

HEXAGON: ON TRUTH

“But must we always, then,” the poet will wonder, “rejoice in regions that are loftier than the truth?”
— *The Life of the Bee*, by Maurice Maeterlinck

Now, in the lab on Mt. Graham, a robot is polishing a mirror. The robot will continue polishing all night. Tomorrow morning it will still be polishing, into the afternoon and into the fall. Then it will be repaired and go back to polishing a winter night. As spring polishes morning. As breath polishes silence.

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Everything is moving away from everything. Everything shifts red, we shift red, as we draw away from each other. In time we realize we have already left. This is rarefaction. Its inverse: compression. These forces create waves.

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The backside of this mirror is a honeycomb. Honeycombs are known for their strength in lightness. *I shall confine myself generally to relating what is patent to any one who may gather a swarm into a glass hive.* Bees are known for their devotion to a single task, such as collecting pollen from a field. The front side of the mirror is a hive with a single worker. As long as it polishes, the robot presses itself against itself.

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The robot polishes the largest mirror ever manufactured. It will be part of a telescope for gathering light from the vineyard of stars. The shape of this mirror is the shape of wine in a spinning glass. For three months it cooled until we could safely put our lips to its lip. We left a wine stain: a galaxy blacked out. Better to put our lips to our lips; better to compress.

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This is patent: hives are built from the top down. *for we have here an inverted city, hanging down from the sky.* A dense swarm will suspend on a branch or the corner of a hayloft. Slowly this swarm polishes its wax down in the shape of a suspended wineglass. *The bees, however, are not infallible, nor does their certainty appear mechanical. They will commit grave errors at times; they will often leave too much space.*

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Of the visible forms of light, red is the coolest. Cooling draws us nearer to evenness. Everything cools. Cool air is denser and carries less water, which affords clearer views of the sky. When air becomes too cool, droplets condense on bees' wings, renders them useless. Sunlight reflected through them evaporates them.

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The robot does a good job. If this mirror were as large as North America, nothing would extend higher than four inches. Cinemas, cornfields, salmon hatcheries, windmills, Mt. Graham, the beehive, all shorter than four inches. As the robot polishes the mirror draws nearer to uniformity. We are drawing nearer. Good robot.

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Scientists look for solutions, explorers look everywhere for elsewheres, gather clover from the field. Even such a mirror will find it hard to gain a clear view—*A passing bird, a few drops of rain, a mistake, a cold wind—any one of these may give rise to irremediable disaster.* Bees dance, a robot polishes. Collection, compression. Atmosphere trembles.

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If a bee returns from the meadow to find her hive moved away, she will hover in the space where the hive should be. She continues until she can't. Until she's exhausted from polishing the air with her wings. Imperfections are inevitable. When the robot stops polishing there will still be imperfections, imperfections smaller than the waves of light. When the image of the robot is indistinguishable from the robot, the robot stops polishing.

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The bee is above all, a creature of the crowd. When she leaves the hive, she departs from her proper element. She will dive for an instant into flower-filled space, as the swimmer will dive into the sea that is filled with pearls. It behooves her at regular intervals to return and breathe the crowd as the swimmer must return and breathe the air. Isolate her, and she will expire in a few days not of hunger or cold, but of loneliness. If North America were the size of the mirror, the color red would bounce every two feet.

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As stars die they rarify, redden. These are red giants. Our sun will become a red giant and as it expands it will swallow the earth. We have calculated it would be so large as to hold four million earths. In these calculations, hexagonal chambers of light enclose these many earths. By then no earths will exist, much less many.



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By fall, the inside of the honeycomb is so filled with honey that the walls reflect light. It is thought that this increase of light calms the bees' compulsion to gather pollen. *They never can look too high. Truth rises as they draw nearer; they draw nearer when they admire. . . .* We aren't sure. There is no way to measure calm in bees. And it might be the light of an early sunset, an October evening, the first snowflake blown inside the hive.

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On the perfect white salt flats at Uyuni, on the day it rains, there is a larger mirror on earth. If the mirror were the size of the salt flats, nothing would extend higher than the height of a bee. Thinness of water over pure white salt makes a hole in the world. Hovering at the right distance above the salt flats, we cannot see the earth—only the space behind, as if our world moved away. We will look down at the space behind, the entire inverse, becoming a dim, even, red. We will keep hovering; we will redden as we draw away.