The role of sustainable to product stable architecture thought in times of crisis

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Abstract. The research aims to employ the principles of sustainability as a knowledge of its scientific origin and from the thought of the principles of architecture science as an independent one where the basic thought is transmitted. Through the theory of nothingness that arises as a result of the crisis to produce an architecture thought that meets the need and meets the human desire in a time of crisis, it presents a contemporary intellectual path derived from trying to understand the components and contents of planning and architectural formations in a new way that follows the principles of sustainability to achieve social distancing and protect people. Accordingly, the research problem was (Architectural thought moves towards the human need as a result of the crisis that is generated from nothing, to represent a crisis in building a stable intellectual model that moves to a sustainable architectural form through the principles of sustainability. The results indicate the importance of adopting new methods in sustainable design to achieve an architecture that protects humans from the epidemic by adopting sustainable materials and employing climatic conditions in the design of buildings.

1. Introduction
The existing conflict between the crisis and the human being created a kind of exclusion from practicing life freely and the abolition of the other, so the opponent (man) became limited in movement and influence, and thus today's architecture did not interact with the crisis within a time and place of various circumstances as a result of the jump that occurred quickly from closeness and social interaction to separation and forced isolation. It leads to the approach of supporting freedom of action, employing reason, science, transportation, and encouraging cultural and civilizational cross-fertilization, because the opponent is one and may lead to a building bearing the characteristic of temporal and spatial generalities. To produce an architecture out of nothingness that moves the product towards human need and achieves social sustainability and produces a building that has a great ability to mitigate the trauma resulting from the crisis And redefining the architecture of the future, so, by observing the designs that the architect creates and develops, the world can look at sustainable design alternatives that may provide a better life beyond the crisis according to a dimension that links the formation in architecture with its management to achieve conditional stability. The borrowing of sustainable forms and spaces revives the human concept that has become missing in the design of the current architecture that did not fulfil the human need and did not interact with the event.

2. The research goals
The architecture of the stable is related to the idea of post-crisis architecture that it carries the dimensions of architecture as a thought to search for human need and represents the turning point and linkage of the philosophy of living and safe use that represents utilitarianism and the fight against isolation by transforming the knowledge of stability and sustainability into the science of architectural production.

The aim of the research is to study and extrapolate the role of nihilism in architectural production in times of crisis to reach a reading of sustainable products in future architecture.
3. Knowledge Framework for Research:
The axis discusses the crisis of epidemic-thought architecture, architectural output through three main areas, namely: sustainability, Null Theory and product thought architecture. The research aims to read selected contemporary projects to devise the theory of stable architecture that stems from the extrapolation of sustainability variables in times of crisis and epidemic, as it fulfils the need and meets the human desire in architecture in times of crisis and epidemic, and provides a sustainable contemporary intellectual path.

The research is based on a descriptive and analytical approach to the reality of the current architecture, its specific solutions, its position on crises, and how it interacts with events.

4. Null theory
Out of nothing, a new architecture emerges and the architecture’s response. The cognitive non-cognitive impedes the suspicion of all current knowledge, such as architecture, as being incorrect and not meeting the immediate need and does not interact with variables or is not verifiable. The null theory is ethical in and of itself. Man is created and has limited capabilities and he must trust his existence, so the goal of nihilism is To abolishing the artificial breaks between science and knowledge to produce a new architecture that starts from nothing and emerges to take into account and meet the needs of the crisis, because human knowledge is not separated in the face of fate, and if the path of knowledge and knowledge differs, the goal remains one, which is to walk towards the human need. The null theory is the other side of existence, that is, the emergence of a new architecture out of nothingness, which will be the other face of the current and previous architecture. Null is not a belief in nothing but doubts accompanied by an increase in awareness of the perception of what does not exist that arose as a result of the disaster that came from nothingness. From nothing human life into nothingness.

The null theory does not believe in the existence of essential meaning in the universe, so the idea of architecture emerges from nothing to be a subject of doubt that leads to a product with relative certainty in the time of crisis.

![Figure 1. Null theory & sustainability](image-url)
5. **Sustainability**

If we are going to design a sustainable world - responsible for providing needs for all future generations and all living creatures - we have to distinguish that our current forms of agriculture, architecture, engineering and technology are all completely wrong and in order to create a sustainable world we have to transform these applications and we have to focus our attention on the design product Buildings, open spaces, with a rich detailed understanding of ecology. Sustainability needs to be firmly grounded in the organizing details of the regulatory policies and announcements that take their place (1).

6. **Principles of sustainable design in times of crisis**

Needs, Preferences, Culture, Population, Politics, Equity, Quality of Life.

The first principle (the solution grows from the place): ecological design begins with a deep knowledge of a specific place and as such, it is a small and direct scale responsible for both local conditions and the local population. If we are sensitive to the place, we can inhabit without destroying it!

The second principle (learning design): monitoring the environmental impact of the existing or proposed designs, using this information to determine the design capabilities that appear to be more ecological.

The third principle (design with nature) by working with the processes of living, we respect the needs of all species when they converge with those that belong to us, and by addressing the process that arises from those that wear out and carry out and thus we are more life.

The fourth principle (all are determined): Listening to every voice, everyone participates and designs and the distinctive knowledge that each person provides must be honoured. We as human beings work together to treat places and thus we treat ourselves as well.

The Fifth Principle (Making Nature as a Phenomenon): The unnatural environment ignores our needs and capabilities for learning, and from that, making the natural life cycle and processes. (6).

7. **Stability, events and architecture response**

The event here represents an intellectual or physical event that takes place in a time that affects what comes after it and requires a reaction towards it. Thus, events in the context follow without stopping in all their types and require a reaction to them. Each event has its own cause, duration of influence, method of spread, and extent of effects, which depend on how the context deals with that event. The event has an impact that does not show its effect until after a long time, and some of its effects are greater, such as throwing the pilgrim with water, as the circle of its influence increases little by little. Some events have been repeated hundreds of times without having any effects in the way of building civilization, while a single event was to establish the beginning of a basic stage in the ladder of civilization, such as the event of the discovery of agriculture or electricity, for example. Appearing in a definite place and at a specific time, as a result of the need to solve a problem, and as a result, it becomes an association with the initial patterns of architecture. (4).

As for the emerging events, they help to produce new patterns that serve the new needs, as well as give a general perception of his or her form. The pattern helps to give a perception of the authority as well as a functional solution by relying on the renewable job patterns by their nature.

So, it varies according to the direction of its issuance, and several different attitudes may converge towards one event, and several similar attitudes towards the same event may differ. In the case of major events such as emergencies and disasters, the response requires that the event interacts with that community, either that its effects appear in the context directly or that they appear to be still opposed to it. As an example of the concept of response, what Ibn Khaldun did in proposing his theory on urbanism, the intellectual context and social concepts in his time represented a challenge to the thinkers of that era. Ibn Khaldun’s response to reading and correcting the context of his time has turned into a theory of urban and social action, a new theory in which concepts are fused to turn into an effective vision throughout history. [3].
The future outlook of cities focuses on the ecosystems related to all cosmic systems, of which architecture is a part, and the method of human adaptation to its environment to create a new environment that achieves comfort without affecting the cosmic ecosystem.

Emphasis on giving future cities the foundations for the continuation of humanity in accordance with its environment and the adopted principles. [9].

8. The stages of crisis architecture:
   - The emergency phase: It is the phase in which the victims create their own accommodations or provide them with emergency shelters.
   - The interim phase: It should start in the shortest period after the disaster and the emergency phase, and the process continues until the permanent shelter is completed. At this stage, the shelter is resolved by the temporary dwellings. The length of time for the rehabilitation phase is a result of providing permanent shelter and is not determined in advance. In some cases of delay in the reconstruction phase, the temporary phase can last up to 30 years. In these cases, the temporary shelter performs temporary tasks related to the method of use and period.
   - The permanent phase: it develops or rebuilds the disaster-stricken area and aims to provide adequate permanent shelter for the victims in a short period.

With the process of making buildings in their time and place associated with a circumstance, through which it is possible to create some sense of ownership for distressed and displaced people, and when difficult and sometimes catastrophic circumstances occur, the human needs represent the main motives for the emergence of any phenomenon, represented here by adaptation to the emergency situation. Here, human needs go further than the needs of life, as the phenomenon represents the state of interaction between the subject and the object, and that interaction takes place in a specific place and time because the feeling and experience that are generated by the self and their interaction with the subject generate the cognitive activity that is changing and its changes indicate time to be resolved in a place that reflects That interaction and change to represent the place where the changes in the state of the relationship between the subject and the object place.

9. Social is distancing in schools
   Far from the obligation to wear medical face masks, some schools have installed plastic boxes with aluminium poles above the regular student seats to maintain social distancing and at the same time

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**Figure 2.** Null theory as translation (researchers)
maintain students' comfort while sitting, and have installed handwashing basins to require students to wash hands continuously. [11].

10. Case study
Two projects were selected to conduct the practical study of the research: the Chile project and Huoshenshan Hospital, Wuhan, China

10.1. A subsection
Chile project: Chile was hit in 2010 by an earthquake measuring 8.8 on the Richter scale and to a tsunami in the Constitution point in southern Chile, and it was necessary for a quick solution to rebuild the city to design everything, public buildings, squares, common spaces and housing, in addition to finding a way to protect the city from the future tsunami of course. There are two alternatives looming on the horizon, the first is to prevent construction on the ground directly, but that solution would not succeed because Chileans will occupy the land illegally if they are not allowed to build by legal means, and the second solution is to build a large wall that has great resistance to counteract the wave energy and the alternative was to create a "forest." It separates the sea from the city, so that, by means of the friction factor, it reduces the tsunami energy, which causes it to break the water waves and also prevent floods.

10.2. A sub subsection
Huoshenshan Hospital, Wuhan, China: After the outbreak of Corona disease in the Chinese city of Wuhan, local officials decided to build a hospital as soon as possible to face the acute shortage in providing medical services to be a model for facing the crisis. The hospital was built on an area of 269 thousand square feet and can accommodate a thousand beds within eight days only. Before, it is the design of the construction of the "Xiaotangshan" hospital, which was built in a suburb of Beijing within one week during the SARS outbreak in 2003.

The other thing is that the Chinese use pre-fabricated building units, fully manufactured rooms in factories, and are only transported to the construction site. [10].
A descriptive analysis was conducted on the selected projects, namely Chile project and Huoshenshan Hospital, Wuhan, China, and measured the extent to which indicators of the social dimension of sustainability were applied and their impact on producing a stable architecture idea that results from nothingness due to the epidemic crisis and the emergency event and the extent to which this thought meets human need and flexibility. To resist sudden conditions and interact with change by measuring green spaces and the percentage of oxygen, using modern materials that prevent the gathering of viruses, designing public and private spaces in a way that achieves social distancing and prevents friction. Virus-free.

Table 1: case study

| No. | paragraph             | Chile project | The level of achieving | Huoshenshan Hospital | The level of achieving |
|-----|-----------------------|---------------|------------------------|-----------------------|------------------------|
| 1   | Role of architect     | yes           | good                   | yes                   | good                   |
| 2   | Sustainable materials | yes           | Very good              | yes                   | Very good              |
| 3   | Scale                 | yes           | good                   | yes                   | mid                    |
| 4   | Social spacing        | yes           | good                   | yes                   | mid                    |
| 5   | Air purity            | yes           | Very good              | yes                   | mid                    |
| 6   | Social distance       | yes           | mid                    | yes                   | good                   |
| 7   | Direction             | yes           | Very good              | yes                   | mid                    |
| 8   | Contact surfaces      | no            | no                     | yes                   | mid                    |

11. Conclusions

11.1. General conclusion
The practical study indicates varying percentages in achieving the principles of sustainability that affect the fight against epidemics and crisis in architecture building and reduce their impact. The percentage of the role of the architect in Chile project and Huoshenshan Hospital was good and for the use of sustainable materials, the percentage of the Chile project was very good and Huoshenshan Hospital very good as for the human scale, the percentage of the Chile project was good and Huoshenshan Hospital mid. As for social distancing, the percentage of the Chile project was mid and Huoshenshan Hospital best. As for air purity, the percentage of the Chile project was very good and Huoshenshan Hospital mid. As for the use of Social spacing, the percentage of the Chile project was good and Huoshenshan Hospital mid. As for the directive with climatic conditions, the percentage of the Chile project was very good and Huoshenshan Hospital mid. As for contact with parts of the buildings, it was not achieved in the Chile project but was mid in Huoshenshan Hospital.

11.2. Special conclusions
1- Architecture has a great capacity to mitigate the trauma resulting from crises such as demonstrations, and to redefine the architecture and outcomes of architecture, which has always been a means of "life." So, the world can look at design alternatives that might provide a better life for humans.
2- When you give the architectural designer a role in solving the problems that society suffers from after crises, it will lead to the emergence of an innovative architecture that meets the human need and protects it from disasters or reduces risks.
3- Designing streets, addressing mixing, and not depriving the recipient of the fun of public space
4- Designing various recreational and other buildings to be suitable to provide a safe environment from the epidemic and prevent isolation at the same time
5- The architectural space that is compatible with the idea of the epidemic and the crisis in terms of spacing and protection, and even at the level of spaces to prevent pollution and transmission of infection.
6-Building a different product in judging its variables, where it is verified that the principle is present in the architectural product and movement in it, and to which it is in the estimation of reaching the goal. The shelter in which the person achieves its goal.

7- The protection of architecture is linked to the concept of upgrading, in which the old contradictions that have reached the boiling point are overcome, leading to a self-movement that produces a rapid qualitative transformation that predicts a catastrophe as the leap only takes place by violating the historical limitations of the thought of architecture.

8- The foundations of the emergent of emergency architecture are represented by the presence of motives (needs) and their interpretation, that is, by returning them to the causes of their emergence and then adopting the human physical and mental capabilities. And the event of the event represents this architecture within its own system at a specific time and place.

12. Recommendations.
1- Responding to each emergency, and this requires studying its dimensions and determinants to create new transformations in architecture that are a result of the emerging need and be able to simulate the original patterns.

2- The time limit which is the main difference of the temporary and stable concepts should be understood.

3- Each event has its own cause, duration of influence, method of spread, and range of effects, which depend on the way the context deals with that event, so the effect of the epidemiological event on the behaviour of architecture can be studied.

4- making materials technology to produce building materials that prevent virus transmission.

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