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Prejudices in Society and Academia against Cannabis

When they called me from *Voices of Mexico* to ask me to write about cannabis, I got very excited. I remembered the teachings of Professor Rolando Rosas: “Everything is work, sometimes very intense, and the spark of the muses must find you working.”

I’m from the Mixtec region in the mountains of Oaxaca. In my childhood, organized crime groups came to town with marihuana seeds and convinced the peasants to produce it. Away from the hustle and bustle and the city, the bushes grew lushly, and in two years, abundance descended on us. A miracle had happened, and the illusion of well-being set in for a while.

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They bought pick-ups; they built their houses out of brick; they cooperated as never before in the fiesta of the local patron saint. Everything was rosy until the army came. There was nowhere to hide; not a stone was left on top of another; they burned all the weed and took away many peasants... The violence was brutal, in the very style of the dirty war.

Anxious to show its power, to violently impose on the oppressed and the dispossessed, the army went into all the houses looking for weed and torturing the families. When my Aunt Venancia tried to protect her husband who was lying, bleeding, on the floor, she was also beaten; they broke her leg and she has never recovered since. That was how sadness and loneliness took hold of the town, plus the fear of the “accursed” weed.

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When I went to study at Chapingo University, I came into contact with Mary Jane again, but I was always very careful. By then, I was aware of my weaknesses and that I could be seduced right away by "sin," and so, I've always had a lot of respect for marihuana. However, laziness has often saved me from many sins.

I've never been interested in narco-culture. Despite having been delighted to hear "Boss of Bosses" by the band Los Tigres del Norte, I prefer "The Load Askew," a corrido involving contraband with social aims, which includes a dealer called "El Rojo."¹ I don't go near "altered corridos" or any about war,² as, in general, I believe myself to be a peaceful person. But I must admit that I'm amazed at the ingeniousness of some of the lyrics, like the one by Los Tucanes de Tijuana, "My Three Old Ladies": "Sweet-smelling, green-eyed Mary / her little butt is just delish," clearly alluding to cannabis buds. Or "Kilo-sized Packs," also by Los Tigres del Norte: "How cute my cows look, / with lamb's butts." Not related at all to genetic engineering, but just another way to refer to marihuana.

I developed professionally amidst the most violent campaign against the plant, orchestrated in the United States, that made Mary Jane out to be the worst evil of all time. I was far from having a critical and academic view of the issue; I'm ashamed to admit that, while I didn't think the accusations hurled at cannabis were real, I also wasn't interested in knowing more. In the end, that is, I think, the duty of anyone who subscribes to academic thinking.

I work among good-willed researchers, both men and women. They grow corn, beans, tomatoes, mushrooms, orchids, and other plants that Mexico's countryside needs. So, several years ago, I began working with popcorn. This is interesting because, although Mexico is the main origin of corn, more than 90 percent of the popcorn we consume comes from the United States, a reason why working with cannabis didn't seem like a good idea.

The conflict that had to be overcome was, undoubtedly my own prejudices. What will people think of me? Will I be considered a drug addict forever more? Lots of

things like this went through my head. My memories of the class on Galileo Galilei were of no use, of how he faced down the *Un-Holy* Office of the Inquisition and saved his skin—unlike Giordano Bruno who died, both body and soul burned. Suffice it to say that today's lynchings take place in the media and social networks.

I believe that academia has turned into an "aristocracy" in our universities: once people get to that point, they tread water; advancing knowledge seems to matter little. Cutting-edge research is no longer interesting; what seems important is preserving privileges, remaining in the National System of Researchers (SNI), at the cost of the work of new generations who, apparently will never be able to occupy the posts of the gurus of knowledge.

The idea of working with cannabis came to me one day for no apparent reason. I often think that our university should be the cutting edge in the development of varieties for the Mexican countryside. I am, of course, referring to healthy food, both agricultural and animal, but it should also delve into emerging crops and be there when they come to call.

Little by little, some disperse data began to get my attention. For example, that cowboy pants were originally made with cannabis fiber—recently some were found in an abandoned mine in California and were in good condition almost a century and a half later—or that the ties on sails in ancient times were mostly made of hemp. Even today, masons use hemp twine.

But, if it's so resistant, why did people stop producing cannabis? The reality is that it was banned in North America, but in Asia and Africa, production never stopped. We already know that the economy moves politics in many cases, and to understand that better we must ask ourselves who benefitted by banning cannabis. Among others, it was southern U.S. cotton growers.

In the mid-twentieth century, production of cannabis in Mexico was gradually increasing. Despite the ban, estimates say that the country was the world's top producer for several years. Later, Colombian marihuana arrived,

and after that, cocaine, which inundated the drug market. Organized crime grew in the shadow of governments, and for several years now, the Sinaloa Cartel has become a very powerful multinational that has left the European and Asian mafias in its wake.

Another well-founded fear of academia is that organized crime is everywhere. As we know, there are lookouts on every corner, and the universities are another important center for the flow of Mary Jane and other dangerous substances—here, I'm not referring to laboratory solvents, but to crack, rock, and other products that the young “candy” sellers offer to any passerby, by catalogue, or for delivery at a mid-point.

The panorama is complicated, but we have to recognize that the driving force behind science is the desire to know, to find out a little more. So, a few years ago, when I saw a meme on Facebook that said, “You want to do it but you're afraid. So do it with fear,” I did it. I started the project, and like all great projects, it went from the bottom up and little by little.

The first problem is that, given the ban and the fears, there is very little academic information in Mexico. So, the task was to contribute to generating more. Also, we can find general information from growers, who also offer seed on the informal market. The prices are high, of course, and the seed can be obtained, but it costs from one dollar a seed and up.

I acquired some seeds and asked for donations from my acquaintances. Weed smokers regularly throw out the seeds because, as we know, growing was prohibited and continues to be stigmatized. This is the first lesson, of the most elementary variety: the sale of seeds is a huge market sector that will undoubtedly be exploited in time.

So, I started off on the road of the grower. Just like a child in primary school who germinates his little bean and goes to look at it every five minutes, I watched it grow. The wait was long, and I had to take good care of the plants because, as I said, there is no trustworthy information

about how to grow them. However, cannabis is a very noble, generous species.

The first yield was six plants. In this first stage, I concentrated on observing. I had never had plants that had demanded my attention for so long, so sometimes I thought that the time invested might have been wasted. I don't remember if I got to the point of talking to them, but I think I did. I would say things like, “Wow, Juanita, you're so pretty!”

They grew and reached puberty and then it happened: two of those plants that I had grown from a seed weren't Juanitas, but Juanitos. Being ignorant, I felt disappointed and asked the seller of the seeds for my money back. I must clarify that growers look down on male plants because their aim is to grow a flower, which concentrates the terpenes, the aromatic molecules used in making essential oils; THC (tetrahydrocannabinol), the psychoactive substance; and CBD (cannabidiol), the medicinal agent.

It occurred to me to put a female plant next to the male plants and that produced an impressive number of seeds, which then allowed me to systematically do viability tests.

To observe the seeds, I put them in a glass recipient on a kitchen napkin. Using a manual nebulizer, I sprayed water on them twice a day. That allowed me to log the germination that took place in the first hours for some of the seeds but could take up to ten days. After that, they didn't germinate. Most germinated on the third day.

To develop the seedling, I used all available substrata, like vermiculite (a mineral formed by iron or magnesium silicates) and coconut fibers. However, there was a problem with handling given the plant's delicacy and manipulating it when it was tiny was a problem. So, I decided to germinate them in seventeen-centimeter polyethylene hothouse bags. When they were two weeks old, they were ready to be transplanted to the ground or to forty-centimeter hothouse bags.

I got my supplies in the local agricultural store and at flower markets. That's where I purchased garden soil, bags, and fertilizers for flowers. There are two stages: growth and flowering, and each stage requires its own fertilizer.

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However, the first crops didn't get fertilizers or added light; water and daylight help the leaves to do their work.

Using one of the experimental models, I was trying to see the difference in how the plant developed when treated differently; so, I had control batches, others with light added, others with commercial fertilizer, and others with bio-fertilizers and compost, but with this process, more questions arose. The difference in development among the plants using one or another substratum was not statistically significant, but variations did exist in the proportion of male and female plants. For example, the batches using commercial fertilizer yielded more males.

When the plants had grown to their full size, I went on to the drying (just as other plants like tobacco or coffee require), which must be done in the shade. Two weeks later, they can be cured, which consists of putting the dried flowers in glass jars to preserve their aroma. At that point, I had new tasks. First, I went to the National Research and Agro-food and Forestry Service Laboratory (Lanisaf), located on the University of Chapingo campus, so the flower samples could be analyzed. However, the answer was negative, with considerations totally unrelated with academia or science.

It is important to point out that I had the collaboration of Chayan, a social sciences scholar from Guerrero who is familiar with illegal cultivation of varieties such as the historic Acapulco Gold. From his first contact with the plant, he knew it had been grown indoors with agroecological techniques. He noted the moderate citrus touches and then the broad spectrum of its effects, compared to others, whose effects are more immediate but last less time.

So, I have two prototypes: "The Fabulous VP," in reference to El Viejo Paulino (Old Paulino),³ and "Eme Zeta"n (MZ), the result of the stratified visual mass selection process,⁴ which is very similar to the improvement our ancestors achieved in domesticating the first cultivated plants.

I also delved into agro-industry, the transformation of the flower: I implemented two processes, one with solvents and another without. For the former, I used non-denatured 96-percent alcohol, and for the second, mineral water. Marijuana leaves can be eaten in salads and used as condiments. However, I remember that once I added a flower to a mushroom dish and the effect was intense, not appropriate for sensitive individuals.

For the extraction of the essential oils that did not use a solvent, I put the flower in a double boiler (a recipient

with the flowers and mineral water placed inside another recipient with water) and heated it for almost two hours. The mixture must be stirred regularly and the oil separates due to gravity, with the oil on top and the water below. This procedure is used to make ointments and cosmetics.

Cannabis substances are liposoluble, that is, they can be mixed with and remain in fats. In the home, the flower can be placed in a recipient with olive oil and after a month, can be used as a salad dressing.

For the extraction using solvents, indicated for making medicinal extracts, non-denatured 96-percent alcohol is used. The flowers should be weighed, since that standardizes the process, which is necessary if the idea is to market the product. After being left in the freezer for four days, the tincture is ready. The alcohol is extracted using a double boiler, and at the end of the process, you are left with the full-spectrum resins, that is, the THC and CBD families, which guarantees a fuller effect for the patient's health.

We know now that the human body produces cannabinoids naturally, which are necessary for neurotransmitters and are fundamental in all physiological processes. This means that, far from being a plant "for evil," cannabis is rather a plant "for good." Its contributions to human health are essential. This means that this small contribution to the knowledge and dissemination is part of my contribution to the common good, since it is important to know that in the same way that you can put a rose bush or an epazote plant in the window or in your garden, anyone can have a cannabis plant—or six—for your well-being. ■■■

Notes

1 The corridos mentioned here can be heard at "Jefe de jefes" (Boss of Bosses), by Teodoro Bello (1997), <https://www.youtube.com/watch?v=tKQwOuTiY-A>; and "Carga ladeada" (The Load Askew), by Paulino Vargas, <https://frontera.library.ucla.edu/es/recordings/carga-ladeada-13>. [Editor's Note.]

2 "Altered corridos" are a sub-genre of narco-corridos whose lyrics openly portray and glorify the way of life and beliefs of people who are part of or live amidst drug trafficking. This kind of corrido is what is known as the "altered movement." [Editor's Note.]

3 This was the nickname of the celebrated composer and singer from Nuevo León, Julián Garza Arredondo (1935-2013). [Editor's Note.]

4 This is a widely used phyto-improvement method used for open pollination plants. See "Módulo de selección masal estratificada," from the Proyecto Buena Milpa, <https://www.asocuch.com/wp-content/uploads/2020/06/Modulo-Seleccio%CC%81n-Masal-Estratificada.pdf>. [Editor's Note.]