

Learning From Ants

There was a most ingenious architect who had contrived a new method for building houses by beginning at the roof and working downwards to the foundation, which he justified to me by the like practice of those two prudent insects, the bee and the spider.

Jonathan Swift, *Gulliver's Travels* (1726)



The anthills have always been a feature of my experiences and imagination of the forest in Sweden. The ants inhabit and colonise the forest and are accordingly important creatures of the boreal ecosystem. There is clearly both temporal and spatial dimension to the societal endeavours of these insects; accordingly, the taskscape concept is appropriate. As an art historian with a special interest in architecture, I have often encountered the ideas and concepts of biomimicry that, in recent decades, have inspired architects and designers, among others. Biomimicry or biomimetics was introduced to a wider audience through the book *Biomimicry: Innovation Inspired by Nature* (1997) by Janine Benyus, who is a biologist and author. When the book was released, ideas of how we can make biology relevant and useful for design processes rapidly spread in many creative practices.

Walking and foraging in the forest, you are never alone and one of the most frequent and visible companions, with whom we seem to share the taskscape, are ants. Different species with the same features—a head with elbowed antennae, a body with two segments and six legs—all have complex social behaviours living in colonies consisting of many, many ants. The species that

*Figure 1. Anthill in the High Coast area.
Image: Katrin H. Sten, 2023.*

interests me is the Red Forest Ant (Lat. *Formica Rufa*) and more than the actual insects, my interest is in the construction of their nest. The anthills are my theme for this exploration and, more importantly, my interpretation of what we can learn from the ants about shelter, especially the surface, or façade, of the nest.

We start our interpretation of the nest by casting on 200 stitches or perhaps 40 more using unspun wool yarn. It could also be 20 less, but now it is 200 and we are using circular needles that fit the yarn to make a circumference of approximately 130 cm where the nest meets the ground and where blueberry bushes build up a fence around the mound. Green is the colour used.

A shelter is defined as something that might be a nest, a building or a den that is protecting its residents from bad weather and possible dangers or threats. The surface of the anthill plays a significant role in achieving protection and this is the common thread for understanding and interpreting the anthill in this essay. Other researchers have worked with the spatiality of the anthill, such as Professor Walter R. Tschinkel, who uses melted aluminium to cast the interior. The result is beautiful, without a doubt, an objet d'art that reveals the intricate spatial organisation of the nest; however, the method is cruel.

By looking at two aspects of the anthill as shelter—form and material—I translate these to a wearable ants' nest, showcasing the advantages and peculiarities of the Red Forest Ant by using wool as a material that mimics the water resistance and peculiar climate control of the nest.

The form of the anthill is a paraboloid that rotates around its axes. The cupola-shaped nest is closely related to the specific site in the landscape when it comes to height, width, and steepness of the slopes, all sub-



Figure 2: Amber and wool samples. Image: Katrin H. Sten, 2023.

jected to many different criteria and stimuli, such as the temperature of the site, sunrays and shading, texture and structure of the soil and existing vegetation.

By knitting in the round with a stocking stitch, there will be a curl, so after a couple of centimetres, maybe 5, we continue with a rib: one knit and one purl to stop the curl and to visualise the stems of the bushes. Where is the anthill? Well, that depends on the site... Let us continue with green and then we let the nest show by changing to brownish yarn. If you wish, use both brown and green yarn as a transition. Knit in green and purl in brown for a couple of rounds and then continue with brown-making stocking stitch.

The material used by the ants is soil in the interior den, which is expanded below the ground and might reach a deeper subsurface than the visible mound. The façade is made up of many different components, such as wigs, pine and spruce needles, resin, cone seeds and smaller leaves with soil used as an adhesive.

Given the shape and the material used, the anthill has some important features that are addressed: climate control of humidity, precipitation and temperature, anti-bacterial function, security from predators and stability. The surface includes several openings that can easily be closed from the inside or outside due to weather or time



Figure 3. Close-up photo of the surface of the anthill. Image: Katrin H. Sten, 2023.

of day. These openings regulate interior temperature and foreclose rain, making the anthill weatherproof. Resin is collected by the ants from pines and spruce and functions as a nutrient for the almost invisible fungi growing in the nest, which adds nitrogen that makes the whole nest dry and hostile to plants. Resin can make up 20% of the façade, and it is plausible that it also controls humidity.

Make holes here and there by casting off two or three stitches and then “recast” them again in the next round. Not too many but enough for air conditioning to work! The cupola needs to be handled with care. The top of the anthill is not pointed but domed and I suggest a raglan decrease according to your measurements and needs to shape the dome and fit it with your shoulders. Before casting off knit, a few rounds of rib. Wash in wool soap.

Both blueberries and lingonberries can grow on the borders of the anthill but are exceptions. A few dry leaves from the bushes can be used by the ants but it seems as if the berry bushes simply are a transition between the forest around and the nest.

Figure 4: Material samples. Image: Katrin H. Sten, 2023.





Figure 5: Close-up of embroidery and “openings”.
Image: Katrin H. Sten, 2023.

When dry embroider or felt blueberry bushes with wool yarn around the bottom of the poncho... green for the stems and leaves and blue for the berries. On the inside of the holes, sew on amber pearls so that they are not totally visible but more hiding, just like the resin collected by the ants.

The knitted anthill is a representation but also an honest gesture in trying to understand and interpret the activities and knowledge of the ants – in the temporality of the landscape. It should be worn and used in the forest where paths will be crossed with the ants.

References

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