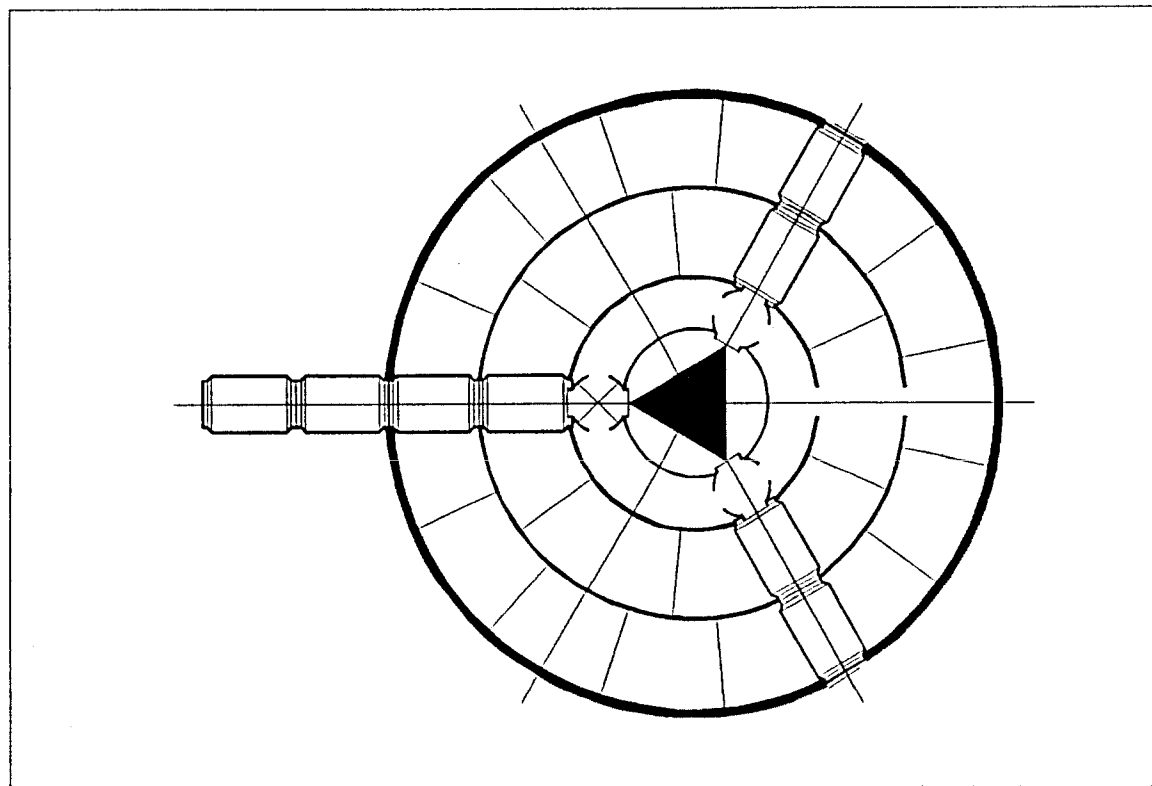

THE CRESCENT HABITAT

Nnamdi Elleh

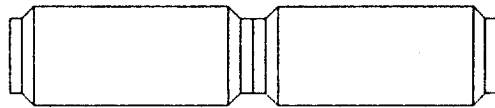
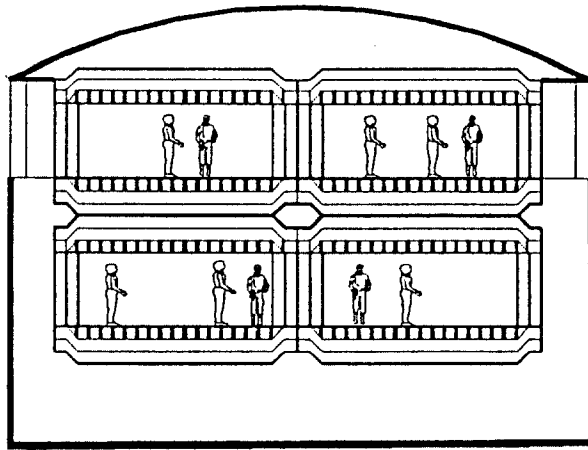


The major conceptual analogy of this design relates to the ability of certain animals to carry their environmental protection with them. The base is likened to a snail shell. Initial phases are composed of completely self contained modules. These modules serve as the basepoint for later expansion utilizing lunar materials in the construction process. The shape of the base modules are circular to best resist the atmospheric forces.

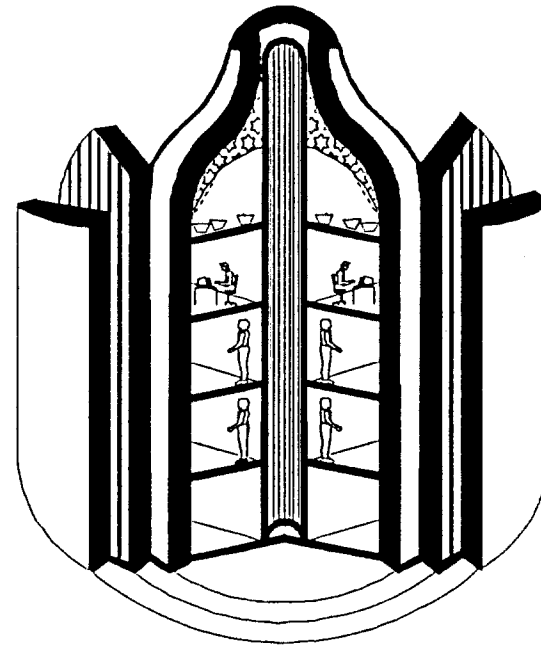
A tripartite zoning of the base separates the living quarters from the laboratory\processing centers and the food growth chambers. Complete self-sufficiency of the base will be realized with the completion of the food growth chambers in phase two. Each zone contains its own life support system for added safety. Once the circular base layout has been completed, further growth is accomplished by replicating the entire base and connecting the two along any of the zone links.

While initial habitat modules are earth constructed of lightweight metallic elements, later stage developments are dependant on lunar fabricated materials. Silica derived from the regolith is melted to form glass fibers which are then woven together into three layer shells.

Phase three development involves the use of the glass fibers as well as lunar concrete in the construction of a large underground dome. The lunar concrete as well as the regolith covering it serves as adequate radiation protection for long term habitation. The interior utilizes easily moveable, hung panels which are both weight efficient and allow for easy modification of the environment. A great deal of concern towards reducing the problems associated with boredom and confinement was also expressed in this design scenario.



First phase base section showing stacked earth manufactured modules and regolith shielding.



Second phase lunar materials structure isometric showing three layers of shielding.

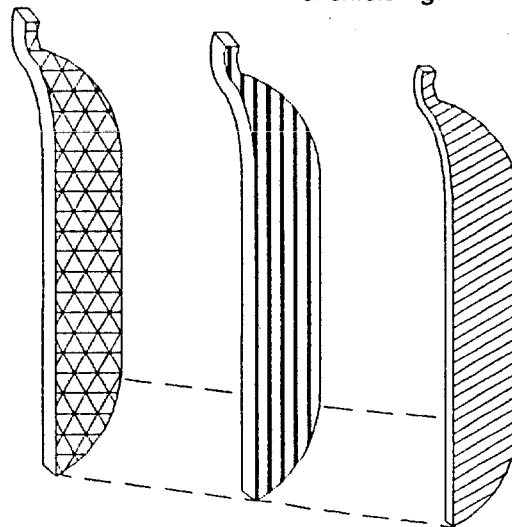
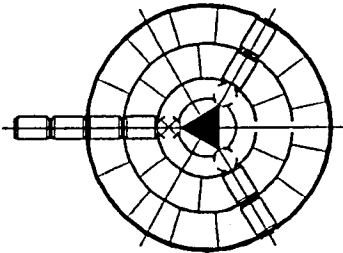
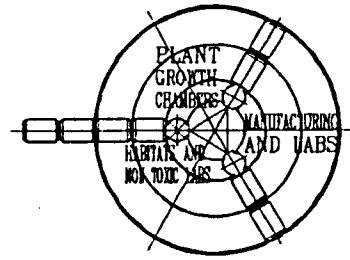
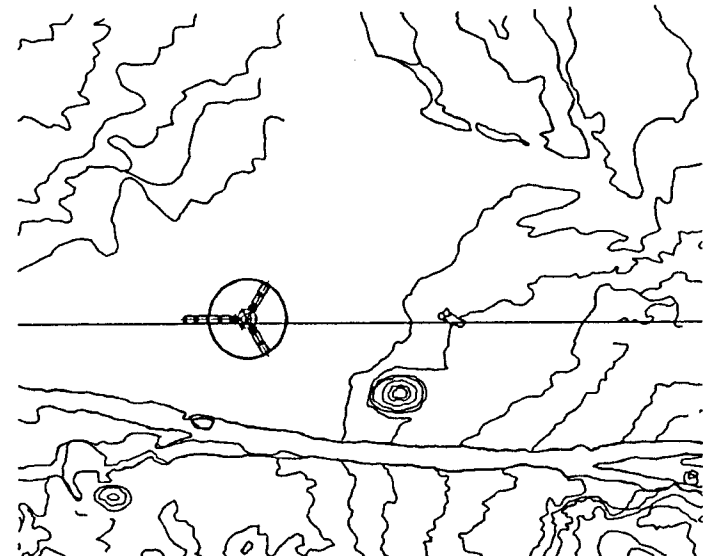


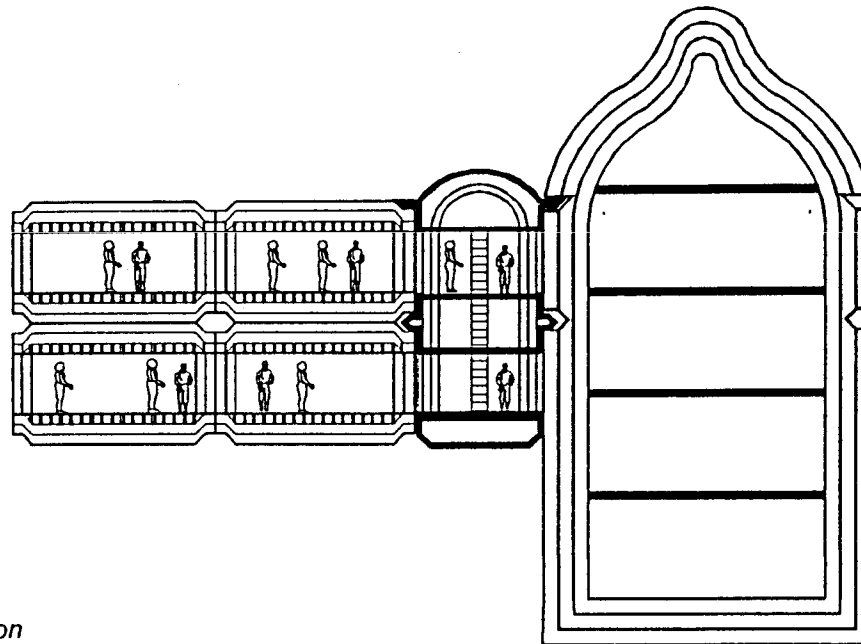
Diagram of three layered construction.



Base master plan showing tripartite division according to function.



Site plan showing base in relation to surrounding topography.



Base section