

# Changing our Brain

(Yom Kippur Sermon 2014)

Less than a month from now, on November 2<sup>nd</sup>, New York will witness the 43<sup>rd</sup> New York marathon. (It should have been the 44<sup>th</sup>, but after hurricane Sandy, one marathon was cancelled). More than 50,000 people will run the 26.219 miles through the Five Boroughs and eventually in Manhattan, at the Southern edge of Central Park, they approach the finish line, cheered by thousands of bystanders, by then, having full confidence that they are going to make it.

This is the image that comes to mind in this hour. We are approaching our fifth stage, the Ne'ila prayer, with the finish line, the sound of the shofar in sight. Elated, we feel that angels are applauding and cheering us on...

Not wanting to ruin the thrill of this glorious moment; there is one major difference with the marathon and today's effort. The end goal of Yom Kippur is not just to make it successfully to the end. The real goal is to live our lives **after** today, on a higher level, more inspired, more connected to our true selves, to God, and to our fellow human beings. In other words, Kippur is not the goal in itself but a means to an even higher goal.

The question comes to mind: How is that technically possible? We have our weaknesses that cause us to fail from time to time, for which we are truly sorry. But can we really change and improve ourselves beyond our current potential?

Many scientists have come to believe that our behavior is largely dictated by our brain structure, which was bestowed on us genetically.

Georgetown University professor Abigail Marsh recently published an interesting piece of research. She compared the brain structure and activity of two groups of people. On the one hand, she looked at people who had shown extraordinary levels of altruism, namely by anonymously donating one of their kidneys to a

perfect stranger. And on the other hand she looked at psychopaths. And yes... there was a significant difference in brain structure and activity.

The amygdala (two rather small areas in the frontal lobe of the brain) of the “altruists” were much larger than average, and those of the psychopaths were much smaller. The amygdala are important for all kinds of human functions such as memory, empathy, social skills, but also fear. The research specifically showed that these kidney donors were highly receptive and sensitive to fear, and the psychopaths were hardly or not at all. Which I personally find puzzling, because to me, donating a kidney seems rather scary. I would think if someone is sensitive to fear, he would worry about the possibility that one day his only remaining kidney could fail...!?

Now, fear seems like a negative sort of emotion, right? Right! But, in the right context, it can be very positive. Fear of the consequences of bad behavior for instance, is extremely useful. Fear to do the wrong thing. Fear to get hurt from irresponsible conduct, combined with empathy, becomes a fear to hurt other people. In Biblical language we call this *Yir'at Shamayim*, Fear of Heaven, Being God-fearing. In modern terms: an internalized conscience.

This healthy kind of fear is a gift that can keep us from going bad things...

But, what can we do? We all have our brain, our amygdala already meted out in its given size...!?! Year after year, we go through the Ten Days of Repentance, through Yom Kippur, sincerely desiring to become an even better person, but, can we really change, improve ourselves beyond our genetic capacity?

The Psalms express a similar concern (Ps.51, 12):

**לב טהור ברא לי אלקים, ורוח נכון חדש בקרבי**

“Create for me a pure heart, o God, and renew in me a steadfast spirit”

Or as Neil Young sang: “Keeps me searching for a heart of gold.” Presumably, his search was not too successful, as he adds in desperation: “And I’m getting old!”

A whole different piece of research came out a few years ago from Massachusetts

General Hospital. They found that (in at least one way) our amygdala can be permanently changed, namely through what they call “mindfulness meditation”. This may only be the beginning of a whole new field of future research that could be very interesting to follow.

On that note, just yesterday morning, as I entered the subway station after *Seliḥot* services, someone handed me a free newspaper with a hopeful and relevant article about a course that is offered to prisoners in Sweden. The offenses perpetrated by inmates, some of them psychopaths, are often connected to the condition of their brain. Many suffer from neuropsychiatric disorders, sometimes caused by long-term drug abuse. As a result, they may have major problems with restlessness and anxiety, leading to deeply rooted patterns of hurting themselves and others. In this program (also called “mindfulness training” by the way) through meditational exercises, these people learn to focus and internalize concepts like compassion, love, forgiveness and acceptance. In short, the treatment showed remarkable improvement in the mindset and the behavior of the participants.

What is indeed very hopeful, is, that we have a number of indications that our mindset, our focus, our intention, and mindful actions can change our heart’s potential for empathy, loving kindness and conscience.

Let us have that true intention tonight as we pray for God to not only forgive our shortcomings, but to help us increase our potential.

“A pure heart create for me, and renew in me a steadfast spirit...”