NEW DIRECTIVES: HUMAN COGNITION AND INDUCED ACTIVITY

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ABSTRACT

Architecture should invariably mirror the aspirations and achievements of a society without forsaking the contextual identity of a region. Architecture should always be appraised contextually with reference to a given time and place. Nevertheless architecture develops its identity, alongside advancements in a society to which it caters. The anchoring notions of vernacular values are often lost in the days of contemporary and unsustainable global practices. The imageability of urban habitats all over the world have started to be characterised by a formal homogenous imageability; having concrete links to globalisation and modern construction technology. The relentlessly expanding human needs and urbanisation are definably posing serious concerns; the negative impacts of such approaches are becoming visible in our society. However we have often tried to overlook the fallouts in the name of growth and development. Ironically the 'Mantra' of the new generation is towards material forms of self realisation. This state of affairs has gradually overwhelmed the thought process and outlook of the intelligentsia to tread in the right direction.

In this retrospective of changing times we should realise that the basis of meaning formation in architecture should not be associated with a universal de-contexualised knowledge base. The real issue is to develop strategies to help learners establish a link with the cultural rootedness; diversity and aesthetic sense of a locale. This would make habitat design contextually relevant thereby establishing a sense of distinctiveness. This should hold true while revitalising existing habitat realms as well as while considering new interventions at micro and macro settings.

Keywords: theory building, cognition, design development, habitat realm.

1. Introduction

The notions of space in Indian cities (present context) in general perspective are increasingly based on global comparative imageability basis. However the legibility of arrangement of utilitarian needs amidst rising numbers of the prosperous habitants, successful middle income group and poverty struck economically backward group is quite unsustainable and chaotic. In most cases intervention to provide coherence to new cities as well as existing cities which are facing tremendous amount of increase in population and urban sprawl is linked to infra structure planning, public health, housing and governance. Less significance has been given to understand the transition over time of a city and meaningful resolution of the notion of habitat realm. Habitable space and its representation are central to understanding architecture and urbanism. The urban realm which is generally formed by intrinsic as well as extrinsic juxtaposition of the transformation of everyday life and its needs into habitable spaces convey a sense of symbolism. An iconic vista of delight and confusion: conveying a dialectical process of evolution and transition of Form, Space and Order.

> On the face of it, the city is two things: a large collection of buildings linked by space, and a complex system of human activity linked by interaction. We can call them the physical city and the social city. Urban practice and theory must connect one to the other (1).

The designers involved in providing spatial discourses must evolve a harmonious cognition level while addressing the need to provide habitable spaces and establishing a rationalistic imageability to the built realm.

2. Theory Building

All frontiers of architectural profession are firmly grounded in theoretical discourses, the precedence of which is obviously based on critical thought processes and action. Theoretical discourses often guide a discipline to further progress in a controlled and rational manner.

From the perspective of an academician and a researcher, examining architectural theories could help to develop better understanding about what architecture is and what it should be. In architectural scenario, design theory is closely interlinked between theoretical discourses and professional practice. Proper cognition of theory building and its relevance to elevating the quality of design development and professional practice is relevant. Architectural research in this context plays a significant role, especially in integrating architecture with needs of the users and society as a whole.

The relevance of practice and theory in relation to education of an architect was established since classical antiquity, this is quite evidently emphasised by Marcus Vitruvius Pollio in his famous multi-volume work entitled De Architectura: The Ten Books on Architecture, a treatise on architecture and building construction.

The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgment that all work done by the other arts is put to test. This knowledge is the child of practice and theory. Practice is the continuous and regular exercise of employment where manual work is done with any necessary material according to the design of a drawing. Theory, on the other hand, is the ability to demonstrate and explain the production of dexterity on the principles of proportion (2 p. 4).

The origin of word theory is generally associated with Greek philosophy. “Etymologically, the term can be derived from the Greek θεωρία (“theoria”) which was used to describe a contemplative or speculative interpretation of natural phenomena” (3). Associative knowledge base with regard to same could be linked with Aristotelian philosophy. He tried to further classify the cognitive acts of humans into basically three domains: theoretical (theoria), or productive (poiesis), or practical (praxis). “Aristotle associates to each of them a mode of cognitive operation: praxis corresponds to phronesis, or practical wisdom; poiesis corresponds to techne, or craft; and, finally, theoria corresponds to episteme, or science” (4 p. 359).

Table 1 Forms of Knowledge: Activity Interpretation Index

Forms of Knowledge	Activity	
theoria	episteme	Contemplation
praxis	phronesis	Action
poiesis	techne	Production

Source: Author

> Researchers can define a theory as a statement of relationships between units observed or approximated in the empirical world. Approximated units mean constructs, which by

their very nature cannot be observed directly (e.g., centralization, satisfaction, or culture). Observed units mean variables, which are operationalised empirically by measurement. The primary goal of a theory is to answer the questions of how, when, and why, unlike the goal of description, which is to answer the question of what (5).

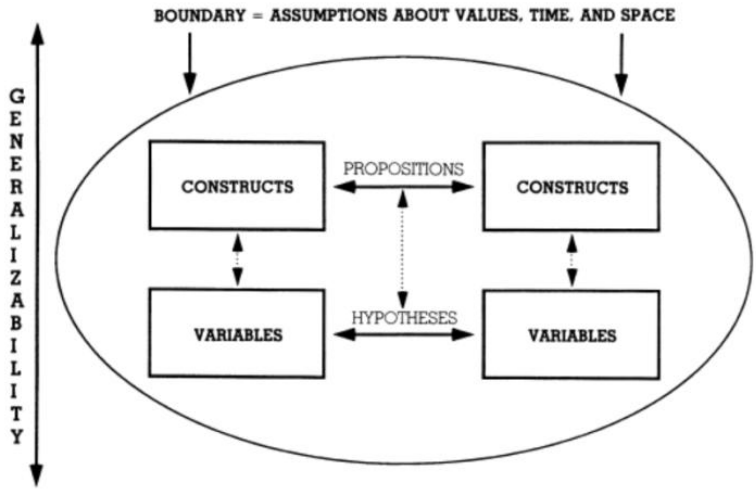

Fig. 1 Components of a Theory
Source: Samuel B.Bacharach

2.1 The Process

In general the definition of theory can vary based on the perspective from which it is being analysed, however the basic focus of all theory is to enhance proper cognition of the fundamentals, provide framework for better appraisal and provide possibilities for future derivatives. Theory is generally brought into being by a curious mind, individuals having or showing an interest in learning things and relying on rational methods to define them. The human activities involved in theory building are constituted by the following traits: Exploration, Unfoldment, Discovery and Refinement. Each activity paving way to the other, leading to gradual awareness and increase in an individual knowledge base. From the realms of known to the unknown and to the unexplored, bringing about the sense of relevance of rationality in an individual.

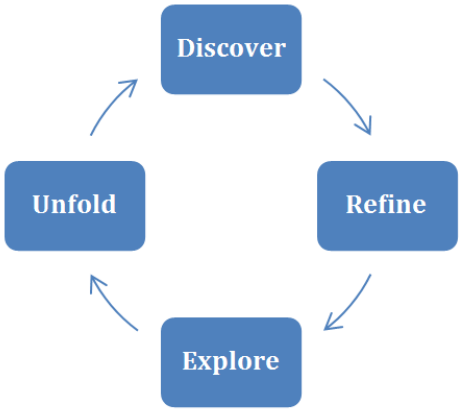

Fig. 2 Human Activity Cycle: Rationalisation Cycle
Source: Author

We could generalise that the act of developing a rational understanding and correlating it to a specific context: cognition, has it is roots in philosophy. This whole phenomenon has historical antecedents and has been interpreted by modern theorist also.

> The first was Plato (428-347BCE), who proposed that we could understand the world by identifying basic principles and use rational process to create our knowledge. In modern times, this view is called rationalism, advocated by the philosopher Rene Descartes and the modern linguist Noam Chomsky. The second Greek philosopher was Aristotle (384-322 BCE), who believed that we could understand the world by basing our knowledge on observation of the world outside ourselves. This view of human thinking has come down to modern times as empiricism, advocated by philosophers such as John Locke and psychologist such as B.F. Skinner. The ancient Greek philosopher started the science of the mind on its way by telling us that investigating the mind is discovering what makes humans human (6 p. 3).

It is further constituted by the following cognitive activities: observations, classifications, determination of relationships, analysing probability of occurrence and prediction. These individual activities when sequentially linked guides advancement of knowledge base in a particular discipline, facilitate research and development.

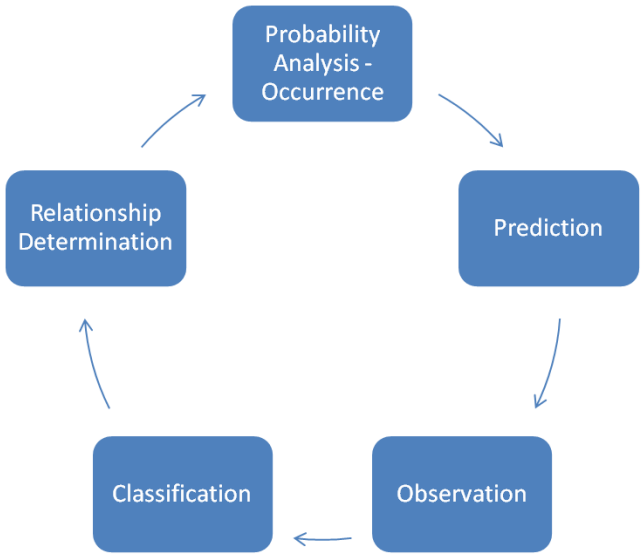

Fig. 3 Sequence of Cognitive Activities

Applying the above interpretations to design development theory building is imperative component of the particular research work. The theory behind design development is quite important. Generally it's perceived as a Cohesive Wholesome Act either from parts to whole; different components in an integrative combination to evolve into a meaningful whole or vice versa. The progression from abstract to tangible, incorporating decoding of the perception of realisation having basis on certain body of theory and refined stages of progression often forms the basis of the approach.

2.2 The Cognition Sequence

Portrayal of the urban habitat realm and decoding the factors that shape the strategies accountable for revival, transition and continuity requires proper deciphering. In this context,

progress should not be a mere replication of developed countries approaches in terms of infra structure - imageability but contextually relevant, sustainable, and logical solution. In the present scenario of globalization there is a decisive need to recognize and understand the urban realm in terms of user groups, functions, built environment, infra structure management, science & technology and behavioral aspects. The significance of appraisal from the perspective of an integral whole with critical importance to human being and his evolution would lead to effective Habitat Design.

> Evolutionary compulsion forces human beings to establish a system of relationships between the physical body and the human mind's mental perceptions, which enable us to experience the world and our existence. These relationships provide us with our sense of wellbeing, our sense of belonging, and our deeper sense of who we are. Through the physical and the visual aspects of human perception, the body managed humankind's earliest interactions with the world (7).

From the view point of perceiving and reflecting on built environment, the ability to comprehend, recognise and experience spaces in terms of spatial quality, functionality and form is quite important. The overall perceptual identity thus evolved often gives rise to cognition of associated attributes being conveyed symbolically by a built form like morphological, sociological, anthropological, historical etc.

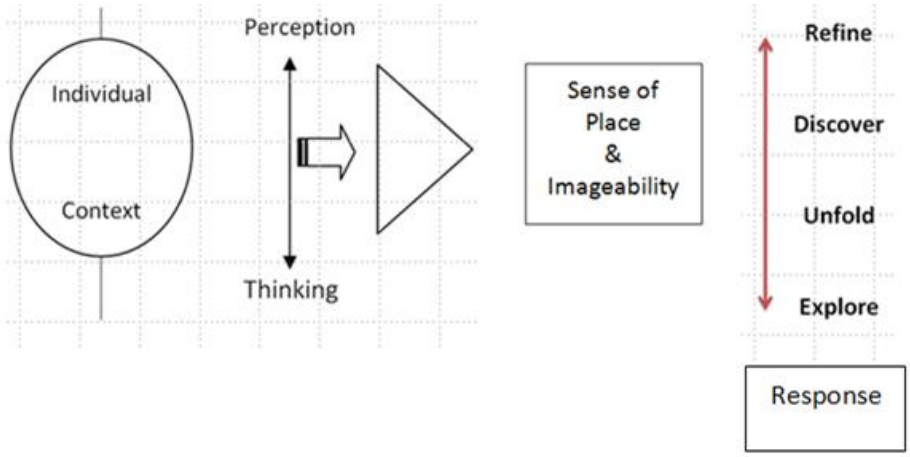

Fig: 4 Ideation Illustration
Source: Author

In order to bring about better clarity and understanding to the phenomenon of meaning formation with respect to sense of place and cognition, based on available literature a new premise is put forward. New theoretical ideation is constituted by four stages of information processing: Exploration, Unfoldment, Discovery and Refinement have been derived based on precedent studies of teaching and learning theories.

As illustrated the new theorisation intends to map the human activity sequences during the act of cognition. The understanding of human cognition and induced activity helps us to logically approach the process of learning and understand the various activities involved at respective stages. The overall process is cyclic, interconnected and progressive as indicated in the illustration, paving way for self realisation and development of understanding about the specific contextual issue at hand. It is configured in such a manner that it is rational and in order, the new proposition has universal application irrespective of discipline.

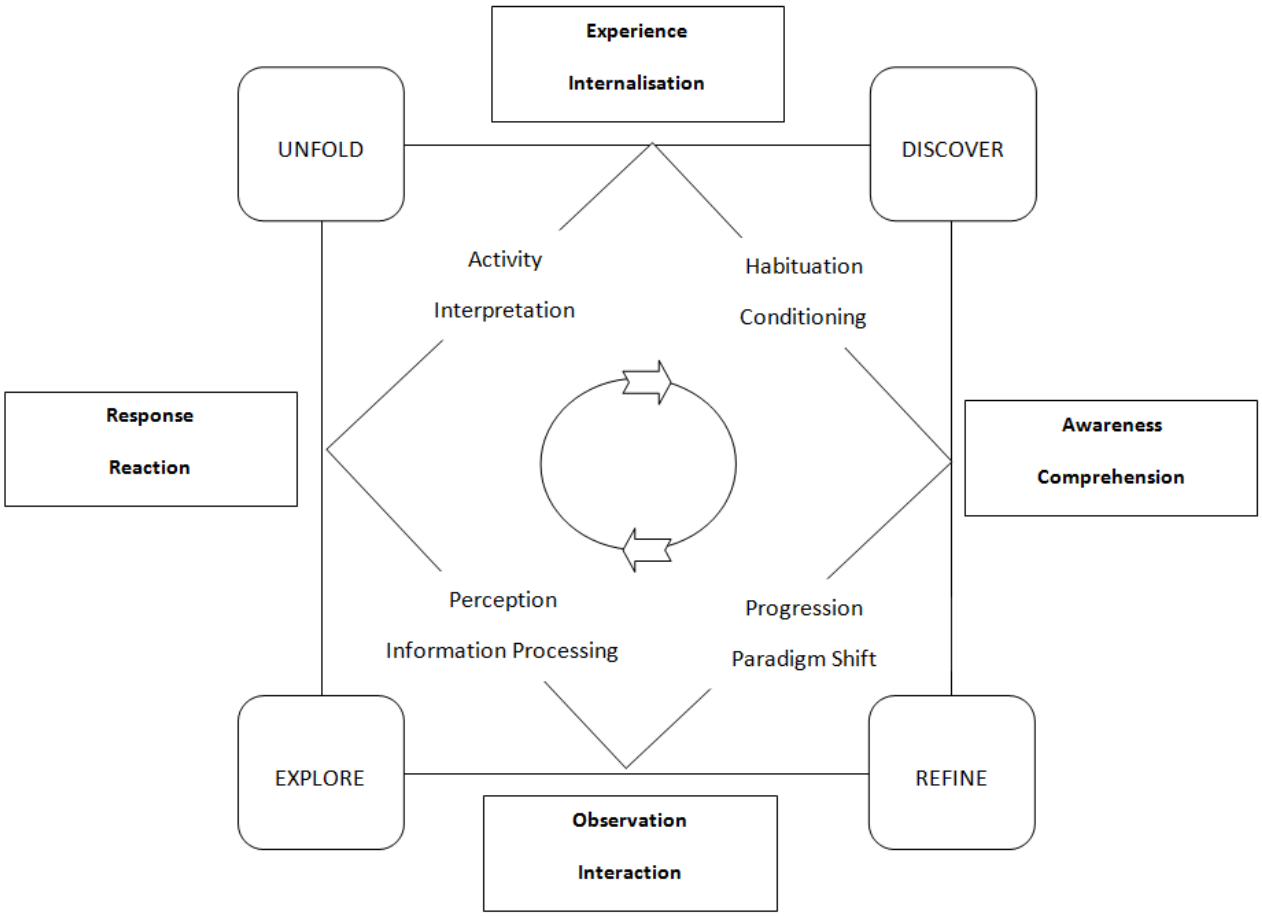

Fig: 5 Human Cognition and Induced Activity Illustration Theory
Source: Author

From the perspective of architecture the overall process relating to sense of place making and evolution of imageability is simplified using this proposition, by explicitly describing the process involved and activities associated at each stage. These activities collectively bring about the concept of sense of place in an individual while exploring landscapes of human habitation.

3. Design Development

For an individual to produce meaningful architecture it is essential that the person has a good awareness of evolutionary progression of a region and mature understanding of the habitat realm, which is not limited to superficial level. This has to be based on in depth awareness of various activities happening within a society and proper cognition of diverse origins of various communities that make up the social fabric. Along with proper application of latest technological and material know how aiming at creating rational, sustainable and contextual architecture with regional traits.

Considering this notion of approach, the characteristics factors which influence and catalyse the overall activity could be classified as intrinsic and extrinsic factors. Intrinsic factors are personified by an individual's deep rooted regionalist linkages superficial as well as internalised, anchoring various sociological as well as contextual attributes. Meanwhile extrinsic factors might be related to quest for innovation, globalisation and progress that exist in an

individual pursuit for achieving unique and iconic results in pursuit of habitat design. The resultant notion of spatial disposition is reinforced by aspects of time and place which provides the divergence in general imagery of a design development.

The intrinsic and extrinsic factors pave way for the need of a refined process. This would help evolve better cognition about the overall act of responsiveness involved during initiation of conceptual development. The perception index is built upon the premises that multiplicity forms the basis of our national fabric. Basic solution to a given design issue could be based on collective requirements of the users exemplified by existing habitat realm. This would contribute towards meeting the utilitarian needs of the people and for evolution of a sense of identity with respect to conceptual ideations and its tangible realisation.

Tangible realisation as part of cognition is constituted by the following acts; perception, convergence and recognition based on information received from intrinsic as well as extrinsic domains of knowledge base and its interpretation. This phenomenon over a time results in convergence or towards formation of a seasoned approach; symbolic in distinctiveness marked by regional traits leading to formation of recognisable architectural built realms.

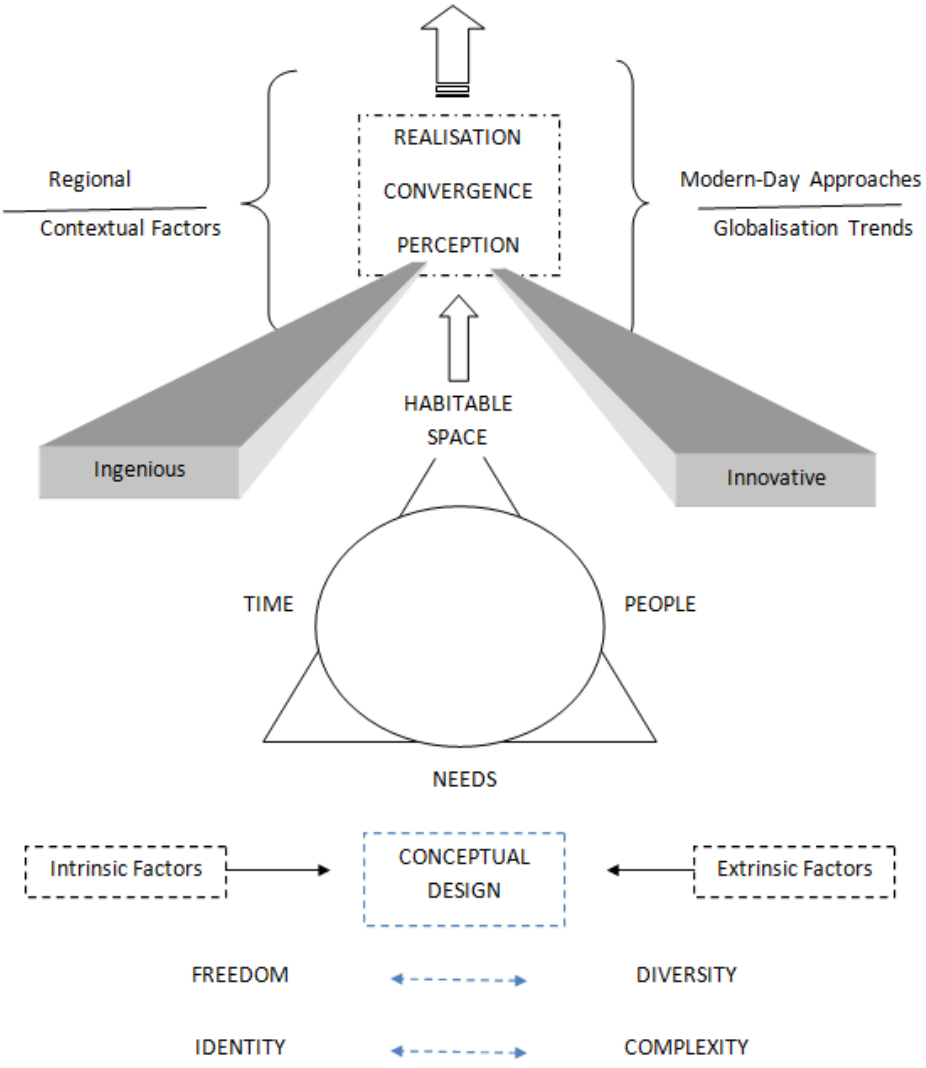

Fig: 3 Process: Tangible Realisation
Source: Author

4. Conclusion

Critical understanding of the importance of knowledge and its integration in design development, leading to a comprehensive whole is a significant aspect to be properly evolved and nourished. It can be argued that knowledge is not a substitute for architectural imagination but inadequate knowledge would handicap the general level of design.

Being satisfied to manipulate formal configurations does not provide insights into the human experience. If the different types of knowledge which architecture requires are ignored, the profession will lose its credibility in the eyes of society. With body of knowledge expanding diversely with the escalating wants of the user and to further sustain the built environment with further progression it's quite certain to have an innovative design process which has a feel of antecedents yet nourished by rationalism.

The preliminary research clearly depicts that an architectural design development framework which aids in realisation of performative dimensions of space is achieved rationally by following a process. This would aid in resolving issues and arriving at solutions while addressing spatial concerns in habitat design in micro as well as macro settings. The process oriented research also defines the character of architecture being envisioned.

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