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कल्पA

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A Look Into the Cover Art

- **Namrata Dewanjee**

Cover Design: Ishika Shrivastava, 5th sem RVCA

When the artist, Ishika Shrivastava, started conceptualising on the theme of 'Research in architecture', she was strongly drawn towards Virtual Reality(VR) and its involvement in architecture. VR is a coming-of-age technology which has already made a mark in quite a few industries and it was only a matter of time before its influence was seen in the field of architecture as well.

"This particular artwork," says the artist, "is about how the client-architect relationship is being taken to the next level with the advent of VR." There is no limit to the first-hand experience. It goes beyond merely an optic experience and into the haptic.The artist uses bright and contrasting colours to highlight this new immersive technology.

The fingers making their way through the structures are a representation of this novel and more intimate experience that can now be achieved through VR. This piece, in it's near psychedelic style, perhaps speaks of the blurring boundaries between the real and virtual, and what can be achieved through this ambiguity. With the advancement of technology like VR, the architectural community (and humanity as a whole) are steadily breaking boundaries, metaphorically and literally.

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Changing The World

https://rvca.rvei.edu.in/

VISION

An architecture institute par excellence, nurturing academics, profession and research for a sustainable contemporary society.

MISSION

To produce a class of professionals with creative thinking and questioning attitude towards appropriate architecture.
To be a Centre of excellence for architectural and urban design studies by bringing the best teaching talent, infrastructure and technologies together.
To be a crucible for promoting research activities in thrust areas of architecture and allied disciplines for societal benefits.
To share the benefit of intellectual and professional capabilities with society by establishing institutional consultancy.
To assimilate latest academic developments, pedagogy and learning through international exchange programmes.

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Kalpa, a brainchild of RVCA academicians, engulfs itself on the culture of research to inculcate its ideologies in architecture and related fields. Architecture being a very subjective programme, gives rise to an investigative feature that lets us explore the complex peripheral streams informing design. This feature led to the formation of the research cell to infuse the philosophy of systematic study driven by context.

The inspiration for the word 'Kalpa' lies in its ritualistic approach that endures significant cycles of learning, revolving around the processes of creation, dissolution and recreation. Kalpa evolves with five definitive wings that guide through ***Chandas*** **(patterns),** ***Shiksha*** **(learning),** ***Vyakarana*** **(grammar of assembly),** ***Nirukta*** **(etymology) and** ***Jyotisha*** **(timeline).** When looked closely, these concepts constitute the essence of research.

The research cell also ideated to include an archive at institution level with an aim to inspire the student folk and drive their attention towards unearthing layers of concepts that get hidden or unnoticed in their design processes. This first edition of the magazine engulfs in exploring the 'idea of research' with dialogues of faculty framing informal yet in-depth perceptions on the complexity it endures. The magazine gets enriched with the contributions of students attempting a structured take on their motivations during the academic year 2019-20.

We hope to enrich the research cell further with thematic scales that question the nuances of the field and its peripherals. We acknowledge the immense support and encouragement of our principal **Dr. O P Bawane**, our **Dean Prof. Suresh Murthy** and the faculty. We also applaud the consistent efforts of the ninth semester students **Shashwath Ravisundar, Aishwarya P Hegde** and the design team in the success of this edition.

Hope you have a good read. Cheers!

Mentors' Insights

Dr. Om Prakash Bawane

B.Arch (NIT, Bhopal) | M.Arch (IIT Roorkee) | MSc. (Sustainable development) | PhD

Principal

Research is fundamental to knowledge building and welfare of the human society. Research in architecture is rather at nascent stage but has witnessed a phenomenal interest among the academic and professionals to further the knowledge base in architecture and allied field through applied and theoretical research.

Owing to multi disciplinary and multi dimensional nature of the discipline, architecture offers scope for research in numerous areas linked fine arts, social sciences, technology etc.

In applied sense , the research in architecture can contribute to advancement of architectural science & technology for the direct benefit of the industry. Whereas, theoretical research would contribute to advancement of knowledge and emergence of new theories.

Of late, research in architecture in India gaining momentum. There is a greater onus on the people in academia in architecture to provide desirable thrust to research to expand the existing knowledge base to enhance their own credibility.

"Research is to see what everybody else has seen, and to think what nobody else has thought" (Nobel laureate Albert Szent-Gyogyoi). These words ring especially true in thinking of the important role of research in deciphering the myriad messages transmitted between the built environment and its users. And as professionals and academics committed to creating liveable and vibrant communities, what better place to think about "the unseen in the seen" than an educational institution populated with learners, seekers and makers of knowledge? I congratulate the faculty and student team for initiating Kalpa, and look forward to sharing in their exciting journeys in research. I wish the Kalpa team the very best in their ongoing and future ventures

Dr. Salila Vanka

B.Arch (VNIT) | M.Planning (CEPT) (Univ. Texas)| Phd.(Univ. Michigan)

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Research Scholar, IIITB

It is truly exciting to be part of team KALPA, a research initiative at RVCA, which recognizes the need to focus on the research-based education that integrates empirical inquiry into our projects for better learning and development. Architecture has always been invariably linked to cognitive research, involving constant and provocative inquiry about intuitive ideas. David Sarnoff rightly states, 'Research is the distance between an idea and its realization.' Exploring this is very important in transforming students into professionals and thus renders it crucial to have a research culture on campus, where academicians work towards discovering new reliable information and documentation.

Research culture fuels curiosity in students, they ask questions and immerse themselves in the joy of discovering.I believe, research will enable thorough in-depth understanding of spatial narratives in design and provoke productive, reliable, and valid conclusions when applied in the building industry with an effort to bridge the mythical gap between practice and research felt by many architects.

A wonderful start from the RVCA team and one of the first architectural schools in Bengaluru. I wish you good luck and look forward to reading it.

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Aishwarya P Hegde | Shashwath Ravisundar
9th Sem, RVCA

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In a world of constant chaos and change, Architecture even at its best, cannot stay still. To keep up with this endless entropy, we'd need an endless exchange of knowledge and a constant broadening of the mind's horizon.

Kalpa, a joint initiative by the Faculty and Students of RVCA, is a form of the the manifestation of a solution to this need. It aims towards looking beyond the traditional routes to architecture and making the idea of investigation into the unknown, a norm. It is a platform on which we, the team of Kalpa, hope to fill the voids of our existing knowledge and spread the same to our readers.

This magazine and its contents thrive on the idea of exploration and experimentation through research as well as insights into our learnings through the semester. It is set in place, not only to push the limits of learning in Architecture but also to redefine our approaches to it. With each piece, comes a hoard of well researched information that is certain to leave you more equipped for any hurdles faced in Architecture School and beyond.

To conclude our purpose, we'd like to dive right into the main cause and effect behind the creation of Kalpa. Beautiful architecture in all its glory, is so much more than what meets the eye. To equip ourselves to find, understand and in turn, create the same hidden beauty that ties it all together, the idea of research and investigation is a must. With our first issue, focusing solely on the importance of research and informed design, we hope to shed light on this often-neglected aspect of architecture and give it the pedestal it deserves. This spirit of well-informed and well researched learning, to be carried as a gift that manifests in our built forms, is a future that we hope for through our magazine Kalpa, in RVCA and beyond.

Dialogues

What is the concept of research according you?

What is the relevance of research in your field of expertise?

Team Kalpa steered the idea with expert insights from the RVCA faculty exploring definitions to research in varied field of expertises. Here are some interesting responses. Kids, here's your chance to quote them:

Dialogues

Prof. Arun Swaminathan | Architecture (Theory, Design and Consultancy)

B.Arch (CEPT)

Design Chair, RVCA

Firstly, to do any Project without finding out the Raison D'Etre leads to potential errors. In general, my philosophy for any action or task is that of a studied approach. Of course, there are plenty of times where Intuition takes over. However, even Intuition gets honed by experience. One must look into as many background aspects with regard to any project. Having assessed this background material and having this on hand, leaves a greater window for one to arrive at an informed conclusion. Even a child must be raised to question (the quintessential thoughts of J Krishnamurti) so that it does not blindly follow instructions or customs.

To put it in a nutshell, in my opinion, the concept of Research is one of a dispassionate assessment or appreciation of the topic in mind, culling from as many background aspects or issues and then breaking down that data to simple points of understanding so that one gets an informed conclusion in the study of that topic. In this manner, the conclusions of the Research may be of more practical use to anybody who is pursuing a subject, especially if it is Design related.

Fundamentally, there are two MAJOR areas of my research:
1.Lightweight Structures
2.Design Pedagogy

Lightweight Structures: Both in practice and in teaching, I use a 'Hands-On 'method to work out the Spatial Structures. I find that a purely theoretical approach is not satisfying at all. The above approach facilitates the student to imbibe the magic of structures and in practice, I find this the best way of communicating with the Engineer (most of whom find this field difficult coming from the Civil Engineering background). So without research (particularly of the Mechanical Engineering, World of Machines as well as what Mother Nature offers) one will be handicapped in coming up with the flow of the right ideas to conceive and build Aesthetic Spatial Structures.

2.Design Pedagogy: There are very many ways to bell a Cat and Design Teaching has many Cats to bell! Again, a very studied approach to the task on hand is absolutely essential, particularly in the fundamental stage of Design (First Year) Academics and in the Final Stage (Thesis). Also, in the Housing Studio, research provides the backbone to the Design Process. Having said this, I will add that across the 5 years of a student's academic life, it is most important that Research holds the key to the Design Process. In this, certain subjects must always go hand in hand: Climatology, Technology, Structures, Anthropometry, Sociology, and Cultural Anthropology and Regional Geography are quintessential Research Keys to a Design Studio across all 5 Years.

Prof. Bikramjit Chakraborty |Building Science
M. Conservation (SPA) | Phd. (CEPT)
Associate Professor, RVCA

The concept of research to me is “positioning the self” and "looking into the cross-section of the specific phenomena, keenly", from a distance. Adding to that, as a next step, is a systematic recording of that observation. This keen observation helps the researcher decipher the correlation, which already exists, in reality. The "keen observation" and "drawing a correlation" is an integral part of the research process. This process needs evidence, to validate the claim, which is initially developed by the researcher based on the scientifically drawn assumptions. It is also important to identify and understand the lens of the researcher, which is going to be used to observe, decode and correlate the causative factors. The causative factors of any phenomena are the reasons that make it happen in a particular way. The amplitude and wavelength pattern reveal the nature of interrelationships between the causative factors. The understanding of that pattern helps the researcher to answer the “what” “why” and “how” questions, which the researcher has raised by looking at the conflicts and contradictions within the phenomena.

The urban transformation and change in India are one of the several relevant contemporary discourses. The political will to transform the country into an urbanized entity creates a silver lining for every citizen. Before deploying strategies to make a "one agenda" centric development, the pattern of the phenomena of transformation and change needs to be recognized as an eternal dynamic process. The complex dialectical relationship between nature, space and the human need, is to be understood to embrace the change in the urban domain. Human is the key entity, within the phenomena - "urban". Thus, to transform the phenomena we must transform the human entity.

If we consider Nature, Spatial entity and Human entity together to create a triad, then we also need to appreciate its constant dynamic equilibrium. Thus, we may consider that in order to change the human entity we need to change the spatial entity, which the human is using and further in order to change that space, we need to change the nature. Thus, every change will create a possibility of a new arrangement, new negotiation and further, new appropriation. Each component of this "triad" is also an aggregation of several parts, which are interlinked and cohesively connected within them. The component "Human" is an aggregate of a spectrum of "human" which we can understand through the social lens. Similarly, the spatial entity is an aggregate of its physical expression that can be understood through spatial lens.

A similar method can be applied to understand nature too. But each lens also changes its position over time. The spectrum of positions over time reveals the complex paradigmatic relationship in the social and spatial domain. Now we must acknowledge here that this relationship is not a unilateral entity. It is multidimensional and thus, conflict and contradictions are inevitable. This conflict and contradiction within each entity can be observed by analysing its production and consumption process. This production and consumption process together indicate a particular "nature of cohesion". Thus, "cohesion" can be considered as an effect within the phenomena urban. In the process of transformation, the "phenomena urban" express a range of cohesiveness, which is basically linked with its production and consumption process.

This process can be traced by studying the everyday life pattern of the Human entity. These studies are not confined by disciplinary boundaries. It can be captured through a spatial lens, or social lens and sometimes through the temporal lens. But for the holistic understanding, cross-disciplinary knowledge can be the lens for future research paradigm.

Dr. M. S. Amarnath| Art

B.F.A (B.U) | M.F.A (M.S.U, Baroda)| Phd (Jain University)

Associate Professor, RVCA

Research is very important for the growth of an individual in his discipline, particularly in academic domain. one can get great depth in any chosen area and field. One can learn the process and methodology. Perception and view can be externalised with quantitative and qualitative approaches. The researcher can get exposure to other fields and disciplines. Expression and writing skills will improve. One can find an identity in his area of research

Teaching and learning a visual language, art practice, culture, habitat, aesthetics, skill development, materials and medium, art applications in architecture, painting, sculpture, graphics, model making, installations and new media art with new and experimental approaches.

Dr. Salila Vanka| Urban Planning

B.Arch (VNIT) | M.Planning (CEPT) (Univ. Texas)| Phd.(Univ. Michigan)

Assistant Professor, RVCA

Research is important and integral to all fields of education since it helps in developing new knowledge which is built upon existing research, that reinforces or formulates new understanding of any subject or phenomenon in the field of study. Research provides a systematic and rigorous process to the researcher in building valid arguments and statements on their topic of study.

My academic interests and expertise align with the field of Urban Studies which encompasses urban history, sociology, design, planning, among other subfields. In my career, I have worked and undertaken research on the topics of urban design, governance and planning in different cities in India and the US. Urban design and urban planning are applied fields that mirror the political economy of their locales. The fields are dynamic and so must be the pursuit of knowledge in these fields. As responsible professionals, all architects, designers and planners must constantly endeavour to study and contribute to developing new knowledge on the built environment and society.

Prof. S. Madhuri Rao | Craft Processes

B.Arch (BMS, Bangalore) | Theory and Design (CEPT)

Assistant Professor, RVCA

The concept of research according to me

- Identify and awareness of perspectives on the subject
- Establish position
- Clarify and test ideas
- Critical thinking

Relevance of Research in my field

- Reassess positions, methods and technique
- Clarifying worldview and enhancing intellectual growth
- Clarifying areas of focus for exploration

Prof. Pankaj Shivarama | Lighting Design

M.A (Hochschule Wismar, Germany) | B.Arch (V.T.U, Belagavi)

Assistant Professor, RVCA

Research and practice cannot be two isolated facets of our profession. Practice informs research and vice versa! Research and its outcomes should guide us in bringing our profession closer to the user and their needs, reversing the trend of architecture and its associated domains being completely oblivious to the users and merely treating them as empirical data. In my humble opinion, research that remains just on paper without enriching the needs of our profession, and helping solve the issues at ground level is an opportunity lost.

Research, so far, has been about framing questions, to which I try and find directions, that would hopefully lead me to some clues through my interactions with students and through my practice.

It always helps when I find projects that have asked similar questions and attempted to answer the same, through different timelines and geographical contexts. These case studies reinforce the resolve in thinking out loud the same questions instead of merely contemplating on the same.

Dr. Shikha Varma | Building Science

B.Arch (NIT Bhopal) | M.Arch. Phd (MNU, Allahabad)

Assistant Professor, RVCA

Research leads to some conclusion after detailed analysis of some existing data, predicted data as well as some findings after some investigation or other scientific approach carried out in order to provide solution to some problem or to provide a different approach to some existing theory.

Research in the area of 'Sustainable Waste Management' is quite relevant in order to find a sustainable solution for waste management in the form of construction materials developed from waste products. It also includes development of new materials taking into consideration their ease in dismantling, rather than only their strength and durability aspects.

Research findings may create awareness in Architects to develop and think 'Construction and Demolition Management Plan' in the design phase itself which can lead to minimum material losses and generate minimum waste. The Design in the conceptual stage itself may have place for 'Composting Units' wherever applicable and waste collection areas for segregated waste so that in future the waste generation may not degrade the aesthetics of design as well as improve the sanitary and hygienic conditions also.

Research in waste management may also create a different vision on how waste can be treated. It can look into it being treated 'as a cultural heritage' and thus, this vision may provide a strategic approach to promote post-use materials as cultural assets. There is a need to put emphasis on research in waste management as creating new should always be clubbed with utilizing old in an innovative way so as to get rid of waste management problems as well as reducing carbon footprint and save our mother earth for future generations to live in.

Prof. Archana Vittal | Urban Design

B.Arch (VTU) | M. Urban Design (CEPT)

Assistant Professor, RVCA

Research according to me, is a quest to find something new or add knowledge to the already existing database or to find correlations between different entities in a particular case at a particular time (but that which can also be generalised with suitable measures). It is done with a focused approach on a subject/topic/area either by collecting primary data or by using secondary data.

Cities are complex and research on cities can be physical, social, cultural, economic or relating to psychology, public health and so on. In any profession, research informs design and can bring innovation, new insights and experiences into practice. Urban design, which has several definitions according to place and context, being interdisciplinary and varying broadly in scale and complexity from the design of transportation networks of entire cities to the design of a small curb on a street, can also greatly benefit from research and make our practice stronger.

For example, the pandemic has shaken the entire world in just a few months. Some blame the strong connectivity in cities, some the high density in cities, some have quarantined themselves in the suburbs and rural areas to stay safe considering cities riskier to stay. To prevent or at least tackle similar situations in the future, conducting various specific researches to find out what were the factors and conditions of our physical environment of our cities which were conducive for the rapid spread of the virus, becomes crucial and may completely dictate the future design of cities and urban spaces. Other than this, in general, the world is urbanizing rapidly and is connected like never before. The pandemic that spread so fast from one part of the world to the entire world, is a live evidence to this. India, among other several initiatives, has also undertaken the smart cities initiative which is under progress in several cities. But due to the lack of ground data, no one exactly knows how it is benefiting the citizens or the country at large. Research in such areas are highly beneficial to question and adapt various practices and policy level decisions.

Prof. Vidya V | Architecture (Theory, Design and Consultancy)

B. Arch (RVCA)

Assistant Professor, RVCA

Research according to me would be closely related to a methodology/process involved in understanding a concept and gaining the depth of knowledge in it, by collecting data available through various sources along with field research if required, depending on the research topic. Further proceeding to the next step of analysing the facts. Not all research activities need to have a conclusion.

Research in this particular field is a wide spread topic since it covers various platforms of understanding required at different levels of pause points. It could start right from abstraction/hypothetical concept to make ideas practically work. The whole process involved in understanding and connecting the dots between multiple levels and considering the sensitive issues within these two levels in different sub categories.

Talking about architecture, one must try to understand and relate to context, climate, people, culture, materials, practical issues and also on.

Prof. Mayank Singh | Building Science

B.Arch (BIT Mesra)| M. Str Engg. (CEPT)

Assistant Professor, RVCA

Research for me, is working on an original or an inspired idea that somehow helps make the world a better place. In terms of outcomes of research, on one end of a spectrum, it can be completely confined to help academics expand on that subject front and help propagate the knowledge down to other levels - graduate/undergraduate. On the other end, it can also manifest as a tangible tool of service itself both for the layperson/uninitiated or a specialist in a day to day activity. Or it can be a work in progress anywhere in between.

In my field, there is a growing demand and interest in optimization of material and geometry to achieve better efficiency in terms of design or manufacture/construction. All this is possible with the employment of an array of tools and processes like Generative Design and CAM. Moreover, material optimization is not limited to building structures; it transcends across disciplines into medical equipment, product design, aeronautical engineering and so on. Also, the pressing need for sustainability across everything we do, furthers the necessity of finding methods and materials to achieve more with less usage and even lesser wastage.

Prof. B.S. Girish | Building Material, Construction and Technology

B.E Civil (D.S.C.E) | M.E Str Engg.(R.V.C.E)

Assistant Professor, RVCA

For me, research is anything that leads to the best use of new materials or a new practice is what I consider as research. It is a careful and detailed study into a specific problem, concern or an issue and obtaining feasible solutions using practical or theoretical or scientific methods.

Being a civil engineer, the concern is more on finding sustainable construction materials or sustainable construct practices and technologies altogether. My areas of interests are mainly about new environment friendly materials or sustainable materials. I am also interested in research on developing design considerations for lateral loads resistance. The mentioned areas require a lot of research to be undertaken to get feasible and adoptable results.

Prof. Shweta Pedaparthi | Building Material, Construction and Technology

B.Arch (VTU)

Assistant Professor, RVCA

Research to me, is the ability to explore intensively on particular concerns and propose for radical and pragmatic solutions.

The relevance of research in my field of expertise is immense.
In times where the world is moving towards the idea of sustainable options, there is a strong need for research to find new materials and construction techniques that can help reach the goal.

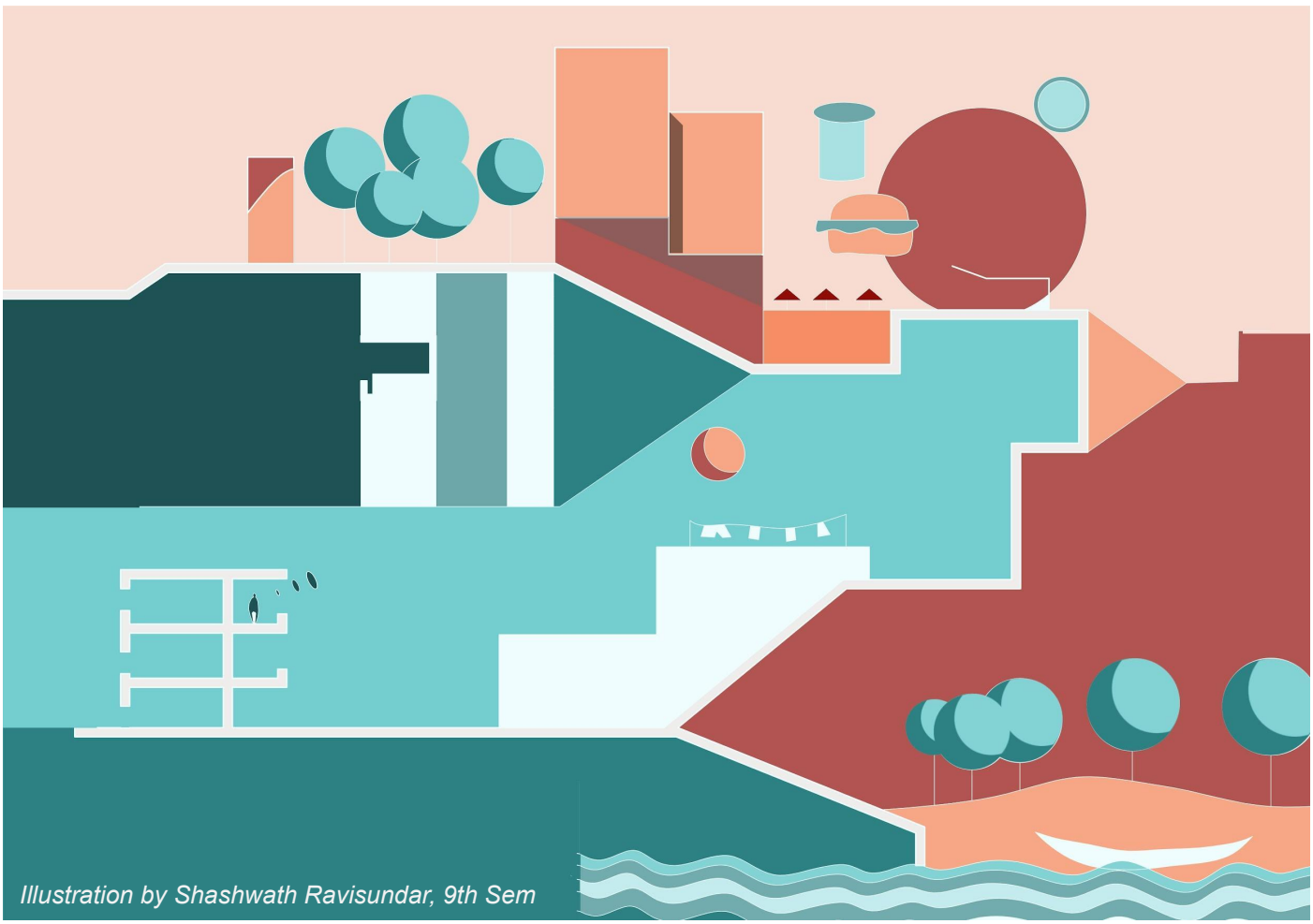


Illustration by Shashwath Ravisundar, 9th Sem

Exploration

A dry-run of innovations in Architecture

Kalpa, Vol. 01, 2020, pp. 18-19

Journey of a Joke in the Corridors of Architecture School

Ananya Nayak

9th Sem, RVCA

Abstract

Architecture, a 5-year professional degree, instils in you a work ethic worthy of taking on elephantine tasks. From the moment we attend our first lecture to the peak of our careers, architects are plagued with stressful events that are unlikely in any other profession. Let us wallow in our catharsis together as we go through what makes us laugh during those moments of stress. Architecture school prepares you to be thick-skinned, to be street-smart, to test your patience. It teaches you to be calculative and meticulous. Teams, which were a disproportional combination of hard workers and freeloaders, taught you the most important group management lessons. Memories were made on endless model making nights in a studio. Sleep was your friend and foe. Preparation for a jury was trial by fire, more crucial than the jury itself. But satisfactory is the relief post-jury, when you sit with your first meal in more than a day in the canteen with friends. Post Covid-19, the humor in an architecture student's life has not been lost. The thrill of group work is amiss and site visits are a distant dream. However, as education moves from classrooms to screens, new adventures await. Some changes are self-directed, and others are forced, but regardless, it allows us to reminisce, reflect, and laugh out loud.

Key words –

Architecture, College humor, Post-jury relief, Post covid-19

Architecture, a 5-year professional degree, instils in you a work ethic worthy of taking on elephantine tasks. From the moment we attend our first lecture to the peak of our careers, architects are plagued with stressful events that are unlikely in any other profession. We juggle deadlines, haranguing clients, and callous contractors, all tasks that are intense and extremely demanding. Let us wallow in our catharsis together as we go through what makes us laugh during those moments of stress. No matter how busy we are today, the humour of those 1826 days will never be lost on us. So, grab a coffee, and sit back, as we take a look at how our lives have changed, for better or for worse, since the fateful day that we stumbled upon architecture. From stolen stationary to stolen hours of sleep in theory classes post-jury, we saw it all flash before our eyes when we left college with or without a degree. There was no better yoga than an all-night drafting session on an A0 sheet while trying to prevent it from crumpling in our tiny hostel rooms. Those sleepless nights before a jury where we forgot to add the north sign to sheets, still haunt us. And remember how, on being questioned by the juror, we blanked out despite the copious amounts of coffee coursing through our veins?

Architecture school prepares you to be thick-skinned; to shrug off a bad jury and celebrate the hard work put into the semester. It prepares you to be street smart; when you most certainly forgot to measure something on-site, you come back, extract a random number from your memory, and put it onto the sheet. It tests your patience when you endure the torment of software crashing on hitting print while waiting in a long line at the printer shop. It teaches you to be calculative and meticulous while learning how to avoid a particular class until your attendance becomes critical enough to be sent to parents. You learn managing emotionally charged clients while trying to convince a parent to not visit the teacher who made you cry. Architecture is subjective. You stop your house help from cleaning your messy room owing to the fear of having to fish out parts of a model, surgically from the trash.Gradually, the habit of noticing every detail in a mundane room and comparing it to your pending Building Construction sheets that gathered dust until it was the night before submission, sets in. You swiftly learn teamwork when as a team, you decide not to work and postpone the deadlines indefinitely. Teams, which were a disproportional combination of hard workers and freeloaders, taught you the most important group management lessons. Memories were made on endless model making nights in a studio by the end of which everyone is curled up in a corner, trying to catch some sleep. Sleep was your friend and foe. Foe on days that you dragged your overslept self to a review with incomplete work. Friend on nights cocooning you in its dreamy arms after a jury, protecting you from the juror's haunting red marks on your sheets.

Preparation for a jury was trial by fire, more crucial than the jury itself. The laptop hangs repeatedly because you overestimate its capacity in proportion to the time left for submission. You regret lost time, delegating work to juniors while balancing your last-minute drafting. You nap at the printer shop on a long night of laser cutting only to be jolted into consciousness when the bill is handed to you. The colors in your sheet are messed up but you cannot afford to reprint because of the cost and time at stake. So, you hop into a seemingly unending bus ride to college which takes an excruciatingly long time like a heavy render, slow enough to make you sweat on a chilly winter morning. But satisfactory is the relief post-jury, when you sit with your first meal in more than a day in the canteen with friends to pick out the juror's eccentricities, forgetting that you probably didn't even say your name correctly.

Post Covid-19, the humor in an architecture student's life has not been lost. Mediocre designs are turned in because the software is learned overnight, and the trial expires before changes could be made. Online classrooms are chaotic and google drive is a strict disciplinarian for submission deadlines. The thrill of group work is amiss and site visits are a distant dream. However, as education moves from classrooms to screens, new adventures await. David Bowie rightfully sang, life's full of so much uncertainty, variables, and excitement that half the battle is riding the wave and adapting as best as one can. Some changes are self-directed, and others are forced, but regardless, it allows us to reminisce, reflect, and laugh out loud.

Illustration by Shashwath Ravisundar, 9th Sem

Kalpa, Vol. 01, 2020, pp. 20-24

Building with Toys

Bhavana P
9th Sem, RVCA

Abstract
Apart from the intangible factors that govern architecture, it is essentially the integration of material and structure within a larger framework of intent, driven by function and aesthetic. Material and structure determine the nature of volumes, thickness, texture, shape, construction methods and cost. With the added emphasis on sustainability in architecture, materials and structures undergo constant evolution. We as architects, have a responsibility to be informed enough to come up with innovative methods and means to display our skills. I had always been interested in dynamic relationships and movement in architecture, therefore, the material I chose was scientifically known as a non-Newtonian fluid. This is a material that act as a solid when under stress and liquid otherwise. The understanding was that there needs to be a sturdy base and a proportional load placed on top for the Oobleck to act as a solid. I needed the material to be visible so that Oobleck could be seen acting as a solid and a liquid alternatively. Hence, the casing not only had to have the ability to contain liquids but also had to be transparent and flexible. The only material that fit all 3 criterions was Plastic. The regular geometry of this project was questioned through an exploration in understanding organic forms. The explorations noted above may not be fool proof and probably have many unforeseen limitations, disadvantages and problems. Experimentation leads to discovery and understanding. It always holds the possibility to learn something new, even if it is to learn how not to address a subject.

Key words –
Architecture, meta sustainability, construction materials, equilibrium, non-Newtonian fluid, Oobleck

We often hear the word experiment as something we did in school, in the lab as part of the science curriculum. When we came to Architecture College, we often experimented with the implications of a line on paper depending on its spacing, thickness and scale. I strongly remember being made aware that every line I drew had a 3-dimensional implication to it, and thus began the experiment of making spaces. Shaping the solid or shaping the void, two sides of the same coin. In theory, we were taught of various material and a very general understanding of how columns, beams, vaults and domes stand. We are taught how to draw them, such that the forces are at equilibrium and that the built doesn't collapse or succumb to natural forces.

Apart from the intangible factors that govern architecture, it is essentially the integration of material and structure within a larger framework of intent, driven by function and aesthetic. Material and structure to a large extent, determine the nature of volumes, thickness, texture, shape, construction methods and cost.

With the added emphasis on sustainability in architecture, materials and structures undergo constant evolution, with new research papers questioning the actual implications of materials predominantly used. We as architects, have a responsibility to be informed enough to come up with innovative methods and means to display our skills.

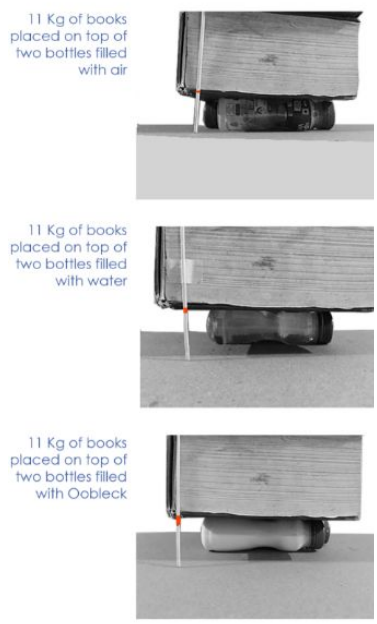


Figure 1: Source: Author

Figure 2-: Exploration of Shape, Structure and Material

Source: Author

In our 7th semester, we were asked to look at sustainability and meta through the lens of architecture. It was an opportunity to understand the possibilities and limitations of a material of our choice. I had always been interested in dynamic relationships and movement in architecture, therefore, the material I chose was scientifically known as a non-Newtonian fluid. This is a material that act as a solid when under stress and liquid otherwise. It was already used in protective gears, products and automobile manufacturing, but the most common use was as the home-made DIY toy called silly-putty or Oobleck.

Oobleck was 2 portions cornstarch and 1 portion water and it made a material that was liquid at rest and a solid when under stress. I tested the strength of this material with methods I could apply at home(Figure 1 testing of Oobleck).
The understanding was that there needs to be a sturdy base and a proportional load placed on top for the Oobleck to act as a solid. The materials' structural scope was to be load bearing only and could not handle tensile stresses. Therefore, the uses of it to build were extremely limited in scale and application.

However, something to note was that this material needed a casing. As Oobleck is essentially a liquid when at rest, it is impossible to work with. The material needs to be piped into a casing. The casing also limits the displacement of the material by providing a rigid framework for it to function within.

Essentially the casing could be any material that can hold a liquid but for the purposes of my experimentation, I needed the material to be visible so that Oobleck could be seen acting as a solid and a liquid alternatively.

Hence, the casing not only had to have the ability to contain liquids but also had to be transparent and flexible. The only material that fit all 3 criterions was Plastic. The added advantage was that plastic could be reused, recycled and pre-manufactured, based on the need. Now that an understanding of what Oobleck is, was attained, the next step was to determine how it could be applied in architecture.

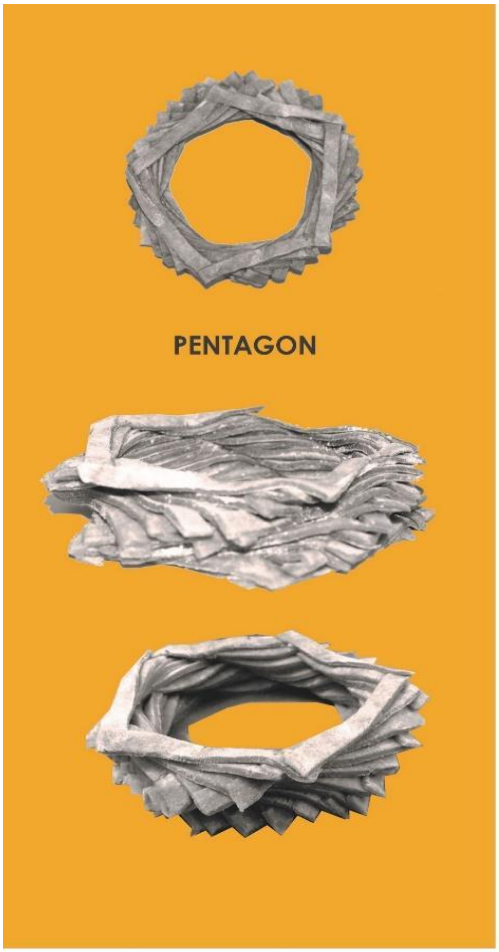
The unit that was to be used was a plastic bag filled with Oobleck. The nature of construction was load bearing and hence, these bags were to be stacked one on top of the other as a wall. The self-weight of the second row would keep the first row under compression and hence, more layers could be built to a certain restricted height.
The 4 points that were to be addressed at this stage was

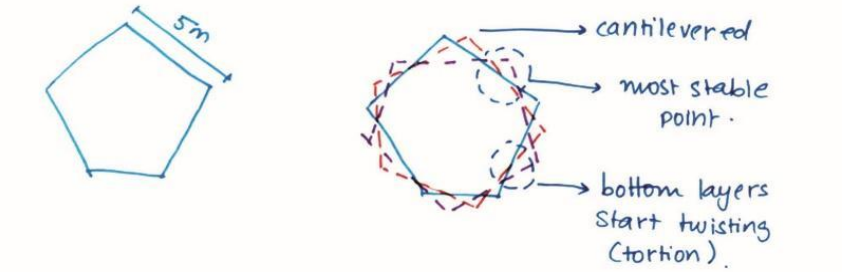
1. The relationship between the top-most row of material and roof
2. The nature of openings
3. The resistance of shear forces
4. The shape the wall would take

One, the roof had to be heavy in order to keep the wall under compression constantly. This was a fairly straightforward solution. The roof also needed to have an overhang to prevent rain and harsh sun from entering into the intervention.

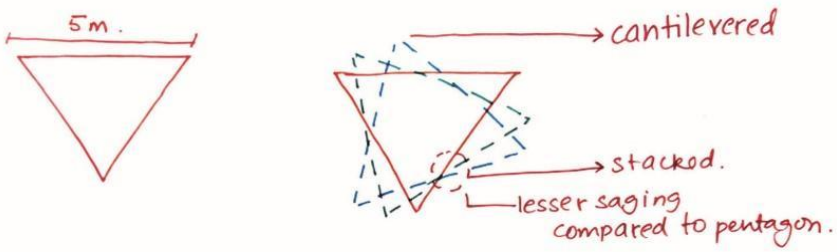
Two, as established earlier Oobleck needs to have a strong base and stress from top to act as a solid. Hence when it comes to an opening thought the sill can stand on its own self weight the lintel and layers above the lintel need to be addressed. One option would be to use a plank of a rigid material such as wood to be placed as the lintel and then go on to place layers of Oobleck above that or to have no lintel and extend the opening till the roof.

Three, all walls are subject to shear forces and are constructed in a manner to resist these forces either by using composite materials or construction methods. In this case considering that the material used is plastic bags with Oobleck, the height that can be achieved just by stacking is minimal. Therefore, a frame of round wooden posts that do not touch the roof are used to ensure that the walls are held in place at all times.





- more no. of sides / nodes → make structure less stable
- unable to create openings
- ~~dd~~ cannot increase length of sides.

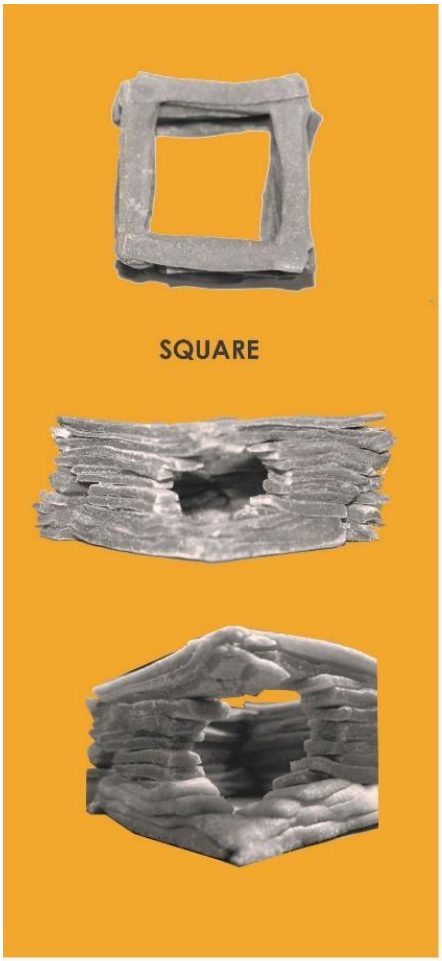


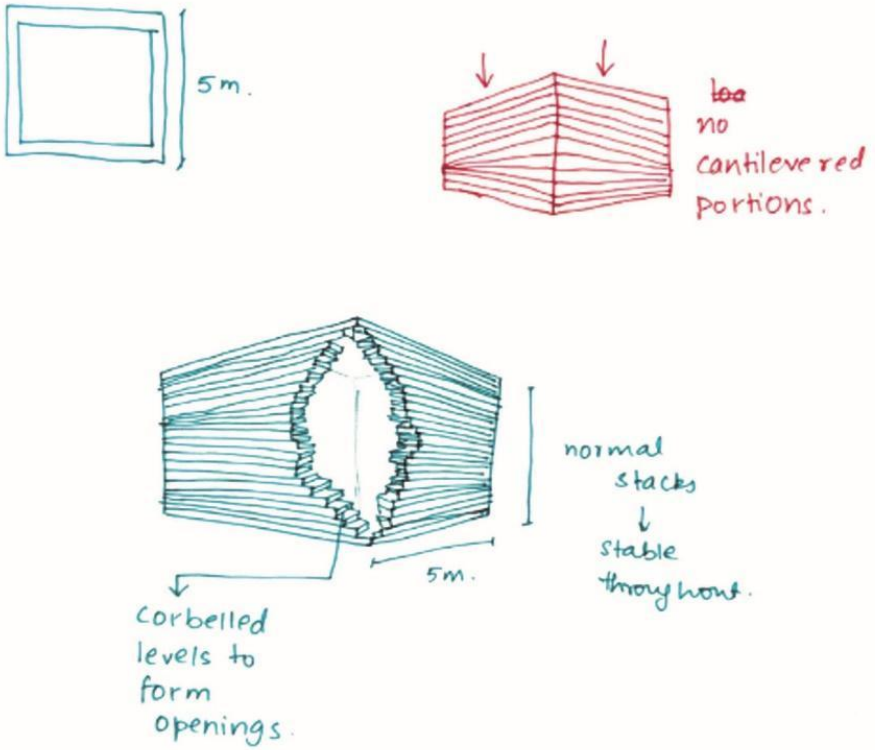
lesser sides ⇒ more stable.

was able to construct openings.

Figure 3- Inferences of Form 1

Source: Author





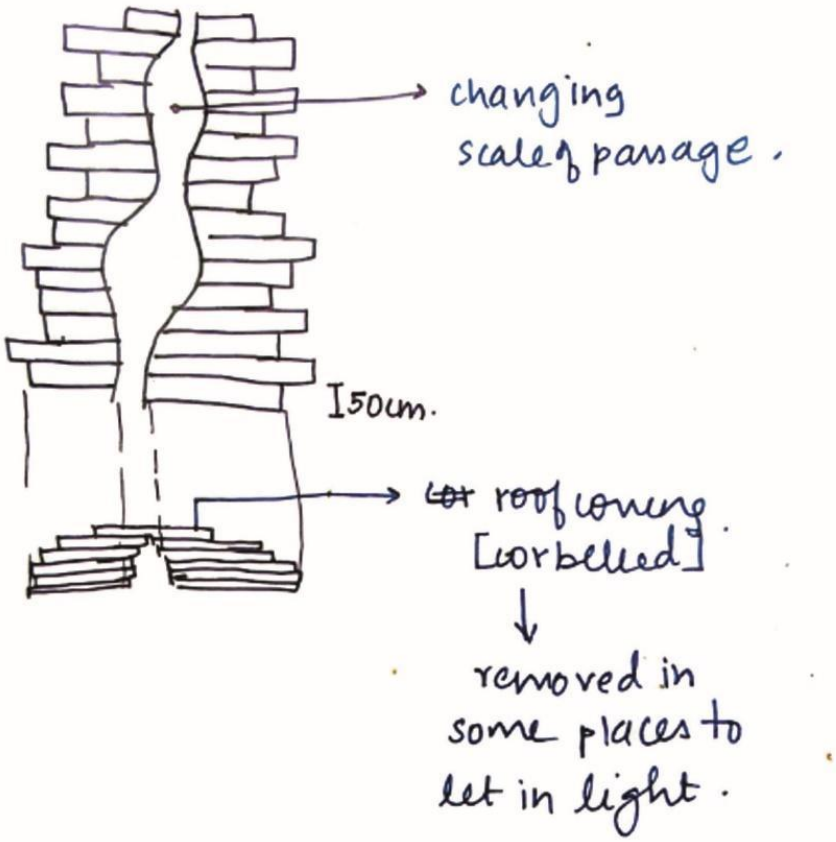


Figure 4- Inferences of form 2

Source: Author

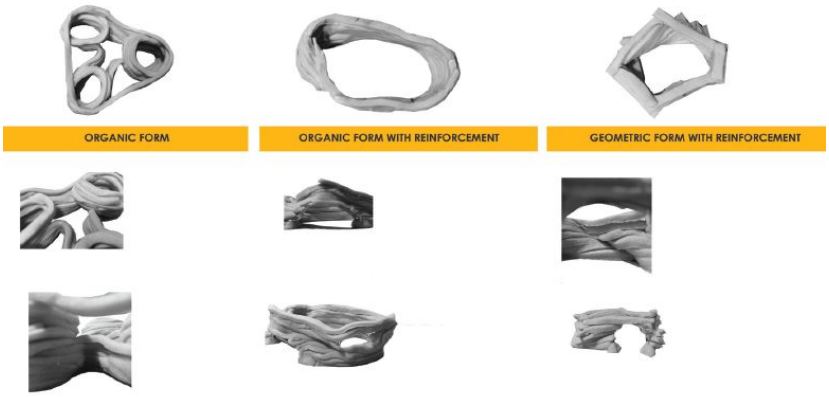


Figure 6: Exploration in understanding organic forms

Source: Author

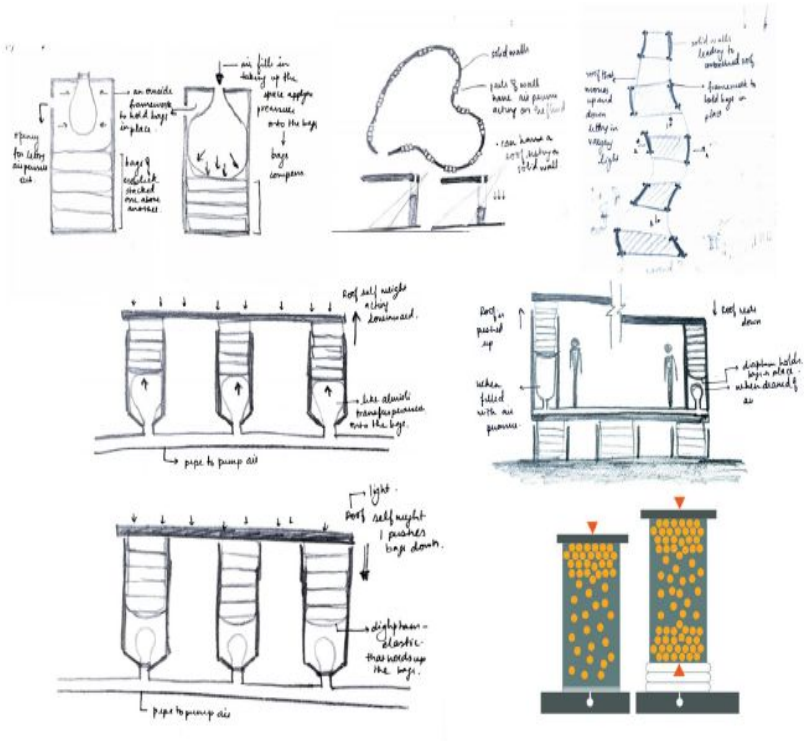


Figure 7: System of Pavilion

Source: Author

Figure 5: View of the installation

Source: Author

Four, we are mostly surrounded by walls that are straight and orthogonal but organic curves are shown to have more intrinsic structural stability compared to a straight wall. A cylinder for example is more stable than a cuboid of the same height, material and surface area.

The study in the studio was to understand the applications of this one unit as a structure and through that, explore the construction method and extents to which the application of the unit could be pushed.

The process of experimentation was to use dough*, to experiment with the scale and relationship between shapes, structure and the material.

(Figure 2 exploration of shape, structure and material)

These formed the basis for the first application of Oobleck in the form of an installation, for children to climb, jump and play in. (Figure 5 view of the installation)

The regular geometry of this project was questioned through an exploration in understanding organic forms (Figure 6- exploration in understanding organic forms).

This led to the development of a pavilion whose roof responded to the position of the sun. It relieved the load bearing walls in some sections of the pavilion from compression, allowing the wall to temporally act as a non-rigid entity. Pneumatic pumps and air sacs were used to aid the process of movement. (Figure 7 system of pavilion).

The explorations noted above may not be fool proof and probably have many unforeseen limitations, disadvantages and problems. However, it encourages one to think outside the conventional routes and look at new possibilities. Further development of such ideas may lead to new studies in material and structural sciences and eventually shape architecture to inform one of new routes that can / cannot be taken.

Experimentation leads to discovery and understanding. It always holds the possibility to learn something new, even if it is to learn how not to address a subject.

**dough was used as the medium of experimentation as it displayed similar properties to that of a plastic bag with Oobleck. It was also a convenient mode to experiment forms, structure and stability*

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Architecture in Space

Sana Jazeer
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Abstract
For the avid science fiction reader/viewer, the relationship between fiction and reality is an abundantly spectacular prospect to study and understand. In what distinct ways could Science Fiction influence contemporary architectural design? Looking at some examples of Films & Film theory - We may begin to understand this relationship of science fiction and contemporary architecture a bit better through the ones mentioned below – METROPOLIS: This film is a striking representation of modernity – Art Deco & Gothic-inspired Futurism. 2001 – A SPACE ODYSSEY: The architecture of the future depicted in this film is in two phases. The first depicts highly futuristic, suborbital structures. The second part, is where the future seems more uncertain and unachievable utopian. BLADE RUNNER: this movie shares its sense of 'urban gigantism' and geometrical form with Metropolis. WALL-E: Rampant consumerism and environmental neglect have turned the Earth into a massive, garbage-strewn wasteland. To understand the origin and result of Contemporary Architecture and its relationship with the genre of science fiction, a survey was conducted by a few researchers, amongst a small group of twenty-five people. The assumption that can be made from this study is that films have been and will continue to be able to predict the reality of our future to a certain degree. This degree therefore depends on several factors that go beyond and include the current rate of globalization, technological advancements, societal constructs, environmental concerns and the all-governing laws of physics. As architects, our job now, is to find ways in which this knowledge can inform, inspire and invent architectural design and practices in ways that will benefit people.

Keywords –
Science fiction, Contemporary architectural design, 2001-A Space Odyssey, Art deco, gothic inspired futurism, urban dystopia

For the avid science fiction reader/viewer, the relationship between fiction and reality is an abundantly spectacular prospect to study and understand.

What would life look like about 100 years from now?

This is a question that has plagued the minds of laymen and theorists alike. No one seems exempt from the vast, impending sense of oblivion that accompanies the said question. Obviously, nobody in the known universe has the power to assess and gauge the future, yet. Is it going to be just as the movies predict it will be? Or something completely unknown?

In what distinct ways could Science Fiction influence contemporary architectural design?

To answer these questions, one must first begin to understand that in the past, science fiction was commonly used to prophesize fantastical renditions of what the artists, theorists and philosophers of that age thought to be predictions for our (present) future – which we now know from experience, has been greatly exaggerated in some cases and in a few more, have been quiet on the mark. A good case in point would be Arthur C. Clarke's futuristic saga, 2001: A Space Odyssey. Written in the year

Source:
http:/www.theverge.com/2017/9/24/16345612/syd-mead-art-design-book-blade-runner

Source:
http://www.archdaily.com?786751?the-architecture-of-star-wars-7-iconic-structures

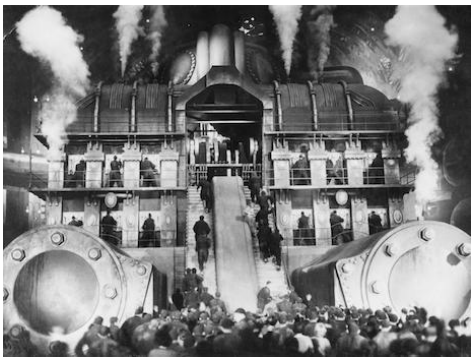

Fig. 1: The Machine
Source:
https://www.facebook.com/Metropolis-Movie-5359105132054

Fig. 3: The Room at the End of the Universe
Source: https://kottke.org/tag/Paul%20Kember

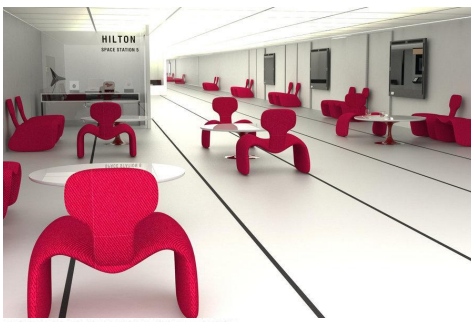

Fig. 4: The Hilton Space Station Lobby
Source:
https://www.reddit.com/r/RetroFuturism/comments/as2o4j/2001_a_space_odyssey_hilton_space_station_lobby/

1968 and featuring a movie adaptation by the director Stanley Kubrick, this was one of the first of its kind to detail the intricacies of space flight and what travel to space might seem like. While we now know that some parts of the story were a bit too advanced for their time – for example, the luxurious space travel as featured in the lobby of the Galactic Hilton Hotel, there are also several other instances that mirror real life events – like the Apollo 11 moon landing that happened the following year in 1969.

Therefore, to understand the effect of science fiction films on current architectural trends and the future, it is important to comprehend the three ways in which the influence of these films has materialized in real-life architecture and vice versa. These include:

1. What is predicted that can/will happen
2. What is predicted that cannot/will not happen
3. What is not predicted that can/will happen

Looking at some examples of Films & Film theory -
We may begin to understand this relationship of science fiction and contemporary architecture a bit better through the ones mentioned below -

METROPOLIS:

This film is a striking representation of modernity – Art Deco & Gothic-inspired Futurism.

Fritz Lang's depiction of the ruling classes shows them inhabiting towering, futuristic buildings that reflect his vision of a technologically dependent and oppressive society living literally above its working class. In a futuristic city that is sharply divided between the working class and the city planners, the son of the city's mastermind falls in love with a working-class prophet who predicts the coming of a savior to mediate their differences.

The most poignant aspect of the film lies in its representation of the idea of a class divide, of which the upper classes are oblivious of. A majority of them do not even know of the existence of the working-class-machine beneath, that runs the city. The place is also overrun by towering skyscrapers that don't touch the ground, suspended bridges and highways that float over the cityscape and a flourishing economy that overshadows the robust, broken-down machine that lies underneath them.

2001 – A SPACE ODYSSEY

Arthur C. Clarke's representation of the future is a philosophical and phantasmagorical drama, laden with heavy metaphor and meaning. The music and the brilliantly designed sets only add to the aspect of suspense and thrill, right from the menacing HAL 9000 computer (that can almost be compared to modern day Artificial Intelligence) to the highly ominous scene of the bedroom at the end of the Universe. Set in the year 2001, the film was released lesser than a year before the first moon landing by American astronauts. This proved to the public (at the time) that space travel of the kind depicted in the movie was, in fact, not such a distant reality after all.

The architecture of the future depicted in this film is in two phases. The first depicts highly futuristic, suborbital structures in the orbit of the Earth and the Moon, as well as a settlement on the Moon itself. While we now know from experience that this part of the film was still well ahead of its time, it does actually seem to be the most realistic

representation of the near future. The second part, however, where the astronaut starts to begin his journey from human to 'star-child', is where the future seems more uncertain and unachievable utopian.

BLADE RUNNER

Described as a 'cyberpunk vision' of the future, Ridley Scott hypothesizes in his film that by the year 2019, Los Angeles will have been populated mainly by the ethnic underclass due to the mass colonization of utopian "off-world" planets by the elite upper class. The city is depicted as a sprawling industrial zone with huge mega-structures that impose over and dominate the skyline of the city. In fact, this movie shares its sense of 'urban gigantism' and geometrical form with Metropolis. Apart from this, it also stands as a classic example of an urban dystopia overtaken by a heavily industrialized area, crowded with people and a constant downpour. Apart from ground traffic, there are personally maneuvered vehicles called 'spinners' soaring through the sky. The only significant difference in the vision of this film from that of Metropolis is that the upper classes have left the Earth to move on to 'off-world colonies', leaving behind a rotting planet for the working classes to fester in.

WALL-E

Andre Stanton's masterpiece is a profound and seemingly realistic depiction of what the 29th century would look like. Rampant consumerism and environmental neglect have turned the Earth into a massive, garbage-strewn wasteland. The story, thus, follows two droids that go on an adventure to try and replenish the earth by planting the very last living seedling. Filled with hope and determination, the end of this movie sees a meteoric rise in the living conditions of the planet, once these seedlings start to germinate. However, film theorists have also argued that with the existing technologies and systems in place for waste management, it is highly impossible for the entire area of the Earth to have been converted into a massive dump. It is also widely argued that the only possible way a dystopian future like this could become reality would be if a single entity/organization chooses to gain benefit from a trash-covered Earth.

To understand the origin and result of Contemporary Architecture and its relationship with the genre of science fiction, a survey was conducted by a few researchers, amongst a small group of twenty-five people (age group: 21-60 --years).

The 'general assumption' of the public is the key in understanding the relationship between science fiction and real-life architecture. After all, the public becomes the end users of the ideas propagated through film as well as the architecture that is derived from it. The following are the results of the survey:

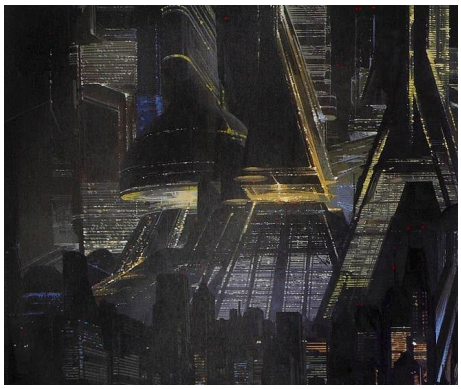

Fig. 5: Concept Designer Syd Mead's Visualisation of the Superstructures
Source: https://www.wired.com/2010/04/blade-runner-concept-art/

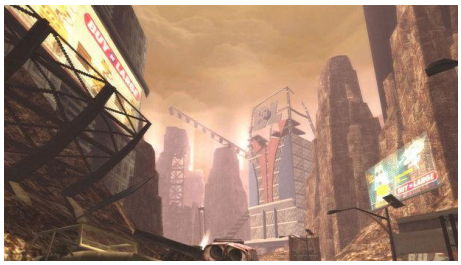

Fig. 9: Skyscrapers of Waste on an Abandoned Earth
Source: https://www.archdaily.com/771987/4-lessons-pixar-films-can-teach-us-about-architecture

The above results further verify that the most widely accepted scenario of the future is based on plot lines from the previously studied films. The result also shows that the most widely accepted scenario is very similar to that of the movie Metropolis, which happens to be one of the oldest and most revered films to date. It presents a likely possibility that the dystopia of the Earth might be limited to the Earth itself. Furthermore, the participants were also questioned on their predictions for the prevalent architectural styles of the future. The results to this question showed that the deconstructive, brutalist, postmodern and vernacular styles were the most widely accepted predictions for the future of real-life architecture. All of these styles, therefore, paint a rather weary-yet-dynamic landscape for the future of architecture. Finally, on being questioned about the opinion of whether science films can successfully depict the future, the results showed that the majority did believe it (scoring an average of 6.2 on a scale of one to ten; one being least likely to believe & ten being most likely to believe).

The assumption that can be made from this study is that films have been and will continue to be able to predict the reality of our future to a certain degree. This degree therefore depends on several factors that go beyond and include the current rate of globalization, technological advancements, societal constructs, environmental concerns and the all-governing laws of physics.

As architects, our job now, is to find ways in which this knowledge can inform, inspire and invent architectural design and practices in ways that will benefit people.

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Architecture Kids Burst the Bubble

Falguni Nimje

9th Sem, RVCA

Abstract

Pottery Town was established when the Maharaja of Mysore allotted the land to a community of Kumbhas summoned from Tamil Nadu and Andhra Pradesh. Today, the main arterial Potter's Street is still abuzz on sunny afternoons. Five tenacious Kumbhar families remain and sell unglazed clay-ware. Business has shrunk and of the three original kilns, only one remains. We started calling it Collage House. It was on a plot alright, but a bizarre, amazing, put-together, place: a door in its frame halfway to the external staircase landing, an odd window making up the upper corner of a wall. We went to site every weekend, that semester. It was the first time we'd seen what a site study could be. During the length of the journey, we'd discuss what part of Pottery Town we'd explore next. We'd potter off for the next three or four hours. We didn't draw near as much as we should have. We talked a lot more than we should have, we didn't know what we were doing at all, we didn't even make notes. We went to Pottery Town so often, I think, just so we could lose some of our exotic otherworld fascination with the neighbourhood. For us, it was a different, vivid kind of place. The Collage House stood at the centre of our fascination.

Keywords –

Pottery Town, Kumbhas, Collage house, Clayware, Site study

Pottery Town is contained between the berms of a rail track on the south and the eucalyptus plantation on the north. What is now a naalah marking the eastern boundary of the neighbourhood, was once part of a rajakaluve network, depositing silt in the basin. Pottery Town was established when the Maharaja of Mysore allotted the land to a community of Kumbhas summoned from Tamil Nadu and Andhra Pradesh. Today, the main arterial Potter's Street is still abuzz on sunny afternoons. Five tenacious Kumbhar families remain and sell unglazed clay-ware to the odd curious customer passing through, or to the regular casual businessman who decorates to sell at a markup. Most of the orders though, some three hundred odd every weekday, go to restaurants in the city as single-serve curd pots -- these are the most time-consuming and labour-intensive with the lowest-gains. Business has shrunk and of the three original kilns, only one remains.

We started calling it Collage House. It was on a plot alright, but a bizarre, amazing, put-together, place: a door in its frame halfway to the external staircase landing, an odd window making up the upper corner of a wall.

We went to site every weekend, that semester. It was the first time we'd seen what a site study could be. We'd leave early in the morning with our metro cards and catch our buses and autos to meet at Yelachenahalli Station. During the length of the journey, we'd discuss what part of Pottery Town we'd explore next. At Majestic, we'd change lines, and stay near the doors for our stop at MG Road.

From there it was only a fifteen-minute auto ride to the junction of Bore Bank Road and Potter's Street. We'd potter off for the next three or four hours, walking around till we were exhausted. We didn't draw near as much as we should have. No one asked us to. We talked a lot more than we should have, although no one had asked us to. We didn't know what we were doing at all, but it was fun to have those long conversations with the folks there. During these, we didn't even make notes.

None of us were from Bangalore. We'd all moved here to live, at some point, but we were outskirts kids. Our world was made of gated apartment complexes, long school-bus rides, weekends at malls, and the odd cycle ride on potholed roads to neighbourhood vegetable sellers. We went to Pottery Town so often, I think, just so we could lose some of our exotic other-world fascination with the neighbourhood. For us, it was a different, vivid kind of place. The Collage House stood at the centre of our fascination -- we'd often stand and look at it for a while as we went this way and that. Later when The Architectural Review published an issue with slums as the main story, we understood that we were not alone in our obsession with that house.

Illustration by Krupalini S, 9th Sem

Enquiry

An in-depth analysis into the existing;
Its origin and our takes on its future.

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Repurpose or Rewrite?

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Abstract
"If a man was able to live in the memories, he would not have to create spaces in the name of these memories. Memory is a constant and current problem; one that connects us with the eternal present, while history only represents the past". History is not always pleasant, nor is it dead. When we are faced with old structures and historic buildings we always think of "preservation", but what if we don't want to preserve those values? Architecture holds meaning, and so does the site. history is not beautiful and we cannot gloss over it. The point is, when we are dealing with old architecture, we don't always have to preserve it for what it was. We not only have to be sensitive, but also be able to see the flaws. The city is a funny thing, we claim it to be so new and fresh while pockets of it still exist exactly the way they used to a hundred years ago. Afterall, architecture does carry memory. Building on old structures not only requires the architect to be sensitive to the structure, but also to the ideology. Anger is a valid emotion, even for architecture. Why make ruins of places which have lost their meaning when we can choose to tell a story through them?

Keywords –
Historic Architecture, Reclamation, Remodeling, Eclectic historicist style, Elite architecture, Vernacular architecture

"If a man was able to live in the memories, he would not have to create spaces in the name of these memories. Memory is a constant and current problem; one that connects us with the eternal present, while history only represents the past" [1]

Architecture is closely related to memory; we craft spaces which remind us of things we want to remember. But what about those memories which we want to forget. How do we face the difficult questions - are we to gloss over memories, carefully hide and push the anger under the rug?

History is not always pleasant, nor is it dead. When we are faced with old structures and historic buildings we always think of "preservation", but what if we don't want to preserve those values? Architecture holds meaning, and so does the site. Sometimes demolition is the answer while other times, propping up with an exoskeleton of scaffolding is.

But sometimes, very rarely, we need a visual reminder of reclamation, a reminder of anger and change.

In Dresden, the government shut down their military museum, unsure about how to come to terms with their tainted history. [2] The building began its life as an armoury, before becoming the Saxon Army Museum, followed by a stint as a Nazi military museum, then a Soviet and East German Museum. In 2011, Libeskind's intervention broke the opaque and rigid classical building from within. His parents were Polish Jews who survived the Holocaust in a Soviet labour camp and later moved to the United States [3]. For him, to build this museum, was a part of reclaiming history. The building speaks for itself now- a shard of glass, a wedge sticking out of the façade (and the city's history) and pointing to the site of the bombing to the west of the city. It provides a place

fig.1: Source: Photograph by DAPD
The tip of the Libeskind wedge points toward Ostragehege stadium in the west of the city, where Allied planes dropped target indicators on February 13, 1945 at the start of the aerial bombardment which killed more than 35,000 people;

fig2:Source: www.archello.com
Roof extension of law firm Schuppich, Sporn, Winischhofer was built by finding a loophole in the codes- classifying architecture as art in a society averse to change [6]

fig3: Source: Author

Concept Models made using plaster and mesh to study the relationship and contrast between solid and void (and heat of exothermic reaction of the plaster and the coldness of the metal mesh)

fig 4: Source: Author

This explores the ghost of movement of a school of fish. The school usually moves in a toroid as a collective but also within the toroid the fish live, die and breed, and all the memories of those lives are left behind (transparent to translucent to opaque)

to reflect and understand the wrongs. It is a place which tells it like it is: history is not beautiful and we cannot gloss over it. And most of all, it provides a place to be angry and confront emotions.

But is history always preserved in museums? What about the buildings that we inhabit every day? They have memories and narratives locked in them too. In 1980, Coop Himmelblau remodelled the rooftop of the law firm 'Schuppich, Sporn, Winischhofer' in Vienna. This firm was housed in a historic building in Ringstrasse, Vienna. From the 1860s to 1890s, many large public buildings were erected along the Ringstrasse in an eclectic historicist style, sometimes called Ringstraßenstil ("Ring Road style"). They were a pastiche of idealized versions of historical architectural styles of Classical, Gothic, Renaissance,
and Baroque architecture[4] , but built for modern usage. The rooftop of the law firm followed none of the rules of this elite architecture.

The law firm bridges the gap between the old and new Vienna and stands for change[5]. Perched on the roof like a parasite, the architecture is a visible reminder of how we take control of the historic narrative.

Closer home in Calcutta, the capital of British India, the streets are cluttered with colonial architecture. The obvious answer to use these buildings is to convert them into museums- static mausoleums of objects that serve no one in particular. But in Calcutta, we make history our own. Colonial does not remain foreign; it becomes a part of the city and therefore ours to reinvent by right. Victoria Memorial is not just a museum of British Military power but has installations of 19th century vernacular architecture. The white neoclassical monument now contains the green shutter windows, 'cheats' and models of people inhabiting these spaces, people who look like us. Outside in the park and in the open spaces, debates about democracy [7] are held, authors come and do readings and people voice their opinions without fear.

The point is, when we are dealing with old architecture, we don't always have to preserve it for what it was. We not only have to be sensitive, but also be able to see the flaws. In my third semester for the Architectural Design studio, I had designed a pavilion of solitude in the heart of Bangalore, that is, MG Road. The site was layered with changing identity. Having once been a part of the Cantonment, it has retained its elitism in the palimpsest of the streetscape. It is a commercial hub today, streets glimmering in shop-banner glow. Before the demolition of the boulevard for the Metro construction, the place was a celebration of solitude; a place to be a part of the city as an observer. MG road now needs a new symbol to be reclaimed as a place for the people. The pavilion is called the Urban Beanstalk and hangs parasitically in the "niche" of Barton Centre, the tallest building in its skyline. The terraces of all the high rises on MG Road either belong to offices or to restaurants. We cannot access the view from above without spending money. This pavilion reclaims this public space, reinvents the capitalist notions of it and makes it accessible to one and all. It is a vertical street and is appropriated to various functions every year just like we appropriate streets. There is no set "function" to it except a café. It links two sides of the road - the built and the unbuilt, the concrete and bougainvillea.

From a height of 36m, we can finally see the city and when we do, we notice parts of it that haven't changed at all. The city is a funny thing, we claim it to be so new and fresh while pockets of it still exist exactly the way they used to a hundred years ago. The

wall of Barton Centre has a mural of a man on an elephant with a chhatri but parts of it are falling off like a cruel metaphor for democracy. During the span of the pavilion, people would come in and paint and reclaim space more personally- a new take on Graffiti inspired by the obliteration room of Yayoi Kusama. Graffiti, originally a subversive artform, is now a symbol for elitism, in and around this road. Famous non-Indian Graffiti artists are invited to paint the arterial road of this city but why are they claiming the space which belongs to strongly to its residents?

The idea of parasite was important in the next project too- the redesigning the Basavanagudi Police Station. This one particular police station was a part of the city's first ever stations, built under the British rule. But a police station is always associated with fear and anger, no matter its history. Police brutality is rampant in India, especially when the police is a body that is meant to protect the people. Why is it that we invest so much power in them? Does protecting the law automatically lead to the police being above the law or the people? Does this come from them occupying the same buildings as the British police? Afterall, architecture does carry memory. In this design, the dome (the British part of the station) was broken and so was the newer 2004 intervention, but not completely. The new structure splits the older building from within- the way the parasite breaks rocks into soil. It then gives away the space to the people- a café, a library, a crèche and a space for police admin-work. But the police station is a still a refuge. The older part of the station is converted into an emergency FIR area instead of the women's police station (which was a positive change we now need to outgrow from) and there is still an area for the police department on the ground floor for the same reason. The space is now much more accessible through the use of ramps and textures using mycelium (a constant reminder of change), yet the dimensions of the dome are what dictate the size of the struts.

The adjoining park which had to close at 8 pm for safety issues can be open longer as the police station provides a visual connection using height and physically connects the park through the station for faster access. The design might look aggressive and it is- anger is a valid emotion when our democracy is being questioned.

When a government falls, the people take to the architecture. Why would destruction of something made of brick and stone mean so much if it did not represent what we stand for? Building on old structures not only requires the architect to be sensitive to the structure, but also to the ideology. It should set right the wrongs that were done by the people who built it, or at least attempt to. It is time we come to terms with the fact that a building is a piece of art and is never neutral. Anger is a valid emotion, even for architecture. Why make ruins of places which have lost their meaning when we can choose to tell a story through them?

fig 5: Source: Author

Urban Beanstalk: A parasitic pavilion on Barton Centre, Bangalore where the 'graffiti' relooks at the concept of vandalism and recognizes it as a way to reclaim public space

fig 6: Source: Author

Parasitic intervention to the Basavanagudi Police Station, Bangalore

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Anti monuments and the architecture of dissent

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May 27, 2020

Abstract

Vandalism is an alternative form of a design narrative, a subversive practice of reading architecture & urban systems and a fundamental way to make key voices heard. Architecture reflects on elaborate systems of power, capital and privilege of the times though its presence and affects everyone in the city around. In the periphery of public space, dynamic alternative practices emerge that communicate and critique. Vandalism, especially in areas of contested "ownership" in public space, is an architectural counterpoint and an arsenal of dissent available to people without conventional means of power (Akerman 2018).

The investigation this paper set out to stem from the pop-culture phenomenon where artist's dissent creates public art against "the state". Body of works (buildings/sculptures) have been created, on behalf of "the citizen" to stoke dissent. Dissent captured the horrors of war in alternate memorial buildings, known as anti-monuments.

Keywords –

Anti- monumentalism , Architectural identity , Gerzes' counter-monument , Civic pride , Nonrepresentational form

Experiences that impacted people's lives and malformed their collective memory manifests into an anti-monument. Antithesis of monuments gained ground post World War II and left Europe devastated. "The citizen" could no longer connect to the idea of monuments by the state such as a statue of a political figure etc (Agulhon 1981). For years thereon, anti- monumentalism found expression in war memorials, museums and experience centres in many parts of the world. The paradigm shift happened with people taking charge of their own collective memory (Halbwachs 1992) and sharing their sufferings with the world. The paradigm shift happened with people taking charge of their own collective memory (Halbwachs 1992) and sharing their sufferings with the world. It was now their turn to reclaim public spaces and shun the prevailing notion that monuments were not relevant to their cause.

The anti-monuments contrasted the defining attributes of traditional monuments such as the maximum visibility, imposing dimensions, expressed verticality, durability of materials, bombastic rhetoric and extreme figurativeness of events or persons who are commemorated (Duric 2017).

Architects/sculptors/artists, were now representing the public and relieving them of the baggage of collective memory. War now, was not just a game of the generals and the governments; it was now more about the citizens recruited as soldiers, martyrs and grieving families. It was about the victims of power.

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Images (1-3): Street artist Plastic Jesus' work of public art against the Trump administration in America (Plastic Jesus n.d.)
Source: Plastic Jesus. https://plasticjesus.com/

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Images (4-7): Monument against Fascism in the Harburg Square (Shalev-Gerz 1986)Source - Shalev-Gerz, Jochen Gerz and Esther. Jochengerz. 1986. https://jochengerz.eu/works/monument-against-fascism

3. Literature Review

Anti-monuments differ from traditional commemorative works in at least one of the following five respects: subject, form, site, visitor experience and meaning. Monuments have suffered dramatic changes of symbolic meanings through historical development and the prevailing political & social succession dynamics. The process of changing of the social context has its bearing on its architectural identity. The complexities of this transition get reflected in the process of mutation of meaning, changes of ideology and the transformation of collective memory of a society. “How better to remember a destroyed people than by a destroyed monument?” (J. E. Young 1999). This was an extremist approach to the idea of looking at a monument, more like not looking at one. A few other examples have been chosen on the basis of envisioning of the anti-monument. One, the anti-monument that vanishes while the memory remains. Two, the anti-monument that inverts a pre-existing monument and its ideological significance. Three, the anti-monument that was controversial because of the unconventional symbolic reverence and lack thereof.

3.1 The Vanishing Monument against Fascism, Harburg - The vanishing monument of Hamburg was a four-sided stele made of galvanized steel with a fine lead mantle, 1200 x 100 x 100 cm, weighing 7 ton (fig 4). Following a public hearing, the project by Jochen Gerz and Esther Shalev-Gerz, was sanctioned. Residents and visitors of Harburg were invited to inscribe their names on the lead mantle in seven different languages, as a warning against fascism. When the accessible portion of the surface was covered with inscriptions, the stele was lowered into the ground (fig 5). Having been lowered eight times, the stele disappeared in 1993. Its cover plate lies flush with the pavement, today (fig 7). Next to it, the text panel reads, “We invite the citizens of Harburg and visitors to the city, to add their names here to ours.” (Shalev-Gerz 1986)

While this monument served to interrupt and now displace memory from its traditional mode of representation, it also impeded everyday lives. The memorial forced people to live with it for 10 years and then to live without. With audacious simplicity, the Gerzes' counter-monument flouted any number of memorial conventions: its aim was not to console but to provoke, not to remain fixed but to change, not to be everlasting but to disappear, not to be ignored by its passersby but to demand interaction, not to remain pristine but to invite its own violation and de-sanctification and not to accept graciously, the burden of memory but to throw it back at the town's feet. The Harburg monument exceeded the artists’ own expectations about confronting tradition and sanctity. Lowering in 1993, the remains of the column trigger in people’s minds the object, issues and debates it provoked. The ethical burden of remembering the past was thereby returned to the public (Shalev-Gerz 1986).

3.2 The Sunken Fountain, Kassel - In 1908, Sigmund Aschrott, one of Kassel’s Jewish entrepreneurs, asked City Hall architect, Karl Roth, to design a fountain for the New City Hall building which was then, on the drawing-board. This sandstone obelisk-shaped fountain (fig 8), constructed on an historical sandstone catchment, became the characterizing feature of the City Hall’s Courtyard of Honour (Rathausehrenh), constituting a counterbalance to the monumental Henschelbrunnen on the opposite side. The citizens of Kassel loved the fountain and identified with it. It became a symbol of their civic pride.

In 1939, national socialist activists from Kassel destroyed the fountain (fig 9). It became a symbol hate. This act of destruction by the Nazis, severed the bond with European civilization. Post-war

years, one symbolic act followed on the heels of another.

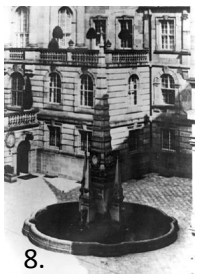
In 1963, long after the Nazi municipal authorities had planted flowers in the empty basin of the fountain, the Aschrottbrunnen turned into a fountain again reiterating memories repressed and resurrecting the desire to forget. In 1986, the winning proposal was from German artist Horst Hoheisel. He propped the exact copy of the original but inverted, sunken into the ground. It is a monument-shaped hole into which runs water from a surrounding pool and only its gurgle indicates its presence. (J. Young 1999)

The Aschrottbrunnen (fig 10), with its absent presence, challenges the passers-by, shifting to them the burden of interpretation. One can see the base of the fountain only up close but can hear the water beneath. The two paradigmatic examples possess four features that distinguish them from traditionally built monuments. Indeed, in their inversion of form, both became nearly invisible. They invite close, multi-sensory visitor engagement and rather than being didactic, they invite visitors to work out the meanings for themselves (Quentin Stevens 2012).

3.3 -The Vietnam War Memorial, Washington DC - In 1982, the Vietnam Veterans Memorial was completed, ten years after the end of the bitter and divisive Vietnam War, that tore the United States apart. After a decade of shame, anger and painful fights over participation of the US in the war, the sacrifice and courage of the soldiers were acknowledged. In this backdrop, the process of memorialisation poses a question. The controversial winning design entry of a 21-year-old architecture student, Maya Lin had to have a flag and a statue of three soldiers walking added, after a protest against the "apolitical" wall design. Lin's idea, however, was to cut through the land at an angle which "opens up the earth".

The memorial consists of a roughly 250-foot long series of polished, black gabbro walls sunk into the surrounding countryside (fig 12). Upon the walls are inscribed names of 58,000 servicemen declared KIA or MIA during the war. Visitors can see their own reflection in the black wall. The end points of the wall point to the Washington Monument and Lincoln Memorial (fig 11).

A few feet away from the entrance to the wall, stands a bronze statue of three U.S. servicemen, called "The Three Soldiers" (fig 13) and act as a traditional supplement to the memorial's more abstract nature. This was not part of Lin's original design, but added two years later in response to an outpouring of veteran support for a memorial of this form. While the wall sits among some of the most famous monuments of American history on the Washington Mall, its striking difference from traditional forms of memorial reflect the controversy surrounding the Vietnam War. The wall reflects this sentiment and evokes the veterans' implicit feeling of abandonment while simultaneously providing a safe haven for memorialisation and remembrance (Sturken 2000). It does not dictate the narrative of memory and instead promotes personal reflection because of its abstract form, leaving individuals to analyse and interpret the memories as they will.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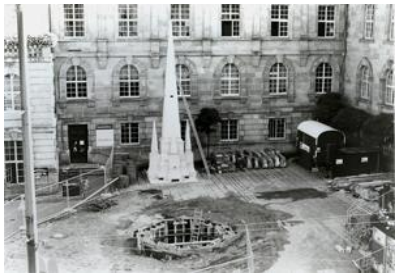

Images (8-10): The sunken fountain of Kassel evolution over time (J. E. Young 1999) Source - Young, James. *Harvard Design Magazine.* 1999. Source: http://www.harvarddesignmagazine.org/issues/9/memory-and-counter-memory


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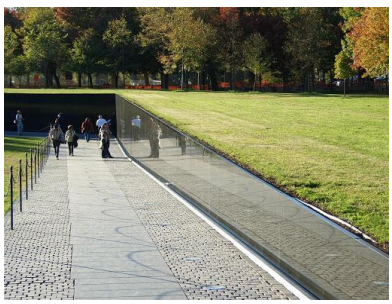
12.


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Images (11-13): The Vietnam war Veteran's Memorial, Washington DC Source - Savage, K. "Monument Wars: Washington, D.C. the National Mall, and the Transformation of the Memorial Landscape." *Berkeley, University Of California Press*, 2005: 236-244.

4. Inferences and Conclusion

4.1 Expression of dissent in anti monuments - Divisive and counter intuitive approaches of anti- monuments stand in striking contrast to features of traditional monuments.

4.1.1 Subject - Traditional monuments are typically affirmative, glorifying an event or a person or celebrating an ideology. Anti-monuments on the other hand, record darker events, such as the Holocaust and chronicle suffering victims of conflict or persecution or admonish the perpetrator. Anti-monuments may highlight the evils of an ideology, such as fascism or racism, whereas traditional monuments project famous figures or acts of heroism (Savage 2005).

4.1.2 Form - Most notable and most common feature of anti-monumentality is its opposition to conventional monumental forms and subscription to an alternative, contrasting design techniques & materials. Fundamental inversions encompass voids instead of solids; absence in place of presence (as with the Aschrott Fountain and Harburg's disappearing Monument against Fascism); dark rather than light tones and horizontal replacing the vertical. Forms may also be sunken rather than elevated (as in the Vietnam Veterans Memorial) and shifted off-axis or dispersed or fragmented instead of unified in a single, orderly composition. Works that are patently impermanent counter the aspiration to permanence of conventional monuments and their subjects.

4.1.3 Site - Traditional monuments are often prominent, highly visible and set apart from everyday space through natural topography, height or enclosure. Anti-monuments, designed to serve new purposes, rarely have such characteristics. Rather than being preferred destinations, they are encountered by chance during everyday travels. The Monument against Fascism resurfaces Germany's horrific past into Harburg's Commercial Centre.

4.1.4 Visitor Experience - Traditional monuments are often discrete objects, demanding solemnity and deference from a viewer engaged in private introspection. While most engage primarily a sense of sight, some other are designed to be viewed from a distance. Anti-monumentalism, on the contrary, unsettles convention of reception by inviting close, bodily encounter by visitors. It stimulates senses other than sight. In the Aschrott Fountain, the sound of waters can be heard before its traces are observed on the pavement. The designer may wish to have visitors engaged sensorially and bodily, oblivious of people's response.

4.1.5 Meaning - Traditional monuments are didactic, imparting clear, unified messages through figural representation, explicit textual or graphic reference to people, places or events, allegorical figures, and archetypal symbolic forms. Abstract forms can be useful for avoiding obvious thematic representation. They are used for effacing or concealing overt narratives, in order to depoliticize commemoration or to open it up to multiple and potentially conflicting interpretations. The nonrepresentational form of Lin's Vietnam Veterans Memorial prevents a single narrative from dominating. Rather than representing a single, obvious message about the war, her memorial allows multiple, competing publics to share the site.

4.2 One understands that memory & counter-memory and monument & anti-monument are the same representations of the same memory and belong indeed to the same collective memorial process. The anti-memorial project, as a collective memorial process, appropriated and historicized anti-monuments as symbols of rupture for the ambivalent, always self-conscious, reunified and thereby, redeemed the victims. Not only has memory and rememory become a form of reconciliation, but has also become an identity-forming process. Indeed, there may be redemption through the anti-redemptive project; or, to use Martha Minow's terminology, consolation through provocation (Minow 1998).

While further studies are necessary, perhaps this exploration, to unravel layers of the philosophy behind the anti-monuments and their inherent characteristics, will help understand how human trials and tribulations of the times find resonance in the intent of the creator.

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Insight

A Peek into our Learnings

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From the Song to the Space: Investigating Emotional Responses to Corresponding Works of Music and Architecture

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May 27, 2020

Abstract

The initial hypothesis of the investigation was that music and architecture are perceived varyingly despite proclaimed similarities in their creative processes; the perception of neither is free of existing human associations. Thus, even if a piece of architecture is derived from a piece of music, it might not elicit a similar pattern of responses as the piece of music. In reviewing the results to the survey, the thrust was on analyzing the parent emotions of responses for matches, opposites and dyads, rather than locating absolute sameness of the primary emotions recorded by participants. To this end, the primary emotion responses were substituted with their parent emotions to conduct further exploratory analysis on the basis of parent emotions. The results also suggested that finding a match in parent emotion for a song-space unit was as likely as a conflict. The influence of biases on the results cannot be discounted.

Overall, the research suggested the possibility of similarities in the responses to corresponding music and architecture, though the chances of finding varying and often completely opposing responses are also present.

Key words –

Compositional drawings ,Fundamental elements , Dynamics , Emotional response , Abstraction

The origin of a question

Was Goethe onto something or was it mere fancy when he proclaimed “architecture is frozen music”? This study originated from a similar line of questioning and developed into an experiment that examined the propositions of existing research that frameworks for architectural design may be developed from music (e.g.: Morimoto 2016, Felix et al. 2016).

Existing literatures focus on creation

Previous scholarship has focused heavily on exploring the relationship between music and architecture from the point of view of creation – a notion whose origins may be traced to the period of Greek and Roman Antiquity. In his essay Architecture Becomes Music, Charles Jencks says that ‘an underlying code’ of mathematical and geometric laws was used to generate both musical and architectural compositions in the Greek and Roman empires. Music and architecture both drew from the idea of harmonic ratios in a trend that extended from 13th century Europe until the Renaissance. In the Modern Era and in contemporary practice, attention is frequently brought to the architectural design process of 20th century architect and composer Iannis Xenakis, which drew from musical compositional exercises for his orchestral piece Metasis (Morimoto 2016), Daniel Libeskind’s use of “compositional drawings” in the design process of the extension to the Berlin Museum (Capanna 2009), as well as Steven Holl’s Stretto House, whose design borrows from the musical concept of the ‘stretto’ (Morimoto 2016).

The less-explored user-angle

Research that explores the relationship between the music and architecture from the viewpoint of user-perception is not as vast as its creative counterpart, and is limited to the 20th century and beyond.

Modernist architect Le Corbusier’s understanding of the architecture-music link, described in his work The Modulor, stands out in his emphasis on the perceptive rather than compositional viewpoint (Gonçalves et al. 2015). Architectural historian Charles Jencks speaks of the differences in architecture and music when

examined from the point of view of perception — "... a symphony… cannot, ordinarily, be sped up or slowed down by the perceiver; or read backwards as architecture can be from the exit; or top-down as with a skyscraper" (Jencks 2013).

The present research

It was these possibilities of similarities or, indeed, differences in the *perceptio*n of music and architecture that piqued my interest, and motivated the line of enquiry in my research. The experiment conducted towards this research involved finding spatial parallels to the song "Do Me A Favour" by Arctic Monkeys in the building of RV College of Architecture (RVCA), Bangalore, and invited participants to record their responses to both the music and the architecture. By identifying whether corresponding segments of the song and building elicited corresponding responses, the research attempted to answer the question — do music and architecture elicit similar emotional responses in observers on the basis of comparable elements (rhythm and pitch) and organising principles (texture and dynamics)?

The initial hypothesis was that music and architecture are perceived varyingly despite proclaimed similarities in their creative processes; the perception of neither is free of existing human associations. Thus, even if a piece of architecture is derived from a piece of music, it might not elicit a similar pattern of responses as the piece of music.

Methods

Variety in ranges of musical and architectural expression formed key reasons for the selection of the song 'Do Me a Favour' and the RVCA building, respectively, as this opened up opportunities for the generation of distinct emotional responses. The RVCA building was additionally selected for the sample group it provided – students of the college who are familiar with the spaces due to regular use. Twenty eighth-semester students of RVCA were invited to participate in the study.

The challenge of the experiment lay in analysing the song and drawing from it architectural parallels in the RVCA building, as these would be the "objects" that the participants would react to.

Parameters for analysis of the song were determined by studying existing literature on musical theory. The fundamental musical parameters so selected were pitch and rhythm, while the organising musical principles of texture and dynamics were used to draw architectural parallels.

The Parameters Explained

The Fundamental Elements

- *Rhythm*

  Rhythm, the time relation between sounds (Titon et al.), is strongly linked to the perception of movement and speed in music. Existing scholarship often compares the length of intervals between sounds in music to the spacing of built elements (Klochko et al. 2017; Morimoto 2016).

  In this study, rhythm referred to the rhythm produced by the percussion elements only, and was related to architecture in the way of horizontal movement through a space and the spacing of elements (both in the vertical and horizontal planes) along the horizontal axis. A uniform beat manifested in architecture as regularly spaced elements with small protrusions out of the plane in which they lay, or blank surfaces such as walls or floors. A non-uniform beat manifested as irregularly spaced elements with small protrusions, or regularly spaced elements with large protrusions.

- *Pitch*

  Musical pitch refers to how high or low a sound is (Titon et al.) Prior research has revealed that higher pitch is associated with higher heights in spaces (Eitan, 2013).

  In this study, pitch was related to height in terms of vertical movement through a space — a rising pitch in the song corresponds to upwards vertical movement and vice-versa.

The Organising Principles

In musical compositions, these are mechanisms used to organise the basic elements of rhythm and pitch. In this study, these helped identify areas of emphasis, so as to clarify often contrasting layers of elements, and draw architectural parallels.

- *Texture*

  Musical texture refers to the layering of melodies. In 'Do Me A Favour', the melodies are primarily arranged in polyphony, with the occasional use of homophony and comprise a bass melody, a vocal melody and several guitar melodies. The second organising principle of dynamics helps clarify these overlapping melodies.

- *Dynamics*

  Dynamics in music are markings that indicate

Song segment		1. Introduction		2. First Verse			3. Interlude	
Rhythm	Percussion elements	Bass, low tom, floor tom		Bass, low tom, floor tom			Bass, low tom, floor tom	
	Pitch	Low		Low			Low	
	Nature (Uniform/ Non-uniform)	Uniform		Uniform			Uniform	
Pitch	Source of melody	Bass	Guitar	Bass	Vocals	Guitar	Bass	Guitar
	Octave	Base octave (lower half)	Base octave	Base octave (lower half)	Base and -1 octave	Base octave	Base octave (lower half)	Base and +1 octave
	Nature of melody	Rising monophonic riff	Stable homophonic note	Rising monopho-nic riff	A sudden initial rise and then lowering	Stable homopho-nic note	Rising	Lowering homopho-nic riff
Texture		Homophony		Polyphony			Polyphony	
Dynamics - elements of emphasis		1) The uniform beat of the three low-pitched drums in unison 2) The louder and higher-pitched guitar note played at the end of the low bass riff, signifying the hierarchy of the higher pitch, and the start of the melody which will follow this pitch		The vocals find focus as the newly added element			Homophonic guitar riff	
Architectural parallel in the RVCA building		**Corridor between exhibition and thesis rooms** Linear movement through a volume with a low height, little lighting and blank walls, ending in a space with cut-outs suggesting a larger volume, with daylight streaming in from above. The transition from dark to light, and a smaller to a larger volume emphasises the ending volume much like the loud and higher-pitched guitar note stands in contrast to the low bass riff.		**Under The Library** The space reflects the modulation of pitch of the newly-added vocal melody in this section of the song. An initial brightness and largeness of volume is followed by a downward descent beneath the library, and further into the kund, echoing the initial sudden rise and subsequent lowering of the pitch of the vocals.			**Seminar Hall** Downward vertical movement takes place from the entry of the hall to the stage, corresponding to the lowering pitch of the guitar riff. The layered panelling which follows the primary form of the shell, reflects the homophonic layering of the guitar riff.	
Song-space unit (SSU) so formed		SSU1		SSU2			SSU3	

Table 1. Translation of Do Me a Favour to architecture
An octave is the interval between any musical pitch and another musical pitch with half or double of the frequency of the former note's frequency
Source: Author

Song Segment		4. Second Verse			5. Chorus				6. Second Interlude		
Rhythm	Percussion elements	Bass drum, low tom, floor tom	Tambourine	Snare	Bass drum, low tom, floor tom	Tambourine	Snare	Crash cymbals	Bass drum, low tom, floor tom	Tambourine	Crash cymbals
	Pitch	Low	High	Middle	Low	High	Middle	High	Low	High	High
	Nature (uniform/ non-uniform)	Uniform	Uniform	Non-uniform	Uniform	Uniform	Non-uniform	Uniform	Uniform	Uniform	Uniform
Pitch	Source of melody	Bass	Guitar	Vocals	Bass	Guitar	Vocals		Guitar 1	Guitar 2	Vocals
	Octave	Base octave (lower half)	Base and +1 octave	Base octave	Base octave	Base	Base octave		Base and +1 octave	Base octave (lower half)	Base and -1
	Nature of melody	Rising	Lowering homophonic riff	Starting mid-octave, rising to upper half, ending in the lower half of the octave	Rising and lowering	Rising and lowering, ending in upper half of octave	Starting at mid-octave, rises to upper half, ending in the lower half of the octave		Lowering homophonic riff	Lowering and rising monophonic guitar notes	Lowering
Texture		Polyphony			Polyphony				Homophony	Monophony	
Dynamics - elements of emphasis		1) Non-uniform rhythm of the snare, due to its pitch 2) The emphasis of the guitar riff at intervals 3) The vocals, due to their moderate loudness			1) The uniform rhyth 2) The sudden use of the crash cymbal and absence of the vocal melody for the starting and ending bars brings emphasis to the initial and ending rising guitars 3) The new vocal melody signfying the chorus as an important piece in the song				1) The removing of the tambourine after four bars, before the complete stopping of all percussion after another four bars, each transition on beat with and emphasised by the guitar riff 2) The lowering homophonic guitar riff, emphasised due to the absence of all other melody 3) The lowering of the vocal melody is prominent in the absence of percussion and the long spaces between the guitar notes 4) The change of melody and absense of rhythm establishing this as an important piece in the song.		
Architectural parallel in the RVCA building		**Second floor corridor** Horizontal movement takes place through this space, starting beside an open to sky terrace and ending in a relatively dark vestible beside the lifts. The initial largeness and brightness of volume and brightness leading to the darker space reflects the rise and fall of the pitch of the vocals. The large protruding beams at regular intervals, and the narrow wall faces created by numerous cut-outs reflect the emphasis of the guitar riffs and the irregularity of the rhythm.			**Entry hall at the basement level** The initial rise of the pitch of the guitar melody timed to the loud crash cymbal, is reflected in the sudden transition from the smaller vestible to the triple-height space of entry hall. The rising steps reflect the unform beat and the rising guitar riff which is highlighted by the absence of the vocal melody in places. The triple-heigh volume of the space establishes it as important in the heirarchy of the building, much as the changed vocal melody signifies the chorus as a key section of the song.				**Stairwell and triple-height court between studios** Downward vertical movement takes place through the stairwell corresponding to the lowering pitches of both the guitar riff and the vocal melody. The ceasing of movement once reaching the lowest level and the period of no movement within the court is much like ceasing of rhythm and the verse devoid of rhythm in this section of the song. The large volume signifies the hierarchy of this space in the building, and this section in the song.		
Song-space unit (SSU) so formed		SSU4			SSU5				SSU6		

Table 2: **Translation of Do Me a Favour to architecture**

Song segment		7. Third Verse			8. Break and final chorus					9. Outro	
Rhythm	Percussion elements	Bass drum, low tom, floor tom	Tambourine		Bass drum	Snare	Tamb-ourine	Foot high hat	Crash cymbals	Bass drum, low tom, floor tom	Tamb-ourine
	Pitch	Low	High		Low	Middle	High	High	High	Low	High
	Nature (uniform/ non-uniform)	Uniform	Uniform		Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform
Pitch	Source of melody	Bass	Guitar	Vocal	Guitar		Bass		Vocals	Guitar	
	Octave	Base and -1 octave	Base and +1 octave	Base octave	Base and +1 octave		Base octave (lower half)		Base and +1 octave	Base and +1 Octave	
	Nature of melody	Lowering and rising	Lowering homopho-nic riff	Rising and then lowering	Initially a monophonic melody comprising single stretching notes, and then a polyphonic melody of closer-spaced notes, rising to a climax		Rising monophonic riff		Rising	Lowering homophonic riff followed by a homophonic note held at the highest and lowest pitches of the base octave	
Texture		Polyphony			Polyphony					Homophony	
Dynamics - elements of emphasis		1) The rising and lowering vocals are emphasised due to their loudness and the percussion which resumes on beat with the vocals			1) The five synchronised percussion instruments playing in unison emphasises the uniform beat 2) The break without any vocals, and the absence of vocals in parts of the chorus bring focus to the rising guitar melody					The single homophonic note is highlighted by the duration for which it is held	
Architectural parallel in the RVCA building		**Pavilion** Rising steps from beneath the library lead to the large and bright open-to-sky space of the pavilion, from which movement takes place into the darker and smaller vestibule that forms the backstage entry to the multi-purpose hall. This reflects the rising and lowering pitch of the vocal melody.			**Open Air Theatre (OAT)** The steps of the OAT are ascended to match the rising guitar. The loudness of the five percussion instruments in tandem is reflected by the large tread of the steps of OAT, while the uniformity of the beat is found in the equal spacing of the steps. The largest volume (with no roof) in the college is a nod to this loudest, highest-pitched portion of the song.					**Bridge** The open to sky linear space on the top-most floor of the RVCA building reflects the single high-pitched note held for a long stretch	
Song-space unit (SSU) so formed		SSU7			SSU8					SSU9	

Table 3. Translation of Do Me a Favour to architecture

Source: Author

sound intensity and areas of emphasis (Morimoto, 2016). In this study, dynamics helped identify what elements were in focus when the multiple melodies listed under "texture" were layered simultaneously. Then, only the elements which were emphasised were carried forward to be translated into architecture.

Analysing and Translating each section of the song

For the purpose of analysis, the song was divided into segments, each of which was translated into a space in the RVCA building. The basis for division of the song into sections was the common grouping of rhythmic elements, vocal melodies and bass and guitar riffs. Tables 1, 2 and 3 describe the segment-wise analysis and translation.

Developing the survey

The survey comprised two parts. In the first, participants were asked to respond to spaces in the RVCA building depicted as plans and images; in the second, they responded to musical sections of 'Do me a Favour'. In both parts, participants recorded their emotional responses by selecting from a common list of primary emotions propounded by Robert Plutchik (1980).

Emotional model adopted for the survey and analysis

The range of emotions presented in the survey are based on Robert Plutchik's Psychoevolutionary Theory of Emotions (1980). Plutchik's model propounds eight parent emotions, each of which contains within it primary emotions that are variations in intensity of the parent emotion. These allowed for a framework of analysis that recognised varying degrees and kinds of similarity of emotions — suitable to the subjective nature of music and architecture themselves.

Results and Discussion

In reviewing the results to the survey, the thrust was on analysing the parent emotions of responses for matches, opposites and dyads, rather than locating absolute sameness of the primary emotions recorded by participants. To this end, the primary emotion responses were substituted with their parent emotions to conduct further exploratory analysis on the basis of parent emotions.

Primary emotion analysis

The average percentage of matching primary emotion pairs across all nine song-space units was found to be 8.33%.

Parent emotion analysis

Matches :

The average percentage of matching parent emotion pairs across all nine song-space units was observed to be 15% — nearly twice as much as primary emotion matches (Figure 2)

The average percentage of conflicts in parent emotion pairs was 16.67% — just surpassing that of matches (Figure 3)

Dyad:

Figure 4 depicts the cumulative percentages of primary, secondary and tertiary dyads. Primary dyads,which may be considered closest in nature to matches, occurred on average nearly twice as often as matches — 24.44%. Secondary and tertiary dyads, which are less apt to be likened to matches, were on average observed at 16.66% and 26.66% respectively.

Figure 1. Plutchik's dyads and opposites (Visualisation by Drews, 2007)

Source: Author

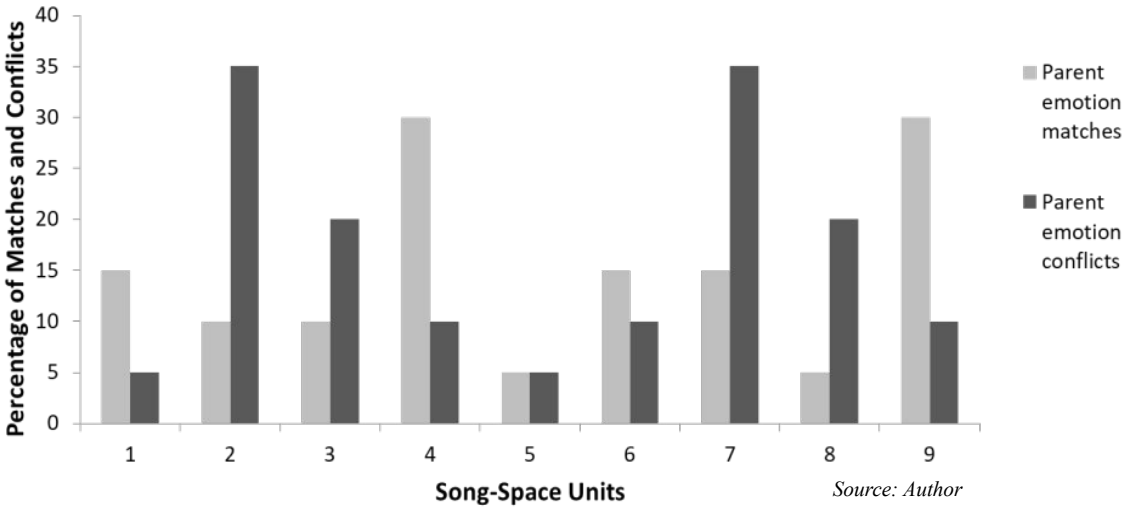

Figure 2. Primary emotion matches and emotion group matches

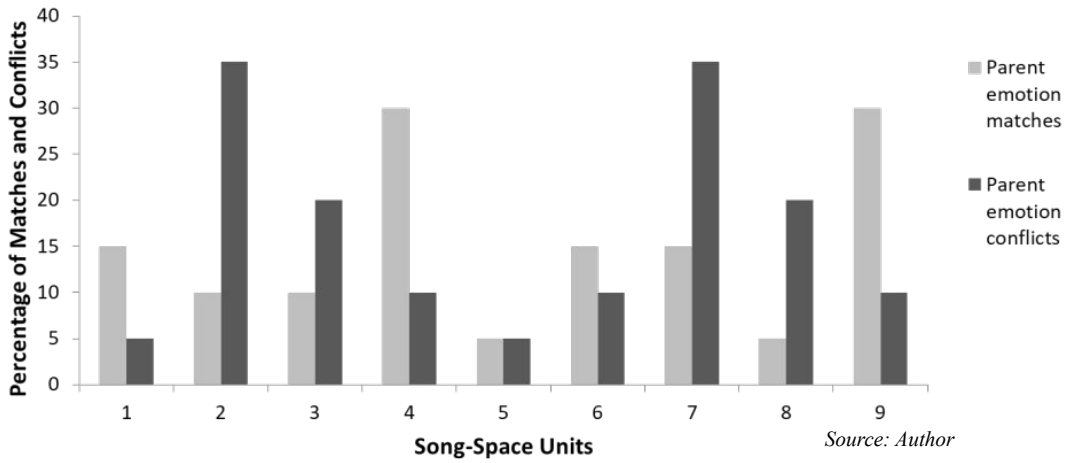

Figure 3. Parent emotion conflicts and matches

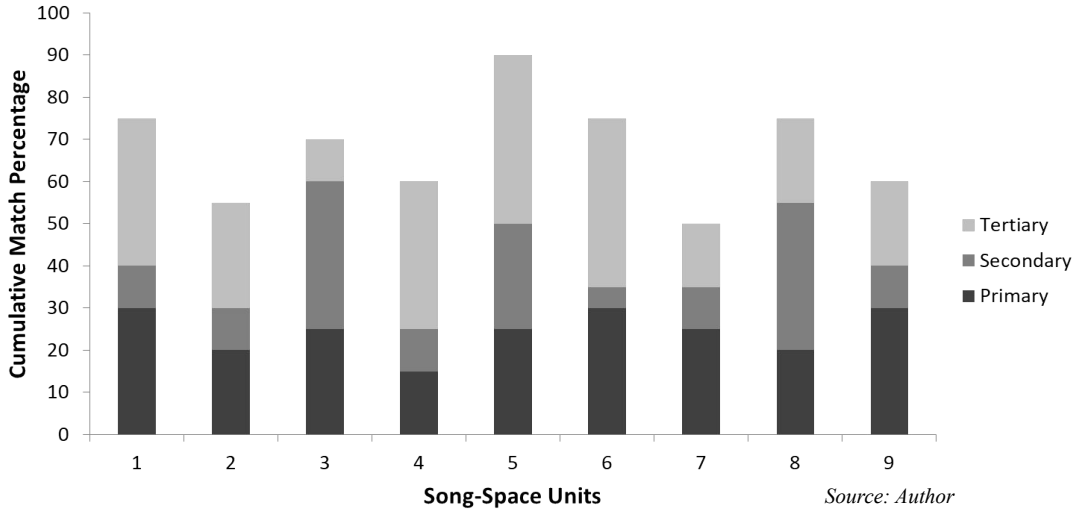

Figure 4. Cumulative percentages of primary, secondary, and tertiary dyads

Personal bias in emotional responses to the architecture

When asked to specify the number of questions in part one of the survey, for which they believed that their emotional responses were unbiased or independent of their existing associations to the RVCA building, the majority of participants (65%) felt that their emotional responses for 4-6 of the total (9) questions were unbiased. A smaller portion (25%) felt that their responses to 3 of the questions were unbiased, while the smallest percentage (10%) felt that their responses to 7-9 of the total questions were unbiased.

When asked if emotional responses can ever be unbiased when an individual is familiar with a building that an overwhelming 70% of respondents disagreed, while only 30% agreed

When asked if emotional responses can be unbiased when an individual is instead not at all familiar with a building, 75% of the participants agreed while only 25% disagreed.

Inferences

This study had sought to investigate the possibility of music and architecture eliciting similar emotional responses in observers on the basis of a fixed set of comparable parameters.

When the cumulative percentage of parent emotion matches and primary dyads were considered, an average occurrence of 39.44% was observed, suggesting that a significant portion of participants responded to corresponding song segments and spaces with varying intensities of the same parent emotion, or with parent emotions that are often experienced together, according to Plutchik's model. The results also suggested that finding a match in parent emotion for a song-space unit was as likely as a conflict. The influence of biases on the results cannot be discounted.

It is important to recognise the limitations in these interpretations —

- The prevailing public health scenario prevented participants from experiencing the spaces of RVCA in-person resulting in a reliance on perhaps inaccurate memory.
- The use of dynamics to translate only those musical elements of the song identified as prominent might have led to a reduction in complexity of the resulting architectural translation.
- The use of an existing building in which to find spatial parallels to music might have limited the scope of accurate translation.
- The abstraction of Do Me a Favour and the RVCA building into discrete segments and spaces – while integral to ensuring specificity of responses, might be in opposition to the essential continuity of any piece of music or architecture.

Overall, the research suggested the possibility of similarities in the responses to corresponding music and architecture, though the chances of finding varying and often completely opposing responses are also present. Future studies may be able to overcome the limitations of the current findings and determine if similar responses to music and architecture stem from intense rather than mild emotions.

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[1] Worlds of Music: An Introduction to the Music of the World's Peoples (Titon et al., 2016); Morimoto's (2016) dissertation Music And Architecture: Notes On Experiencing The Convergence Of Music And The Built Environment

[2]A beat in which the intervals between the sounds are equal

[3] A beat in which the spacing of intervals between sounds is not equal

[4] two or more entirely distinct melodies occurring at the same time

[5] two or more complementary or harmonic melodies performed at the same time

[6] Dyads are of three kinds – primary dyads (comprising primary emotions that are often felt together), secondary dyads (sometimes felt together) and tertiary dyads (seldom felt together).

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Culture

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15ARC8.8 (A) RESEARCH METHODOLOGY
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Abstract

Culture is often treated as an impetuous guest in design, yet the frequency of the word in discussions alone provides an insight to its significance. The concept of "culture" is polysemic and thus is often used quite subjectively. This paper attempts the formulation of a clear and precise definition that may be used to consciously design with an awareness of the depth of this word, and connect it to other fields (like linguistics, psychology, philosophy, economics etc.) that may foster holistic informed decisions as an architect.

Culture, as an eloquent overwhelming word, may be attempted to be conveyed as: ideas, values, beliefs, behavioral patterns of a collective determined by a group. It is a larger framework (system) including various subsystems (as discussed earlier) that are defined but usually blurred in boundaries. These subsystems are learnt by adapting to the geographical and social context of the mentioned group, and are transmitted accordingly.

Key words –

Symbol , Value patterns , Ethnographic , Anthropological concept , Culture

Culture is often treated as an impetuous guest in design, yet the frequency of the word in discussions alone provides an insight to its significance. The concept of "culture" is polysemic and thus is often used quite subjectively. This paper attempts the formulation of a clear and precise definition that may be used to consciously design with an awareness of the depth of this word, and connect it to other fields (like linguistics, psychology, philosophy, economics etc.) that may foster holistic informed decisions as an architect.

The word dates from the early 19th century from "cultivate" in 16th century. This was derived originally from the Spanish word culture, based on the Latin "cultura" that meant 'to tend to'. It was originally "colere" (Latin). Starting out as cultivation of agriculture, , the meaning gradually widened to a cultivation of mental faculties – "cultura animi" (cultivation of the mind), a metaphorical phrase of Cicero. (Kuper 2000) In the first edition of the dictionary of the Spanish language of the Royal Spanish Academy (1726 – 1739), one of the definitions of culture is "care and application for anything, such as teaching in the young, for what can show off your understanding." (Spanish Royal Academy Vol 2 1998)

The modern concept of "culture" seems to have its origin from the reaction of German intellectuals to the French notion. It seems imperative to understand the anthropological concept of the word in order to understand its relation with tongue and writing (language) and thus, logically derive the dichotomy between elitist and popular culture. "Culture, or civilization, in its wide ethnographic sense is that complex whole which includes knowledge, art, beliefs, morals, laws, customs and any other capabilities and habits acquired by man to ace as member of society.' (Edward tylor 1871) The phrase – any other – allows

inclusion of any learning to be shared as part of the definition. It centers around the knowledge and behaviors adopted by individuals by the virtue of being included in a social group/collective. Since then, the word has been provided several definitions primarily studied in 7 categories: descriptive, historical, regulatory, psychological, structural, genetic and incomplete.

Cultural objects – “are symbolic elements of the cultural tradition, ideas or beliefs, expressive symbols and value patterns.” (Parsons 1951)

Culture is a symbol of material objects, ideologies and collective behavioral patterns of a group – “everything that people have, think, or do as members of a society” (Ferraro 1992). Herrera provides a more precise definition based on its relationship with geographical, historical and social context – “everything that humans have imagined, selected, created, learned, constructed for adapt and lived in a means, medium natural determined and in terms historical and social precise.” (Harrera 1993)

The semiotics of “culture” then developed fairly elastic with interpretations ranging from it being a complex collection of interrelated systems than a monolithic entity (D'Andrade 2000) to malleability of the manifestation of the word when layers of economic and political power (Wolf 1997) are added.

With all these variables and mildly diverging meanings over a period of time, the common thread seems to be that culture is acquired through learning, by the virtue of a collective. Social and technological aspects, along with the layer of time, make the understanding of the concept increasingly complex. It encompasses the ideas, values and beliefs of the collective of groups specific to humans, that are expressed through symbols.

Thus culture, as an eloquent overwhelming word, may be attempted to be conveyed as: ideas, values, beliefs, behavioral patterns of a collective determined by a group. It is a larger framework (system) including various subsystems (as discussed earlier) that are defined but usually blurred in boundaries. These subsystems are learnt by adapting to the geographical and social context of the mentioned group, and are transmitted accordingly.

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The Spirit of a Place

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Abstract
Man began his livelihood, dropped out of his lonesome nomadic lifestyle and set down his roots, through his connection to land. Architecture itself grew from the idea of a dwelling or the need for a safe place within a vast expanse of space. The idea of Genius Loci, "'instanced in architecture and gardening, all must be adapted to the genius of the place, and… beauties not forced into it, but resulting from it' , sums it up .Genius Loci in Architecture is a plain understanding of what we see around us and the art of complimenting it. Genius Loci or spirit of a place, is the process of visualizing, complementing and symbolizing the place itself. To visualize, would be to understand what our landscape is offering us. This is a pure form of depiction of man's understanding of nature. To compliment, would be to add to the expanse around us, what we think it lacks. It refers to the addition of those elements that man thrives on, driven by necessity. To symbolize, is to reflect this landscape and its characteristic ideals in our built.
The spirit of place and the idea of what it truly holds, is a gift given to us by our context. Each experience and factor derived from this spirit, gives us an opportunity to create something brand new and unique. It helps us bring out new experiences in our built, by bringing the context into it.

Key words –
Genius Loci , Dwelling , Gestalt Principles ,Architecture, Phenomenology

Man began his livelihood, dropped out of his lonesome nomadic lifestyle and set down his roots, through his connection to land. This occurrence, as agrarian as it is, saw the formation of the first amalgamation of man and land. It grew from the simple production of sustenance to the creation of a safe place within it, that he could call his own. Now the question of whether this connection was a derivative of man's own imaginative mind or the Earth beneath and around us, has an answer that we as budding, future architects, must abide by.

Architecture itself grew from the idea of a dwelling or the need for a safe place within a vast expanse of space. A dwelling is the mere *relation of man to a location, by the creation of a space*. It is a pragmatic reflection of the place, born to fit or needs and to belong to the place; a protective shell, fitting into the place, like a missing puzzle piece, rather than a sore thumb tearing through its fabric.

As rightly put by Alexander Pope in Epistle IV while reiterating the idea of Genius Loci, "*'instanced in architecture and gardening, all must be adapted to the genius of the place, and… beauties not forced into it, but resulting from it'.* This phrase, dating back to 1731, sums it all up. Imprinting our footprint on a piece of land, by building on it, is a task that is almost meaningless, if not in tune with its context. Genius Loci in Architecture is a plain understanding of what we see around us and the art of complimenting it. Further clarified by Christopher Norberg Schulz, Genius Loci or *spirit of a place*, is the process of visualizing, complementing and symbolizing the place itself.

To visualize, would be to understand what our landscape is offering us. This is a pure form of depiction of man's understanding of nature. To compliment, would be to add to the expanse around us, what we think it lacks.

It refers to the addition of those elements that man thrives on, driven by necessity. To symbolize, is to reflect this landscape and its characteristic ideals in our built. These three words hold the key to Architecture's chest of follies. It stops rather than fixes, the damage done by us to the Earth. It takes into consideration our host place and helps us treat it with kindness.

To even begin to understand this further, one must define the words Space and Character, while also understanding their connection to each other. Space to character, is what landscape is to a settlement. Space is the experience that a location gives you, brought into life and perception for the user, by Character. While landscape receives its being from location or space, character creates the settlement and gives the experience a real presence. These two words help imbibe the spirit of a place into our built. They are what create our experiences and perception, while paying an ode to the space.

The next step towards genius loci, would be the words Meaning and Essence. While meaning in all of its literal sense, would mean the functional understanding of a space, essence is what sets it apart. Essence combines the utilitarian aspect of our built with our own unique perception of the place, to create a structure that is truly authentic to its location. With greater relations in an experience, comes a greater meaning of the space. Thus, the idea of 'genius loci' is no different from a step towards truly meaningful architecture.

These concepts of Genius Loci, Space and Orientation, Character and its identification with the environment, were all put to test through Kevin Lynch and Christopher Alexanders, Imageability and Gestalt Principles and passed with flying colours. Through the presence of factors such as path, node, landmark and edge, Kevin Lynch aids the process of orientation in space and connect with the environment. He uses the idea of shapes, geometry and arrangement to enhance Imageability and its contextual importance. These are further manifested in the form of rhythm, pattern and other Gestalt Principles, reiterating the need for familiarity and connect with both the built and the surrounding context.

The above-mentioned architectural factors, connect with the user on a psychological level. The comfort dealt to one, by a familiar space, is unparalleled. This familiarity in a vast untamed landscape can be brought to you, only with the built. In order for us to truly belong on this ground, to understand the passage of time and journey through it in a physical space, this connect with our dwelling and its host place, is the answer. Us beings, alien to this planet we tread on, can only make it more of our own by the act of weaving together a coherent picture of built, both in dialogue with its surroundings and our needs.

The spirit of place and the idea of what it truly holds, is a gift given to us by our context. Each experience and factor derived from this spirit, gives us an opportunity to create something brand new and unique. It helps us bring out new experiences in our built, by bringing the context into it. What else is architecture if not for the manifestation of a place? What else is dwelling if not for being one with a space? Genius Loci in all of its glory, is a tool for architects, a solution to make their built belong and a factor, sure to set it apart.

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Role and Relevance of Research in Architectural Practice

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Assistant Professor | RVCA

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The essence of architecture as a profession lies in its practice. Everything that makes a difference to its philosophy and approach is application-based. At the same time architectural practice is extremely contextual in its nature. In any design project, the goals and aspirations of architects need to be extremely specific. Solid research always helps to strengthen the design contextually.

Practitioners in architecture often claim that research does not affect their field of work. This perception can be a result of the delusion the term “research” creates and requires sufficient elucidation. Research is often considered to be a theoretical approach towards finding answers, probably because of its systematic nature. However, it is a simple concept that involves developing knowledge or expertise in a particular direction, using a well-defined methodology. A design strongly supported by research, works in particular directions of expertise and gives strong competitive advantage. It also helps architects to amplify their capabilities as more equipped professionals.

Theoretically, research can be either pure or applied. Research in architecture is functional in its nature, thus, applied. It helps practitioners to understand client needs better, evaluate project contexts, and assess building performances (in terms of their materials and other components).

Applied architectural research does not simply involve discovering and documenting material and technologies.

As designers of the built environment, architects have the responsibility of creating comfortable living conditions for the users of their design and enhance their experience within. To accomplish these objectives, research becomes an integral part of the design process so that they thoroughly understand their users and design for their comfort, quality of life and satisfaction. At every individual project level, such studies help in understanding the requirements better.

Broadly, research in architectural practice can be technical, functional or anthropological. Technical research enables the designers to update themselves with building materials and technologies that fit in the context most appropriately. Functional research involves evaluations that help in coming up with the best-possible design solutions in terms of layouts, facades, and choice of design elements. Anthropological research mainly deals with occupant requirements and Post Occupancy Evaluation (POE), both of which contribute towards respecting the users’ socio-cultural preferences as well as comfort.

In Indian context, architectural research in practice is involuntarily a part of the project. But it fails to highlight itself as a separate significant entity. Architects conduct case studies to understand their project and client needs better. They do material survey and analysis to decide what suits best for the project context. They also keep in mind the preferences and choices of the clients while designing every element, as they are going to contribute to post occupancy analysis. Only if this systematic approach becomes more defined so that these researches can be used as references for future enquiry, practitioners across the country would accept research as an integral part of their design process.

Three scales of influence that architectural research can contribute to (Source: AIA)

There are certain challenges that need to be dealt with before making such study and documentation open for referencing. For the same, the Council of Architecture needs to devise guidelines that make architects more confident to conduct research and share their evaluation with others as well. The first challenge is to ensure authentication of data to ease the process of archiving and make copyrighting rules more stringent. Secondly, client awareness is an essential component of the process so that they understand and appreciate the benefits of research in their project. Thirdly, there needs to be a well-defined framework and methodology for conducting post occupancy evaluations that do not violate any occupant rights and sentiments. The final challenge is to authenticate the claims of vendors and dealers with respect to material and product specifications, so that the designers know their elements thoroughly before application.

Research gives a purpose and direction to an architectural project. The scope of any practice-oriented research is guided by the client's needs and preferences. Defining this boundary is essential as it controls the ambition of the architect and his project. However, it is known that research involves trial and error. Hence, one should be prepared to get varying results and yet proceed with the study unbiased. Any project design gains tremendous strength when it is backed up by a significant amount of research, hence, the practice should be encouraged and inculcated at every scale and under varied contexts. Conclusively, it can be said that research is an intrinsic component of every architectural design.

References:

Peter Raisbeck, 2016, Research in Architectural Practice - 6 ways for architects to create upstream knowledge, The Business of Architecture - Association of Consulting Architects Australia.

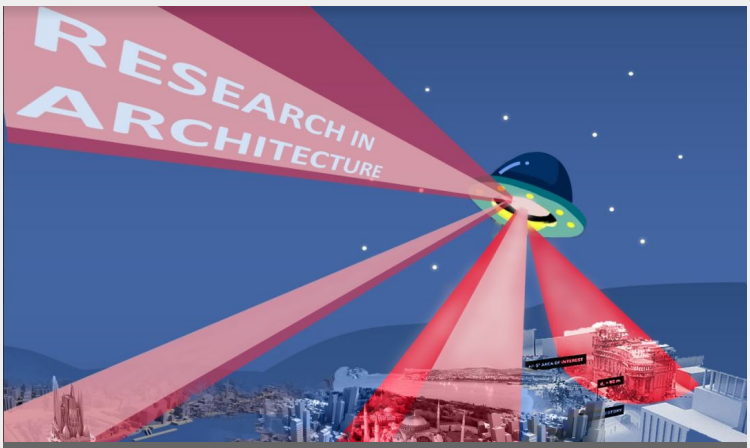
Michael A.R. Biggs and Daniela Büchler, 2008, Architectural Practice and Academic Research, Nordic Journal of Architectural Research Volume 20, No 1.

Cover Page Competition

Cheers to all participants. The creativity and uniqueness of each and every submission was a delight to see. - *Team Kalpa*

Sreenithya Gaddam 3rd Sem

Sanjana P 5th Sem



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Rohini CV 3rd Sem

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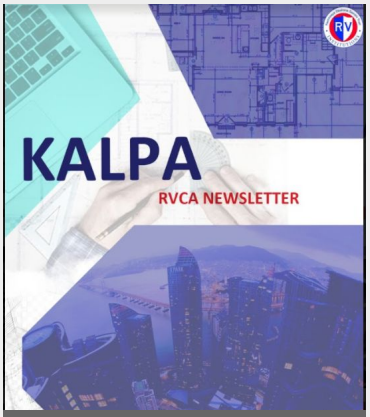

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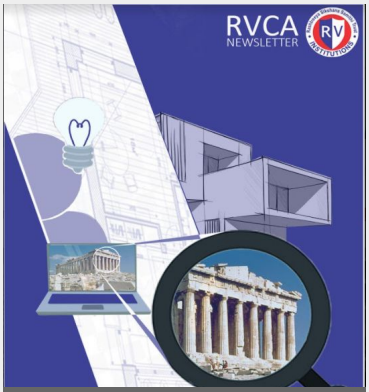

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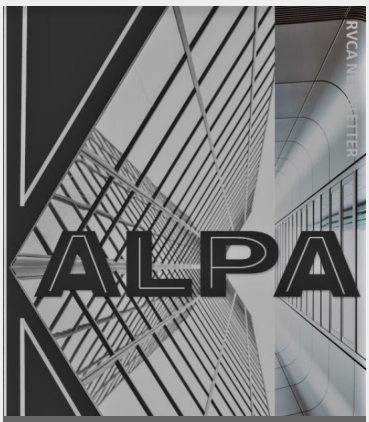

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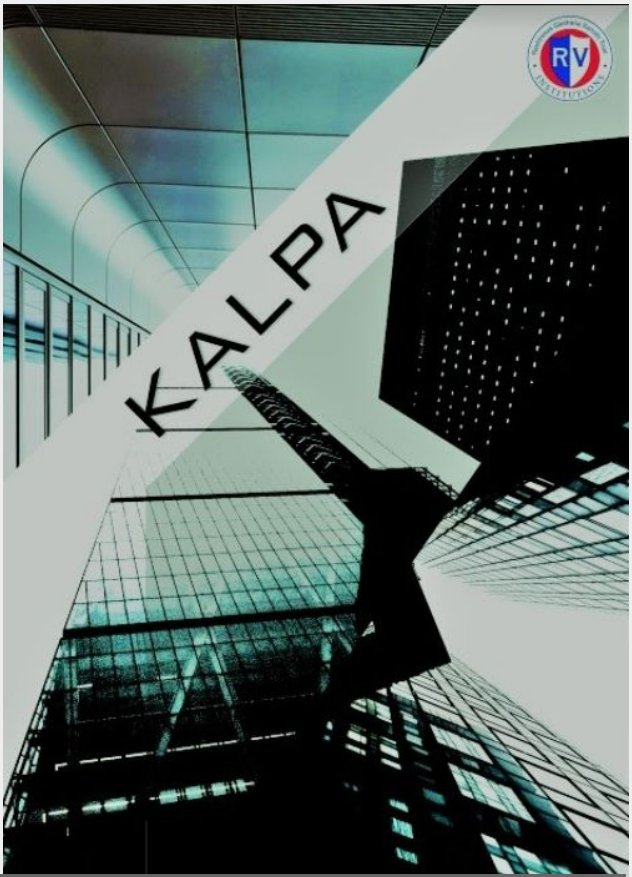

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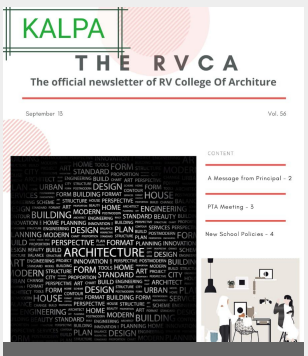

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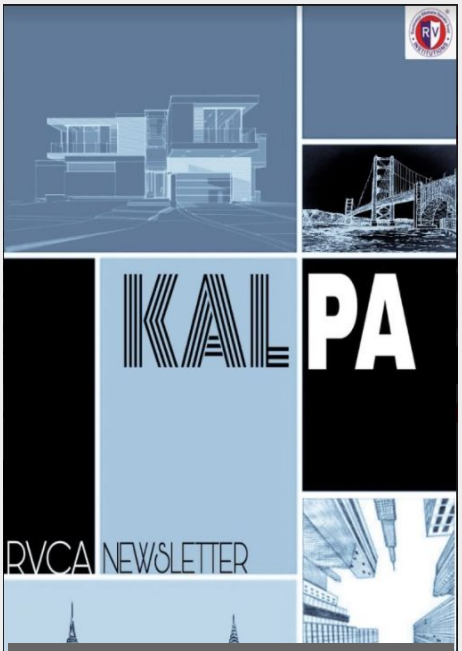

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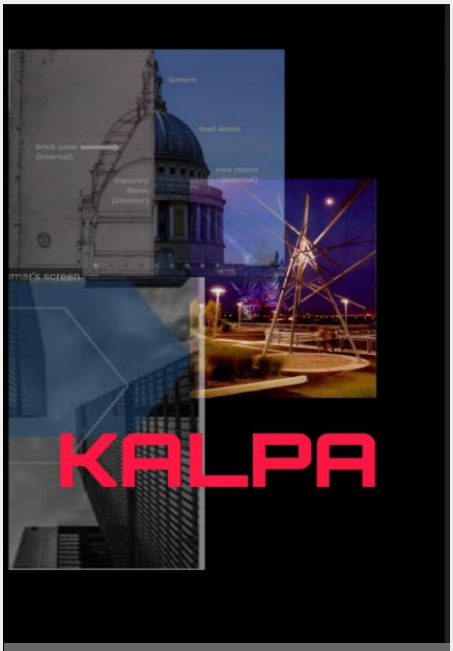

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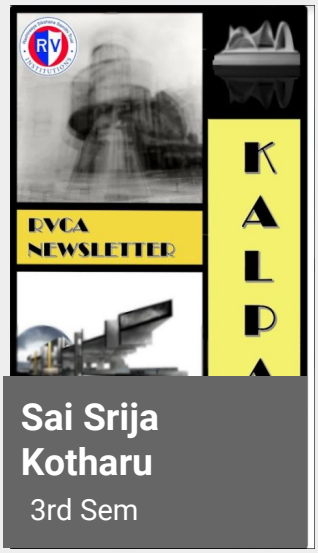

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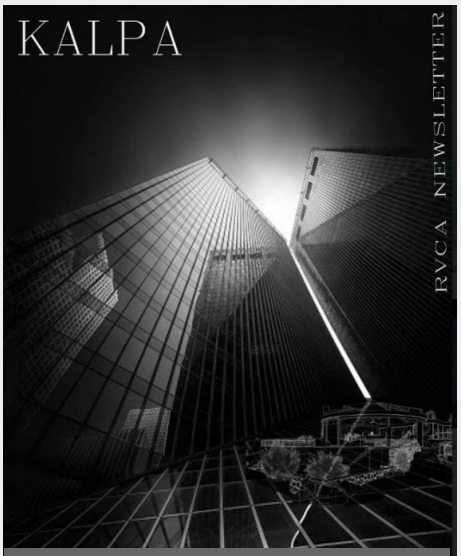

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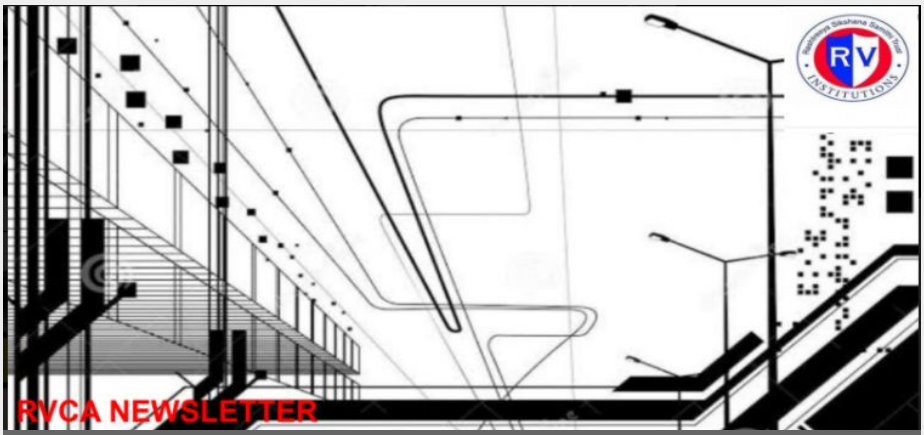

Vrushti KS 3rd Sem

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