

THE 'BIG QUESTION' AS A DESIGNER

The meaning of the term “design” is quite subjective and a function of the perspective of actors within the design process who view the philosophy and methods of design quite differently.

We as designers, tend to view things from an artistic perspective. We are responsible for the overall look and feel of a product, service, or environment. We often use our creativity and problem-solving skills to design functional, aesthetically pleasing products. While, engineers, though they are also problem solvers, they use their scientific and mathematical skills to develop solutions to a problem.

Both have to research, plan, and create. Plus, conduct tests and evaluate their work. Designers through aesthetic criteria and engineers through functional criteria.

Also, while designers focus on aesthetics, engineers tend to concentrate on function.

Engineers are taught to use their scientific and mathematical skills to come up with solutions to the problem. Focusing on things like tolerance and process optimization. Their concerns are mainly the physical constraints of a product, associated with component part design and mass production.

Designers care about the symbolic side of products and the meanings that people may obtain from the product. Engineers do not understand that our main goals when designing are aesthetics, symbolism and meaning.

This stimulates us to an idea that we pursue further through the design process.

The design process involves development, through sketching, modelling, and interactive adjustments. That way you are able to find design faults in your product and re-design it.

Design can be described as the tangible action of choosing the form and function of an object, service or environment, and our job as designers is to determine the use and the essence of a product for it to be successfully used and for the users experience to be pleasant and easy to manage.

The most intriguing challenge for designer is that we are constantly dealing with ill-defined problems. Design is full of uncertainties, dependencies, unintended consequences, misunderstandings, implications, positive and negative surprises and so on. We do not talk about ‘function’ we think about ‘goals’, opportunities, flows, activities, user cases, attachment, beauty, understanding, properties, preferences, situation, and choices. We experiment, explore and create variations. We test, asses, and evaluate.

[As Charles Eames quoted: “design is a plan for arranging elements in such a way as best to accomplish a particular purpose”.](#)

For hundreds of years, there was a requirement for products to just work as a way of survival. They were driven from “need” or function, not from form and aesthetics. During those times, people just expected functional and usable products when buying.

“Usability” referring to how easy a product, designed to reach a certain goal or solve a problem, is to use for a user. Thus, usability could be linked with the effectiveness of a product and the possibility of benefiting from it. It relates to simplicity, comfort, and practicality.

Both function and usability, refer to the users experience with the product. A products function specifies what the product is supposed to do. And usability describes the ease with which the user of the product can understand how it work and how to get it to perform. Performance being how well the product does said functions.

Sometimes, products have dominating aesthetics that are not supported by good usability or ergonomics. Like heels. As said before, many products were designed for a need. In this case, shoes were designed as a way to help us walk in a safer and more comfortable way. So why are they now made to look nice and attractive, yet they destroy our feet. This demonstrates how humans can be seduced by aesthetic designs even at the price of their health.

Other times, usability must be the main focus. Like medical equipment.

Though, sometimes designers have to choose between aesthetics and functionality, we design not just following aesthetics but also the necessities we search for, so most of the times, a balance is what is best.

Stripping down products form to their basic elements, by minimizing unnecessary ornaments, shows that the physical form of the product helps fulfil its function. As most modern products have a particular form because their form is generally fixed, which defines a form optimized for its intended function. In other words, the products form is fully linked to the function. Such as spoons or scissors. Though all spoons are not the same, they all share common form features, as they are designed to fulfil the function of carrying and holding food.

Form generally dictates the general aesthetic of a product and function dictates its intended purpose. Functional design as the extent to which products and services perform the way they are supposed to perform. It refers to products specifications, essentially the utilitarian aspects of a products design. Functionality is defined by the factors, benefits, characteristics and features that are combined to provide utility.

if we consider all things that are designed, they all fit into this spectrum where at one end we have form and at the other we have function. All things that are well-designed should ideally fit in the middle part of this spectrum, and there are a lot of things that fit into this spectrum, architecture, furniture, products, tools, etc. Now, those that are designed only taking its function into account, like medical equipment, its form is exactly the way it needs to, to fulfil its specific purpose. The same thing goes for most functional products, for example, a wine opener. This tool has a very specific and unusual form, but the combination off all the mechanical parts of the product allows removing the cork form the wine bottle's neck quite easily. This product is one example of the many products which forms are sympathetic to their function, even if the final product is somewhat strange looking. It sacrifices its appearance to function optimally, because all other attempts to make a better-looking outcome, have not yielded anything more successful than this cork remover. Which means, that even though you might achieve a more cohesive looking product, it is no longer functional.

On the other end of the spectrum, we have things that look pretty but do no function properly. In most cases, with designed products, this is where designers might struggle the most. Sometimes we completely forget about the fact they are supposed to function and end up designing something that looks aesthetically pleasing or beautiful, but it is far from useful.

Every designer has a different designing process they follow. Ideally, from a design standpoint, it makes more sense to move form the function end of the spectrum over towards to middle.

Not the other way round. Hence, you would start out with a raw function and then you can start deciding how it needs to look in order to do what it is meant to do. Then, without compromising its function, you can find ways to make it more visually appealing.

when someone looks at your design, let's say that it is a chair, they can agree that everything presented they are looking at is furniture, so before they even test it, there are a lot of things they discuss. They talk about the materials chosen, they talk about how it was manufactured, they talk about colour and shape. All these things fit into the aesthetic category. The moment they when they use it or sit on it, becomes the matter of function. And that is when you cross the great divide between these two. Whether it is comfortable, usable or it is strong and reliable enough. (YouTube)

the late Louis Sullivan, an American architect, said "form ever follows function" which suggest that there is a methodology for automatically generating form, or the aesthetic design, based on clearly defined function. This expression implies a superiority of 'function' over form. Which is not always the case.

If you take this saying into consideration when designing, there is 2 ways to interpret it. Either any aesthetic factor must always take second place to the functional requirements of the design or any beauty in a design must only result from the "purity" of the function. Soeagraard explains this last one highlighting the beauty of nature, as many species and animals were created with a with a certain form and then has to develop its function from that form. He uses the Giraffe's long neck as an example. They were given a long-necked form therefore their function is to eat leaves from high branches.

the function of an object plays a critical role in processing that object for categorization and naming.

Then, if usability, aesthetic appeal and ergonomics are all secondary, it means that functionality is the only imperative in design.

Donald Norman is an American researcher, professor and author of the well-known book "the design of everyday things".

Norman examined products ergonomics in the context of usage constraint. Which means he supported that products form should limit users' usage to what is right. In his books he cites many examples of how the ergonomic design of numerous products fail to support its functions.

a bad design would be any product that confuses its user, is difficult to use, or functions counterintuitively Such as door handles.

NORMAN DOOR HANDLES.

The Norman door is basically any door that is confusing or difficult to use. If you have to think if you puss or pull, the door fails. You determine if a door is "Norman" as you approach it, and the door makes sense. We know that doors are either open or closed, and we should immediately know from context whether to push, pull, or slide. If you cannot locate a place to push or pull, the door fails. If you try to push or pull and the door slides, the door fails.

Knobs, handles, plates, bars, and rails all give us their own hints at how to use them. A knob is meant to be gripped by a fist and thus affords both pulling and twisting of the wrist. A steering wheel affords gripping and spinning around a central axis. This hints, provided by an object's shape and position, is called affordances

AFFORDANCES:

However, an affordance is not a "property" of an object. It is, in essence, an action possibility in the relation between the user and the object. As Don Norman said, "An affordance is a relationship between the properties of an object and the capabilities of the agent that determine just how the object could possibly be used".

In 1977, James Gibson suggested that "affordance" is not about the products function, but all the possible actions the agent interacting with it can do based on their physical capabilities. He originally described the term as "the actionable properties between the world and an actor (user)"

According to Gibson, based on the perceptible properties of an object, we can determine its uses and analyse how it might help use achieve our aims or objectives.

Items that are poorly designed in terms of not factoring in human cognitive functioning provoke prediction error that lead to inefficient or even erroneous usage with potential dangerous outcomes, or at least to unsatisfactory, non-hedonic or aversive experiences when taking then non-transformative aspects into account.

Affordances in Norman's view are dependent on the perceiver's traits and states, especially their culture and prior knowledge modulate the affordance character of design properties as well as expectations. This also implies that different tasks change the requirements, needs and goals of an action, as do the affordances. When peoples' aims change, the affordances will change as well.

Affordances depending on certain factors such as culture, knowledge, experiences and expectations, but also the potential change of affordances by task-related factors.

Due to this, as designers, we need to understand and appreciate the basics interactions between humans and products if we want to design pleasurable and effective products. We have to pay attention to how users perceive the world and how experience, context, culture, constraints, and other factors affect our ability to detect the possibilities of action can offer.

Our ability to identify affordances in the real world is constrained almost solely by our current drives and motivations, or even our imagination. There are various products that can have more than one affordance, like chairs, stools, tables, etc. for instance, a chair affords sitting on, standing on, throwing, etc. depends on the context or situation.

Later, Norman slightly changed the meaning of the term so it would fit better in the design community. He considered that affordances were just the actions that the user consider possible depending on the user's physical and perceptual capabilities, goals, and past experiences.

“When affordances are taken advantage of, the user knows what to do just by looking; no picture, label, or instruction needed”—Don Norman.

Designers should be able to create products that allows users to identify the effects of their actions instantly and unconsciously. It should be immediately apparent how to interact with a product. Clear affordances are vital to usability. Thus, the better we make our affordance, the more likely you will prevent the user from becoming frustrated.

When you design it is your job to ensure that the object you design fits your target group of people. And the object you design affords your target group of people to use it in a way so they can discover and understand how products work.

If the functions of a product are inadequate, it is of little value, so why do we keep or even have them?

Then, as the surviving became easier, products were not just designed to function but to also meet the emotional needs of people. Now, user's expectations have evolved as the design field developed. Consumers expect usability by default and seek products that are more than functional and usable. They expect products to generate pleasure and evoke positive emotions in us.

Beyond the design of an object, there is a personal component as well, one that no designer or manufacturer can provide. The objects in our lives are more than mere material possessions. We take pride in them because of the meanings they bring into our lives.

Now scientists know how important emotion is to everyday life. Everything we do, everything we think and everything we make is linked with emotion, much of it subconscious. In turn, these emotions have an effect in the way we feel, act and think, and serve as constant guides to appropriate behaviour, guiding us toward the good. As Norman says “sure utility and usability are important, but without fun and pleasure, joy and excitement, and yes anxiety and anger, fear and rage, our lives would be incomplete”

(NORMAN'S TEAPOTS)

The author when he wrote “design of everyday things” he claimed the importance of a product's usability,

which resulted in well-deserved criticisms from many designers. “if I were to follow Norman's prescription, our designs would be all usable—but they would also be ugly”. And we all can agree that, though usable, ugly designs are not necessarily enjoyable to use. So, he decided to write “emotion & design: Attractive things work better”, where he

argued how various design attributes could fulfil different needs, depending on the context of use, the occasion and the mood. He explains this with his personal collection of teapots, where the first symbolises aesthetics, the second functionality, and the third practicality. With this, he shows that attractive designs are not necessarily efficient, but give us pleasure anyhow.

the story of the teapots illustrates several components of product design: usability, or lack thereof, aesthetic, and practicality. He defends that he chooses designs depending on the context, the occasion, and overall, his mood. For him, his teapots were more than just utilitarian objects, they were objects that lighten up his day, and they each had their own story, so they each have a personal meaning.

In the past Norman was against unusable objects, that's when he wrote "the design of everyday things", he then opted for a campaign for beauty. He wrote "Emotion & design: attractive things work better". And lastly, the third represents a fascinating mixture of the functional and the charming.

This is where designers have a debate whether what is more convenient for a design to achieve: usability or attractiveness.

Persuasion is key here. Now, people have the need of being attracted to what they buy. The physical appearance of a design is the main reason of its marketplace success. We are drawn towards pretty designs and love looking at beautiful things. As Norman says in "the impact of persuasion" "we are no longer people, we are consumers, and the consumers job is to consume". They tend to go for products and designs that are more aesthetically pleasing, because they are perceived as having more value and being easier to use, than those that are useful yet ugly. Even if it not the case. In the end, we all judge a book by its cover. The better book covers, the more we believe the content is better. And this type of persuasion has a positive side which could be used to make the consumer feel better the minute they make use of the product.

This phenomenon is called the "halo effect", according to which perceptions of a single trait of a person can affect how we perceive other traits of that said person. The halo effect makes it so that perceptions of one quality lead to biased judgements of other qualities. This can also be applied in design. It is a type of cognitive bias in which the physical appearance of a product or design influences how we feel and think about it.

This is Norman's main thesis in "why we love (or hate) everyday things". He suggests that beautifully design products make people feel good. Thus, form plays such an important role in design. It has an effect on people's emotions, it communicates to them and adds value to the product, and therefore, increases quality of the users experience with it

But aesthetics does not just affect the usage experience with the product, it also can also be used to significantly improve the quality of our lives. The perception and usage of beautifully designed products may provide sensory pleasure and stimulation.

Appearance is not the only way you can impact the user's quality of life and provide pleasure.

There are 4 important aspects we might want to consider when designing if we want to improve the overall usage experience:

- Physical pleasure: making sure the design is ergonomic. It feels comfortable
- Social pleasure: making sure the design supports social interaction in the best way possible.
- Psychological pleasure: making sure things look and feel simple and stable. Using aesthetics plays a big role in making the user feel safe and in control

- Ideological pleasure: making sure that our design communicates ideas and deeper meaning. Like, taking the sustainability approach. This can frequently result in very deep pleasure in the user, making them feel weak because they are responsible for the environment.

BENEFITS:

Designers tend to think of aesthetics as the visuals of the design. However, aesthetic design consists of more elements than just how it looks.

There is a whole branch of philosophy exploring aesthetics.

We are bound to our body

Emotion is considered to be a self-regulatory process which helps us to adapt our behaviour.

Products should constantly affect the subconscious.

Alice Isen, a psychologist, with the help of some of her colleagues, did a study where it was shown that being happy broaden the thought process and facilitated creative thinking.

Aesthetically pleasing designs do not just create and encourage positive attitudes in both products' perception and functionality, it also develops emotions of trust, pleasantness and loyalty towards the product and the brand.

It makes them care more about the product, makes people more loyal of the brand and tolerant toward mistakes or failure. So, it is not all about the first impression, but to also keep strengthening the bond with the user.

Therefore, designers that do not take the aesthetic aspect into account, tend to be rejected in shorter period, as they create negative emotions that cease creativity and problem solving.

Plus, we tend to keep aesthetically pleasing products cleaner and take more care of them than those that are not aesthetic.

Much of human behaviour is subconscious, beneath conscious awareness. Consciousness comes late, both in evolution and in the way the brain processes information; and many judgements have already been determined before they reach consciousness.

Without emotions, our decision-making ability would be impaired. People without emotions are often unable to make decision between certain alternatives. Most of us just decide on something, but if asked why, we often don't know. A decision has to "feel good", or else it is rejected, and such feeling is an expression of emotion.

Usually, you react emotionally to a situation before you assess it cognitively. Emotions are judgemental and prepare the body accordingly.

The cognitive system interprets and makes sense of the world.

USERS/AUDIENCE:

Emotion and cognition work together as consumers relate to products. They are interlinked.

Design is very user centric, so adjusting the aesthetic elements that appeal to the emotion of the consumer is key to make people feel good and give positive vibes.

As said before, objects or products are defined by their relationship with humans and what they mean to them, so we have to overcome the idea that a design is just an entity with materialistic properties. Which is understandable as most designer's purpose is to design products FOR people, their ideas are inspired by what they need or want.

Therefore, these things become a matter of subjective perception and individual construal defying constant, objective specifications.

The cultural norms regarding design are particularly important because they tend to overwhelm feeling and individual preferences. Colours, materials, and shapes desirable in one culture may be unattractive to consumers in another.

As designers we expect consumers to prefer those products that communicate meanings that are desirable within a particular culture. If a culture communicates high technology, forms that communicate technical sophistication should be preferred.

Satisfying people's true needs, including the requirements of different cultures, age groups, social and national requirements, is difficult and confusing. Now add the necessity to cater the many wants, whims, opinions and biases off the people who purchase products, and the task becomes a major challenge.

When you are in a state of positive affect, neurotransmitters broaden the brain processing, the muscles relax, and the brain attends to the opportunities offered by positive affect. Which arouses curiosity, engages creativity, and makes the brain into an effective learning organism.

And as Müller sustains, "form follows function" could be considered as an anti-design movement

If every product's form were to be designed as a result of the function they are expected to do, then all the products designed to perform the same task would be identical.

'Form follows function' is often used against creativity and confines our innovative thinking. We would not have any type of incentive or motivation to design.

Design is an industry filled with amazing creative people, which makes it extremely hard to stand out.

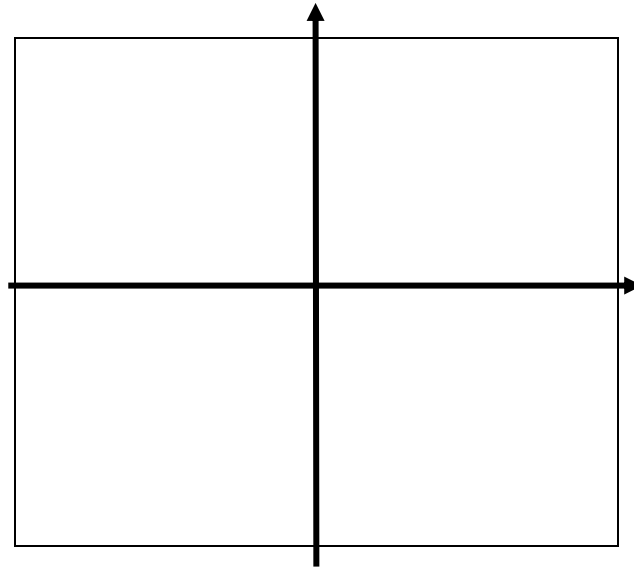
As someone who is truly enthusiastic about design, I often find myself dreaming about someday being recognized as one of the best designers, becoming an inspiration to many of the future aspirants or just being remembered. Either you break the rules, or you follow them. We are all different. We all have a various set of value and goals we pursue.

"There is little we can find in common to all chair, except for their intended use"

and that is not achievable if we keep doing what everyone else is doing, if we never go out of our way and out of our comfort zone, we might never be acknowledge.

That is why, I sustain that that design should be fit into a single linear spectrum, where on one side you have form and on the other you have function. It should not be "this" or "that". There is no order. There is no "firsts" and "seconds".

I would visually represent as two perpendicular lines or spectrums, where the horizontal spectrum is the form, and the vertical is the function. The intersection between these two results in four quadrants.



In the bottom half of this schematic, we have bad function products, and on the top half, we have good function. In the left half of this schematic, we have bad form and on the right side we have good form. These axes are spectrums, meaning that the qualities of a design can land somewhere in the middle of this space, or bring aspects of these quadrants together.

Here, designs run from bad function and bad form to good function and good form, or from good function but bad form to bad function but good form.

There is no “right” or “wrong” quadrant here. What you choose depends on what your audience needs and wants, your goals, values, and preferences. The next time you are designing, think carefully about who you are trying to communicate with and how your visualizations will best serve your audience.

Not just for users but for me as well. Designing attractive things makes ME feel good, which in turn makes me think more creatively.

My purpose as a designer, in order to become the best version of myself, is to feel challenged.

The ideal design process does not exist. It can vary depending on numerous different factors, such as aims, goals, values, audience, etc. Many designers utilize the famous Double Diamond process, with 4 stages: Discover, Define, Develop, and Deliver. Where the first step would be to find or choose a problem that should be improved or solved. The main focus here would be finding ways to design a functional solution for said problem. The appearance factor would be left as the last step of the process. Whereas, personally, when I am creating a designed object, I start out with sketching, with the physical appearance of the product, because that is what first comes to mind. My challenge would therefore be finding different ways to create a functional

outcome of the aesthetic design I created and had in mind. I prioritize form, even if it jeopardizes the products function.

For some designers, the idea might come naturally. It is a sudden thought that comes into your mind, and once the idea is there you need to put it down on a paper. But for others, research and observation goes first. If you gather enough information like watching how people use and interact with everyday products, you might discover difficulties and find ways to overcome them. With enough research you know exactly what it at stake.

then pay more attention to make it as aesthetically pleasing as possible.

To me, design is very individually dependant.