

In high school chemistry, I learned about the structure of an atom. Perhaps you did, too, whether it was the Rutherford-Bohr model or the valence shells model more commonly accepted nowadays. Each atom has a dense center, a nucleus formed of protons and neutrons, surrounded by a cloud of electrons whose mass is so minimal as to be virtually imperceptible. And yet, even as the substance of the atomic nucleus accounts for most of what we perceive as matter, it is the dance of the barely-there electrons that shapes our world, forming and breaking the bonds that glue together the molecules that constitute us, the very fabric of what we consider to be our selves. Quantum mechanics tells us, through the uncertainty principle, that it is impossible to know everything about an electron at any given moment, both its position and its momentum. And yet we rely on these ineffable electrons, behaving in their predictably unknowable ways, every moment of our lives.

Where do the electrons go? It isn't random, of course. The cloud is an organized one, with distinct levels surrounding the nucleus and a certain number of electrons that can coexist within each level. Their position isn't static within one of these valence shells, however. As the energy contained in the atom ebbs and flows, the electrons can jump up and down from one shell to the next, moving themselves farther from or closer to the nucleus. Electrons positioned in a level farther out require more energy and are often more reactive and unstable than those held closer in. This made intuitive sense to me as a teen--while I was a woodwind player myself, I knew my way around an overtone and hung out with enough brass players to understand the system of partials that allowed a series of ever-higher notes to be played, requiring tremendous strength and airspeed.

But Rabbi Jessica, we didn't sign up for a science lecture today. What does the structure of an atom, or the physics of music, have to do with spirituality? I will confess to you that science was my first love, intellectually. Yet even in my atheist teens, I never felt it to be the enemy of spirituality. Certain specific religious dogmas, sure, might be picked apart by science--but an attunement to something infinite, and powerful? An invitation to seek answers and to probe, to try to know something never fully knowable? Science and Judaism are on the same side in that endeavor. My childhood fascination with science absolutely set me up for the spiritual life I now live as a Jewish leader. Long before I had any notion of God, I felt the wonder and majesty of création, whether I was observing the intricate networks of ants, or feeling more than hearing the crash of a waterfall echoing in my lungs as we hiked, or peering eagerly down from my airplane window upon the familiar landscape of California hills, from a new perspective that obliterated my short human life and extended me all the way back and all the way forward on geological time.

So it was, that when I first learned about the "five souls" of Kabbalah, I was able to hang this concept on a scientific one I already had in my understanding. I sat in the chapel at my home synagogue in Oakland, not really sure what to expect. Our cantor, Richard Kaplan, was teaching that evening, and it is in his recent memory that I speak today. Cantor Kaplan was the most deeply, sometimes bewilderingly spiritual person I knew. I didn't always understand what he meant whenever he spoke, profound kabbalistic truths that frequently passed right over my head. But when Cantor Kaplan sang, something in me recognized something in him. His voice was the antenna that enabled me to tune into a powerful and Divine signal, and encouraged me to continue exploring ways to tap into it for myself.

Cantor Kaplan used his music to define and refine the five levels of his kabbalistic soul, and when he taught about them, my mind paired these elusive concepts with something I knew: electrons and valence shells, trumpet partials and the reverberant overtone chords that medieval thinkers had held up as evidence of the presence of angels.

There are several different words used in the Tanakh and in Jewish liturgy and rabbinic tradition, all of which can be translated as "soul." The kabbalists developed their understanding of the soul using a classical rabbinic tradition of parsing out seemingly redundant terms or usages. If these were really all the same thing, why would there be multiple words for it? Each word for soul must, then, address something different about this vital connection between the human and the divine.

At the most basic level, each living being possesses a ***nefesh***, an animating soul that manifests our basic aliveness. It is closely connected with our material body, found in the blood and flesh not only of human beings but of all animals. It governs our senses and instincts, giving us our workaday consciousness. Although the dense, earthly ***nefesh*** is the locus of our ***yetzer ha-ra***, our evil inclination, it is not in itself inherently evil, or selfish, or ruthlessly ambitious. Even at the most basic level of soul, our ***nefesh*** always offers us the free will to choose positive or negative ways of being in our world.

The next level of soul is the ***ruach***, a lively spirit that comes and goes in and out of our bodies like breath. ***Ruach*** is the level of soul where we develop our ***middot***, our desirable and Godly traits, and where we activate our ***seichel***, our intellectual capacity. It is where we find our emotional response to beauty, love, and other sorts of higher-order experiences that move us beyond mere existence into true appreciation and engagement.

Nefesh is the foundation of the soul, and ***ruach*** the bridge to what is beyond our immediate selves. Cantor Kaplan taught often about the third level, the ***neschama***, or Divine soul we each possess. It is our ***neschama*** that endows us with a direct connection to God, which

we may sometimes experience in dreams or those precognitive moments where we simply know what must be and respond accordingly, even before we are aware of deciding or acting. Unlike the *nefesh* and the *ruach*, the *neschama* is perfect and in no need of *tikkun*, or repair, to maintain its perfection. It embodies the *yetzer ha-tov*, the good inclination that leads us in the direction of *mitzvot* and *g'milut chasadim*, commandments and acts of lovingkindness.

The final two levels of the kabbalistic soul are associated with *chochmah*, wisdom, and move from within the body to the surrounding space beyond it. Our fourth soul level, ***chayah***, is the living essence that fills the ether between each one of us and those around us. Through *chayah* we can tune into what Jung describes as the collective unconscious, where we may find ourselves able to communicate without any words or physical connection, as many twins can or parents with their children. *Chayah* helps us learn from the wisdom of our ancestors across generations, and lends us a sense that the ones we've loved and lost are still present with us when we need to draw upon them.

The fifth and final level of the soul, according to the kabbalists, is ***yechidah***, the unique and unified essence. It is the most abstract, dispersed form of soul, farthest from our material bodies and nearest to the Source of Creation, containing the Divine spark that is the root of each of our souls. This divinity flows downward through all other levels of the soul, permeating all aspects of our existence even as it is the rarest and most fleeting level for anyone to experience. We may find ourselves in *yechidah* in moments of miraculous extremity, as when a parent summons the superhuman strength to lift a vehicle off their child or when, as a potentially devastating accident unfolds, one feels the force of the Divine protecting and shielding them.

Like electrons swarming a nucleus, we spend the majority of our existence in the lower levels of soul. We may spend whole days and weeks mainly inhabiting our *nefesh*, existing from moment to moment and functioning as necessary, but without feeling much of anything beyond our immediate bodily senses. Perhaps we feel the *ruach* that comes and goes through mentally challenging work, rich and thoughtful conversations, and profound moments of internal reflection. Hopefully we have some moments of inhabiting the *neschama*, where we feel plugged into God, perfect just as we are and ready to do the right thing. In *chayah* we feel attuned to humanity and in *yechidah* we lose sight of the self, becoming one with the universe as a whole. Moving into these higher and higher levels of the soul takes much energy, just like an electron escaping one valence shell and jumping into the next orbital beyond. Advancing into a higher soul is valuable and sometimes necessary, but the higher we soar the more fleeting, the less sustainable, the experience becomes.

However, just because a moment spent in the upper registers of the soul is ephemeral, that doesn't mean it isn't real. When the energy that has driven the electrons of an atom to higher and higher valences passes on, leaving the atom, the electrons drop back down into their more habitual lower orbits. As they do, they emit electromagnetic energy in the form of photons, creating light and color that we can see. In fact, this colorful release of energy is the science behind one of the earliest experiences of sheer transcendent wonder that I can remember: fireworks in the night sky, bursting with marvelous shapes and hues, then glimmering away as suddenly as they appeared. Despite whatever knowledge of oxidation and elemental metals I may possess, when I see the first bright explosion, the science fades away and there is only the joy of right now. We experience fireworks for only a moment, but the uplift in spirits they bring lingers long afterward,

So, too, with our experiences of the upper levels of the soul. When we become aware of the Divine within us, when we feel the presence or even hear the words of someone dear we wish were still here with us, we are changed by the beauty and power of that moment. We can savor it whenever we need to, long after we've returned to our usual existence. Our five souls are always with us, even when we're not actively using all of them, and they hold us in a state of continuous potential for perfect balance and profound connection--to each other, and to God. Let us notice those moments where we level up our souls, and embrace them with a sense of lasting wonder.