

Patrick Harrop (ca)University of Manitoba/Concordia University
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Membranes**
Modulations of Threshold

This paper aims at a topological contextualization of architectural ornament and its substrate membrane. A membrane acts as the interface to a building as a technical object (Simondon), yet ornamentation is its aesthetic (Simondon) projection. This synthetic deformation of a building's limits punctuates a large tableau of simultaneous multiplicities including physical systems as well as the social, cultural and symbolic (Banham, Maturana and Varela, Simondon). The potential enunciation of an "ornamented" membrane and the translation of building systems into potential opportunities for public engagement will consider how passive (and active) systems can provoke action through material and immaterial phenomenological interfaces.

In its most common model, an architectural membrane is conceived and designed as a boundary condition between mediums. It is a built ecological condition: understood as a delicate stasis of competing and unstable milieus. The membrane is a negotiation between continuous conditions. In its broadest reaches, it is a system that is, in fact, difficult to trace: a careful reconciliation of a disparation of interruptions to the continuity of a variety of dynamic milieus: the interruption of gravity, the interruption of heat, the interruption of air, water etc. Rather than a spatial boundary, architecture is a momentary reification of a modulated interplay of the perturbed weaves of milieus. Although we tend to privilege the non-human, milieus as modulated by a building skin interface the multiplicities of social, cultural and material systems: a complex, somewhat quasi-biological edification of an ever-concretizing co-structured event, performance and matter.

The synthetic and pliable deformation of a building's limits punctuates a large tableau of simultaneous multiplicities that including physical systems as well as the social, cultural and symbolic. This research takes the work of French philosopher Gilbert Simondon's positions on the technical object and the question of individuation as a process of evolution towards complex technical ensembles. In this particular research, this work is recast in developing an understanding of the condition and nature of complex ornamented systems and their evolving forms through the immaterial conditions of new technologies. Particularly those of interactive, fabrication and programming technologies.

Pneuma develops work based on an expanding scale of related nodes in an environmental setting. From an architectural perspective, this would be to

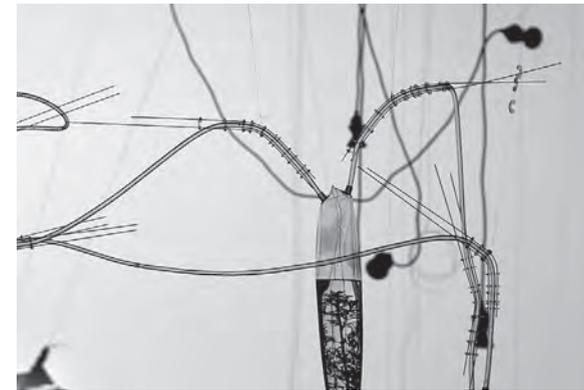


Fig. 1: Plant system: remedios terrarium, Montreal 2008

develop a membrane condition over top of architectural substrates complementary to existing active and passive networks that already form a significant (and long standing) repertoire of environmental mediation. The intent is to develop a further network, with a specific interest in data generated from use and environments both within building systems and external to them, and outside of the canon of traditional architectural sciences. The scales can vary and should be rather flexible from urban, to building, to corporeal and to micro scale.

Pneuma could be considered as a layering of architectural substrate, where network nodes are ornamental (in the traditional sense). This is viewed both in the understanding of ornament as being actuator (a mediator of light, sound etc.) and as a sensor (witness, listener and sensible body). From a material and design perspective, this implies a further level of consideration of the sensor node as an intentional artifact to be crafted and made with artistic intent. Hence, it extends beyond the application of existing electronics to surface and substrate to the actual and suggested materiality (and immateriality) of these sensor / actuators. As a consequence we develop work that explores the potential of sensate and composite materials as a palate of architectural expression: this includes but is not limited to conductive materials, voltage regulation etc.

The electronic and sensate qualities of these nodes also have a potential to extend the physical ornamentation into an immaterial realm of energetic expression (heat, electromagnetism and sound). This recalls a sensibility of understanding architectural ornament as a grotesque or monstrous expression of a static form into the realm of the temporal mediation of space and environment. Again, drawing on the network, we examine temporal and rhythmic scales of light and sound composition in dialogue with these ornaments.

Pneuma is an open source research and project platform. Pneuma's activities include: initiating research, conducting projects, establishing collaborations, developing affiliations and dissemination, formed by Peter Hasdell (Hong Kong) and Patrick Harrop (Winnipeg/Montreal), Pneuma work and projects have been shown in Montreal, Winnipeg and Shanghai.