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Form Follows Function: A Statement Taken too far

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Abstract: ***This research article examines the study of the philosophy behind the statement "Form Follows Function", its relation to modernist architecture and its interpretation in contemporary architecture. It explains the basic principles of this philosophy, which began with the work of Louis Sullivan and how this statement actually came into existence. It defines the basic terms and vocabulary of this philosophy. It identifies the concepts of this philosophy that were transferred to architecture and became the basis of modernist architectural style. Modernist projects and buildings are very functional and lack any kind of ornamentation. The "transfer" of the concepts of form follow function to architecture was very direct and literal, this is the reason why it isn't suitable for the contemporary world. Moreover, the time when this statement was given was the time when world war one had just taken place and a fast and low funded restoration of infrastructure was needed. There is not any such kind of need in the contemporary world. The technology has advanced to such an extent that the functions can be fit into even the strangest forms which us to experiment. enables The focus is now more on the forms and the aesthetics which has been highly employed in the deconstructivist style. The new concept of adaptive reuse cannot be employed in the modernist architecture which is a big disadvantage.***

Keywords: form, function, modernism, post modernism

I. INTRODUCTION

It identifies the modernist concepts that were transferred to architecture and became the basis of this statement. The research also explains how these concepts were reflected in the architectural styles of many iconic architects of modern era. Finally, it discusses its shortcomings in the contemporary world.

The statement "Form ever follows function" was first coined by Louis Henry Sullivan , the father of skyscrapers and patriarch of modernism. This statement first appeared in an essay written by Sullivan himself titled "The Tall Office Building Artistically Considered". In his essay he described how an ideal skyscraper should be designed. He emphasized that the floors in a skyscraper should be divided according to the function rather than uniformly sub dividing it to create a uniform spatial layout on all the floors.

This statement was given during the time of Modernism when the first world war had just taken place. At that time the economy, the amount of material everything had gone down tremendously. So the need of the hour was to restore the infrastructure with the minimum use of materials and money. This was the time when the statement form follows function became the major triggering force for all the designers. Their focus was to make buildings in such a way that the function was satisfied without working on its form and the outer appearance. The sole motto was to restore the infrastructure with minimum capital and time. Also at that time the article titled "Ornament and Crime" by Adolf Loos had been published and had made its impact in the society. So the buildings were stripped down of ornamentation and the exterior decorative features were omitted. This concept helped a lot to restore the infrastructure and the economy at that time.]

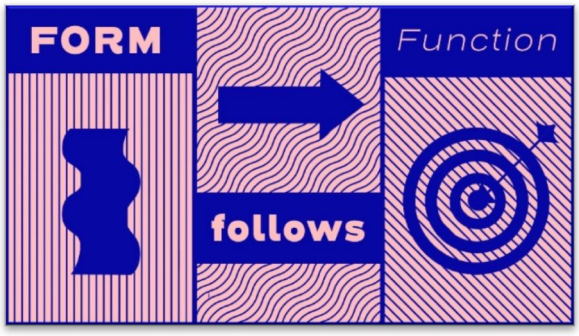


Figure 1 Form follows function (Source: https://digitalbeauty.com/graphic-design-is-different-than-art/)

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II. LITERATURE REVIEW

A. *Falling Waters*

If we discuss the works of Frank LLoyd Wright, one of the modernist architects, then we can find that although he applied this statement in his works but the way he did it is something to be analysed. Falling waters, one of his most famous project was designed on the principles of modernism. It was devoid of any ornamentation and the solids employed were mostly cubes. But the way it responds to its surrounding is extraordinary. The colours that he has employed in the facades, they are all earthy colours hues and tones found in nature. The way the building mixes up with the surroundings is extra ordinary. It looks like it has grown out of the nature itself.

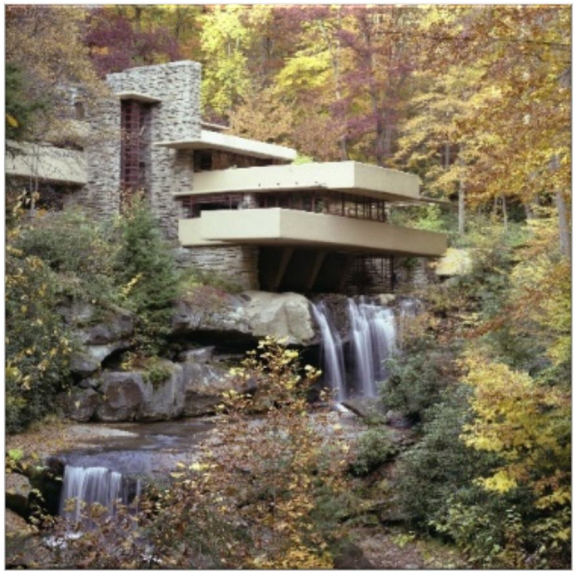


Figure 2 Falling Waters (Source: https://www.dezeen.com/2017/06/07/fallingwater-frank-lloyd-wright-pennsylvania-house-usa-150th-birthday/)

B. *Piazza*

Peter Zumtherberg, in one of his famous book titled “Thinking Architecture” said that our building should be made such that it starts to define the surroundings rather than the surroundings defining it. The piazzas of country like Venice have gained their popularity because of the building located in it. Most of the piazzas over there have buildings made during the era of Baroque. Baroque architecture was something which was extensively knows for its aesthetics. The way they designed their facades – adopting curvilinear forms, the intricate details they made in each and every corner of façade was something that became the reason for its success.



Figure 3 Venice Piazza (Source: https://maxianeirah.home.blog/2018/09/29/grand-venice-canal/)

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C. Villa Savoye

Le Corbusier, the other famous modernist architect has also applied this statement in his works. Villa Savoye one of the famous residence designed by him is based on this principle. The way it has been planned, the vertical and the horizontal transitions have been planned very well. Each window is placed in such a way that it gives you the framed view he intends to give to the user. The white colour facades lends it the elegance.



Figure 4 Villa Savoye (Source: https://www.khanacademy.org/humanities/ap-art-history/later-europe-and-americas/modernity-ap/a/corbusier-savoye)

III. BIRTH OF THE PHRASE FORM FOLLOW FUNCTION

In the twentieth century, the notion of form following function was connected with modernist architecture and industrial design. The notion is that a building's or object's shape should be determined primarily by its intended function or purpose (Penelope, 2020).

After the 1930s, Louis Sullivan's statement "form (always) follows function" became a rallying cry for Modernist architects. The credo was interpreted to mean that decorative elements, sometimes known as "ornament," were unnecessary in modern structures. Sullivan, on the other hand, did not think or create along such rigid lines during the height of his career. While his buildings' main masses could be spare and crisp, he frequently punctuated their plain surfaces with explosions of lush Art Nouveau and Celtic Revival decorations, usually cast in iron or terra cotta and ranging from organic forms like vines and ivy to more geometric designs and interlace, all inspired by his Irish design heritage. The writhing green ironwork that adorns the entry canopies of the Carson, Pirie, Scott and Company Building on South State Street in Chicago is probably the most famous example. These ornaments, which were frequently produced by Sullivan's skilled younger draughtsmen, would later become his trademark; to architecture students, they are his instantly identifiable signature (Form Follows Function, 2014).

In late 19th century Chicago, Sullivan created the shape of the tall steel skyscraper at a time when technology, taste, and economic factors combined, forcing the abandonment of previous styles. If the building's shape wasn't going to be determined by an old pattern book, something had to, and according to Sullivan, that something was going to be the building's purpose. It was a case of "form follows function" rather than "form follows precedent." Perhaps since shaking off the old forms afforded them more flexibility and latitude, Sullivan's assistant Frank Lloyd Wright adopted and espoused the same philosophy in a slightly different form (Form Follows Function, 2014).

IV. MISINTERPRETATION OF THE STATEMENT

This aphorism was suddenly raised to a purported principle or even a universal law of design by modern theorists, far outside the sphere of the design of ‘the towering office building.' This gang of theorists has gone to town with a slew of unsubstantiated hyperbole that haphazardly attempts to validate the significance of this rule in the design world. In order to maximise the alliterative power of their new dictum, they've also removed the word "ever" from Sullivan's original sentence, making it "form follows function." Since then, this nonsensical string of words has become a favourite dogma of design maestros and neophytes alike, as well as a rumoured rallying cry for global design zeitgeists. At this time, it's unclear whether Sullivan was still referring to the law in the context of the spatial subdivision of the high-rise building or to the entire realm of design (Agbo, 2014).

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We could have easily determined that Sullivan had been misquoted and moved on, but Sullivan had already laid the foundation for the current misunderstanding when he attempted to emphasise this dictum by declaring, "This is the law." So, shall we, through our art, break this law on a daily basis?" He did not, however, specify which statute he was referring to. Even if Sullivan's allusions were pulled from a legitimate legislation, it is clearly wrong on multiple levels; at the very least, current design has repeatedly destroyed the reasoning for such a regulation in practise over the years. Because his assumptions were not substantiated by any known or proved reasoning, not even his allusion to nature and its forms renders it trustworthy. Unfortunately, while they basked in an imagined revelation moment for design, current theorists have gone to town with the new 'law,' as apparently propounded by Sullivan. The real tragedy here is that this dictum has already been unquestionably accepted by the universal design community, and is likely one of the first dictums that greet thousands of freshmen to design schools around the world each school year; yet it is one that isn't backed up by any empirical or scientific deductions, aside from a bunch of rhetoric and misplaced analogies. The significance of this is that this group of young designers will spend the rest of their careers attempting to find out how to apply this law in real-world design practise, sifting through all of the language and analogies thrown at them in order to make sense of it (Agbo, 2014).

Form follows function is frequently misinterpreted as a promise of ultimate form - a heavenly treasure hidden behind all the design clutter. If you follow the function, you can discover an object's ultimate form. Of course, this is paradise. A function does not have any inherent perfect forms. The function, on the other hand, establishes a set of conditions for the form — a framework in which the form must exist. This does not imply that the function is responsible for the actual form generation.

This statement should have been limited to the era of Modernism as it was the need of hour at that time. It shouldn't have been carried forward to the present era. There is no need of such statement in the contemporary world. This statement has limited the scope of the designers merely to the fulfillment of basic functionality of the building. It has kind of become one of the quotes of Bible for the architects.

V. FUNCTION CAN ONLY EXIST IF FORM EXISTS

The premise that function must come before form is a rejection of reality, and the conceit that an object's form is frequently decided long after its function has been assigned is a terrible canard. How can form follow something that doesn't exist yet? Function can only exist within a form since it cannot exist in a vacuum; it requires space (form) to exist. Even if a function takes place in an open space, the activities that take place there must be contained within specific boundaries, because these activities cannot fill space indefinitely, because limitless space will never be available at any given time. As a result, the shape that houses the function becomes this'restricted space.' But, if we are so enamoured with the rhythmic alliteration of these theorists' phrase "form follows function," and are adamant about not abandoning it, perhaps a more plausible phrase would have been "function follows form," which is at least a lot more reflective of the realities on the ground today (even though I still think we are better off altogether without any of these platitudes) (Agbo, 2014).



Figure 5 Balance between function and form (Source: https://www.dreamstime.com/function-form-balance-pictured-as-scale-words-to-symbolize-desired-harmony-life-d-illustration-image173693896)

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VI. TECHNOLOGICAL ADVANCEMENT

Today's evident truth is that design has progressed to the point where form is the most important factor to consider when selecting a piece of artwork. This is because we have reached a point where functionality is no longer an issue, since we have perfected the mechanics of functionality to the point that we can use those mechanisms to make just about any and every form functional. That is why, today, if a designer creates a device that looks and feels like a car but lacks a functioning automobile engine, he cannot call it a car until it performs as one. This is because the mechanics of functionality in any product must first be thoroughly established before we can assign any labels to it; hence, this contraption must at the very least meet the minimum functional requirements of an automobile in order to be labelled one. Surprisingly, the car's form, like that of most items, is rapidly getting less predictable, to the point where predicting exactly what a car should seem like will become difficult one day. The flexibility of form is demonstrated by the change in form between yesterday's cars and what we have today. Most of the futuristic concept automobiles on display at today's auto shows are strong indications of the shape that tomorrow's cars will take (Agbo, 2014).



Figure 6 Pompidou Centre (Source: https://www.arrivalguides.com/en/Travelguide/PARIS/doandsee/centre-pompidou-88357)

VII. USING FORM AS ORNAMENTATION

On a daily basis, it becomes more apparent that today's design briefs are written in philosophical language rather than verbal specifics, and it is these ideas that sometimes define the form that most structures and goods take. Today, same concepts are reflected in the geometry of contemporary buildings, with a client informing his designer what his vision for his brand or space is, and the designer's final role being to translate that vision into bricks and mortar. His design must become an extension of his client's identity and project a pre-determined image of him. As a result, despite discarding traditional design ornaments, current designers are utilising a new style of ornamentation that is more concerned with a design's overall form than any of its other elements. As a result, it's not unreasonable to argue that these forms have become the new ornaments in their own right. Even though most of these intricate architectural shapes are much more expensive to realise, property owners all over the world are still lusting for them, willing to spend tens or hundreds of millions of dollars to obtain their desired form. These structures' aesthetics are primarily defined by their curvy, tessellated, tapering, or even undulating forms. Even so, there are die-hard modernists who will argue that aesthetics are merely a minor detail, but they can't explain why design consumers all over the world go to great lengths to patronise architects and designers who can create dramatic forms from their project briefs, regardless of how much it costs to construct (Loos, 1998).



Figure 7 Casa Batlo (Source: https://www.pandotrip.com/top-10-great-pieces-of-ornamental-architecture-22297/)

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VIII. FORM ENABLES ADAPTIVE REUSE

Our daily lives are becoming more complicated as resources get scarcer and the competition for them becomes fiercer. As a result, the world completely relies on the imagination of designers to readapt needed functionalities to any given location (form). No designed shape today is confined to a clear and precise fate of functionality for the course of its lifetime; its function shifts as other variables shift. Previously, industrial designers created objects in certain streamlined forms to ensure that they could perform their functions appropriately; however, today's designers have discovered other ways to ensure that these functions could still be performed in alternate forms even if the current space is altered, which is why it is now common to see buildings or other products change their function twice. Adaptive reuse has thus become an essential field of design, with current designers demonstrating on a daily basis that virtually any form can be redesigned to perform practically any purpose. There are several case studies that demonstrate how shape can be decided independently of function; all we have to do is look around (Agbo, 2014).

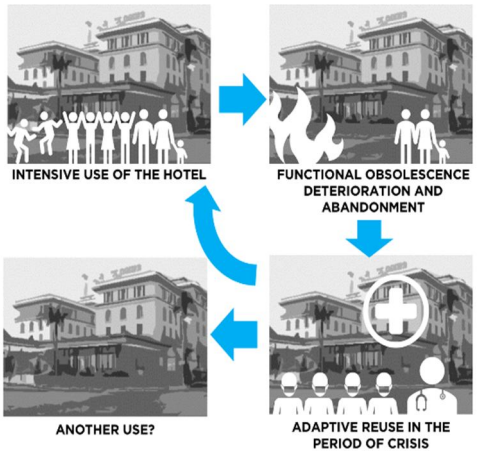


Figure 8 Adaptive Reuse (Source: https://blogs.iadb.org/ciudades-sostenibles/en/adaptive-reuse-historic-practices-during-a-crisis/)

IX. CONCLUSION

We cannot translate idea of the great architects in our architectural works without trying to understand their deeper meanings, philosophy behind them, why these ideas actually came into being and analyzing their need in that scenario. Although the ideas may have been a huge success in the past but they had been successful because they served and solved certain problems which prevailed then. These ideas were formulated according to that specific era and scenario. The demands of the present scenario and its need are different. So these ideas cannot be blindly applied to the present scenario architecture without giving a thought about why they need to be applied now.

The statement form follow function was given during the time of modernism for quick restoration of the infrastructure and thereby the economy. Had the architects at that time dwelled upon the forms of the building first rather than the function of the same, people would have taken a lot more time to recover from the havoc created by the world war. Also the technology and the materials employed in construction were very limited then. Steel had just came into picture and the technology was not so much advanced that the architects could structurally and functionally adapt any form of the building as their scope was very much limited because of the materials and the technology.

The client today wants a unique structure for himself which stands out of the place, can become his identity and depict his status. They are ready even to compromise with the function to a certain extent if they can get beautiful exteriors and forms. It is a natural phenomenon that people are more attracted towards buildings having beautiful forms and adorned with beautiful ornamentation rather than the buildings which only serves the basic functionality. Function is the necessity which has to be fulfilled in any condition but what we do beyond the functionality is what architecture is all about.

We need to derive our own theories according to our present need, which solve our problems rather then still depending on the old theories. We need to understand today’s need and what actually people want today for themselves. Now is the time people talk about concepts like adaptive reuse which can never be applied to modernist buildings because they were made according to function, they were function oriented but these principles can definitely be applied in the contemporary architecture as it is more driven by form.

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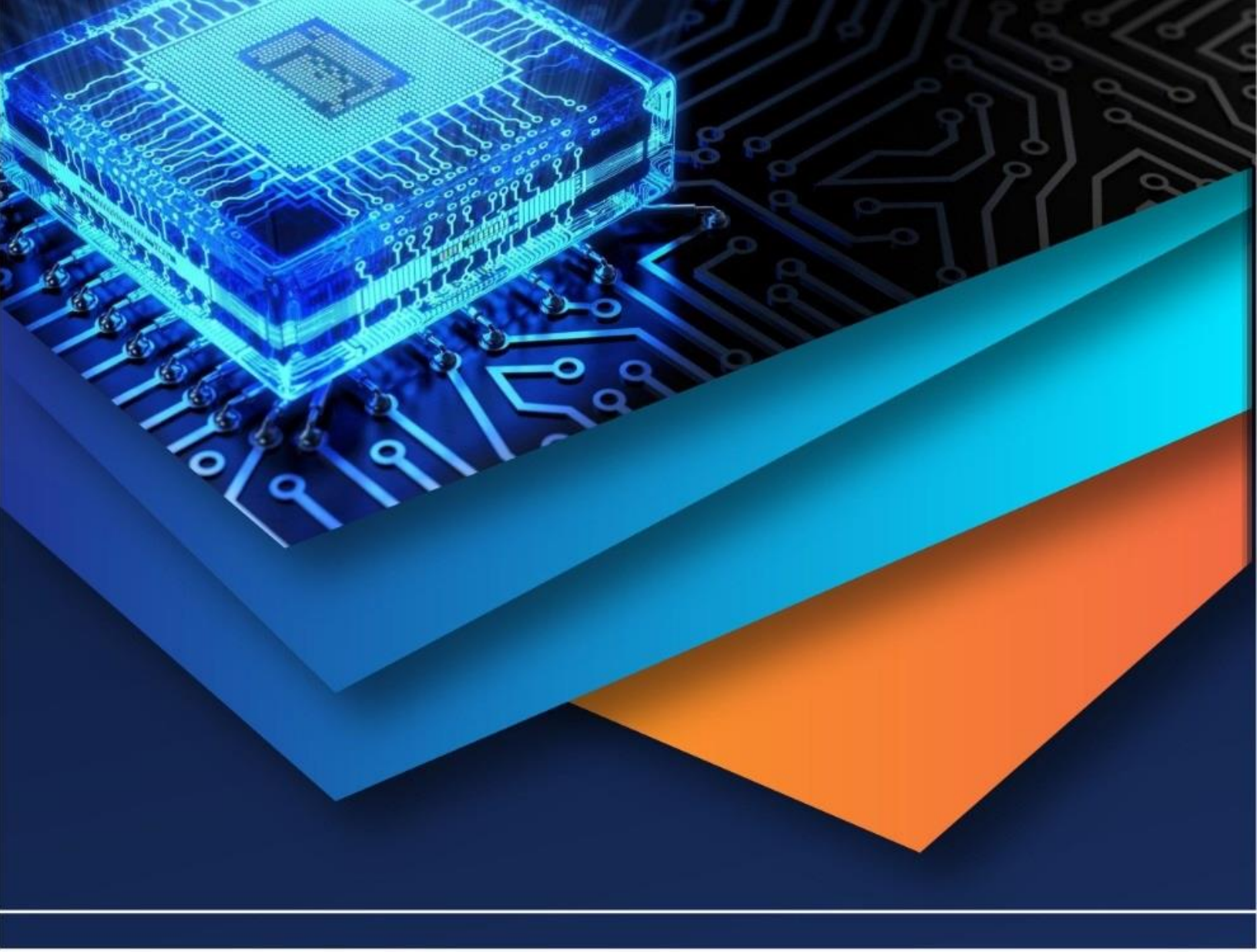
Nowadays we need to design such that our building can trigger emotions in its visitors to attract them. This can never be achieved by following modernist theories and logics. To achieve this we need to see beyond the function and understand about how the built form, different forms evokes different kind of emotions in human beings. Different kind of forms enables us to trigger different emotions. This was not possible during the modernism era.

Architecture is a sociological act that always responds to a certain human need. Architecture is not an end by itself. It is a means that serves a specific purpose. That purpose first needs to be identified. Only then we can work upon the relevant solutions. The purpose to be fulfilled now is very different then the modernism. So the principles of modernism cannot be vaguely applied in the present scenario. They need to be evolved and modifies to suit the present need. So the dictum "Form follows function" is kind of irrelevant in the present scenario and it needs to be reworked upon to fulfill the need of the hour.

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