# **PLASTICITY AND THE POWER OF AFFIRMATIONS**

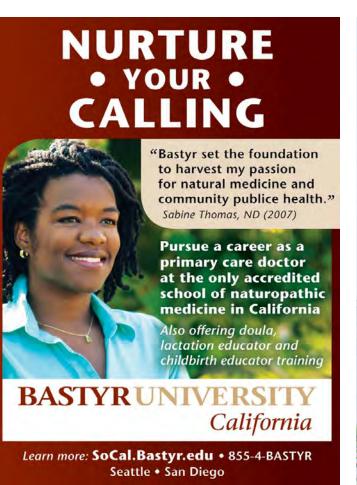
What we are today comes from our thoughts of yesterday, and our present thoughts build our life tomorrow: our life is the creation of our mind. - Buddha

BY DEARBHLA KELLY



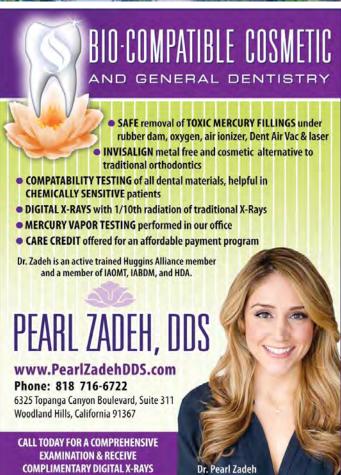
Do you think affirmations are new-agey and trite? I mean, really, changes which will help you to do everything from having more as if, "I am the very source of abundance and love itself" taped on successful working relationships to managing your finances. your mirror is going to pay that credit card bill? I'm going to suggest "Plasticity" refers to the brain's ability to reconfigure itself, to es-

that you have a rethink and try on the possibility that affirmations tablish and to dissolve connections between its different parts. Conmay be at the cutting edge of neuroscience and its sexy sister, PNI, sider the phrase, "neurons that wire together fire together." What or psychoneuroimmunology. And while an affirmation in itself may exactly does it mean? When one neuron (nerve cell) wants to "talk" not be enough to help you pay your bills, practicing affirmations can to another, it communicates by way of an electrochemical signal. reshape your brain and thus cause you to incorporate behavioral An electrical signal is released from the soma (cell body) and >>









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between two neurons).

Since an electrical signal can't cross the gap, the charge is converted into a chemical packet, or neurotransmitter, which diffuses across the synapse where it latches on to a receptor cell on the other side. When the molecule binds to the receptor, an electrical charge is released which travels up the dendrite (similar to an axon, but receives nerve signals) to the second nerve cell.

The link between cells is an electrochemi cal pathway. Many of these chemicals have specific emotional signatures, such as oxytocin, which creates feelings of trust and attachment, ACTH (adrenocorticotropic hormone), which signals the adrenal glands to release the stress hormone cortisol to create feelings of arousal, and serotonin, the happy chemical. To quote the late pioneering neuroscientist Candace Pert, neurotransmitters are "molecules of emotion."

These chemicals are essentially drugs which affect how we feel because of how they interact with the limbic system (emotional brain), as well as the autonomic nervous system (fight or flight and rest and restore) and digestive, immune, and respiratory systems. To somewhat oversimplify, this means that when you think a certain thought, recall something, or repeat something mentally, you initiate a neurochemical reaction and an associated feeling ripples through different parts of your body. For example, when you feel stressed out in response to particular thoughts, it is because your sympathetic nervous system is activated and you feel aroused. Depending on how you feel, your mouth may become dry, your palms clammy, and your stomach may feel as though it's doing double flips.

Each of us repeats habitual thought patterns that we know have unwelcome consequences because they make us feel bad about ourselves and have a negative impact on the ability to pursue our goals and interests and to feel happy and actualized. Researchers in the area of PNI are reporting that negative, stress-inducing thoughts adversely affect our immunity and raise our white T cell count. An elevated white T cell count usually means inflammation, a sign that the body thinks it is under attack.

Just as negative thought patterns have adverse effects, positive thoughts can create positive effects, thus leading to increased

visor cautioned me to write the letter when tors), and we have a tricky situation. I was feeling good and good about myself, Every time we react habitually to a given otherwise the letter would not convey an attitude of confidence.

Specific thoughts elicit related feelings, something attainable over time.

travels down the axon (a threadlike profeelings of happiness, well-being, and confi- We all have had (or are having) the experitrusion of varying length that carries nerve dence. It turns out that happier people who ence of getting stuck in habitual ways of signals ) until it can go no further because enjoy a generally positive state of mind and thinking and acting. Frequently, we would it has reached the synaptic cleft (the space cultivate positive thoughts also enjoy better like to change such patterns but find that we health and deal with stress better. As any- are repeating the same old groove, even when one who's ever sat for an exam knows, your it doesn't feel good. Given the neuronal constate of mind is not merely important; it ac-nections between different parts of the brain tually determines exam success. If you go that result from neurons in one wiring to into an exam feeling confident and upbeat, those in another, our habitual responses beyou are much more likely to perform well. come hardwired. Add in the fact that we can By a similar token, when I was writing my become addicted to the chemicals released by application letter to get into a PhD program neurons firing (think about gamblers and the in Philosophy in Chicago, my academic ad- dopamine response, or chronic self mutila-

> stimulus, we activate neural pathways and the brain regions housing those neurons. As the same areas are activated over time, which in turn influence our overall disposithey become thicker and denser, possibly tion and our propensity towards behaviors. because the associated neurons in that area Our thoughts create our stance within and branch out to make connections to other towards our world, and consequently, our neurons, or increase the number of cells experience—change your thoughts and you in those areas, or increase blood flow. The change your world. Now this doesn't seem more these areas are activated in our dayso new-agey... I take it that we all want to-day experience, the more we react hamore happiness, satisfaction, and abun- bitually. This is akin to the yogic discussion dance in our lives, and if changing the way of samskaras (latent mental impressions) we think helps to bring that about, that's and vasanas, the behavioral patterns arising from their activation. >>

## WHEN CHOOSING AN AFFIRMATION MAKE IT:

**Personal** – what is it your heart most desires? Often, it's our own negative self-beliefs that prevent us from accomplishing our goals and living our dreams. Make your affirmation entirely about you. Since you only have control over your own behavior, this is a pretty smart thing to do.

**Specific** – if you want to create change, or bring more of something into your life, you need to know what exactly it is that you want. Similarly, if you want to replace negative thoughts with positive ones (pratipaksha bhavana), you need to choose the replacement statements with care

**Present tense** – why put off your heart's deepest desire until the future? Welcome it home now so that you feel it's already happening.

## **DAILY PRACTICE:**

happen overnight. Try repeating the affirmation three times on awakening, so that the day begins on a positive note and you call to mind what it is that you want to cultivate, to have more of in your life. Repeat the affirmation three times before going to sleep, or possibly even repeat it as a mantra, so that it filters through your unconscious as you sleep and you drift off feeling positive and upbeat.

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so that you're not left spinning when the negativity rises. You have a backup plan, so to speak **Positive** – the whole point of affirmations is to create positive change, to reduce suffering and

help you accomplish your goals and live a happier life. Humans already have a negativity bias; our brains are hardwired to spend more time focusing on the negative. Our ancestors needed to do this to ensure they were able to recognize threats to their survival, for example, wild animals, poisonous berries, facial gestures indicating anger, envy, or hatred – potential reasons for a member of an unfamiliar tribe to attack. We can use affirmations to overcome the negativity bias and strengthen neuronal connections emphasizing the positive.

Creating new habits and forging new neural pathways takes committed practice, it doesn't

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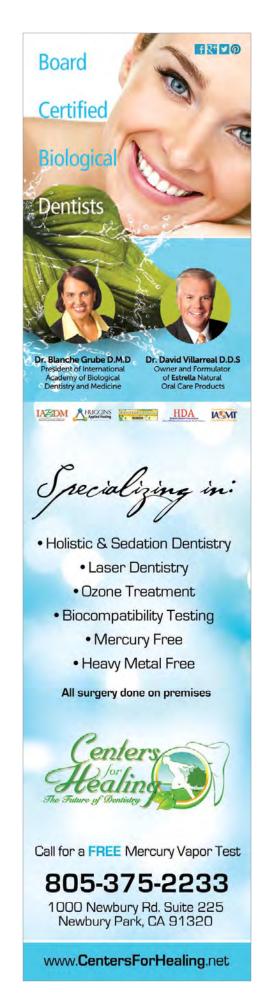
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### YOGA THERAPY

Take, for example, the release of one of the molecules of emotion: dopamine consolidates neuronal connections responsible for the behaviors that lead us to accomplish our goal. We experience a hit of feeling good from dopamine because it is involved in reward pathways. This is helpful when we are trying to replace negative mental tapes with positive ones. For example, if I catch myself making a negative judgment about someone I feel has wronged me, I can replace that thought with a positive statement. Every time I manage to do this,

thicker each time the neural pathway is activated. Long-term potentiation (LTP) is the term given to the strengthening of connections between neurons. The stronger the connection between neurons, the more difficult it becomes to break thought, and hence behavioral patterns. Unsurprisingly, our behavioral propensities contribute not only to our experience of the world. but also our experience and conception of ourselves; we become identified with ways of thinking and behaving and mistakenly think that this is who we are.

### **FIVE WAYS TO USE AFFIRMATIONS**

**Repeat as a mantra** – You can say it while driving, in line at the grocery store, waiting in line for customer service, you can even use a japa mala to count the repetitions.

**Breathing meditation** – Silently repeat the affirmation as you inhale; as you exhale, know that you are releasing residual energetic patterns that cause suffering in your life.

**Prevention is better than cure!** – Before you go into a situation that you know may be stressful practice saying your affirmation several times so that you feel fortified in your resolve.

**Pratipaksha Bhavana** – When you notice a destructive thought process starting (and you'll often become aware of how you feel before you notice the thought), congratulate yourself for noticing and then switch gears by repeating your affirmation as many times as necessary until

**Yoga Nidra** – Before beginning your Yoga Nidra meditation, repeat your affirmation three times and then set it free, trusting that it will be fully integrated during your full-body meditation.

I experience a shot of dopamine because I The good news is that we can shortcut have made good on my decision to stop allowing this belief about how that person treated me to keep affecting me negatively. In this case, the reward comes as a result of my following through on my meta-intention to change my mental tapes.

The practice of recognizing the thoughts that cause suffering and feelings of alienation from others and replacing them with thoughts or attitudes that engender feelings of harmony and connectedness is what Patanjali calls pratipaksha bhavana—the process of using discriminative awareness to restore balance and reduce suffering.

It is this ability to form meta-intentions, or big-picture decisions that impact our behavior, that is distinctive about human psychology and rationality. Such executive mental functions take place in the cerebral cortex, the part of the brain responsible for long-term planning and goal setting.

Neurons fire in response to experiences (thoughts, stimuli, et cetera) and the neuronal connections between neurons in different parts of the brain grow stronger and neuronal connections and thus rewire our brain, and thereby our self-conception. By changing our mental tapes and choosing new thoughts and beliefs, we can use the brain's inherent architecture and formal capacities to recreate ourselves.

Long-term depression (LDP) is the process whereby the brain unlearns associations and disconnects neurons. Given this, using affirmations to create positive feelings in the body/mind continuum may well be smart, self-interested, and forward-thinking. Just like asana, or meditation, using affirmations is a practice. We must keep doing it in a sustained manner in order to see positive effects manifest in our lives over time. Since it involves rewiring the brain and the mental tapes running in the brain, an affirmation isn't a quick fix; rather it's a tool to help you become more empowered, better able to attain your goals, and ultimately a happier, more fulfilled person. Who can argue with that?

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