The Role of Ambiguity in Design

by Richard J. Pratt

What is the role of ambiguity in a work of design? Historically the answer looks to be very little. Having a piece of a design that is purposely difficult to define and whose intention is uncertain would go against the traditional understanding of good design. Typically, design is considered the practice of arranging parts with an intent or purpose of creating a greater function for the whole. Having pieces whose role is ambiguous seems to preclude them from a successful design. Certainly if you look at historical positions on design there would be little support for inexactness. The phrase made famous by architect Louis Sullivan, "That form ever follows function[1]," would not only seem to preclude forms of ornamentation and decoration but those aspects that are indecisive and ambiguous as well.

Though, as has been pointed out many times since Sullivan's phrase has caught public attention, how you define form and function, is not at all clear. Sullivan was attempting to discourage the use of ornamentation by saying it had no function but this is not really the case. Any form that can be taken, decorative or otherwise, will perform a function of communicating something, usually signifying ideas of class and style. The overbearing ornamentation on an elaborate, gem-encrusted throne at a minimum says something about that seat and its connection to wealth and power, even if it does nothing else. In the case of a throne, its ornamentation plays a key role in its function. The position Sullivan seems to be proselytizing is that the functions typically performed by ornamentation (which at least include communicating distinctions in class and style) should not be important to designers. This is different from trying to state an object rule for what is good design, it is an expression for a set of personal preferences. As a set of preferences it is simply another opinion in the debate over what is or is not the proper role for design. The same debate has gone on as long as there have been craftsmen

---

[1] "The Tall Office Building Artistically Considered," published Lippincott's Magazine (March 1896).

and continues today. You need look no further than the recently released documentary "Helvetica" to find a lively discussion of what constitutes a well designed typeface and the proper use of typographic form.

So if designers are concerned with function, and there is a case for the function of ornamentation and decoration, is there also one for ambiguity? Can something that is purposely unclear also fill a need? An answer to this first requires an examination of the roles that an object can perform in a design and how ambiguity influences that role. In the realm of visual communication, a form can work in one of three ways. It can be the vehicle by which to communicate the qualities and characteristics it has. So it can signify a combination of "red," "small," "curved" or "fast." There will not necessarily always be a word for every characteristic a form contains, but that does not prevent the form from establishing that experience as an idea in the mind. The second function a form can have is to signify something other than itself. It can be a word, diagram or photograph but in each case it brings to mind something other than just its physical self. The other role a form can play is as an actor in collaboration with the forms around it to create a larger narrative. Regardless of whether these forms combine to tell a story in a novel or a less linear narrative established by a painting, the forms act together to build a larger more complex tale. Of the three functions that visual forms can perform – communicating their own qualities, signifying other ideas and acting as agents in larger narratives – ambiguity effects two of them. A form can be unclear in what it signifies and it can be ambiguous in how it is supposed to interact with other forms, but as an experience it will either be successful in establishing certain characteristics in the end or those qualities will go unnoticed. The characteristics experienced maybe be difficult to label or fall between linguistic categories, but that is a result of vocabulary and not a function of ambiguity. Ambiguity affects the ability of an audience to successful translate a form into something that signifies an idea or the ability of that form to interact successfully with another. To make a successful translation an audience is forced to

make a guess as to what a form signifies and how it is to be used. Ambiguity interferes with this process, but it does this to varying degrees depending on the situation.

The assumption or guess an audience makes in translating a form depends upon an act of reasoning called an abduction. Abductions were established by the philosopher Charles Peirce as an alternative to the other modes of reasoning known as deduction and induction. Deductive reasoning relies on taking a general principle and using it to form a conclusion in a specific case, while inductive reasoning takes specific instances and concludes a general principle from them. In deductive reasoning the conclusion will always be correct if the general principle is true and it is correctly applied, while with inductive reasoning the conclusion maybe either true or false, but it can be verified by further experimentation. An abduction is different from both of these in that it is an educated guess. In abductions a general principle is used to generate an explanation for some observation. The conclusion reached can either be true or false and is difficult to prove (unlike an induction) but it can be tested under the right circumstances. If while walking between classes you see a number of people with umbrellas you might conclude that it is raining outside because the general principle is that umbrellas are used in the rain. This conclusion is suspect though, because it could be that there is a drama class using umbrellas as props or an engineering class studying their mechanical strength. Abductions have no certainty to them but they are not random guesses.

When an audience translates a visual form it judges its formal characteristics against general guidelines for a specific meaning. If the shapes look like those associated with a specific word then it makes a guess to what those forms mean. The strength of that is affected by the amount of ambiguity in the forms and their context. The Italian professor of semiotics, Umberto Eco, classifies the reliability of abductions in three ways. A form that is well known and is in a context that reinforces its meaning will cause a viewer to form an overcoded abduction. The viewer recognizes the forms, has

learned that forms like these signify a certain idea, and the other forms around it make sense with that interpretation. Another form of abduction is called undercoded and it is a result of multiple competing conclusions which are equally strong. If asked to give a single definition for the word fly, you would be forced to approach it as an undercoded abduction, not knowing if it supposed to be the insect or the act of moving through the air. Undercoded abductions by definition have a large amount of ambiguity in them. The final form of abduction Eco labeled is a creative abduction. Creative abductions take place when there is no obvious translation but a solution can be supposed through a novel approach to the forms. If confronted with the word "liger" and you decide that it might mean an animal that is something between a lion and a tiger, that would be a creative abduction. Like undercoded abductions, creative abductions are a byproduct of ambiguity in meaning.

As ambiguity plays a role in forms that result in undercoded and creative abductions the question becomes, can there be any purpose to having these forms as elements in design? One function that almost every designed object has is being aesthetically pleasing. Theories of aesthetics take many forms but at least one makes a strong case that for something to be aesthetically pleasing, it might also make use of ambiguity.

John Dewey proposed a theory of aesthetics where he wrote in depth about what caused an aesthetic experience. An art object caused an aesthetic experience when a viewer interacted with it in a significant way and during that interaction he or she experienced both balance and tension. This balance and tension could take many different forms. In Dewey's writing an aesthetic experience was a more refined version of normal "experiences." An "experience" isn't the everyday humdrum feelings of going through life but episodes of the day that separated themselves from the continues flow of sensations. These episodes, like aesthetic experiences, would separate themselves due to the balance and tension contained within them. If during a sporting event your

team takes a large lead and ends up winning by a huge margin the game will likely have only been marginally interesting to you. This is because it contained no tension. On the other hand, if the teams constantly exchange leads and one comes back and wins in the last seconds on a tough play, you will likely have been riveted until the very end. The same is true for art and design. A good novel, play or film will have its moment of balance and tension just as a strong composition in painting or photography will. Aspects of balance and tension can be found in all three functions forms perform. Forms can be arranged to be steady, symmetrical, and in pattern or be off-balance, asymmetrical or pattern breaking. They can signify ideas that are found to be disturbing or pleasing, outright communicating balance and tension or just inferring them. The forms can also work together to create narratives that contain quiet interludes and dynamic intrigue. Balance and tension are not only found in what these forms signify but in how they signify. By causing different kinds of abductions, forms can create the balance and tension Dewey requires an object to have to cause an aesthetic experience. A strong design will have moments of systematic clarity, balance and understanding but it will also have surprises, abstraction and conflict. The amount of tension and the ability to use ambiguity in a design will depend upon its use. The design of a stop sign is symmetrical, clearly written, easy to see and usually unambiguous. This is good because it has one main function, to tell individuals where to stop, and then it is quickly forgotten. But when designing on object like a poster the function is not only to communicate some information but grab the viewer's attention from the surrounding environment and hold it for as long as it can. Ambiguity can act as a way of holding a viewer's attention as they attempt to decode a form that is undercoded or as they work out how various ideas are to interact. Of course, a design that has too much tension will drive an audience off. Some of the distaste for Modern Art from the general public lies in the dramatic amount of conceptual tension being used. Audiences more familiar with the interests and goals of Modern Art find the work more engaging.

The role played by ambiguity in design is the same as conflict and pattern breaking in composition. It can be a tool to generate interest and provide a way for an audience to discover something within a design. Ambiguity is a part of making forms that would otherwise be overcoded and straightforward more abstract, opening them to interpretation and allowing viewers to bring their own creativity to a design. In putting function first it is important to remember the role that aesthetics plays and that ambiguity can have an important part.