

# **‘Architecture of Fear’: An Analytical Investigation on ‘Negative Impression’ in Architectural Design Articulated by ‘Integrated Spatial and Space-Related Aspects’**

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## **Abstract**

*Architecture of fortification; iron bars and iron spikes, cinder blocks and barking dogs, razor ribbon wires, glass spines and security alarms- The city has been armed with apparent evidences all over the city. The built fabric has been transformed into an ideal representation of ‘contemporary fears’ of citizens. Often people scare to use lifts, narrow walkways, rear staircases, darken basements, high roof tops or largely open public places. In such places they fear being murdered, abused, abducted, or stabbed.*

*The investigation primarily measures the ‘required sense of safety’ in an urban public realm with respect to the architectural design principals, spatial and space related aspects. The four case studies of the research will be focused on ‘public buildings’ filling the ‘research gap’ within the field of study existed between two main levels of ‘city fabric’ and ‘individual dwelling’. The research outcome reveals the ‘controlling power’ of ‘fear in space’ that has influenced user psychology and behavior accordingly, including 21 integrated architectural aspects behind the cause.*

*Concurrently, the investigation emphasizes possible design interventions to diminish such negative impressions composing ‘positive motives’ which supports public cohesiveness, interaction and free movements in built-sphere in which architectural design becomes a ‘tool’ in order to manipulate ‘sense of safety’.*

**Keywords:** space based fear, Negative Impression, Spatial Science, integrated design Aspects, architectural space psychology

## **Introduction**

Architecture creates places. Archetypically people use these places to live and survive. To be secure from threats, fears, offences or any other depraved effects. People have emotions and fear is such emotion. People do fear for many reasons, and they have relationships to their internal lives, and are influenced from the external effects. Though fear is emotional, it can be physically demonstrated. Certain languages can translate ‘emotional expressions’ into ‘physical

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manifestation'. Physical stimuli create psychological influences based on certain scientific norms. 'Architecture' is such 'expressive language' that gives rise to the 'physical manifestation of fear'. This phenomenon between 'architecture', 'place', 'people', and 'fear as an emotion' will be fundamentally explained through 'Architectural Space Psychology'. The 'unnecessary manifestation of fear in place' is designated as 'Space Based Fear' which is a 'negative impression'. The investigation essentially questions how such impression is evoked in a place giving rise to an 'inaccurate spatial expression'. Accordingly, the investigation hypothesizes that it is an 'articulation of spatial and space-related aspect' which is a 'by-product' of 'architectural design'.

## **The need of time**

### **Crime, fear, safety, and insecurity:**

They have become a common set of words in the contemporary generic jargon. People do scare to walk on streets, to use underground passes, or overhead-walk ways, and stay in public places and public buildings even till the bus or train reaches. Perhaps they fear to be at their own home where there are no security alarming systems, barking dogs, glass spines, or iron hooks which facilitate the mental comfort for residents.

'Fear' has never been absent from human association; only it has been evolved responding to vast socio-cultural, economic and political changes brought into human society from time to time. The mushrooming population demands more 'cities' for people to live. The urbanization brings the built sphere into much critical and complex environment. In order to increasing proportions of this fear, people enhance security as means of safety. Consequently,

“fear and anxiety has become the mental condition of modern life”

(Vidler, 2002)

## **Hypothesis**

The investigation 'Architecture of Fear' examines the affiliation between the 'architecture' and 'fear' being based on the following hypothesis:

"Architecture holds an expression which creates/evokes an impression to its user. Such impression can affects user either positively or negatively. 'Fear' is such a 'negative impression' which is a 'by-product' of architectural design, articulated by 'integrated spatial and space related aspects'".

## **Background**

The issue was raised up once after the industrial Revolution. Human life was overwhelmed with fear, misery and distrust. Though the situation was an outcome of political, economic, and socio-cultural influences in combination, people experienced them through their living environment. They were manifested all the way through architectural design of the time.

In mid-90's, the researchers focused their attention on 'security' or 'safety' in relation to the architectural design. In 1961, Jane Jacobs wrote her famous book "The Death and Life of Great American Cities" convincing some critical ideas with reference to the planning and designing decisions arisen at the time. Afterward, few books written by Oscar Newman and Barry Poiner;

“Defensible Space” and “Beyond Defensible Space” emphasized certain upheaval concepts on the aspect of ‘being secured’. Accordingly, architects, designers, and planners were questioned, whether they are partly responsible for the proliferation of insecurities at contemporary living contexts.

In late 90’s, a set of researchers brought some rebellious concepts changing the direction that so far the ‘safety’ was measured in respect to the architectural design. It was a more psychological approach which emphasized the ‘feeling secure’ in a particular place. Concepts such as ‘Mirror’s By Kevin Sites, ‘Building Paranoia’ by Steven Flusty, ‘Inside Fear’ by Anne Troutman, ‘Abject Terror’ by Dora Epstein and ‘Walls of Fear and Walls of Support’ by Peter Marcuse; remark germinal ideas in which architecture evokes forgotten memories, misery illusions, nightmares, severe drops and tremendous pains in human life, generating ‘fear’ along with, or before, or after.

Human fear becomes much critical and complex phenomenon with respect to the contemporary architectural design and physical settings of cities. The investigation reveals current status of the phenomenon established on above mentioned theoretical frames to robust the argument wherever it is necessary.

### Introduction to the research body

The research analysis will be dualistic in nature which investigates two variable components of ‘place factor’ and ‘user factor’ which are examined using six methods of data obtaining and implementation.

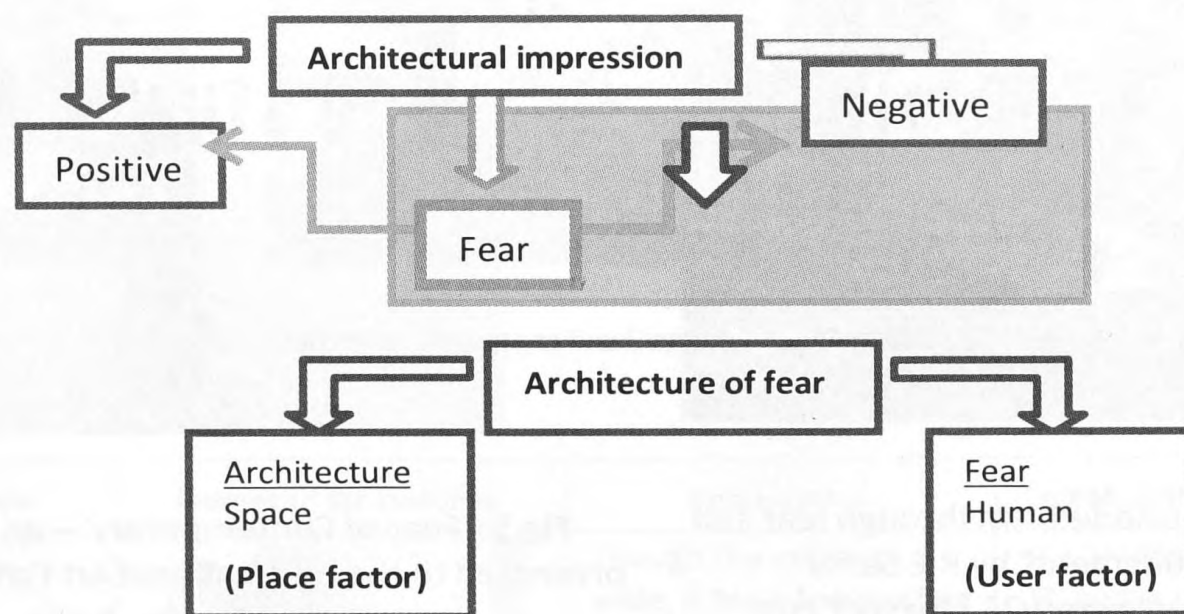


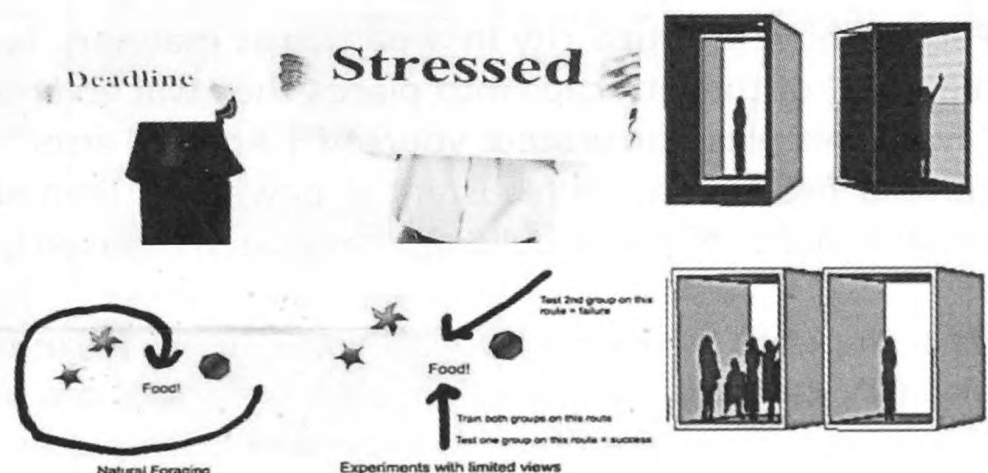
Fig. 1: The Subject Model  
 Source: Author

#### User factor

1. Individual centered behavioral analysis
2. Semi-structured open-interviews
3. Cognitive maps and direct word drafts

#### Place factor

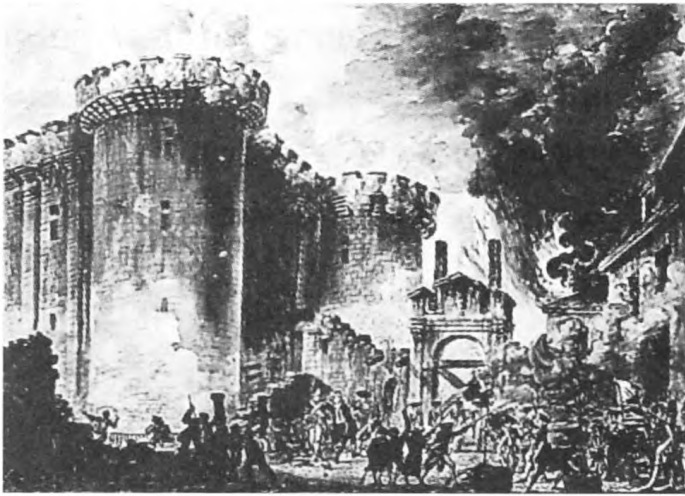
4. Place centered behavioral analysis
5. Auto-photo- elicitation
6. 3d sketches and sectional drafts



The final data will be presented in 'Progressive Drafts' and they will be directed into a 'Comparative Space Centered Evaluation'. It is a backward process from 'place' to 'space', with contribution of precedence studies, field works, co-related studies and literature evidences to identify 'potential spatial and space related aspects' of 'Space Based Fear'.

### Impression in Architectural Design

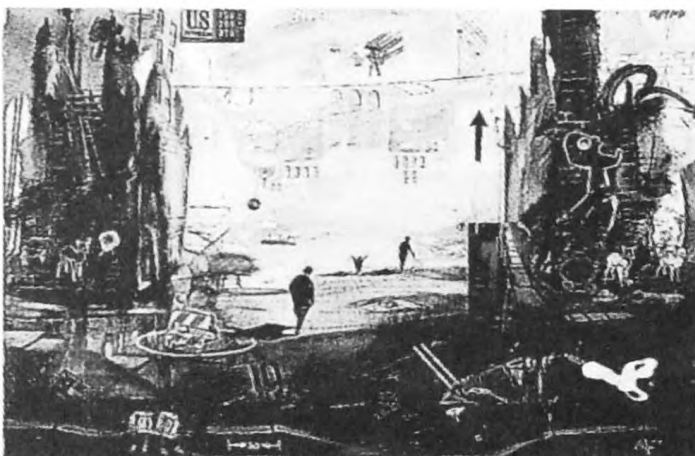
Evolution of human civilization sturdily proved that 'fear' had been constantly associated with man and environment since early classic core to contemporary modernism, and it had been defined through vast socio-cultural, political, and economic dimensions chronologically.



**Fig. 2** The French Revolution  
Source: english-online.at



**Fig. 3:** The Palace - Forbidden City, Beijing  
Source: intochinatravel.com



**Fig. 4:** "Postmodernism through fear and misjudgment" by R.E. Salter  
Source: relevancy22.blogspot.com



**Fig.5:** 'Fear of Contemporary' – an installation presented to the International Art Fair conducted by the Art Forum- Berlin.  
Source: refusetobeacoward.com

### Fear, Space and Public

People move through city in a particular manner, 'fear' plays a significant role in their 'mental mapping' of the cityscape into places-they will go and they will not. A space can give a message "avoid this place or protect yourself"( Abject Terror -Ellin, 1997, p. 139). Fear which influences citizens has become a 'substantial power' to limit the public life. Consequently the potential social benefits of public buildings have been diffused by public fear in current cities.

'Fear in public' is once a 'tool' in order to minimize the anti-social behaviors in public. 'You are on CCTV cameras' or any other such messages are intentionally used to warn the customer. If this 'sense of required fear' is exceeded, such places will be dis-attached from user where the

space impresses user negatively. Instead, the public quality can also be manipulated through positive architectural design strategies more desirably.







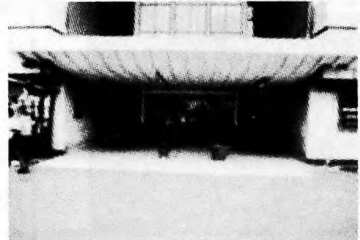

Fig. 6: Fear and Public  
 Source: vimeo.com

### Analysis of 'Case Studies' Focusing on Four Shopping Centers

- Nugegoda Supermarket - NSM
- Liberty Plaza - LP
- Borella Supermarket - BSM
- Majestic City - MC



Table 1: Progressive Draft – NSM - 02

User introduction	Journey of the customer	Space syntax	ICBM: author's observation
<p>Sample number : <b>03</b></p> <p>Portrait:</p>  <p>Gender- female</p> <p>Age limit- 30-40</p> <p>Number of visits- Several times</p>	  	<p>Though the entrance is wide, it has been blocked with a decorative wall.</p>  <p>1<sup>st</sup> floor is open enough with daylight.</p> 	<p>She entered by entrance no-03, and walked in GF and FF with her baby.</p> <p>-----</p> <p>Passing the stair way to the SF, she came down and returned to the same entrance, and waited more than 20minutes.</p> <p>She was accompanied with a man later and started the journey again up to the SF.</p>


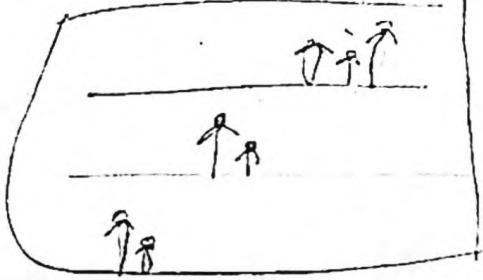

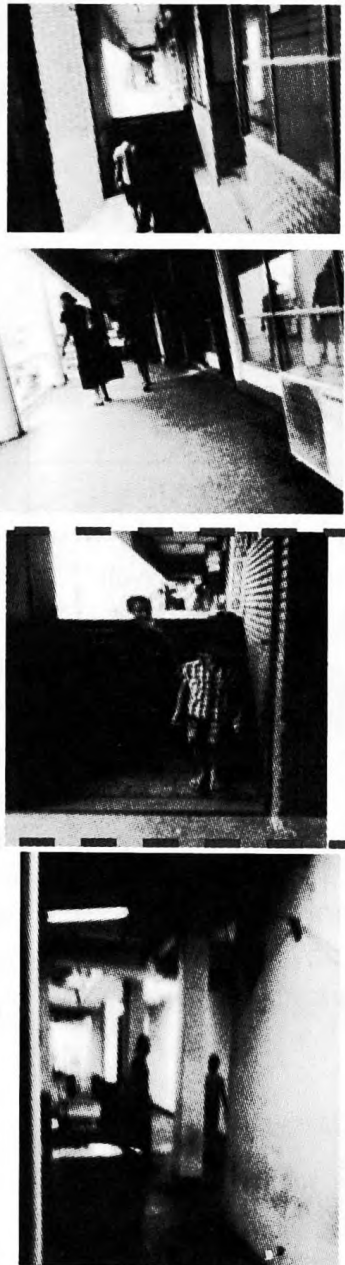


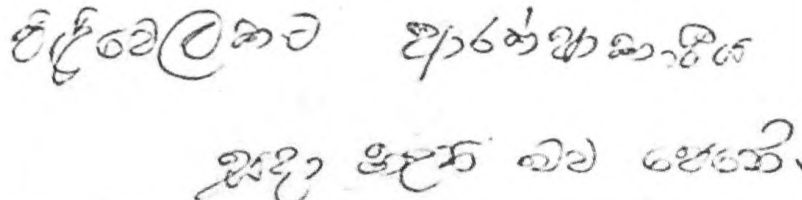

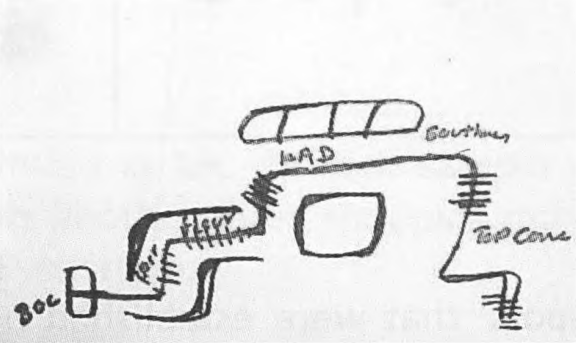

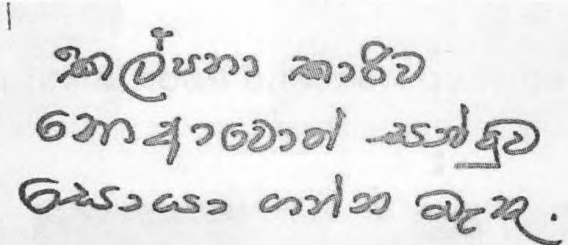

			
Cognitive map / explanation draft		Salient features –open interviews	
		<p>She said that she never visits the top floor lonely. Though she scared of walking there, did not mention a reason for that.</p> <p>Her draft explained well, the reason behind her behavior.</p>	

Table 2: Progressive Draft – BSM - 01

User introduction	Journey of the customer	Space syntax	ICBM: author's observation
<p>Sample number : <b>01</b></p> <p>Portrait:</p>  <p>Gender- female- A lady With her son.</p> <p>Age limit- 35-40</p> <p>Number of visits- First time</p>		<p>GF exterior passages are fully opened with clear daylight.</p>  <p>Entrance is clustered and blocked in view.</p> 	<p>She walked at the outer corridor And found that she should enter inside.</p> <p>She hesitated, peeped inside several times before enter.</p> <p>Only she went up to the SF, again glimpsed into several lobbies and turned back. Her behavior was extreme fast.</p> <p>She did not allow her son to go far from her at any time.</p>

Cognitive map / explanation draft	Salient features –open interviews
	<p>She strongly mentioned that this is not a good place to come to anyone.</p> <p>Further she advised the author (interviewer) to not to go inside lonely for any work.</p>

Shop owners/ shop workers		
Sample No & portrait	Cognitive map/direct word expression	Salient features
 Sample No- 01		<p>'I fear the staircase. And if there is no one who is familiar at adjacent shops, I close the shop or else I asked my son to be here'.</p>
 Sample No- 02		<p>'I'm five years here now; still I fear thinking I won't able to come to the shop. Passages and stair cases are extremely messed.'</p>
 Sample No- 03	<p>Customers සිය නව building එකට එන්නට මෙහි නිවැරදි තැනක් වෙයි.</p>	<p>'I have no fears here but lot of customers tells that. So they ask their work to be taken in the morning or noon. They don't take specially evening appointments to visit here'.</p>

No complaints were recorded from above 18 interviewed samples in MC. They all made positive responses only. To further support the statement, few extra customers and shop owners/workers also were interviewed. They also made equal responses that place is good enough to be and work, and no traces of fears they do experience within the place. Some expressive drafts of samples are shown below.

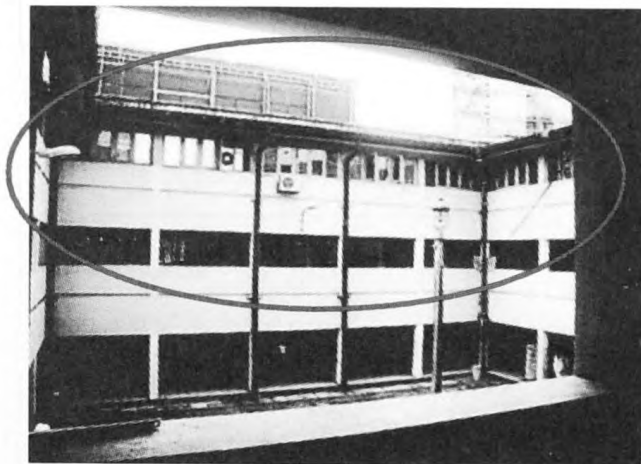


### Identifying Hotspots

Identified 'critical places' are the 'hot spots' that were established being based on the data collected from progressive drafts of **60 samples** including customers, shop owners and workers.

### Nugegoda Supermarket

Staircases, Dark passage with set of closed shops, Second floor, Blind ends, Entrances, Passage junctions, Rear passage.



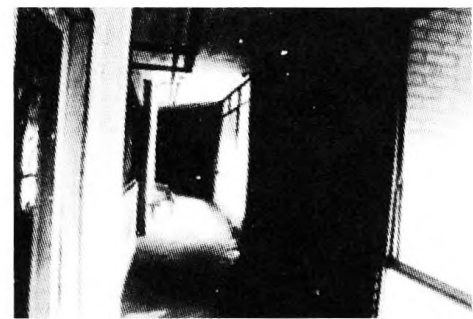
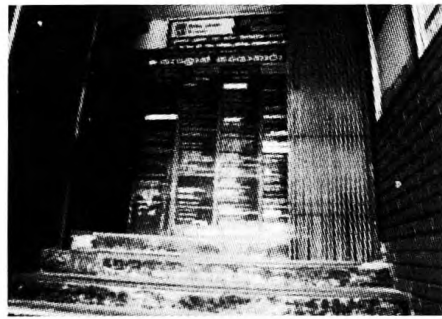
### Liberty Plaza

Lift lobby, Atrium, long passages.



### Borella Supermarket

Entrances, Staircases, Passage ways, Stair case lobbies, Blind-ends, Basement.



### Majestic City

No hotspots were identified in MC through sample explanations. Although In relation to the above identified hotspots in other three shopping malls, similar places in MC also were selected for the Space Centered Evaluation.



### Space Centered Evaluation

According to the evidence of sample customers; the highest number of hotspots was recorded in BSM, and then NSM, and next LP. And no hotspots were identified in MC. Among identified hotspots of BSM, NSM and LP, some were mutual such as passage ways, staircases, blind ends, and entrances. Initially the evaluation was focused on one specific hotspot to identify the preliminary potential aspects, and rest of hotspots was evaluated with reference to them into following order;

- Analytical Case- (01) – Passage/ walk ways
- Case 02 – Stair cases and stair lobbies
- Case 03 – Entrances
- Case 04 – passage ends
- Case 05 – passage junctions



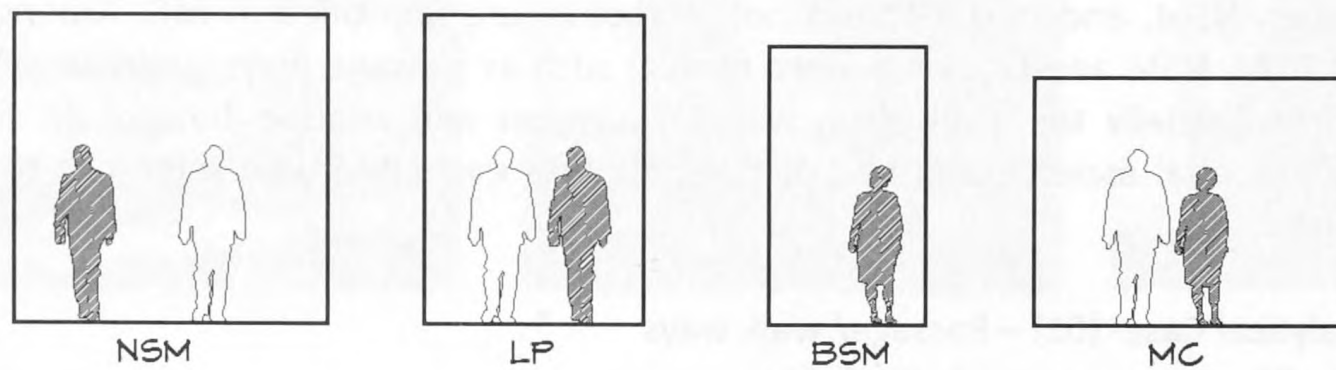


**Fig. 6:** Passages in NSM – Condition of daylight and Intensity of available light

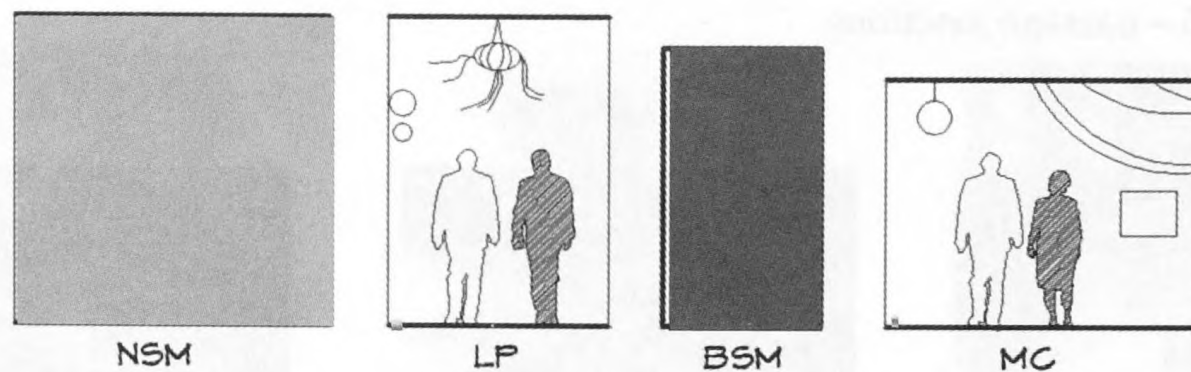


**Fig. 7:** NSM passages during night time (5.30 – 8.00 pm) and intensity of available light  
 Source: Author

As it is shown using Analytical Case- (01) – Passage/ walk ways - the comparison will be proceeded with focus on major similarities and dissimilarities among the four case studies.



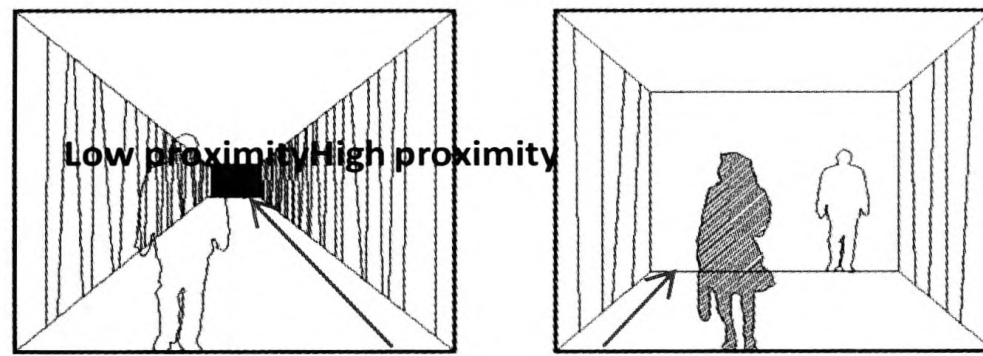
**Fig. 8:** Proportional Cross Sections of Four Passages



**Fig. 9:** Apparent colour variations and intensities in passages of four shopping centers  
 Source: Author

As above paradigms are shown different architectural aspects are critically evaluated using above five cases of hotspots. Further randomly selected examples are shown below.

Eg 01:



Eg 02:

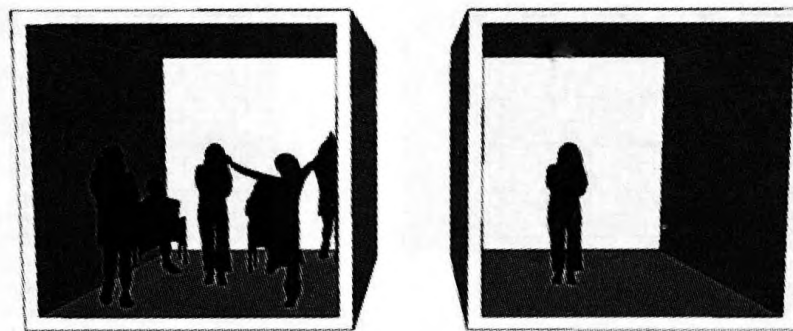


Fig. 10: Aural and Somatic Isolation

'Silence' is a critical aspect in terms of space based fear, particularly in public.

Eg 03:

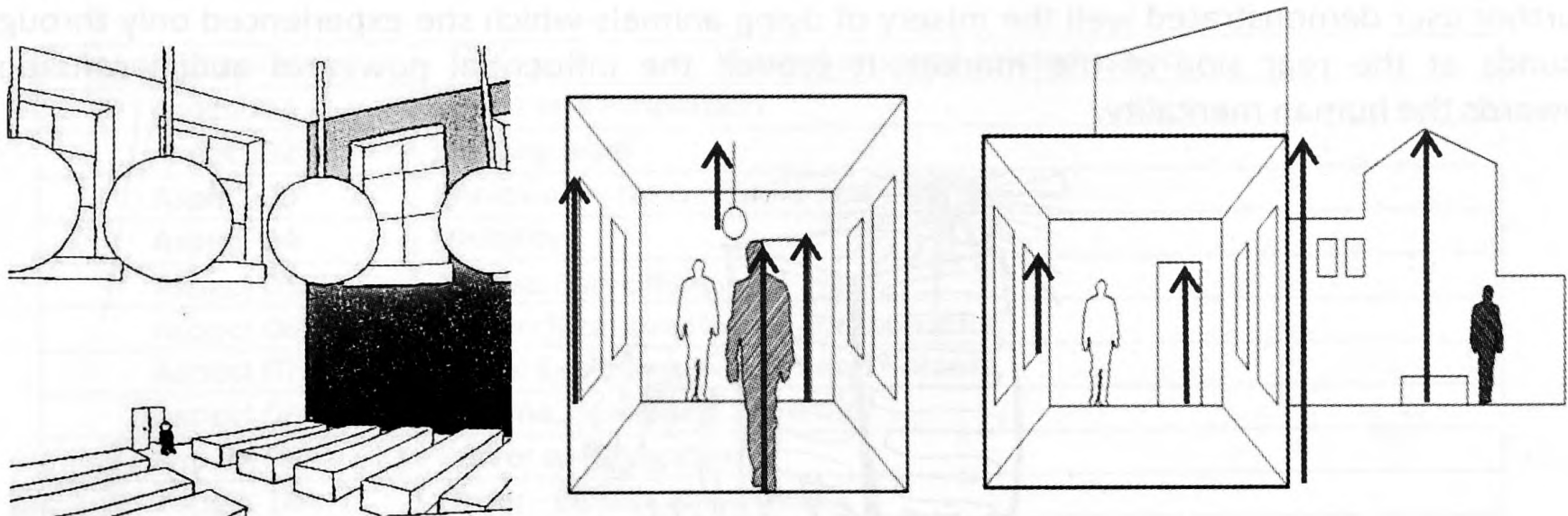


Fig 11: "An example of conflicts of scale in buildings"  
Source: Psychology for architects (Canter, 1974, p. 39)

This 'conflict in scale' is highly capable of influencing the user psychology; the uncomfortable, inappropriate application of scale is a heavy component in space based fear.

Eg 04:

Power of Navigation- The overall arrangement of walkways (passages) in LP was criticized by the sample customers.



**Fig.12:** Mental Representation of Space – by sample no: 04, 07 - LP

Eg 05:



**Fig. 13:** A Passage junction at NSM and LP  
Source: Author

Eg 06:

The image indicates two robust sounds in public; the 'sound of people' and 'sound of vehicles'. Further user demonstrated well the misery of dying animals-which she experienced only through sounds at the rear side of the market. It proved the influential power of audial sensation towards the human mentality.



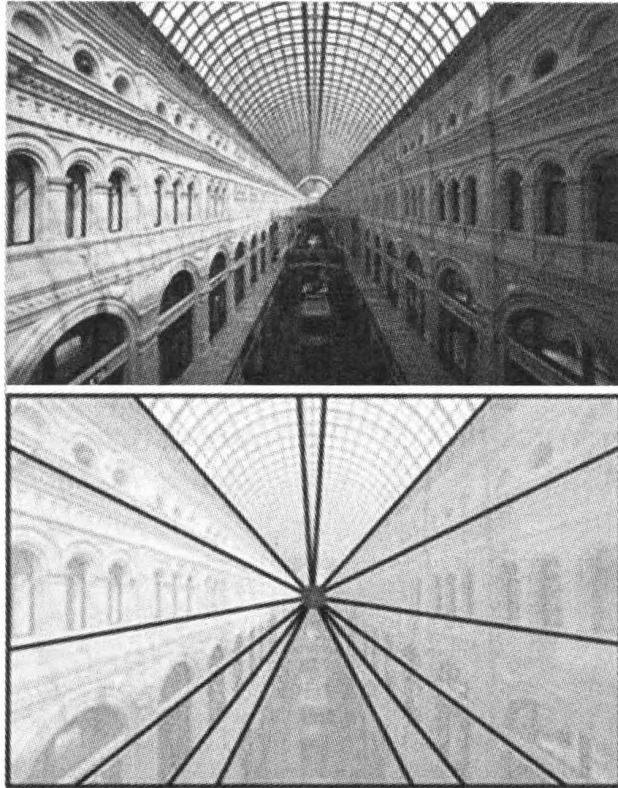
**Fig. 14:** The cognitive map drawn by the sample No- 06 – NSM

Eg 07:

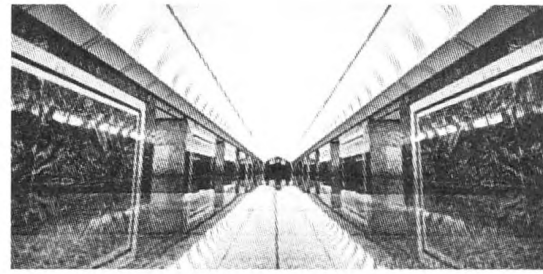
“Symmetry has the quality of perfect balance but it often provokes a strange uneasiness, even in the works of great masters”

(Day, 2002, p. 66)

'Symmetry' becomes a high influential reason of space based fear once it is strongly integrated with repetition+ reflection + high volume + low proximity + high enclosure. This combined effect can be changed with the impact of some other aspects, such as the lighting level, shape and proportion, tactile and visual experiences.



**Fig.16: Perfect Symmetry**  
 Source: us.whitewall.com



**Fig.15: Dostoevsky Metro Station**  
 Source: robertodemicheli.com



**Fig. 17: Intergalactic Bus Tunnel by Jason Hoover**  
 Source: cruzine.com

**Table 3: Identified 21 Potential Spatial and Space Related Aspects**

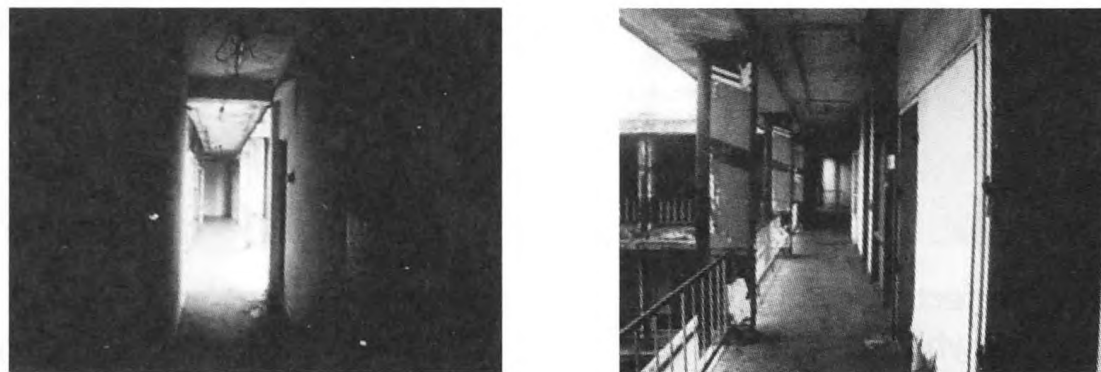
Aspect number	Spatial or space-related aspect
Aspect 01	Shape and Proportion
Aspect 02	Lighting level
Aspect 03	Enclosure – ratio of Solid and void
Aspect 04	Visibility
Aspect 05	Mutual Surveillance
Aspect 06	Hierarchical structuring - organization
Aspect 07	Visual Experience -Views and Colours
Aspect 08	Volume, Scale, and Proximity
Aspect 09	Power of Navigation
Aspect 10	Order - Details and Objects
Aspect 11	Shadow, Reflection, and Movement
Aspect 12	Tactile experience
Aspect 13	Aromatic experience
Aspect 14	Audial Sensation
Aspect 15	Aural and somatic isolation
Aspect 16	Activity pattern
Aspect 17	Graffiti and vandalism
Aspect 18	form
Aspect 19	Repetition
Aspect 20	Symmetry
Aspect 21	Landscape

As the space centered evaluation proved that all identified aspects were inter-connected and inter-related, aforesaid 21 aspects are classified as 'Integrated Spatial and Space Related Aspects'.

"As the elements and principles become more familiar, new connections, relationships, and level of meaning are established"

(Ching, 1979)

Integrating them among one to another into varying levels, different compositions are established. Such 'integrated compositions' are uncountable. Following corridors in BSM have natural sun light; one side is almost opened- low solid ratio, and visible. But often people do scare to walk along. Applying the rest of identified aspects; it was noticed that they are narrow, low proximity; hence the end of the journey is either blind or not known. They are poor and harsh in tactility and visual experience. There is neither surveillance nor human attraction.



**Fig. 18:** Two passages in BSM  
Source: Author

Accordingly, the presence, or the absence, or the richness, or the infertility, of a single or several 'spatial aspects or space-related aspect' was revealed as the logical basis behind the phenomenon. Moreover, similarly it had been the reason of such 'uncountable variations' that given rise to an 'inaccurate spatial expression' produced a 'negative impression' to user.

### **Architectural Design Interventions to Diminish Space Based Fear**

As the integrations of spatial and space-related aspects are uncountable, the remedial actions to be followed are countless. These strategies are fundamentally based on literature evidences and author observation.

Day and Sites similarly emphasized the contribution of social network promoted by the activity pattern of a building to diminish space based fear,

"keep activity going – especially during night time which are the dangerous hours"

(Day, 2002, p. 144)

Generate functions to make available people in places -they will become 'watch-dogs' who keep their eyes on place which supports to ensure safety and diminish somatic and aural isolation.

The Integration of natural setting and day light has high power of diminishing space based fear.  
Eg.

“Imagine two-entry ways to groups of small offices. One is a dark hallway with lift, fire stairs and rows of name plates and buttons.  
The other is an ‘individual café atmosphere’ in a sunlight plant- filled winter – garden, receptionist and activity round the photocopier guaranteeing human presence; different appearance, different atmosphere, different approach to visitors”

(Day, 2002, p. 155)



**Fig. 19:** The Indoor Garden at BSM  
Source: Author

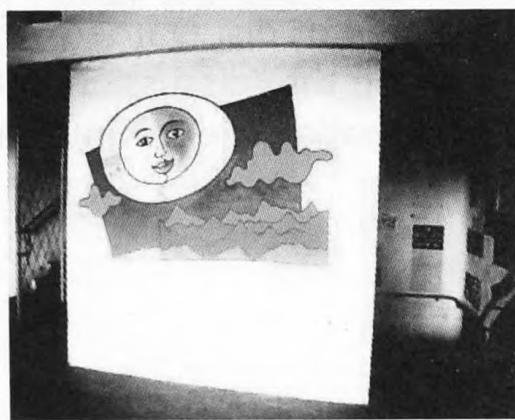


**Fig. 20:** The Cognitive Map - Sample No: 05 – NSM  
Source: Author

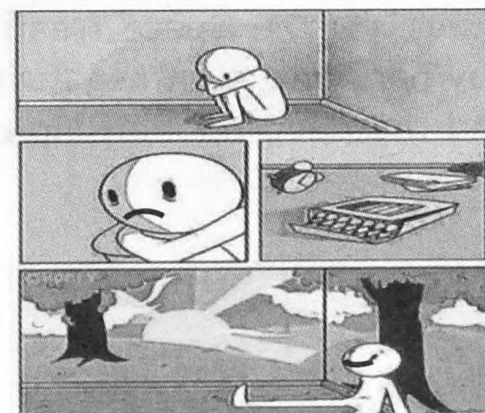
“Architecture we look better in our hopes than our fears” (Ellin, 1997), hence promote built-sphere to increase visibility, it will provide better mutual-surveillance and will ensure the safety in public. Shape the design for user interaction;

“informal seats like low walls and sun-facing steps, where you can see and be seen – unlike proper seats which inhabit strangers sitting close enough to meet”  
(Day, 2002, p. 113)

Ellin says the houses that she "remember with textures and details in their structure – window, floor, door, walls-feel safe to me; inhabited by smells and sounds, they mitigate the anxiety of the outside world and hone her focus and insight, giving the sense of comfort”(Inside Fear - Ellin, 1997, p. 155). Ultimately the task of architect is unparalleled, accountable and enormous. Mitigating negativity is crucial, but then what? To fill the gap, place positivity through architectural design.



**Fig. 21:** A wall painting – BSM  
Source: Author



**Fig. 22:** A simple change can bring a good positive motive to user mind  
Source: facebook.com

## Conclusion

The investigation explored 'architecture' as an expressive medium that given rise to the physical manifestation of fear, together with its inherent ability of transforming a set of psychological emotions into cognitive substances. 'The physical manifestation of 'fear' was demonstrated as two-fold phenomenon. The 'positively impressed fear' on user was possibly essential when it was demanded by the place in terms of social ethics, justice, discipline, security and law. 'Negatively impressed fear' on user was profoundly named as a 'by-product' of architectural design which was a result of 'inaccurate spatial articulation' which given rise to an 'unnecessary fear'. The 'space based fear' did not appear as a result of single architectural aspect as the space was a complex combination of numerous elements and principals. Hence the space based fear was a result of 'integrated spatial and space related aspects' as the research convinced. The nature of this space based fear is 'place specific'. As paradigms; though 'aural and somatic isolation' was identified as an actual powerful contributory aspect of negative impression in public, it might not be such influential reason in private. Then, another aspect or few could be prominent among the rest.

The investigation further emphasized the ultimate task of an architect to select, test and implement the 'accurate integrated composition'. However in public, undeniably it was a challenge. Certainly the space base fear rooted deep with certain complex psychosomatic, sociological, biological and coincide cultural facts. Hence, it could be divergent on the basis of age, gender, past experience, knowledge and other personal biases. But, architect can examine user variations, see how public places are functioned, and copy the good specimens. The designer could walk along every passage, up and down in every staircase, open every door, look through every window, even in his very first sketch design, to grasp how the user perceives the space. To reach the innate anticipatory imagination of the architect, and to transfer that same set of expressions to user, the 'accurate integrated compositions' must be chosen. He must be able to visualize the subsequent 'impression' of the place to avoid influences of distrust, fear psychosis, phobias and such negative influences through space. This fear in space might be the cause of distasted public buildings and further degradation of vibrant social interactions in communal life.

Architectural design interventions suggested at the aim of diminishing space based fear were the 'accurate compositions' between the same identified potential spatial and space related aspects. On the other hand they indirectly supported and promoted cohesiveness of that particular place and increased the unity in public, where people desired to be. Typically, as the effect of space was not clear or not known, user could not react. 'Living with fear' in long term, can unconsciously harm to user mental health and social well-being. People do hypnotherapies and many other cures, yet the 'Space Treatment' is either not branded or disregarded. Architect can replace fear by harmony, turn negativity to positivity considering the 'discussion between user and space' and the deep relationship of user psychology and spatial science into architectural design.



“Design gives the way to the physical manifestation of our fears. Almost Always ,  
these take the shape of walls”

(Ellin, 1997, p. 115)

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