fig 1.0

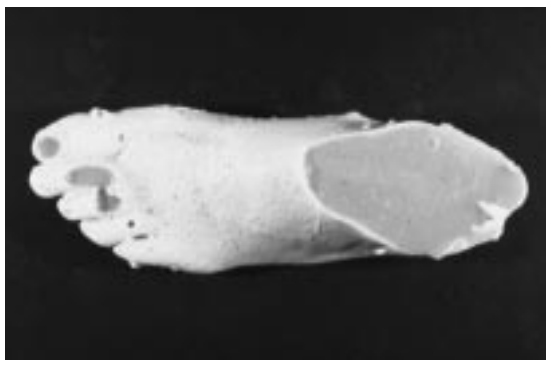


fig 1.1

fig 1.2

fig 1.3

My analysis began with simple investigations that allowed me to understand and study the foot in both two and three dimensions. I started by casting my foot in resin (fig 1.1,1.2) which gave me a three dimensional model to use as a point of departure. At the same time I photographed the foot in different sites (fig 1.3) and then, using footprints (fig 1.2), analyzed the foot in both plan and section (fig 1.4,1.5). The object of these studies was to begin to discover proportional and geometric relationships in the structure of the foot. Also, I began to investigate the anatomy of the foot and points of pressure when walking and standing. Although the anatomy of the foot was not a driving force of the project, I did take it into consideration as I developed my study.

fig 1.4

fig 1.5

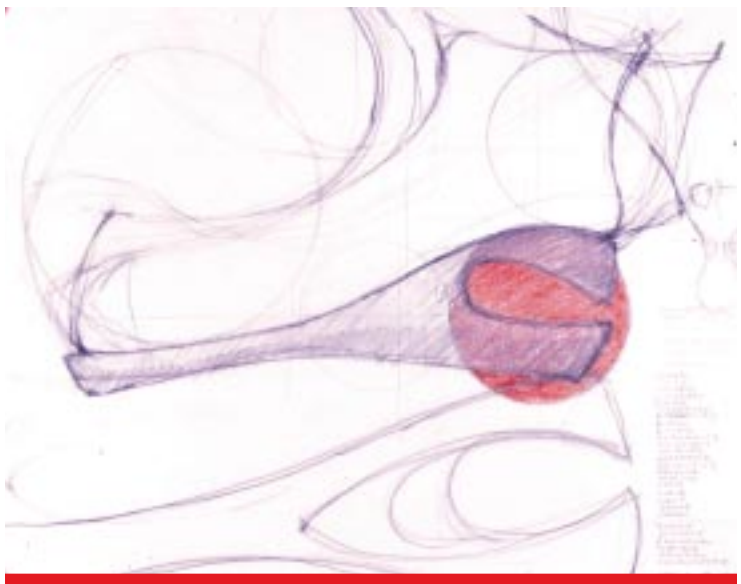


fig 1.6

In order to draw from my architectural environment, I attempted to approach the foot as a site and look at how the plan (fig 1.4) and section (fig 1.5) of this "site" could be broken down according to the inherent geometry. These studies evolved from anatomical drawings and were an important point of development in my study. From these drawings I started to approach the plan of the foot as a template (fig 1.7,1.8). At the same time I began to think about form and materials. I started by drawing and modeling forms (fig 1.6,1.9–2.2) that had a relationship to the topography or structure of the foot.

fig 1.7–studies of the plan of the foot

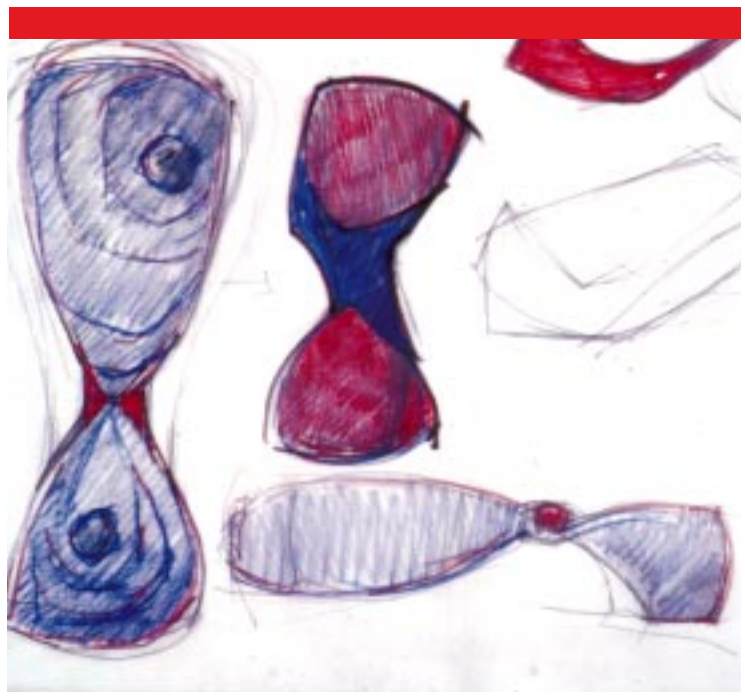


fig 1.8

fig 1.9 – balsawood form study

fig 2.0 – balsawood form study

fig 2.1 - Renshape form study

fig 2.2

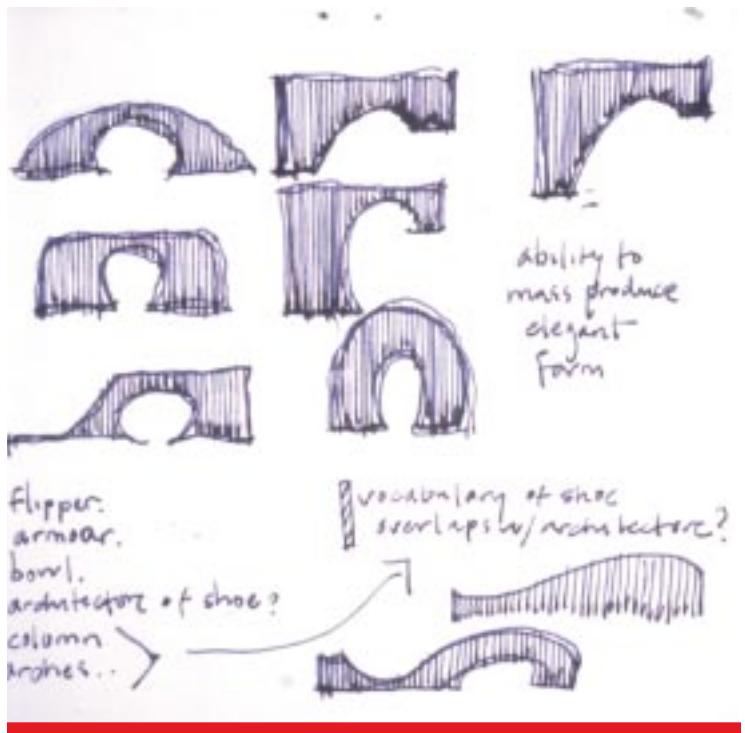


fig 2.3

From these initial investigations of site and form I started to see a pattern develop in my work. It became clear that I was thinking about and dealing with the foot in two different ways. In the two dimensional realm I was treating the foot as a template of shapes (fig 1.7,1.8) that responded to one another. In my three dimensional studies I thought of the foot as a topography to which an external form (fig 1.9–2.3) could respond. In these studies I avoided thinking of the final product as a shoe and instead approached the foot as a site for my study. By doing this I entered the design phase of my project with study models of forms and materials and without preconceived images of the final product. At this point I saw a necessity to define my study as two distinct paths; one following the idea of a template or pattern and the other a topography or terrain for the foot.

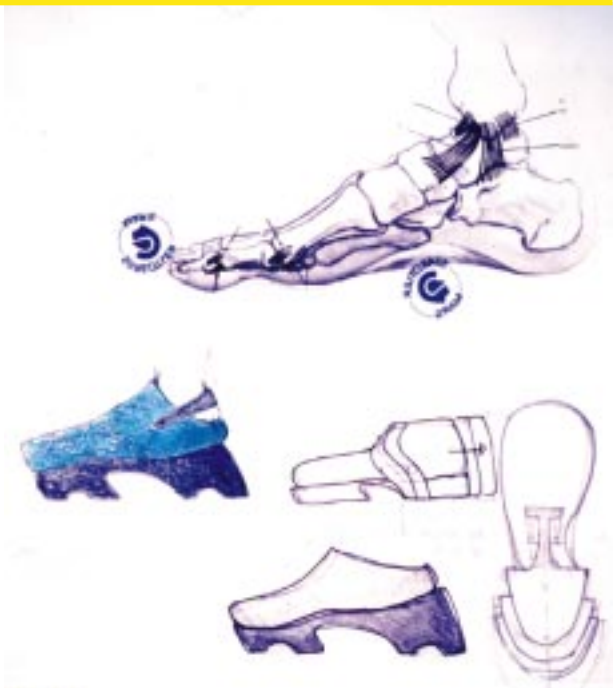
design development

path one

Path one of my investigation stemmed from the idea of the topography of the site. As I realized the direction my study was taking it became important to me to maintain the informal quality of some of my early investigations. I wanted to avoid inhibiting my ideas by placing too many rules or parameters on the study. I chose to do this so that I could experiment with ideas about forms and materials and apply what I learned to path two. For this reason, I maintained path one as an open investigation of material, form and process. The goal was to allow this more experimental or investigative path to inform the other side of my study.

path two

In order to answer some of the questions of my thesis as well as address issues of product development, I chose to make a clear distinction in my study from this point forward. Path two of my investigation was inspired by the template or plan studies. I set a goal to develop this side of my study as fully as possible and to include packaging and graphics with the final product.



stages of development of high density silicone heel

fig 2.4

fig 2.5

fig 2.6 – first model based on template studies

path two

The idea of using a template based on an abstraction of the “plan” of the foot was the launching point for this path. After carefully avoiding making a shoe in my early studies it was time to use the ideas I had developed and apply them directly to the making of space for the foot to rest. This path gave me an opportunity to address other design issues such as transportability and transformability. Due to the two dimensional qualities of the early studies it seemed natural to pursue a solution that was easily carried and possibly changeable or collapsible. The first prototypes were fabric and / or foam and were meant to fold or flatten when carried.

fig 2.7

path two, early models of fabric and foam template shoe

fig 2.8

fig 2.9

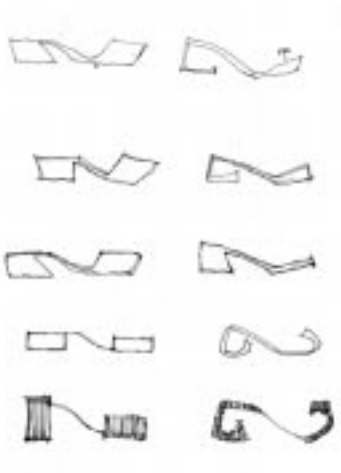


fig 3.1 – early form studies

path one

In order to preserve the experimental qualities of my early studies, I decided to allow path one to guide itself through discoveries in material and form. I did not attempt to address any other design issues except experimenting with and finding the limits of materials in relation to the forms I was developing. At the same time, I did continue to think about the relationship of the foot to the ground. I treated the space between the ground and the foot as a foundation for the body or an extension of the foot that, ideally, would respond to the pressures created by the movement of the body and the impact on the earth (fig 3.1).

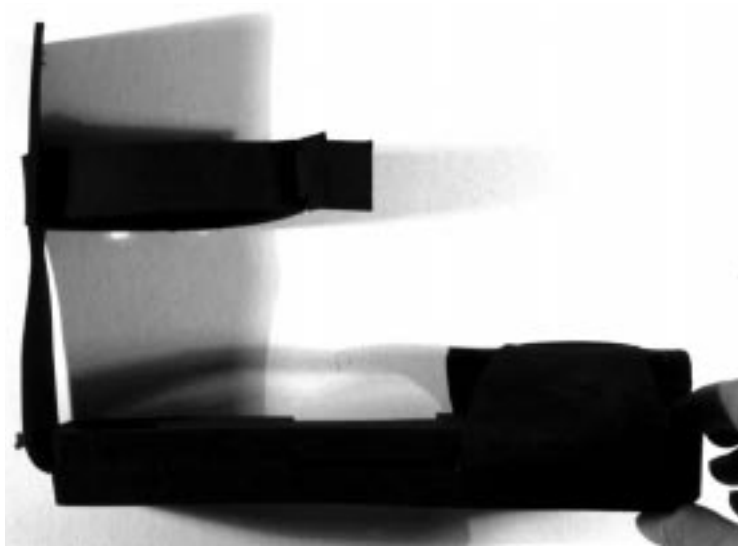
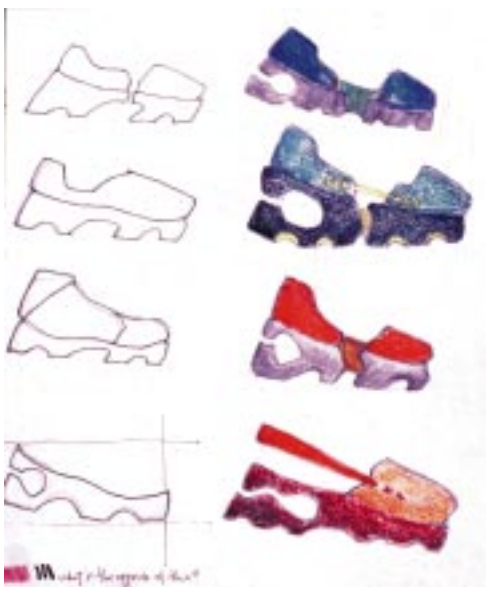


fig 3.0



ideas for a shoe based on silicone heel study

fig 3.3

fig 3.4

fig 3.2 – first foam prototype with removable uppers

After a series of models that folded and collapsed I decided to approach the transportability / changeability issue from another direction. My next set of prototypes were based on the idea that the upper part of the shoe would be detachable (ultimately changeable) and that the heel (template) would be a constant. In this way the shoe could still be flat but it also had the potential to be versatile. The initial model (fig 3.2,3.5,3.6) was three identical pieces of foam stacked to create height with uppers pinned to it. It immediately became clear that one of the most important design issues would be the attachment of the uppers. The attachment needed to be strong, visually elegant and easy to use.

fig 3.5 – first layered high density foam model with detachable rubber uppers

fig 3.6

fig 3.7 – first iteration of lasercut foam prototype – all parts cut on LaserCAMM

fig 3.9, 4.0 – final clay model before pouring plaster cast