Empathy

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Introduction

This article is adapted from a talk given at James Baraz's Awakening Joy class, 9/26/07 (audio posted at http://www.wisebrain.org/audio.html), and it considers four questions:

- What is empathy?
- How did the capacities for empathy evolve?
- What's happening in your brain when you are empathic?
- How can you help activate those brain states?

If you would like more information about how to use your mind to affect your brain to benefit your whole being, you might like to look at our website, www.WiseBrain.org.

What Is Empathy?

Basic Definition

Empathy is feeling and understanding how it is for another person.

As E.M. Forster said, "Live not in separation." It is empathy that joins us together with each other.

Without empathy, we would be like ants or fish or lizards, aware of each other as bodies in space, but with no sense at all of the inner lives of each other.

Empathy Is More than Compassion and Kindness

Compassion and kindness are wonderful, but alone, they are not enough.

It's easy to be compassionate and kind in a sort of generic way without really knowing what it is like to be another person.

It is empathy that *personalizes* compassion and kindness, and gives them real traction. Empathy takes courage – the courage to cast loose from the familiar moorings of your self and your known positions to enter the deep waters of the other person, to be truly moved inside, truly affected in your own core.

Further, if one cares about diversity in all its forms – in temperament and values as well as in ethnicity, gender, class, sexual orientation, and so on – empathy is at the heart of real diversity work.

What Do We Empathize with?

There is both horizontal and a vertical dimension to what we find in the other person.

Horizontally, we empathize with the full range of the other person's experience: the sensations, emotions, thoughts, and desires, and the joys and the sorrows. Unlike sympathy, empathy is not just for the painful side of life.

Vertically, we empathize with the surface layers of the other person's mind/psyche/self, and the deeper ones. Sort of like a parfait, with present-day, adult material on top, and younger material underneath . . . with harsher, more armored feelings like anger on top, and softer feelings beneath . . . with problematic strategies on top, and universal and wholesome deep needs underneath.

You might ask yourself: To what extent do you feel your deeper layers are known to the important people in your life? And: To what extent do you extend yourself to reach down inside those people to find out what's there?

Two Parts of Empathy
There are two aspects to empathy.

When you are empathic, there is both a felt, bodily resonance with the state of the other person – sort of like tuning forks vibrating in harmony with each other – and a more conceptual understanding of what they could be experiencing, and why.

We <u>sense</u> and we <u>infer</u> what is happening with the other person.

These two aspects of empathy – visceral attunement and conceptual understanding – work together: The sense in your gut gives you clues about the state of the other person, and your thoughts about that person tell you where to look in your gut.

Empathy Requires Individuality
Empathy certainly has a joining quality, but it is not itself agreement or approval; for example, you can empathize with someone you wish would act very differently.

Empathy does not mean waiving your own rights or interests; knowing this can free us to be more empathic.

By feeling strong in ourselves, like a mighty oak tree with deep roots, we can let the other person's experience flow through our awareness like wind through our leaves, knowing that we can let it in and still remain standing, intact and whole.

Expressing Empathy

Usually, but not necessarily, this awareness of how it is for the other person is communicated in some way, often nonverbally and tacitly: for example, through subtle facial expressions or postures that mirror the other person's.

This expression of empathy gives the other person the sense of "feeling felt," which is profoundly important to people from infancy onward. The most horrible part of many horror movies – such as *Invasion of the Body Snatchers,* or the many zombie flicks – is imagining yourself among human-like creatures who are incapable of feeling you.

Often, the expression of empathy is all the interaction needs. It conveys the vital signal in any communication: "Message received." That alone often calms the other person, and helps them feel better.

And if there is still a topic on the table, even something that is upsetting, then you can get on with the business at hand in a clearer field.

How Did Empathy Evolve?

Empathy is unusual in the animal kingdom and the brain capacities that enable it, which are discussed just below, are costly to maintain: they consume a lot of oxygen and glucose – 8 to 10 times as much as your major muscles do.

So empathy must have had some major survival benefits for it to have evolved. What might those benefits have been?

Empathy seems to have evolved in two major steps.

First, among vertebrates, birds and mammals developed pair bonding in some of their species, so that two individuals mated and raised young together. This is very different from the pattern among most fish and reptile species, who go it alone. Pair bonding increased the survival of young and was consequently selected for, but maintaining those bonds required new mental capacities.

Therefore, as the neuroscientists put it, the "computational requirements" of being a couple – a sparrow couple, a squirrel couple, a mountain lion couple, that is – drove the enlargement of the brain over millions of years. As we all know, when you are in a relationship with someone – and especially if you are raising a family together – there's a lot you have to take into account, negotiate, arrange, anticipate, etc. No wonder brains got bigger.

It may be a source of satisfaction to some that polygamous species usually have the smallest brains . . .

Second, building on this initial jump in brain size, among primate species, the larger the social group, the bigger the brain. (And the key word here is social, since group size alone doesn't create a big brain; if it did, cattle would be geniuses.)

In other words, the "computational requirements" of dealing with lots of individuals – the alliances, the adversaries, all the politics! – in a baboon or ape troupe pushed the evolution of the brain.

In sum: More than learning how to use tools, more than being successful at violence, more than adapting to moving out of the forest into the grasslands of Africa, it was the complexities of relationships that drove human evolution!

Homo sapiens means clever ape. We are clever to be sure, but we are clever in order to relate. It would be perhaps more accurate to call our species *Homo sociabilis*, the sociable ape.

As the great evolutionist, Charles Darwin, said: "All sentient beings developed through natural selection in such a way that pleasant sensations serve as their guide, and especially the pleasure derived from sociability and from loving our families."

Sociability, and the empathy at the heart of it, drove evolution – in a fundamental sense, it is empathy that has enabled us to sit in this room tonight, understanding the complexities of language, in a building full of advanced technologies.

Empathy is in our bones. For example, infants will cry at the tape-recorded sound of other infants crying but not at a recording of their own cries. And speaking of crying, as adults, our tear glands will automatically start producing tears when we hear the crying of others, even if we have no sense of tearing up ourselves.

Perhaps an even better name for ourselves would be *Homo empathicus*.

What's Happening in Your Brain When You Are Empathic?

Introduction

The mental experience of empathy is enabled by underlying, material neurological processes.

By learning about the circuits in your brain that create empathy, you can use your mind to activate those circuits and thus become more empathic. In short, you use your mind to change your brain to benefit your whole being.

So, with no background in brain science needed, let's see what's happening inside your head when you are being empathic.

Sensing

To simplify, sensing how it is for another is enabled by several neurological systems:

- The front part of the **insula**, on the inside of each hemisphere of the brain – so, there are two of them, or insulae – lights up both when we feel the emotional components of pain ourselves (such as distress, fear, anguish) and when we see another person in pain. Interestingly, the more important that person is to us and the more we care about them, the more our insulae activate when we know that person is in pain.

- The same thing happens with another important part of your brain, called the anterior (frontal) **cingulate cortex (ACC)**. It rests on top of the insula, more or less, within each hemisphere of your brain. And it, too, is sensitive to how much we care about the other person.

The more empathic that people are, the more that the insula and ACC light up in response to the pain of others.

Further, the insula and ACC also activate both when we are experiencing strong emotions ourselves and when we witness emotions in others.

As a side point, the ACC and insula seem to be centrally involved in the conscious experience of states of the body and emotions. If you can imagine consciousness as a kind of light – pick your color – then it is playing and flickering about the ACC and insula . . . as well as a few other key regions of the brain as well.

- There is also a class of neurons you may have heard a lot about, called **mirror neurons.** They activate both when we do an action and when we see other people doing that action.

In sum, the insula, ACC, and mirror neurons produce *simulations* of the experience of others inside your own brain. These occur automatically as a hard-wired-by-evolution reaction – though there is much the mind can do to suppress or strengthen them.

In other words, when you see – or even just imagine – other people suffering, feeling, and doing, your brain automatically generates a virtual experience within yourself of something close to what the other person is experiencing.

The phrase, "I feel your pain," has become a bit of a joke, but it is literally true.

And, remarkably, the converse is also true: If we cannot feel ourselves, such as when emotion centers of our brain are damaged by a stroke, then we are impaired in our ability to recognize the emotions of others.

Thinking

These visceral simulations of the inner world of other people are augmented by more thought-based inferences about what the other person values, believes, and plans.

In developmental psychology, these capacities are collectively labeled "theory of mind."

They are supported by one area of the brain, in particular: The **prefrontal cortex (PFC)** is the part of the brain tucked back behind the forehead, down around the level of the eyebrows, and it is close to the ACC and the insula, as well as to other structures in the central emotional switchboard of the brain, which is called the limbic system.

This region of the brain activates both when we are attending to our own mental states and when we are thinking about those of others.

Developmental Trajectory

By the way, these brain regions developed at different points in our evolutionary history. First came the primal capacities to sense the feelings and the pain and the actions of others, located in the limbic system structures resting on top of the brain stem. Second came the more intellectual abilities to infer mental states, supported by frontal lobe circuits that sit on top of the limbic system.

As a child develops, the first capacities to come on line are the ones that are more ancient, closer to the bottom floor, sort of, of the brain: the emotion-sensing systems that are already present, to a rudimentary degree in infants.

It is only by age 4 or so that the guts of the "theory of mind" circuits develop substantially – and they keep developing up to about age 25, when our full neurological capacities are in place to imagine the inner states of others.

And interestingly, it is also the most modern systems of the brain that are the first to go toward the end of the lifespan. For example, a person will usually retain her core abilities to "feel the pain" of others long after her more abstract abilities to conceptualize the mental states of others fade slowly to black with dementia.

How Can I Activate Those Brain States?

Introduction

By activating these three regions of your brain – the insula, ACC, and prefrontal cortex – you strengthen them, since as the saying has it: "Neurons that fire together, *wire* together."

In other words, by repeatedly creating wholesome experiences for ourselves, we build wholesome structures within our own brains. This is incredibly exciting, good news.

Let's go through these regions in order to build, over the long-term, deep inclinations and capacities for empathy. Then we'll briefly cover some practices you can do right now to foster greater empathy.

Insula
The insula is the key organ in your brain involved in what is called interoception, the sensing of the internal state of your body. When you have a gut feeling, or get sensations in your joints, or feel your lungs expand and contract, your insula lights up. (It also activates with disgust, a very important and primal emotion if our ancestors were to survive foods that were rotten or poisonous.)

This means that sensing your own inner physical sensations develops your insula over time. In turn, a more developed insula enables you to be more empathic. In fact, studies have shown that the more that an individual is aware of his own body, usually the more empathic he is toward others.

What is one of the premier ways to practice awareness of the internal sensations of your body?

Yes – meditation.

In fact, researchers have found that regular meditation actually thickens the insula, indicating millions of additional connections among the neurons there.

Anterior Cingulate Cortex (ACC)
The ACC is particularly involved in the control of attention. When you deliberately train your attention to stay focused on one object, the ACC is strengthened. Which makes you more able to attend to the inner states of others.

So, what activities involve the training of attention to steady the mind and become increasingly absorbed in just one focus?

Any activity requiring concentration can do this, but there are obvious advantages to activities that pay close attention to . . . attention. Again, the epitome of that is meditation.

Prefrontal Cortex (PFC)
The PFC is activated by many activities. But one in particular stands out: observing, investigating, and reflecting on one's own inner mental state. Introspection does this, and so does therapy, and so does . . . you guessed it: meditation.

In fact, as with the insula, regular meditation makes the PFC measurably thicker.

Summary of Long-Term Cultivation
In sum, if you were to pick just one thing you could do to improve your neurological capacities over time for the vital matter of empathy, your best bet would probably be regular meditation.

Immediate Practices
And while you are growing new circuits inside your head, here are some things you can do today that will also foster empathy:

- Pay attention. How often do we sustain even a few minutes of attention to another person? And others can sense it quickly if your attention wanders . . .

- Try to get a sense of the being behind the eyes of the other person.

- Imagine the other person as a child. This is especially useful for people who are irritating or threatening.

- Find an interest in yourself for the other person.

- Ask questions. What was that like? How did you feel? What did you wish had happened? Etc.

- Look beneath the surface. What does the other person most deeply want?

Conclusion

More than anything else, empathy is the glue that joins us all together. By extending the circle of your empathy beyond "us" to include "them," the whole world becomes your home.

Thank you very much for your attention – and your empathy!