The Rick and Susan Sontag Center for Collaborative Creativity, known more colloquially around the Claremont Colleges as the Hive, is the place that I have chosen to evaluate. Located in an existing building on the Pomona College campus there was little alteration in the building to accommodate this new use. In experiencing the Hive over the course of several months for its inaugural year, I can attest that it has already undergone some evolution, from science faculty offices to a creative space that occupies an entire building. In general however, it is a rather banal space devoid of any design consideration to stimulate creativity or to connect to the natural world. So, since most structures fall into this category, I think it is a great opportunity to see how design interventions can inspire creativity and can meld the natural world with this man made structure as a model for transformation.

According to their website, the purpose of the Hive, is as follows: “To accelerate the creative development of students across the 5Cs. We do that through Exploration – by creating a safe space to experiment and play, Collaboration – by bringing people with diverse backgrounds and perspectives together to be in the “intellectual muck” together, and through Experiential Learning – thinking by doing. We do all this through a range of activities, both curricular and co-curricular. Our learning activities run the spectrum from short one-hour mini-workshops that may give students a taste of a particular topic area to class activities that allow students to interact with outside partners on real world challenges.” In my mind, it is important to have an understanding of the intention of the space as well as how it is used in order to find context appropriate opportunities to apply biophilic principles through design thinking.

Currently, there are no discernable intent to consider ecological processes or biomimetic features in the Hive. Yet as a center for creativity, such features, if artfully implemented could greatly enhance the intended activities. Building orientation, entry and window placement are not intended to enhance social or environmental connectivity, yet there are some elements that with strategic modification can effectively realign the building with natural processes. One such example in the main entrance where if you look up you will see an array of herbs and flowers hanging from the ceiling. Absent adequate natural light, these herbs are dried out and dead. The only connection to nature is tenuous at best by catching a glimpse from a fixed, inoperable window spanning the main hall, one of only two windows in the space.

Although the space is open and the ceilings are fairly high in some areas, there are also low areas with institutional acoustic tile ceilings and fluorescent lighting much too cool in color. The sterility heightened with white vinyl tile floors and white painted walls and diminishes both the a sense of place or purpose. In a space so generic, needless to say, applying biophilic design principles has great transformational potential.
Biophilia is defined as the inherent human inclination to affiliate with nature. The moral imperative of biophilia is that we cannot flourish as individuals or as a species without a compassionate and considerate relationship to the world beyond ourselves of which we are a part. Biophilic design, an extension of biophilia, incorporates natural materials, natural light, vegetation, nature views and other experiences of the natural world into the modern built environment.

Further, an increasing number of recent studies have shown that designing your interior spaces to be green will lead to happier and healthier inhabitants. “A case study of an administrative office building at the University of Oregon indicates that biophilic architecture directly affects the rate of absenteeism for office workers, in this case by 10 percent.

The University of Oregon building that was studied included:

- 30% of offices that overlook trees and a manicured landscape to the north and west.
- 31% that overlook a street, building and parking lot to the south and east.
- 39% of the offices are within the building, offering no outside view at all.

Employees with the views of trees and landscape took an average of 57 hours of sick leave per year, compared with 68 hours per year of sick leave taken by employees with no view. Those with an urban view were midway on the continuum.

The study also monitored the workers’ break patterns and found that those with landscape views sat at their desks for longer while those with no view took exterior walks and longer breaks.”

The above case study is just one of many examples of how ecological function, human connection to the natural world and nature inspired forms or process are all things that impact a space. It is this synergy that allows one element to address many things to make a single environment more habitable.

The transformation of the Hive should amplify the existing positive characteristics and strategic design interventions that mitigate the current shortcomings.

One of the most redeemable features in the Hive is the incredibly high ceilings. Upon entering the second floor, expansive windows rise up into the ceiling. With the addition of living wall and vertical gardens, greenery will be able to grow down the walls of the Hive, keeping down the levels of airborne dust, carbon dioxide and other pollutants while also keeping down the temperature and lessening the need for air conditioning. Vegetation will

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also be a welcome alternative to cut down on noise pollution inside as opposed to acoustic tiles.

Another amenity is an existing adjacent garden that is not well connected to the building. This is an opportunity to add free-flowing connectivity between indoors and out by adding glass garage doors here and at other key areas to increase door-outdoor connectivity. I would also replace fixed windows with operable windows to increase natural ventilation. In some cases they may also be enlarged to capture specific views.

I would also create outdoor classrooms and collaboration areas that encourage shifting of program activities to the outside if desired. Strategically plant deciduous trees to shade windows on the southside to protect windows in the summer to minimize heat gain but allow sunlight through in the winter. These will also make the outdoor program areas more comfortable year round as well.

Non-native landscape should be replaced with species that will thrive without potable water and demonstrate seasonal variation. Capture rainwater for irrigation and supplement it with grey water generated by the building excess water could be used for flushing composting toilets that will be combined with organic materials generated on the site.

Another way to enhance a natural connection to nature is to add operable skylights. This will bring in natural light whose colors and shadows will shift over the course of the day and when they are open, they will facilitate cooling and airflow through natural convection to give help occupants feel refreshed and invigorated. On the roof, solar panels can be added to generate electricity and to heat water to minimize the use of external infrastructure for operation.

Current interior material palette is devoid of any reference to nature. I would remove fossil fuel based and VOC heavy finishes and adhesives such as replace the vinyl floor tile with bamboo, cork or another sustainable, rapidly renewable, durable natural finishes. All casework and furniture should be natural unpolished wood that is a warm and inviting expression of natural materials. In addition to sight, consideration should be given to engage all five senses paying close attention to textures as well as colors that provide psychological connections to the “natural environment. Some opportunities tactile possibilities of natural fabrics.

The ultimate goal is to have the building operate more like an organism that is integrated with the natural processes and an authentic reflection of it’s place in the natural world. While these changes invariably reflect a discernable shift in aesthetics, the more pertinent change is fostering a paradigm of mindful engagement between people, the natural and built environment. In the case of the specific mission of the hive, biophilic principles could be a catalyst for more holistic approach to creative activity.