A Future Garden for the Central Coast of California

We at the Center for the Study of the Force Majeure call the work that you are experiencing in these three domes a Future Garden; there are four others currently in progress. The metaphor guiding these works is Every Place is the Story of its Own Becoming.

The core insight in all the Future Garden works is every place that has experienced temperature increases, drought and species die-off in its past has regenerated its ecosystem over time with new species ensembles better adapted to rapid warming. These can be located and propagated, engaging with the future of the central coast of California from Big Sur to San Francisco. This work intends to grow heat-adapted local species as a foundation for the future ecosystems on these lands.

The experiment inside the three domes is simple. Sixteen plant species were selected from the major eco-regions of California’s central coast for their resilience to drought, variable rainfall and temperature extremes. Each of the three domes holds the same 16 plants, repeated in two different groupings, clustered by species on one side and randomly on the other. As a constant, each dome will be kept at an average of 3°C higher than regional average. As a variable, we are applying distinct watering regimes to the three domes: one wetter, one wildly variable and one drier than the regional precipitation average. The species on the outside ground plain are the same as those inside and thus have some properties of a control, to see what will thrive outside in response to the natural water regime.

This is a 50-year experiment focused on building a diverse group of plants that can be propagated and move into our future heat-shocked region; a 16+ species ensemble acting as scaffolding that will self-complicate over time. We expect some species will die off and we will replace them with new species in order to generate the most resilient ensemble possible.

An unusual grouping, these sixteen plants. Medicinal uses by the Amah Mutsun, Muwekma Ohlone, Miwok and others are extensive, including expectorants and antispasmodics, callus removal, treatment of poison oak, syphilis, tuberculosis, kidney and bladder problems, urinary tract infections and stomach aches.

Many spread by rhizome; an excellent survival tactic. Most exist in many places in the coastal range; evidence of their resilience. Some are more drought tolerant, some like dampness, all have many uses as food for bird and insect life. Some grasses offer forage for herbivores. All exemplify the deep value of biodiversity. In the long term we are searching for plant ensembles that can self-complicate to become the scaffolding for an ecosystem that can in part replace that which degenerates from rapid temperature rise. Actually, we are talking about assisting the migration of species, through time.

A few notes on the ensemble California Mugwort – ceremonial, a dream inducer; Coast Buckwheat – leaves soothe colds and coughs; Seaside Daisy – likes clay, and somebody said the deer love it; Coyote Mint – fragrant, filled with pollen, nectar; Yarrow – attracts predatory insects that feast on botanical pests; California Aster – is tough and colonizes disturbed sites; Tufted Hairgrass – a favorite of cattle and sheep; Foothill Sedge – grows in the meadows and uses little water; California Fescue – has deep roots, the seeds are eaten by birds; Torrey's Melic Grass – a charmer, often found flowering beneath the oaks; Lizard Tail – used by the Maidu and Miwok to relieve aches and pains; Black Sage – the seeds are loved by quails; Sea Lettuce – a succulent that can be eaten raw; California Fuchsia – the hummingbird favorite with its red color and sweet nectar; Dwarf Checkermallow – a perfect home for the larva of West Coast Lady butterfly; Gum Root – has golden flowers still in bloom when others have faded.

From Big Sur to San Francisco

While the ground plain external to the domes is planted with the same ensemble as a limited control for what is planted within the domes, the external spaces available are also to work in an entirely different way but with similar intentions. A pocket forest is planted in the space adjacent to the growing areas north of the domes. This forest is itself an ensemble with understory that will be planted along with tree species that we predict will survive the temperature rise and the erratic rainfall. The specialist knows this kind of grouping as pockets of heat-adapted biodiverse species that act as ‘climatic nuclei’, radiating outwards as conditions warm.

The hillsides adjacent to the domes will be re-planted with coastal chaparral particularly Toyon, Lemonade Berry (a little stretch), Baccharis and various sages. The overarching idea in the surrounding landscape is to create a variation of the mini-universe attempted in Japanese gardens. In this way, the emergent ecologies within the domes are surrounded by the hillside plantings of chaparral as well as a future forest pocket of conifers and oaks, which in turn is nested in the landscape of the Central Coast. This mini-universe is envisioned as a biodiversity field, which can complicate as most natural systems do when the energy (sun and water) is available; the intention is to expand and improve the regional biome as the ensemble develops and as existing biotopes retreat in response to heat shock.

This Future Garden intends to make a serious contribution to the well-being of local biotic communities of this region 50 - 75 years from now. The Future Garden concept empowers local people to act in the face of climate change. It is a botanical adventure and can be done simply, with minimal infrastructure, with regional botanists and everyday folk.

And who will live and who will pass away in this companion group is an open question. And who will replace those who die is an open question. And what will that look like at the end of all these species happens from heat shock is an open question.