Scent Makes a Place

In the late spring, the desert smells like chocolate. It's fleeting, and it isn't everywhere in New Mexico, but sometimes, walking in the scrubland, it suddenly hits: a sweetness shimmering through the air. At first, I didn't know how to read this olfactory information, but now I can look for the source: yellow-petaled flowers with dark centers—chocolate daisies—blooming in the sun.

The American Southwest smells unlike anywhere I've lived before. It's better than the woods of Maine; it's far more fragrant. I didn't expect that when I moved here. I'm a perfume collector, so I had smelled the desert through art before I smelled it in person. Through my experience sampling "Mojave Ghost," "Arizona," and "Desert Eden"—perfumes designed to evoke cactus flowers and conifers—I thought the mesas would smell dusty and musky, with a little green cypress thrown in. I was wrong.

Here, the plants hold their essences close to the stem out of necessity, only letting their oils free when it's safe to do so, when they're ready to be fertile. Here, the sand bakes under the sun and the fragile soil releases its secrets with each step. Here, even my dog's urine is more potent, more fragrant on the wind, a louder yellow than I ever witnessed during our walks in Maine, blending uneasily with the grey rabbitbrush. It's wetter and stranger than I ever anticipated—complex, elusive, fecund.

After a year in Santa Fe, I've finally started to scratch the surface of knowing this landscape. But the learning is slow and requires all my senses, including the one most often forgotten, what Hellen Keller called the "fallen angel" of the body. Unable to see or hear, smell became her primary way of reading the wider world; she lamented how that "most important" sense had been "neglected and disparaged" by the general populace, though she found it hard to communicate this knowledge to others. "It is difficult to put into words the thing itself," she wrote. "There seems to be no adequate vocabulary of smells, and I must fall back on approximate phrase and metaphor."

Perhaps due to our trouble translating scents into language, it was once common wisdom that human noses were weak, shoddy things compared to our animal friends. Time and research have challenged that paradigm. Although we don't have the smart wet noses of dogs or the large nasal chambers of reptiles, humans can discriminate between an estimated 1 trillion different odors; the myth of our poor olfaction is rooted in the Victorian distaste for all things scented and the Puritanical eschewing of all things bodily. In other eras people assumed that odd smells were evidence of impending illness, ghostly presences, or moral failings, rather than taking them for what they were.

We've also numbed our noses into oblivion, dulling our most primal sense with the overwhelming presence of synthetic musk and so-called "clean" compounds, used to scent everything from candies to detergents. So when I go outside and try to smell the air, identify the plant, find the source of aromatic joy, I'm engaging in an uphill battle, fighting both my culture and my exhausted, chemical-addled olfactory bulbs.

Yet it's a wildly worthwhile thing, to immerse oneself in a landscape, and

savoring the scents of place is a crucial element of this process. “Olfactory scientists have considered smell to be largely the purview of the unconscious, but by putting a smell into words we bring it into consciousness,” explains Asifa Majid, a cognitive scientist at the University of Oxford who studies both language and olfaction. Sniffing, searching, naming: These actions enable us to more thoughtfully engage with our environment.

Smell can also ground us in our bodies—my therapist uses scent as a part of our meditative practice—and tie our consciousness to place and time, rather than letting it swirl wildly around the contortions of future-thought. I relish my olfactory abilities because they help me feel embodied, reminding me that I am also a part of the world.

“We are constantly taking a read of our environment and synching,” says artist and theorist Gayil Nalls, founder of the World Sensorium Conservatory, a repository of “culturally important” botanical scents. Just as we constantly take in information from our eyes and ears, both consciously and unconsciously, we’re also receiving olfactory detail. “It is a big, important way that we understand our environment,” Nalls says.

On New Year’s Eve, 1999, Nalls debuted an “olfactory sculpture” to millions of people in Times Square. This scent was composed from iconic plants from every nation; for America, Nalls chose pine. After speaking to Nalls, I went for a walk through the scrubby forests at the foot of the Sangre de Cristo Mountains on the Atalaya trails. Almost immediately upon entering the woods, I found myself leaning into trunks, sniffing at the bark of a ponderosa pine.

It was a hot day, and it smelled warm, resinous, homey, and alive. Even in that small patch of forest, each tree—piñons and junipers, bristlecone pines, and cypress—smelled distinctive, each plant had its own olfactory fingerprint, and together they created a complex and resonant symphony of a very particular smellscape. The more I sniffed at bark, the more confused I became. What did pine even smell like, anyway? It was only when I stepped back that the forest came into view. Iconic and piney, certainly, but also so much more.

I could list each note that sung with the pine, laying it out beat by beat. That’s how perfume companies do it: They give you the top, middle, and base notes. Sometimes this information is provided right on the packaging, though one still must sniff the nozzle to understand how they all come together. Language can only offer a loose approximation of a perfume, and a perfume can only offer a loose approximation of a natural smellscape.

The airy scent that follows rain is known as petrichor, and there are many forms. The petrichor in Singapore, for example, will be quite different from that of Reykjavik. The desert smells most intensely after a sudden summer downpour, when the plants release their oils, when the soil opens its pores to the sky. Nevertheless, perfumers have identified a common essence to petrichor: the chemical compound geosmin. It takes its name from the Greek words for “earth” and “smell.” In small amounts—and we are able to detect very small amounts of geosmin, down to 10 parts per trillion, akin to a stick of incense diffused through the entire Empire State Building—it smells familiar and musty, a little minerally, a little dirty, but in a nice

way. In larger doses, it can come across mildewy and rank, like dirty laundry left in a damp basement. In nature, geosmin is produced by certain species of blue-green algae that live within soil, and is part of the fragrance bouquet that gets released into the air before, during, and after the high desert gets hit by rain.

For perfumers, the discovery and naming of geosmin in the 1960s was a boon, although it did take several more years to perfect the lab-synthesized version of the compound. It can be used in perfumery to add a muddy, petrichor scent to the bouquet. Since most fragrance houses don't release a list of their chemical compounds, it's not always easy to know when you're smelling geosmin, but if you're looking for a desert-inspired smellscape, there's a good chance that synthetic petrichor will be part of the mix.

Indie perfume house Solstice Scents makes a botanical, woodsy scent called "Desert Thunderstorm," which features sage, pinon resin, sweetgrass, creosote brush, sand, and petrichor among its notes. Another atmospheric perfume, "Two cups of tea, a summer monsoon, and me and you" by Death and Floral, also relies heavily on petrichor to ground it in place. Both can veer mildewy if worn too heavily. That's the risk of geosmin thanks to our remarkable sensitivity to this compound.

But there are other ways to get a rainy desert scent, according to Cebastien Rose and Robin Moore, perfumers at the Albuquerque-based company Drylands Wilds. Unlike most perfumers, they don't use synthetic odor molecules; their ingredients are derived from locally foraged plants, and through their work, they've become experts in the various scentscapes of New Mexico. Including greasewood, which is often considered a pest plant, a garbage scrub that needs getting rid of but is also responsible for an earthy, fresh Southwestern scent that wafts from its leaves. "Right before it rains," explains Rose, "it opens all its stomata." These "tiny mouths" are how the plant breathes, and as the rain begins to fall, the leaves release aromatic organic compounds called cresols, which smell a bit like coal tar and—thanks in part to their association with rainfall—a lot like a drenched desert.