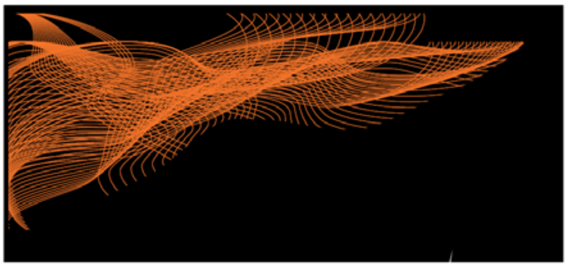
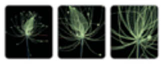
THE EMERGENT



PRE: The present sees a perspectival shift towards relationships & events; the key notions of this 'multiple, temporal & complex Now' being plurality, collective-intelligence, systemic wisdom and sustainability. This view has emerged primarily from complexity sciences & systems theories (with added input from areas such as evolutionary biology) which attempt to study dynamic & evolving living/natural systems; seen as the very 'nature of nature'. Out of this has emerged the relevance of networked systems- seen across levels of the existent, from the natural (living systems, gaia/ecosphere), through to the man-made (socio-cultural, virtual/ …).

From this view also emerges a seemingly obvious conclusion- one that has always been a part of perennial/ancient wisdom (beliefs inherent in streams of religion and philosophy): that of One-ness; the interconnectedness and inter-relatedness across levels (viz. the natural, human, and machin-ic). Within this contemporary worldview, coupled with the realization of continual change ('the world as an evolving whole'; 'the whole being greater than the sum of its parts'), new spatiotemporal mediaformes would benefit from learning to reflect, understand & coevolve with their multiple, temporal & complex environment, giving rise to an alternate vision for design-systems, with the potential to enable & transform living systems for sustainable collective futures.



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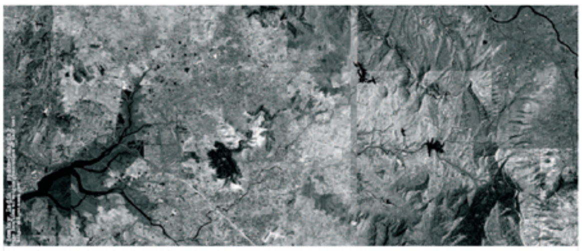
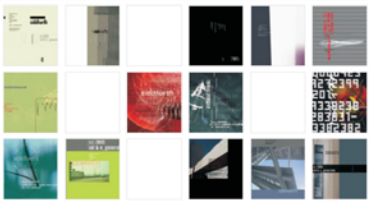
Design, when looked at from trans-disciplinarity and the contemporary systemic view, can be seen as a process of evolution of interconnected complex adaptive & dynamic living systems. An integral component of the design process is the aspect of visualization; and when considering such systems, this tool is of importance in two aspects - Simulation & Generation...



*1. **simulation**, a method of analysis which can help in understanding (patterns in) complex systems in existence (as varied as predictive weather modeling, financial market simulations, epidemiology, cognitive neuroscience and so on) by way of re-creating/ simulating the same.*

*2. **generation**, be it creating virtual collaborative spaces (intangible) or methods of morphogenesis (physical/ tangible), which help in the process of creating/ designing experiential systems (defined as environments and the objects contained therein, across domains & scales- be it urban planning, rural development, web technologies, information systems, interactive products and so forth) seen as inter-connected/ systemic wholes. Here, the primary research factor is the development of the logic of creation/ generation, which includes the outer form (interfaces, surfaces & membranes), derived from its inherent inner developmental logic (the processes leading to the emergence of structure/ s), with a simultaneous eco-logical selection of the optimal, from the generated multiple.*



Both streams can be seen as 'meta' design methodologies that comprise computational strategies that embody, rather than emulate, natural generative & emergent processes; operating at the levels of context + content, simultaneously and continually. The next step is seen as a means to a deeper exploration & understanding of this both in theory and experimentation, in current areas of work and in the emergent & unexplored....a means to a crystallization of numerous concept-fragments into a coherent whole. It can be said that it is not only the study of complex/living systems but also the usefulness and application of that knowledge for the evolution of life / livingsystems via design that has become imperative now, taking into view the state-of-the-present, the world now as we live it.

URBAN|RURAL_SYSTEMS *(concepts & proposals)*

THE AQUARIUS COMPLEX: An agent of change that acts as the membranous interface to the area under consideration. At the urban/global scale- requiring continuous data_streams of environmental as well as comparative/relational urban information, this 'sentient being' analyses and generates possibilities/probabilities for developmental changes, with constant input from the inhabitants/users; subsequently communicating with its urban counterpart to initiate the required steps to implement the co-operatively agreed upon method/ direction....Also acting at the local scale, technologies of environment sensing, embedded computing etc pervade (as opposed to invade) the rural fabric continuously interacting with the Aquarius complex, which in turn responds/transmits/generates possibilities for integral development..

ENABLING_SYSTEMS: an interface for connectivity for rural wireless intra-networks (prototype): This project attempts to design and thereby create an interface for what are perceived as two different systems, so as to successfully integrate the two. The resultant interface behaves as a system by itself, one that draws from the base system (the one being acted upon- here, the village under study) to suitably accommodate the overlay of the other (here, wireless networking technology). The specific task in question is to attempt create an interface derived from existing paradigms and methods of working in the village-system, dealt here by adopting a viewpoint from systems-thinking and complexity theories, so as to identify areas where technology (rather, the specific wireless technological system) being implemented can successfully integrate and enhance existing lifestyles and methods of working, instead of being a forced overlay which needs to be adapted to. The desired outcome of such a process is ultimately the seamless integration of the two systems in question, with the subsequent dissolution of the temporal system created for the purpose i.e. the interface; such that a new collective intellect- comprising man-and-technology(-and-man) emerges, to evolve and coexist as a single/unified system.

WORK SAMPLE 01

If consciousness is a property which emerges from a specific set of conditions, in order to synthesize it we do not need to re-model it from the "top-down". We only need to recreate the conditions from which it might emerge. This requires an understanding of what these conditions are.
Robert Pepperell, The Posthuman Manifesto

(Towards the sciences of) Evolutionary Design Systems

The perceived signs/patterns across diverse mediaformes and design-fields, strengthened by personal explorations in selected areas, shows that these disciplines can benefit from an alternate perspective that can generate directions towards a conscious, integrated/holistic future; an overview or map of which is achievable in subsequent experimental/exploratory & interactive phases of this research, guided by the principles of Autotectonics (defined as the 'art and science of designing and creating self generating, self organizing, self sustaining evolving systems'). This meta-layer for design processes that puts into play intelligence & cooperation, for collective action/evolution, is addressed in the research; an outline to a strategy that, it is hoped, transforms the future of design-as-we-know-it.

Preliminary Framework/ToC

The 'initial conditions' of this research are seen as an immersion into the sciences of the multiple, temporal and complex. The theoretical aspects of research would begin with looking at overlaps of the design process with the following concepts/ notions:

- **Complexity** *(Nodes, networks & systems; mapping the known, uncovering relationships)*
- **Generative & parametric** *(Addressing complexity & evolution via strategies that encompass the multiple)*
- **Evolutionary** *(Systems, Ecology, Adaptation; the optimal as selected from the multiple)*
- **Emergent** *(The new, and the unforeseen – 'the arising of novel and coherent structures, patterns and properties')*

Being an unexplored body of knowledge, the research is as yet open-ended, without a clear/defined end in sight, relying on the wealth of initial conditions to generate multiple avenues to proceed along. It is also seen as at once a collaborative project, with constant/continual dialogues across several disciplines (systems sciences, computation, and design). The experimental aspects are seen as involving an interactive setup/prototype of an environment, where all participating user/s & relevant environmental factors are represented, to generate a new zone of co-existence, co-creation and co-evolution. The role of the designer/architect, here, would be of initiating this dialogue aided by computation- the interaction of participants resulting in a 'systemic interface'; an emergent design intervention.

EVOLUTIONARY
.DESIGN_SYSTEMS

Some References & Influences

An Evolutionary Architecture & Autotectonics.org	Gaudi
Design & Computation research (MIT)	Karl_Blossfeldt
Generative Design Lab (Milano)	Ernst_Haeckel
Space Syntax research	M.C._Escher
Kaisersrot Research	H_R_Giger
MIT Media Lab & Processing	Frank_Miller
Unlimited.net	Hundertwasser