Instruments of navigation

Torgeir Norheim

In recent studios, there has been an emphasis on the behavior of systems and sub-systems as related to the urban realm. Cities are seen as wholes whose properties emerge as an assembly of parts. Those parts provide a horizon of behavior and configure an everyday life manifest a culture signified in a collection of symbols, customs, assumptions and idiosyncrasies. These assemblages of formal, physical, social and organizational components, shaped by events, values, and actions, are leaving imprints representing continually reorganized cycles of genesis, growth, breakdown and disintegration. At the transition from disintegration to genesis, paradigm shifts occur that emphasize all-embracing changes in perceptions, values and thought while allowing the communal expansion of psyche.

Presently, the industrial society has evolved into a diverse culture of multitude. Urban environments are in the midst of this transition, prompting innovative adaptation in order to reformat the urban environment into a post-assembly line frame of mind. The issues to be addressed are in the organization and the articulation systems and subsystems, and are capable of creating diverse, dense and continuously differentiated urban domains. Manual Delanda notes that "social entities like cities, composed of entire populations of persons, networks and organizations, can hardly be conceptualized without a physical infrastructure of buildings, streets and various conduits for the circulation of matter and energy, defined in part by their spatial relations to one another." When a paradigm shift is encountered, certain variables of systems and subsystems are re-evaluated. As one period comes to a close and another commences, the parameters of aesthetic and utilitarian dimensions are found in new configurations. If time is imagined compressed, systems and subsystems are in a constant flux.

Information has been sought towards the comprehension of the hierarchy of an observed semi-autonomous city represented by an assembly of systems, sub-systems, sub-sub-systems (and so on), and how this shift in paradigm could be manifested by the manipulation of said systems.

At the architectural scale, building is often described as an assembly of system and subsystems. A system is viewed as a set of connected entities, networks or principles that illustrate a common function, structure and/or order. It is understood that all are capable of providing guidance and understanding towards the organization of space, circulation, structure, materiality, enclosure, and so on. When these systems and subsystems achieve a symbiotic, articulated and integrated state there is a more dynamic effect.

A perceived system can be presented as an assembly of two or more subsystems. Arthur Koestler, introduced the term "holon" which embodies the hierarchical organization of whole and parts. He describes the appearance of observed systems as " acting as wholes when facing downwards, as parts when facing upwards". The relations and

Photo-montage of the current situation of Sandnes, Norway. Image by Tommy Haller.

self-assertive tendencies of systems perceived at different scalar positions assume significance as aids in overall comprehension and creative output. The superimposition of two or more systems is a necessity to the comprehension of ordered complexity.

The quest of the studio is then to uncover, define, synthesize and transform pertinent information that has the ability to contribute comprehensive development toward strategies and methods based on principle and insight. As a team, the studio pursued this agenda by a rigorous investigation comprising diverse fields of information allocated by five scales—global, continental, national, regional and local. In sub-committees, seeking information that would enable an inclusive perspective, data was collected related to the sectors of philosophy, environment, culture and social anthropology, politics, history, economics, psychology and so on. Meaning between the different sets of information proved elusive until the consideration of the words, "Bold, Tolerant and Healthy," the slogan of the city of Sandnes, Norway. These words provided a focus to the questions. What is the meaning of bold? Who is bold? Why bold? The answer to the question of what to do with the sea of collected information was apparent: You swim in it.

Navigating and connecting sets of information became a serious game with serious players. The studio was positioned (back) in the sandbox with the responsibility of configuring the parameters and rules. The nature of this navigation could be described as "meta-operative" or refining principles out from pluralities and similarities of experiences, admitting to increased advantages in interpretation of reality. The concerns include all of the transformations that humanity is continuously undergoing and reflects the chaotic, unpredictable and ultimately fragmented aspects of society. As a communication tool the meta-operative attitude affords a holistic/pluralistic perspective and is seeking to make connections to, and interpretations of, primal aspects of the

human condition. The meta-operative condition is conceived as a non-linear, lateral, and inter-disciplinary activity ultimately inspired by all human pursuits.

The philosophical platform adopted by the studio is broadly based on Eastern thought, emphasizing the complementary nature of things. Everything is connected. The paradox of sub-atomic units of matter appearing sometimes as particles and sometimes as waves introduced insight to the yin and yang diagram. The mode of both/ and thought is further promoted by the formula 1+1=3, illustrated by two superimposed circles generating a third entity. Relating these perspectives to the observed symbiotic nature of systems and subsystems, the in-between became the subject of focus, generating the parameters by which

correlations of aesthetic and utilitarian dimensions were constituted. The whole is indeed greater than the sum of its parts. With just a hint of this wisdom, it is clear that as much as things change (form and function), they also stay the same (order).

Derivations of aesthetic and utilitarian dimensions are permitted by information mostly from the periphery of architecture and are attributed to changes in values, patterns of thought and behavior. These transformations have promoted changes in economic, social and political positions. Intellectual capital is recognized as the ultimate renewable resource. The society of multitude declares a continuous demand on both innovation and the expansion of education and knowledge. In a global context, the competition for a

competent workforce is underscoring attractive, diverse working and living environments, leisure activities and low taxes.

The environment, society, culture and community inherently contains the promise to interfere with our psychological development and greatly influence thinking, attitude, goals and personality. Architecture, as a formulator of perceptions, becomes the instrument for expanding vitality and the communication of ideas, as well as the provider of emotional relationships. In addition to fulfilling utilitarian aspects, the purpose of architecture is to inspire and stimulate thought.

PHIDA

Seeking a more organically focused observation of the intricate correlations between systems and sub-systems, the studio conceived a set of values to complement the increasingly complex urban, environmental and social affiliations. Aiming to communicate clarity in rational associations of contemporary society, the PHIDA values illustrate a meaning, attitude and behavior instrumental in navigating perceptions of order. In this sense, chaos is understood as a multiplicity of observed orders, or a multiple of superimposed systems and sub-systems, operating in the same field. Applicable to any scale, PHIDA reintegrates selections from generalized principles into instruments
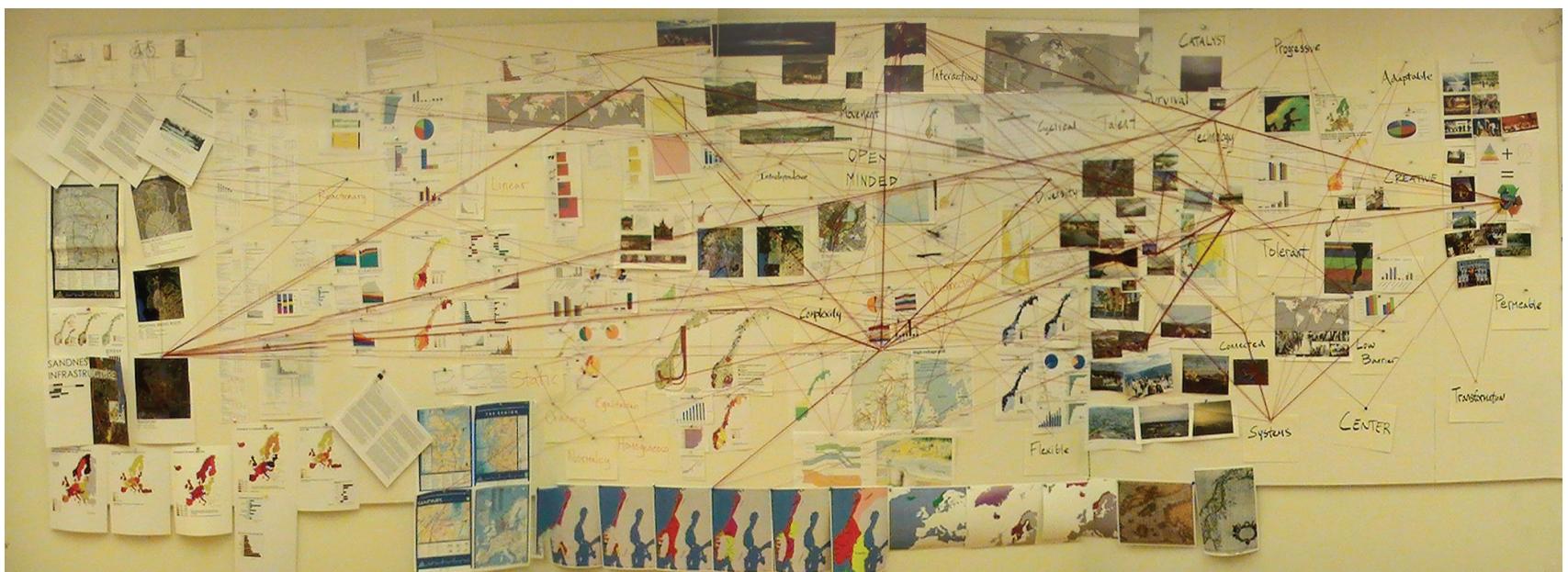
String theory exercise: early in the process the studio made an attempt to understand the connections between informations sets - a combination of conversational and dynamic diagrams.

and tools. These instruments and tools afford increased advantages in the interpretation of reality. With each application, the perception of order self-multiplies with increasing levels of complexities. The ingredients of PHIDA, seeking a greater degree of psychological maturity and unity, are permeability, harmony, imagination, diversity and adaptability. The PHIDA principles establish a structural metaphor of interconnected concerns increasing linked global, regional, and local agendas.

Permeability articulates the ability to navigate the diverse, dense and differentiated urban domain. Accentuating the in-between or dynamic interchange of typologies, the urban environment is correlated as a landscape, simulating nature both in spirit and matter, establishing a system of nodes, flows and networks, conscious and unconscious, extended through space. Nodes are places of intersection—places of interaction and the melding of activity, people, and space. Flows are the energies or the paths, accentuating and amplifying differentiated navigation. Equilibrium is sought in relation to horizontal and vertical dimensions. Spatial differentiations of in-side and out-side become blurred, emphasizing space as continuous and fluid. When something becomes transparent and permeated by light, it is accompanied by an expansion of self-transcending emotions and psychological orientation.

Harmony is striving for a symbiotic organic relationship between systems, sub-systems and natural phenomena, while elaborating upon such relations with regards to utilitarian, aesthetic and ecological considerations. Architectural dimensions have roots in archetypal conditions of rhythm, repetition, balance and variety. The mind is particularly receptive to rhythmic patterns, symmetry and balance, lending a composition its unity in diversity. Systems and sub-systems exhibit their self-sufficient state with

respect to specific rhythm and pattern of activity governed by a built in order. Patterns would be meaningless if they were not accompanied by sensory stimuli. Without the message the rhythm is meaningless

Imagination, playing a key role in the learning process, is a resource through which the individual makes sense of the world while providing meaning to experience and understanding to knowledge. As one of the major social and political factors of our time, imagination is representative of the human capital. Imagination is attracted, constrained and guided by complex patterns of knowledge, ideas and emotions previously experienced. Changing and combining the stored experiences is the source of inventiveness. Imagination provides insights more profound than rational understanding and facilitates interpretations and connections. The depth of rational knowledge ultimately informs imagination. Expanding cultural identities and innovation, it should be the entitlement of any individual, young or old, to engage in the work of imagination.

Diversity embodies the ambition to move from single system differentiation to the association and articulation of multiple systems and subsystems. Trans-programming (multiplicity in utilitarian dimensions) allows the incorporation of diversity and flexibility as a stimulant to the flow and processing of information. All knowledge is extended to the global village context where the values and symbols of a heterogeneous environment and culture have to generate and communicate information that celebrates the continual process towards capacity for meaning and wholeness. With the introduction of the complexity of trans-programming it is equally important to maintain clarity in the relationships between the various systems and sub-systems that are articulated by the adoption of a democratic value system—each part that contributes to the architectural

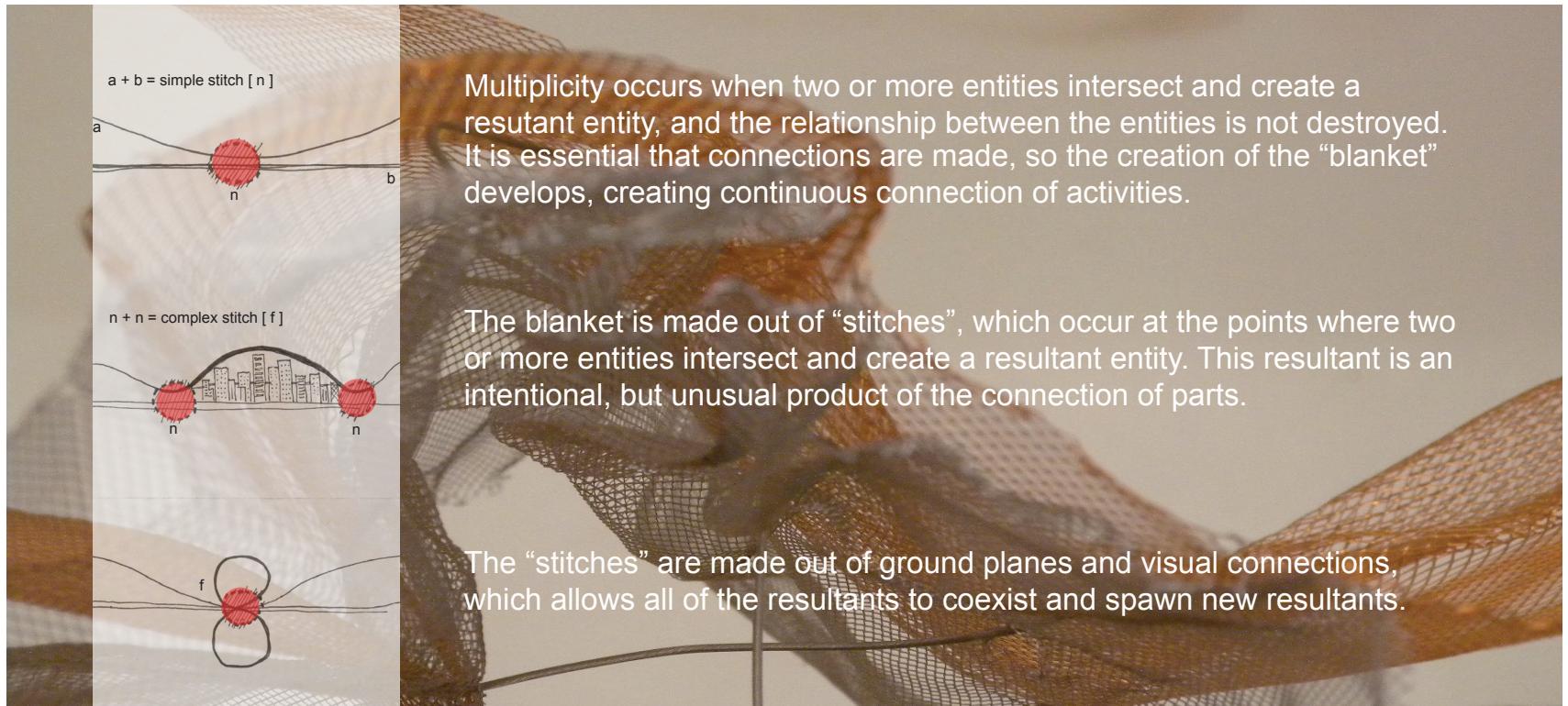*Conversations about Sandnes, Norway and the synthesis of the information collected as a studio.*

dimension is equally as important as the next. Singular functions in this representation may be interchanged with parts, systems, events, materials, strata, etc., to help illuminate aspects of multiplicity. This fusion embodies the promise to construct a very different concept of space illuminated by the equation 1+1=3. Most creative acts occur at the intersection of systems and subsystem. When two or more activities overlap one another, there is an opportunity for design. If surrounded with educated, intelligent people, one works harder and easier, and one is challenged try things that one would not have otherwise done.

Adaptability articulates a symbiotic, inter-disciplinary, ecological agenda. Sustainable principles are a frame of mind, promoting a performance oriented urban typology, with built in kinetic capacities, that allow the environment to reconfigure and adapt, to the prevalent demographic patterns of uses, values, technologies and occupation. The kinetic ability becomes the means by which the self-

organization of trans-programming can be facilitated.

The PHIDA principles provided a filter in the navigation and comprehension of collected information and empirical data. In the context of the city of Sandnes, PHIDA allowed objective readings of incongruous relations and discrepancies in present conditions, affording clarity and awareness, and guiding assessments towards possibilities in the mediation of observed systems and sub-systems.

Maintaining a democratic and autonomous attitude, affirming the self-assertive virtues and tendencies of each system, the meta-operative action established a fluid, holistic, non-linear and improvisational decision-making process in the context of defined parameters. Realizing that the act of making one decision, allows the evaluation of the next suggest that the latter has inherently acquired the former as a constraint. The overwhelming complexity of the whole does not have to be negated

a + b = simple stitch [n]

n + n = complex stitch [f]

Multiplicity occurs when two or more entities intersect and create a resutant entity, and the relationship between the entities is not destroyed. It is essential that connections are made, so the creation of the "blanket" develops, creating continuous connection of activities.

The blanket is made out of "stitches", which occur at the points where two or more entities intersect and create a resultant entity. This resultant is an intentional, but unusual product of the connection of parts.

The "stitches" are made out of ground planes and visual connections, which allows all of the resultants to coexist and spawn new resultants.

Studio's early philosophical understanding of the blanket and stitch.

all at once, allowing freedom in the overall process. "The mind cannot visualize the whole infinite self-embedding of complexity", writes James Gleick, "but to someone with a geometer's way of thinking about form, this kind of repetition of structure on finer and finer scales can open a whole world". Decisions became connectors in the process of making multiple connections.

The flexible strategies, defining the goals and limiting the array of possible actions for non-routine situations, simplifies the process by defining the problems as groups of sub-problems. Information and empirical data can be sorted and analyzed in order to support a hypothesis relevant to a particular study. Strategy structures are dependent on the specific system and seek to assure that activities are realistic and meaningful with respect to parameters. As the scale is narrowed the expansion of heuristic knowledge is concerning increasingly widening fields of information and variations of cognitive strategies and sub-strategies

and so on. Problems, strategies and values offer a means of challenging and navigating assumptions, and establish an effective response to the range of social and environmental challenges.

The urban environment is conceived with the ambition to enhance the awareness of open-ended organic integration through intricate correlations of sustainable, adaptable systems that favor the amplification of differentiations in sensuous information. Implementing this conceptual agenda into the existing urban fabric of the city of Sandnes, the following flexible strategies were employed:

The Blanket

The blanket, taking on the role as the other ground-plane, allows a multiplicity of previously singular systems to coexist, facilitating harmonious and complex relationships of otherwise singular activities. The blanket accommodates serious

increases of densities and mediates the differentiation of use in the public and private realm. While becoming an urban fabric, it does not dominate the scene but weaves it together, inviting new pieces, while never assuming its own completion. The blanket makes connections possible natural and cohesive manner, facilitating ease of navigation. Accentuating the in-between, the blanket morphologies produce powerful urban effects and facilitate orientation of diverse fields, embodying the trans-programming agenda. In the context of particle and/or wave the blanket is in one instant a building, a market, a park, a train-station, and so on.

Stitch

The stitch mediates the vertical dimension and the in-between, implemented in an array of personalities with respect to transportation systems, activities and

nodes. The stitch articulates places of intersection and the horizontal and vertical stratifications, melding places of interaction, activity, people, and space—an identifiable center for human interaction and interchange scaled to social and cultural demographics.

Urban Agriculture

Urban agriculture articulates the urban park, the harmonious connection of urban elements and farming as a constituent of ecological conservation and educational practice. The interweaving of nature as a utilitarian, ecological and aesthetic system, emphasizes development and growth as sustained process. Any local urban agenda will have global implications, investigated through natural flows of energy, waste management and the living machine.

Tommy Haller's project was selected as the Heintzelmann competitor although each student applied their conception of their projects spread throughout the collaborative master plan.

Urban Culture

Urban culture emphasizes the manifestation of intellectual achievements celebrating a healthy, supportive, diverse and moral condition. People are at home when place is meaningful. The implemented urban strategies challenge the mind and provoke the imagination, amplified through a multitude of different phenomena expressing a continuously changing field where the light emphasizes drama, variety, atmosphere and mood. Movement in this constructed geography will be a kinetic experience, joyful, fluid, inspirational and ever adapting, while celebrating the landscape of temperament, seasonal awareness, physical transparency and playful appeal that adores the performance of generations, young and old.

Enacting a shift in scale, having successfully navigated the urban complexities of the city master plan, the studio now focused the individual attention to the neighborhood and program particulars that would illuminate and extend meaning to the overall context. The discoveries, implemented by the application of the PHIDA values, were now seen in new relationships formatting more intimate perceptions at the scale of the neighborhood, site, building, program and detail. Prompting a set of new questions, defining deeper meaning in the elements of PHIDA, explorations probed harmonious holistic relations of buildings in the urban context. Complex systems emerging from simple hierarchical organizations of sub-systems regarding circulation, served and servant space, as well as structure and enclosure, configured dynamic dialog in the context of the 1+1=3 superimposition. No system makes sense without an energetic communication with other systems.

Thus the main purpose of the studio explorations was to illuminate a process by which to detect previously unrecognized clusters of problems and how they are nested within, communicated and supported by, more complex patterns of relationships observed at different scales. The paradigmatic process gives insight and refers to the broad characteristics of a discipline considered to be an integral approach to a topic and to the ways in which perceptions and values crowd to specific strategies or problems of significance in the framing of the previously intractable complex issues with which society is confronted. In short, the process emphasizes the ability to navigate the complexities by asking the right set of questions.

Studio 109, Global Exchange Forum Stavanger, KSU, Lulu Publishing GEFSTVR 2009.
Delanda, Manuel, A New Philosophy of Society, New York, Continuum, 2006.
Koestler, Arthur, The Act of Creation, London, Pan Books, 1970
Gleick, James, Chaos, Making a New Science, New York, Penguin Books, 1987.