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FLOODING CITY IN FUTURE

“Need to swim to survive”

Ar.Chinnadurai.S M.Arch

Head Of The Department



A floating marine utopia might sound like a science fiction fantasy, but these innovative projects could soon be taking shape in our world.

The concept of a floating city isn't new. Humans have a long history of living in communities on the water, from the chinampas of the Aztec Empire to the canal city of Amsterdam. But more recently, modern environmental and social developments like the threat of climate change and the introduction of new technology have renewed global interest in the idea of sustainable urban, ocean-based communities.

Some of the principles that anchor floating city proposals are:

1. Modular construction: The city would be prefabricated offshore and towed to the ocean to reduce costs.
2. Net zero energy: The city would be designed to harness solar and wave power to self-generate as much energy as it consumes.
3. Zero waste: All waste would be turned into energy, recycled materials, or feedstock.
4. Habitat regeneration: The city would use marine building materials that grow, heal, and strengthen over time.
5. Locally sourced materials: Builders would prioritize materials with a negative carbon footprint.
6. Sharing culture: The city would embrace communal farming and sharing of used materials
7. Shared mobility: Transportation modes would be integrated to reduce transportation demand
8. Freshwater autonomy: Water would be constantly harvested and recycled with zero water waste.

THE SEATTLE LIBRARY BY REM KOOLHAAS A REITERATION BY AR DHENUKA NANDHU

Ar.Dhenuka.R, M.Arch
Assistant Professor



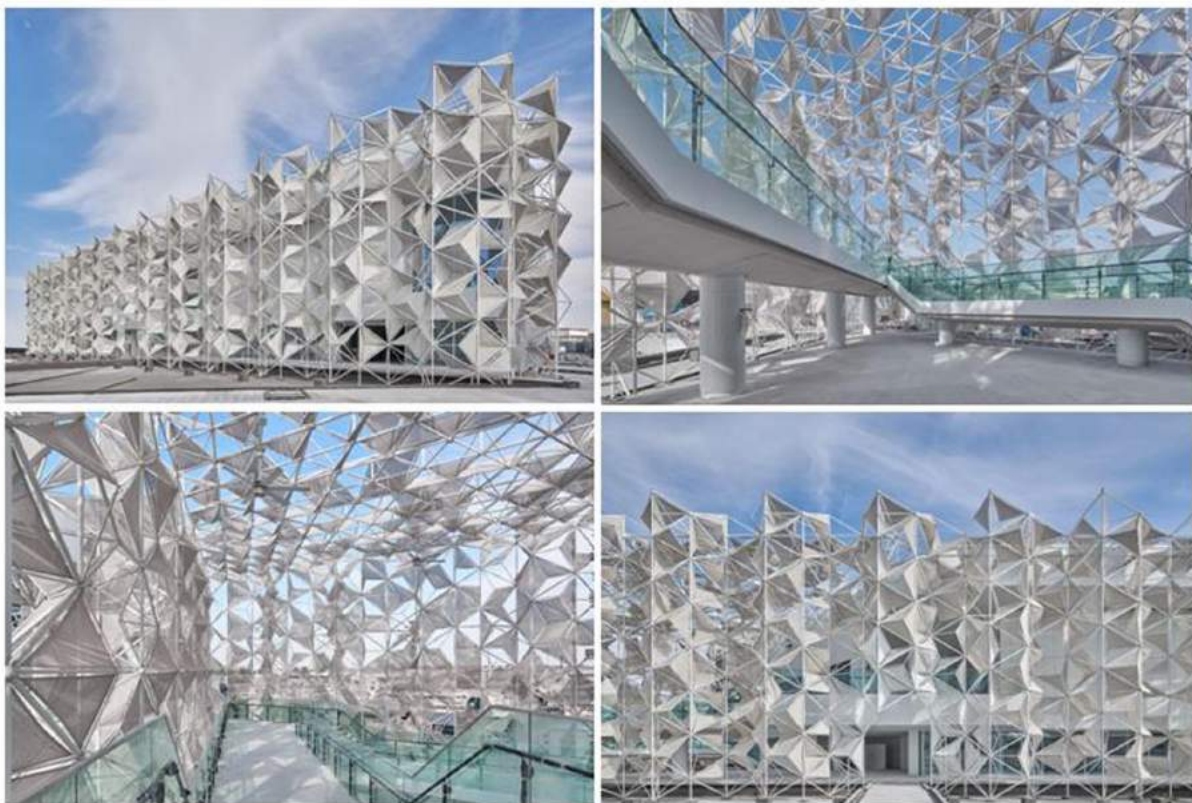
Text description provided by the architects. The Seattle Central Library redefines the library as an institution no longer exclusively dedicated to the book, but as an information store where all potent forms of media—new and old—are presented equally and legibly. In an age where information can be accessed anywhere, it is the simultaneity of all media and, more importantly, the curatorship of their content that will make the library vital.

The library is based on the concept of flexibility of spaces. The book stacks form reading spaces and there are other undemarcated spaces for public interaction. The library could cultivate a more refined approach by organizing itself into spatial compartments, each dedicated to, and equipped for, specific duties. Tailored flexibility remains possible within each compartment, but without the threat of one section hindering the others. Our first operation was to “comb” and consolidate the library’s apparently ungovernable proliferation of programs and media. By combining like with like, we identified programmatic clusters: five of stability and four of instability. Each platform is a programmatic cluster that is architecturally defined and equipped for maximum, dedicated performance. Because each platform is designed for a unique purpose, their size, flexibility, circulation, palette, structure, and MEP vary. The spaces in between the platforms function as trading floors where librarians inform and stimulate, where the interface between the different platforms is organized—spaces for work, interaction, and play.

JAPAN PAVILION UNFOLDS AN INTRICATE TRIDIMENSIONAL FACADE FOR EXPO 2020 DUBAI

Ar.Raghavendran.M, M.Arch
Assistant Professor

Centred around the theme of connection, Japan's Pavilion for Expo 2020 Dubai unfolds a geometrical 3D lattice inspired by the commonalities of traditional Japanese and Arabic patterns. Designed by Yuko Nagayama and Associates, the project uncovers through different architectural means the cultural similarities between Japan and the Middle East. The tridimensional façade combines Arabesque and Asanoha patterns while also referencing the traditional Japanese art of Origami. The structure enveloping the pavilion is also a reference to the Japanese art of Origata gift wrapping. In keeping with Expo 2020 Dubai's emphasis on sustainability, the pavilion's cooling system incorporates environment-friendly techniques inspired by both cultures' traditions. The thin material of the facade resembling Japanese paper protects the pavilion from direct sunlight, while a shallow pool of water in front of the building will help cool the area.

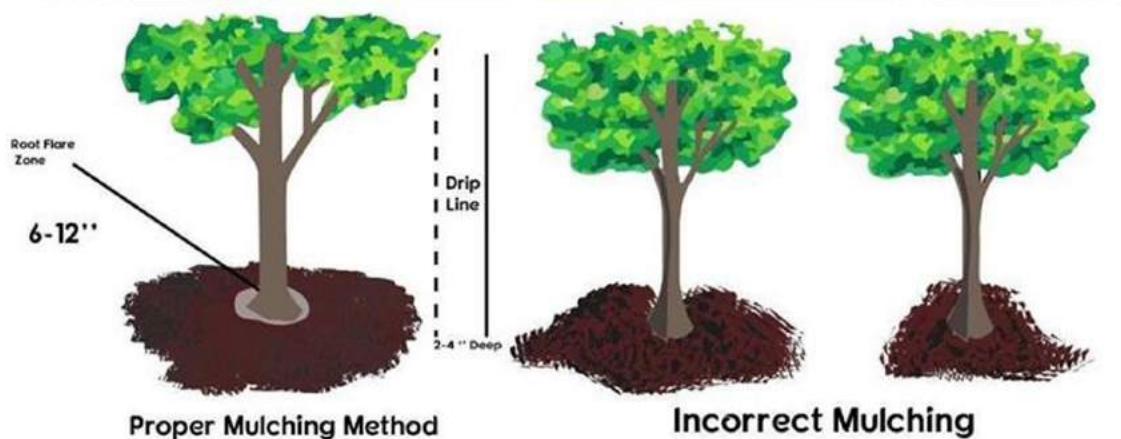


RECLAMATION AND LANDSCAPING OF DERELICT LANDS

Ar.M.Priyadarshini M.Arch
Assistant Professor

Various methods by which wastelands can be reclaimed.

1. Afforestation: It means growing the forest over culturable wasteland.
2. Reforestation: Growing the forest again over the lands where they were existing and was destroyed due to fires, over—grazing, and excessive cutting. Reforestation checks water logging, floods, soil erosion and increase productivity of land.
3. Providing Surface Cover: The easiest way to protect the land surface from soil erosion is of leave crop residue on the land after
4. Mulching: Mulch is a layer of material applied to the surface of an soil. In this protective cover of organic matter and plants like stalks, cotton area of stalks, tobacco stalks etc. are used which reduce evaporation, help in retaining soil moisture and reduce soil erosion.

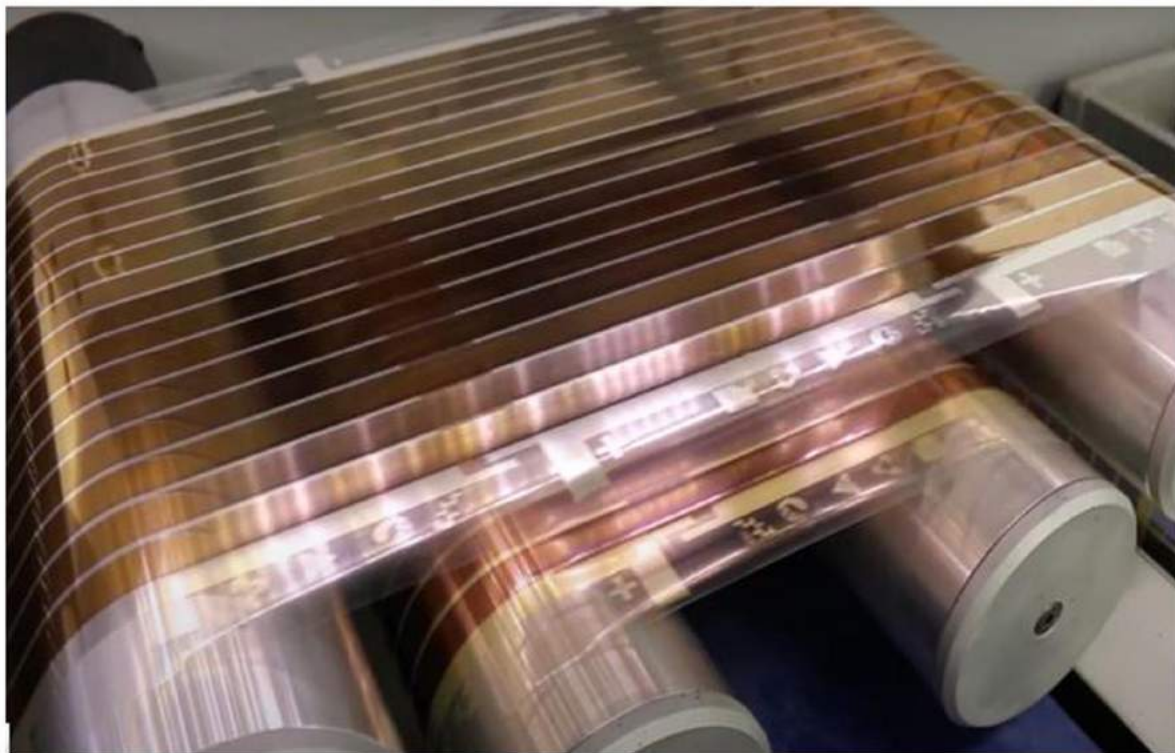


5. Changing Ground Topography on Downhill's Running water erodes the hill soil and carries the soil along with it. This be minimized by following alternation in ground topography:
 - (a) Strip the farming: Different kinds of crops are planted in alternate strip along contour.
 - (b) Terracing: In this arrangement, the earth is shaped in the form of levelled terraces to hold soil and water. The terrace edges are planted with such plant species which anchor the soil.
 - (c) Contour ploughing: In this arrangement, the ploughing of land is done across the and not in up and down style.
6. Leaching: In salt affected land, the salinity can be minimized by leaching them with more water.
7. Changing Agricultural Practices: Like mixed cropping, crop rotation and cropping of plants are adopted to improve soil fertility.
8. Ecological Succession: This refers to the natural development or redevelopment of an ecosystem which help in reclaiming the minerally deficient soil of wasteland.

PAPER-THIN PRINTED SOLAR CELLS

**Er.E.M. Jenner M.E,
Assistant Professor**

Thin-film solar panels are manufactured using solar cells which are about 350 times smaller than a typical solar panel. These cells also contain a light-absorbing layer. Thin-film solar cells are lighter PV cells that are durable. Paper-thin solar cells require only an industrial printer for production and are inexpensive to manufacture. The working principle remains the same as that of the normal solar panels. Unlike traditional panels, printed solar cells are flexible, facilitating their transport to rural locations. Printed solar cells have grown rapidly, increasing from 3% efficiency to 20% in a few years. These technologies have enabled urban poor communities in India to access off-grid electricity. These solar cells are becoming popular due to their cost-effectiveness and simplicity. 10-50 watts of power can be produced from a 10×10 cm Solar cell film. Paper-thin solar cells can now be manufactured with inkjet printing. This may allow solar cells to be placed almost anywhere.



MATHEMATICS APPLIED TO THE ECONOMY AND SUSTAINABLE DEVELOPMENT: I

**Mr.P.S.Stem Edilber M.Sc,M.Phil
Assistant Professor**

Higher education should embody coaching in property to form all actors alert to the intense issues our planet is facing. arithmetic plays a crucial role within the accomplishment of the property Development Goals (SDG) and at an equivalent time these enable operating with real things within the subject of arithmetic, providing the scholar with active learning. property is employed to form the scholar see the utility of arithmetic whereas indoctrination values and attitudes towards it. a group of issues are raised throughout the tutorial year that square measure solved with the developed mathematical techniques, and thru a survey, the scholars' perceptions concerning the utility of arithmetic to succeed in the goals established within the SDG has been evaluated. The results show that, no matter the student's gender, the student's assessment of the utility of this subject in determination real issues improved. it's been discovered that this teaching methodology has helped to encourage students and even those that don't like this subject have improved their appreciation of it.

The importance of education to realize property development is increasing. In 2005, the last decade of Education for property Development 2005–2014 was signed, and in 2015, the international organization approved Agenda 2030 that embarked on seventeen Goals for property Development (SDGs), with the aims of ending impoverishment, promoting quality education, achieving gender equality and property cities and communities, among different goals. Universities play a key role in moving towards property within the context of education. The establishments ought to lead the property movement by providing acceptable content to students and developing data. during this sense, it's necessary to determine changes in curricula and generate coaching actions that reorganize programs and competences considering property criteria. The aim is to remodel data in education for property development into important general thinking and action.

Materials and Methods:

In order to push the students' skills and perspective towards the study of arithmetic, a group of sensible queries are planned that relate real issues to the contents developed within the arithmetic for economic science subject. to the current finish, once explaining the speculation, the activities meted out to boost the understanding of those ideas involve a number of the goals of the various SDGs

There square measure completely different exercises that may be planned, every of them associated with a distinct SDG in Table given below. during this approach, the student, through the instrumental subject of arithmetic, can have gathered understanding of problems associated with property development and can be able to become alert to things of our planet

SDG	Practices
	Minimizing poverty in sub-Saharan African countries
	Maximizing the number of food deliveries to developing countries by knowing the availability of food banks
	Minimizing child mortality in the Horn of Africa
	Minimizing school dropout
	Maximizing women's labor participation
	Maximizing Km of sewerage
	Minimizing the carbon footprint
	Modeling, through differential equations, of unemployment levels
	Planning investments in renewable energy
	Analyzing of the main inequalities between countries
	Modeling the terrestrial infrastructure network of cities
	Minimizing household food surpluses
	Minimizing the emission of gases into the atmosphere
	Analyzing the disappearance of the seahorse in the Mar Menor of the Region of Murcia.
	Studying the egg population of the loggerhead turtle
	Maximizing internet usage in all African countries
	Minimizing the external debt of developing countries

MOVING HOUSES: A NEED OF TOMORROW

**Er.E.M. Jerin Shibu M.E,
Assistant Professor**



There are mythological stories where it is mentioned that constructed houses were removed, taken somewhere else and thereafter again shifted at the same place. In Ramayana, Hanumanji uprooted the mountain so also the house of Vaidya Sushain. after the treatment, the house was reinstalled at the same place. There are stories of sindbad in which houses were taken on the carpet and reinstalled. It only shows that it was possible to shift some of the houses though instances of flying houses are not available. Flying a house is feasible only if it is supported on mat having less dead weight and live load than the air pressure, if constructed on the theory of balloons.



Moving houses are comparatively easy to construct. In one of the case, an envelope of the floating house was fabricated at the fabrication yard and towed away for about 80 km on the lake, finally anchored. Thus there is a possibility where the envelope of the houses can be fabricated, shown to the customer and towed to the site. The whole structure will require to be anchored to the foundation. In future, if house owner wants to shift it, it can be dismantled and reinstalled at other place. Interiors can be placed as per the requirements through modular parts like kitchen, baths etc. Such structures have a considerable market as it will be possible to erect the house within days that too as per the sample selected by the customer. Such houses may be successful in small places or even in cities where one can afford. Such structures can also be joined easily. In fact if a plate is fixed at the bottom to the structure which can take load of the envelope, it would be easy to shift it, anchor and even dismantle it for re-fixing. Plate will act like a carpet.

BUILDING MATERIAL MADE OUT OF WASTE – NEWSPAPER WOOD

Ms.ArAshika P, M Arch
Assistant Professor

The key to a greener future isn't just finding new and renewable sources of energy and production: we also need to find use for the waste we've already generated. Leaps in technology, and some good old fashioned backyard, are allowing us to create new products with waste as the building blocks to a greener future.

We're making paper from wood but, despite the negative effects of cutting down our natural source of oxygen, we're also left with metric tons of paper waste generated daily. Paper accounts for 25% of our landfill waste, and this waste goes completely untapped. The key concept behind newspaper wood was the idea of discarding the established life-cycle of paper, and up cycling the waste back into wood.

Newspaper wood shows a reversing of a traditional production process; not from wood to paper, but the other way around. When a newspaperwood log is cut, it looks like lines of a wood grain or the rings of a tree and resembles the aesthetic of real wood. The material can be cut, milled and sanded and be treated like any other type of wood.



Newspaperwood does not aim to be a large scale alternative neither to wood nor to use all paper waste into a new material. The main theme in the project is 'up cycling' with which the manufacturers show how a surplus of material can be changed into something more valuable, just by using it in another context.

To up cycle the newspapers into the new wood-like material, the designers (temporarily) take the newspapers out of the already existing and efficient cycle of paper-recycling. They use glue to construct the material which is free of solvents and other plasticizers which would make it more difficult to recycle. The newspaper wood is not designed to replace wood but a new material that can help eliminate trash brought by paper.

BRUTALIST ARCHITECTURE

Ar.T.Josephine Sabeena B.Arch
Assistant Professor

Stylistically, Brutalism probably came from the prominent Modernist architect Le Corbusier and his project for United 'Habitation in 1952. The style was quite quickly embraced by British architects, and it gradually became easily relatable to the capital itself. This was moderately strange, given that Modern architecture came to Britain quite late, and it was then soon sort of “replaced” by Brutalism. Although it was (probably unintentionally) inaugurated by Le Corbusier, Brutalism cannot be fully assimilated with Modernism. Perhaps we could describe it as some kind of an alternation Modern architecture with a livelier character, maybe. Some would even argue that Brutalism comes as a crossover between Modernism and Postmodernism in architecture history.



The church of Saint-Pierre



Geisel Library

Still, the term Brutalism did not come from Le Corbusier. There are several versions of the story that make the truth hard to determine, but none of them involve the first thing that comes to mind. Brutalism has nothing to do with brutality as such, at least it did not intend to. It was either derived from the French term *beton-brut*, which quite appropriately means raw concrete, or adopted from the Swedish architect Hans Asplund who used the term *New Brutalism*. Concrete is used in Brutalist architecture because it is a simple, pliable material which responds to the genuine architectural expression, but still very clear and remarkable once dry.

ZERO ENERGY BUILDINGS

**Er. Relin Geo.R M.E,
Assistant Professor**

House designing and style choices have a big impact on the energy consumption of the building. the choice of the best kind of the building, its orientation, location, purpose of the realm light-weight openings, management filtration processes cut back the negative heat effects of out of doors climate on the thermal balance of the building. For construction of ZEB on the territory of the engineering school University was chosen a foul location. Constructible surface set during a corner fashioned by 2 adjacent buildings and two- level edifice of mechanics laboratory. attributable to this insolation areas of the longer term building are for the most part reduced. With a read to work out the best orientation of the building to maximise the likelihood of mistreatment daily insolation of the designed object and thereby reducing the value of lighting in daytime operation, within the amount from first December 2013 to thirty first January 2014 resolve the extent of illumination of the realm in situ of the planned construction on eight bearing angles. It clad that the most facades' illumination of daylight are ascertained once the orientation of the facades focuses on building of the laboratory. With this in mind we tend to chosen following the subject thought, whereby the most space of clear structures was adjusted to the direction of facades' most illumination. On the second floor within the space of most facades' illumination, was fashioned main space. The second floor is AN open house space with smart viewing house of the primary floor to any management instrumentation set here. This occupancy of premises is achieved by mistreatment of "sky light".

Fig. The subject thought of the building with low energy consumption.



Fig. The architectural concept of the building with low energy consumption

‘ARCHITECTURAL TERRACOTTA JALI’

Ar.R.Reya, M.Pl
Assistant Professor

The term 'Terracotta Jali' define a baked latticed tile made of clay, it is one of the oldest ornamental building materials rarely seen in the compound wall, vents and as screening purpose. The recent innovation adapted in terracotta jali tile had made the material more sturdy, aesthetically pleasing, and easier for construction. This made the material come back as the most popular trending screening material especially in Kerala Architecture. Now, this material is adaptable to be used in the exterior wall, facade design, interior partition wall, and courtyard as a semi-covered roofing material, railing, etc as a replacement to metalwork and cement work for screening purposes. These prefabricated materials are made in different patterns and give exposed clay finish with both dark shade and light shade available in the market and also be painted to any preferable color of choice.



Fig: Application of Terracotta jali in building

The cost of material seems quite high (80 to 150 rupee per piece) than other clay products, but as the material gives a fine finish it eliminates the need for plastering and painting. The material is easy to install as each piece (21cm x 21cm x 10mm) is stacked together with the help of adhesive or grouting. This material has much Architectural value as it helps to protect the space from the harshness of the sun when it is placed in west and south wall, it helps in the play of light and shade in the interior space, the material gives a cooling effect to the interior and helps to filter light as well as airflow.

Aadi Perukku

Ar.Ajila Shiny R S, M.Arch
Assistant Professor

“Water is life”.

Water bodies are the main source of any settlement/ civilization to happen. In India, water bodies embrace special connectivity and emotional value as it is generally considered as a holy element of nature. Since they serve the basic purpose for any livelihood to prolong; all major rivers in India are set with the female name and are usually worshipped as the goddess of their state/city. Aadi perukku is a colorful festival celebrated by the people in Tamilnadu. Otherwise called padhinettam murukku, it is a unique occasion dedicated to all the perennial river basins of Tamil Nadu and major lakes water source."padinettam perukku" - padinettu signifies eighteen, and perukku denotes rising.

To honor nature, the adiperukku, as a water-ritual, is celebrated by women. For cultivation and irrigation, during the aadi perukku, the water is then released to benefit the farmers. During the Festival people throng the dam and its surroundings to offer pujas (prayers) to Cauvery, the Mother.

Few types of grains are kept ready in the germinated form in clay pots, before the actual day of celebrations. On the day of aadi perukku, everybody proceeds to the banks of the water bodies carrying things for poojas and offerings, later in the evening. The offering includes an earring made of palm leaf called kaadholai, a chain with black beads called karugamani and a sweet called kaapparisi made of rice and jaggery, and the germinated grains called mulaipari. The festival gets more vibrant with the young women performing the dance called kummi, an ancient art form of Tamil culture. It is believed that the ritual is carried out to request the village goddess for rain and fertility of the land to secure a rich harvest. This tradition helps to test the seeds before sowing and was further extended to happen during festive seasons too.

Every single ritual in the Tamil culture has its significance since ancient times. Childbirth, Agricultural importance, Kuzhu being distributed during aadi, use of Neem, The Aadi sale, Lack of money. All of these are interconnected with our life with our and have a purpose which is to be followed during the month of Aadi (month of July).

CALCULUS IN REAL LIFE

Ms.R.Maria Anushiya M.Sc
Assistant Professor

Calculus is that the language of engineers, scientist, and economists. Calculus is a branch of mathematics that helps United States perceive changes between values that are connected by operate. Differential calculus is used to find the rate of change of a variable - compared to a different variable. Integral calculus is the method of calculative the area underneath a graph of a function. Conjointly it is utilized in medicine to measure the blood flow, cardiac output, tumor growth and determination of population biology among several alternative applications in both biology and medicine.

General uses of Calculus:

- An integral can be used to calculate the total drug concentration within the blood by integrating an equation for blood plasma concentration versus time.
- Statisticians use calculus to evaluate survey data to assist develops business plans for various corporations. As a result of a survey involves many various queries with a variety of attainable answers, calculus permits a further correct prediction for the appropriate action.
- Credit card companies use calculus to set the minimum payment due on credit card statements at the precise time the statement is processed by considering multiple variables like ever - dynamic interest rates and a unsteady obtainable balance.
- Calculus additionally utilized in conniving soil structure and sorting out the bearing capability and strength of specific soil compositions.

URBANIZATION IN COLONIAL INDIA

Ar.GnanaShini G, B.Arch
Tutor

Urbanization has always been a vital issue for India's evolution. Through the ages the cities have developed and laid a crucial impact on the country's growth and development. The growth and development of the cities started in ancient and medieval age but it got momentum during the colonial period in India. Historians have opined that the growth and development of the cities of India have occurred in different ways during different ages. In the late 19th century Britain became the most urbanized nation. After they began to rule India; city, Mumbai and Madras became leading body, business and industrial cities. In 1911, the capital of British India was shifted to Delhi and it became a modern commercial and administrative area. Several hill stations like Darjeeling, Dehradun, Nainital, Simla, Kurseong, Kalimpong etc. developed during the colonial rule. Besides industry, port city, railway station, court town etc. are also the product of colonized India.

Even since 2500 B.C., urban places have played an important role in the evolution of India's culture, economic and social life. The human being formed the group, state for happiness, prosperous human life or society. With the same process, not suddenly, but gradually one by one the city have got this modern shape with some optimum environment through the ancient and medieval age. The favorable atmosphere of the growth and development of the city, which helped, these are follows- growth of population, suitable natural environment and geographical position, well communication, favourable trade and commerce place, growth of industry, religious places. The cause of security, political and administrative cause, land lord and land less labour class and famine etc. It is true that the growth and development of the city started in ancient and medieval age but absolutely developed in the colonial period in India.

Though the growth and development of city were started from ancient and medieval age but mostly developed in Colonial period. In the late 19th century, Britain had become the most highly urbanized nation of the world. European migrants were dominant as for example in the U.S.A., Australia, Asia, Africa there was tendency for cities to develop the Britisher had newly come in India, established the new empire as they new man so they had new demand in India. Therefore they accepted an extraordinary manoeuver to build up the city. There were many type city would be buildup by the patronage of Britisher in the colonial period like Hill Town, Railway Station Town, Court Town, Industrial Commercial Town, Cantonment Town, Port Town and Administrative or Presidency Town etc.

A BETTER WAY OF LEARNING ARCHITECTURE

Ar. Ajin Bosco M. Arch
Assistant Professor

What is knowledge? Where do you find it? Often it is said that knowledge exists in books, libraries, in the words of professors, prominent persons, on the internet, and so forth. But that is not completely true. They are all just information. It doesn't become knowledge until it encounters a subject.

There is a trend of fascination with confusing information from knowledge. Knowledge is experiential. The younger generation sometimes feels that they can access information because of the internet and that is enough. Instead, Knowledge must be experienced in order to be something other than dry facts.

All these sources cannot replace the other things we have developed as architects throughout our evolution as a profession and I think architecture is the design of the synthesis between all issues. We have to think about geography, economics, engineering, humanities, sociology, human behavior & psychology. We should know how to put it all together i.e., we need to "understand the process of life" in the best way to be a good designer. That comes only when you "expose yourself to life".

When you visit architecture you have to inhabit the space on a real scale with your body and have an experience of it and the integration of all the things. Not sticking only to have an intellectual experience. In our childhood we always used to be curious about the space around us; we were sensitive to the environment; we always observe things around us. But most of us have lost those curious eyes when we grow up.

Space itself is a language. "We should open out our senses to understand that language". That is the best way to learn architecture. We are exposed to architecture all the time – when we hang out with our friends, when we walk along the streets, when we go shopping, when we go to a church, temple or mosque, educational institution, or wherever we go we could find architecture. We cannot separate ourselves from architecture.

Architecture is a part of our life. And that life (knowledge) is everywhere. So, you could learn and teach yourself a lot about the built environment showing interest. It's all about the investment in yourself. I wish you all to make the most out of it while having fun.

All said, finally I would like to convey one more important aspect. It's about the construction Industry. The process of procuring and delivering buildings has been changed enormously. There is a growing trend that people employ a project manager or a contractor first before hiring an architect. Architects are often seen as expensive and out-of-touch realities. So it is better to educate yourself about the business side of architecture. We need to equip ourselves with skills to be more entrepreneurial, to be adaptable for the challenge of this current economic climate and changing profession.

It is important for the students to get involved with the practicing architects and work alongside them. You don't need to wait until the final year for undergoing an internship. Whenever you get a semester break or long holiday make use of those time in an effective way.



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