists like me, who measure what we call the third-person perspective – the body, the brain, the immune system, and how these markers change when we engage in mental training or meditation.

This neuro-phenomenological approach – bringing together the first-person subjective perspective with the third-person objective measurements – forms a core part of contemplative sciences. In contrast to this, the predominant approach in science has been very much influenced by behaviourism: 'We don't believe what people tell us about their own conscious subjective experience, which is biased. We only believe in what we can objectively measure in observed behaviour.' So contemplative sciences try to find methods to bring first-person subjective phenomenological experiences together with the objective measurements. It's a very interesting field, but also a challenging one.

What brings people from these different fields together is the wish to bring compassion and secular ethics back into science and into society at large. There is a strong interest in exploring how we can train and cultivate secular ethical values and intersubjectivity – 'we-ness' and not just 'me-ness' – which is what we discussed and practised at your wonderful studio during our four-day gathering there. It was such a special experience to be able to hold this workshop in your studio.

I do hope the activities that my studio is engaged with generate the kind of trust that allows people to take more risks and be less defensive. In terms of the question of 'we-ness' versus 'me-ness', your work has really inspired and influenced me. I have shifted my attention more and more towards our collective experience – towards our interdependence and how we influence each other. And one theme that goes through the conversations in this book is the idea of being connected and acting on your beliefs, particularly in relation to climate. I've been talking to another scientist, the behavioural psychologist Elke Weber [see pp.196–200], who is a specialist in decision-making theory, about the difference between knowing and not acting, and knowing and acting – these two types of knowledge. So I would like to talk about what I think you have called 'presence' and 'perspective-taking', which have become really important for my work since I learned about them from you.

Perhaps I can explain what is meant by perspective-taking. It comes from a nine-month intervention programme, the ReSource project, which was meditation-oriented but also based on Western psychological knowledge. It comprised three mental-training modules: 'Presence', 'Affect' and 'Perspective'.

In the first module, people learned to become present and focused on the now. In 'Affect', the second, compassion-based module, we taught practices that help activate what you just spoke about – compassion and the motivation to act. Just saying 'Oh, I feel your pain!' doesn't necessarily help. You also have to practise acting on your feelings: 'There is someone who needs my help – what can I do?'

Perspective-taking, which comes in the third module, addresses the ability to take a bird's-eye perspective on your thoughts, aspects of your own personality as well as the minds of others. It also speaks to overcoming the in-group/out-group distinction we spoke about before. Compassion is easy for in-group members, but feeling compassion for an out-group member is much more difficult. There's an evolutionary bias towards caring for people of your in-group while not caring about out-group members, the whole planet, or something abstract like the climate.

So perspective-taking is necessary if you want to move towards global compassion – if you want to develop a strong motivation to act, for example, for the climate or for people who are very far away. To understand beliefs of people who are foreign to you, you have to take a bird's-eye view and disconnect first from your own particular belief system so that you can cognitively go into the mind of another. Their actions might at first seem strange to you, but, if you're able to perform this jump in perspective, you can see that their actions usually follow logically from the beliefs they hold. So, while the compassion-based 'Affect' module is essential to generating love and pro-social motivation, you also need to have perspective-taking to be able to resolve conflicts, to develop global compassion and act on it.

When we talk about turning perspective-taking into action, do you think positive narratives are more motivating than negative ones, like threat- and fear-based narratives? I'm thinking of my conversation with Mary Robinson, who talks about the necessity of creating a positive argument to stimulate action, rather than a fear-based one [see pp.78–81].

A negative, fear-based narrative activates our stress system, which narrows down our field of action considerably. When you're under threat, your whole system is focused on saving your own little self. You don't see the bigger picture – the common good, the global world – it's all about your own immediate survival. So a fear-based narrative will never invite a wider perspective. In terms of climate change, it therefore seems to me essential that scientists say: 'Look, on the one hand there is imminent danger – if we continue like this we will encounter these problems – but, on the other hand, the good news is that you can do something about it, and what you can do is A, B, C ...' and then give concrete examples about what individuals can do in their everyday lives. Such narratives and positive encouragements could create a movement, which is what we need if we want to tackle huge challenges like climate change.

Let's go back to when you started out, when you were still working within the cultural sector. It seems to me that the cultural sector is different from the private sector, which commercialises our attention, and also different from much political discourse today, with the rise of fear-based rhetoric and populism, and the polarisation that results in blaming out-groups that we've seen in the EU and elsewhere. How do you see the cultural sector?

It is essential that fundamental science connect to real-world problems, and the same is true for the arts. Art can have a strong self-referential side – my previous experience of the world of art was sometimes that artists would only surround themselves with artists; you always interact with the same people, day and night, without ever connecting to the larger society. And this can really limit the cultural sector's potential. But when it goes beyond being self-referential, art has a huge potential to motivate change – as we have seen with some of the big movies about climate change, which were certainly more efficient in changing attitudes than all the scientific paperwork that, unfortunately, often never reaches the public.

So I do think that artists – and scientists – need to make the effort to translate their knowledge into understandable language in order to enter the public conversation and public space, and to reach people, including politicians and change-makers. A good example was when you brought your art into the middle of the climate conference in Paris by positioning blocks of glacial ice from Greenland in front of the Pantheon [*Ice Watch*, 2014]. Actions like that bring important ideas into public space as tangibly embodied experiences that can really change how people think about significant issues.