Written by: George W Masters
Baked and Awake Podcast Episode 12
October 28th, 2017

I think most everyone would agree that indica and sativa have their own distinctive effects. Most people will reach for a Sativa when they are looking for an energetic high, maybe when they are waking up in the morning or on their lunch break or about to do some housework. Then in the evening when all is done and it's time to sit and listen to music or watch a movie, the indica provides a deeply relaxing medicine for a tired body and mind.

I have experienced the contrasts between strains such as Green Crack and Blueberry. One hits like an electrical storm and one sinks into me like a coma. I have learned which strains serve me well in the daytime and which ones can be counted on to knock me unconscious.

Last night I enjoyed a joint rolled with a roughly half and half mixture of a heavy indica and a bright, energizing sativa. I don't have the strain information, sadly, but the generous person who rolled it for me explained that it was an almost accidental mix of the two very different strains. It was beautiful. The sedating, ultra-relaxing indica paired with the stimulating sativa to deliver a functional, intoxicating stone that was perfect for the evening hours that followed. It felt different than an average hybrid and I find myself wanting to try it again to see what it does to my slow Sunday.

So what exactly is it that makes sativa and indica affect the human nervous system in such different ways?

The two evolved to live in different climates. Sativa is evolved to handle the warm, humid environments of climates that occur between 0 and 30 degrees latitude. The shorter, sturdier, more resinous Indica probably evolved to handle harsher climates found between 30 and 50 degrees latitude such as in Afghanistan. Indica tends to mature more quickly making it a more attractive strain for farms looking to turn product more quickly. This is why we see so many hybrids on the market: people want the benefits of sativas and farms want faster maturing schedules so they develop hybrid strains that present both of these characteristics. MOST of what you see out there are hybrids.

So the two families of the cannabis plant LOOK different and have evolved for different climates, but there are also chemical differences that result from this evolution. Those chemical differences arise from a combination of (1) genetics (indica or sativa, strain) (2) growing conditions and (3) genetic variation that is just part of biology. Sativa will present a certain set of characteristics on average, indica another, and the growing conditions will affect how these characteristics are presented. Then, just as you can have 3 kids with wildly different personalities, a given strain will smoke differently simply because genetic variation occurs naturally.

With the exception of THC and CBD, all strains present the full panel of cannabinoids and terpenes. The variation in character within and between strains occurs as the levels of these chemicals varies from strain to strain and plant to plant. Even within a given plant, these levels can vary from bud to bud. Recent research has shown that there is a specific terpene that is heavily involved in creating the couchlock effect universally associated with indicas. Myrcene, it has been shown, plays a majority role in creating couchlock from an otherwise energizing high. Indica presents myrcene in much larger quantities than sativa. Note that myrcene is NOT a cannabinoid. It is not THC or CBD. You can find strains with very high levels of myrcene and very low levels of either or both cannabinoids. While it is not a cannabinoid, myrcene IS neuro-active and is the controlling agent in “flipping” the THC effect from energizing to sedating.

As we continue to build science around the cannabis industry, chemical breakdowns will increasingly detail the terpenoid ingredients of marijuana products. Just as CBD modulates THC in certain ways, so do the terpenoids modulate THC and, together with other lesser cannabinoids, give indica, sativa, and their respective strains their distinctive characteristics.