

## How the Shape of Things Affects Us

From the creation of the Platonic solids, which are five unique models that embody the perfect combination of whole shapes, to the beautiful and complex symmetry of a modern fractal pattern, humans have been fascinated with shapes and how they interact to create things. But did you know that researchers in biology and chemistry are now finding that shape has everything to do with the way our cells function and even how we can tell one smell from another?

A previous article on the body antenna detailed how placing the body in certain shapes formed by ritualistic postures aids in the transmission and reception of certain frequencies. It also touched on the conformational shape changes that happen at the cellular level just prior to a chemical exchange. It's known as a receptor lock-and-key model because the receptor changes into a specific shape that will only accept a molecule that fits it like a key.

This is a very important discovery for biologists and pharmacologists because it will lead to new ways of targeting the delivery of drugs at much lower doses. Eventually, it may also lead to a new vibrational understanding of the physical body that will eliminate treatment by pharmaceuticals altogether.

One of the newest forms of drug delivery methods is through nasal sprays. The brain and nervous systems are protected from infection by what is known as the blood-brain barrier. The molecules that make up viruses and bacteria are too large to pass through the narrow passage. Unfortunately, this barrier also keeps drugs needed to treat the nervous system from being administered intravenously. However, the barrier can be bypassed via the nose. Have you ever noticed that certain smells can trigger memories? That's because the most ancient part of the brain can be directly accessed through the nasal passages. This is also why aromatherapies are so effective. They stimulate chemical changes at the very root of the nervous system.

The combination of investigations into bypassing the blood-brain barrier with nasal sprays, the conformational shape changes of receptors, and the affects of aromatherapy led to a very interesting discovery. In 1991, Dr. Linda Buck headed a team of researchers at Harvard Medical School investigating the source of smell. What she found won her a Nobel Prize. It was well known that millions of nerve cells lie at the top of the nose near the eyes. On the surfaces of these nerve cells lie over 1,000 different smell sensors called odorant receptor cells. Buck discovered that these receptor cells work just like hormones and neurotransmitters in that they recognize shape and combine in a lock-and-key manner. But, unlike hormones and neurotransmitters, the odorant receptor cells are not exclusive to accepting only the one type of molecule they recognize. These odorant receptor cells can combine and reorder themselves to recognize 10,000 different smells. After binding, the cell sends a signal to two specific places in the olfactory bulb in the brain that carries messages to the primitive brain areas, which control emotions and affect the limbic system and to the higher brain areas that control conscious discrimination. In her book, *Molecules of Emotion*, Dr. Candace Pert describes the limbic system as a hypothetical construct that is considered to be the seat of emotions in the brain.

But, there's another side to this story. Biophysicist Dr. Luca Turin believes that smell is not recognized by shape alone. He believes that it is a combination of shape and vibration. That's because molecules with the same shape can smell very differently. Turin lives in France where the perfume industry is a multi-billion dollar business. Manufacturers often employ hundreds of chemists in an effort to isolate and develop new smells. Turin wanted to find a way to improve this process.

The vibrational theory of smell was first popularized by British scientist Malcolm Dyson in 1938. In 1977, the research was picked up by R.H. Wright who applied modern technological advances to his investigation. But neither scientist was able to explain how the process worked at a level that would satisfy the publication standards of most scientific journals. In the early 1990s, Turin used egg whites to show that proteins can conduct electricity. He concluded that the olfactory

bulb cells could channel electrons like a battery and sense their vibratory content. Even with this new evidence, most of his colleagues dismissed Turin's ideas out of hand without so much as even reading his paper. Finally, in 1996, Turin was published in *Chemical Senses* and his story was picked up by the media who sensationalized it. Turin's research ultimately got the attention it deserved. Turin left academia and began his own scent molecule production company called Flexitral. By using the vibrational method to ascertain new smell molecules, he is able to employ just one chemist, making his company radically more profitable than other research and manufacturing facilities. In 1992, Turin wrote *Parfum: Le Guide* which has become France's best-selling perfume guide in history.

To date, it has taken the efforts of pharmacologists, chemists, biologists, aromatherapists and a perfume manufacturer to shed new light on how shapes affect us. Through the blending of science with intuitive wisdom, we will continue to bring new models into play which will revolutionize how we understand the vibrational aspects of the body.