

Theoretical Fundamentals of Information Design

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Introduction

What is Information Design?

In 1996 a woman named Lindsey Martin asked the following question on a community message board:

"What is the lexicographical status of the expression 'information design'? Is it a discipline? A loose commercial designation like 'desk-top publishing'? A port-manteau word?" (*Informationdesign.org*, #1)

Four days later, David Barker-Plummer replied with:

"I don't know about its lexicographical status, but it certainly seems an unfortunate choice of term. Surely no-one designs information - "representations of information," maybe." (*Informationdesign.org*, #2)

According to Nathan Shedroff, Information Design is, "a field and approach to designing clear, understandable communications by giving care to structure, context, and presentation of data and information. As a field, its principles relate to all communications products and experiences, regardless of medium (print, broadcast, digital, online, etc.). Information Design is, primarily, concerned with clarity (instead of simplicity) and understanding." (*Shedroff, Glossary*)

This document explores the theoretical foundations of information design. Specific theories provide a substantial infrastructure of formal knowledge about the practice of design. Additionally, theories are of little use if we do not have any knowledge of the phenomena to which the theory pertains. With that stated, this document provides the reader with an introductory perspective on the theoretical and methodological foundations

of information design. This essay specifically details the concepts of information, sense making, interaction design, sign posting and wayfinding.

Site structure:

- Introduction (you are here)
- Concepts of Information
- Sense-Making
- Interaction Design
- Sign Posting & Wayfinding
- Conclusion
- References

Like many research documents, this site borrows notes, naming conventions, and ideas from the authors referenced. I've included a link at the end of all quotes, paraphrases and images used in this site. All references are used for educational purposes only and are not intended to infringe on the rights of anyone. For a complete list of references material, see the 'References' page.

A note on usability - this site is set up like an essay with several ordered pages. At the top of each page (in the right-hand column) you'll find a set of links that you can use to quickly navigate to specific sections of the site. If you wish to read this essay from front-to-back then you can use the links at the bottom of each page. The 'Next' and 'Previous' links will take you in order through all the pages of the site.

If for some reason you are having trouble, or need to communicate a problem with the site, you can contact me by clicking on my name at the bottom of any page.

Concepts of Information

Simply put, information is something that describes an ordered reality. Brenda Dervin, the author of the third chapter of Robert Jacobson's book *Information Design*, states that, "information represents in an identical way the form and content of reality." (Jacobson, pg 35) To a human, information is the ultimate survival tool.

There are roughly seven western narratives that provide a concept of information: (Jacobson, pg 37)

1. Information describes an ordered reality
2. Information describes an ordered reality but can be "found" only by those with the proper observing skills and technologies
3. Information describes an ordered reality that varies across time and space
4. Information describes an ordered reality that varies from culture to culture
5. Information describes an ordered reality that varies from person to person
6. Information is an instrument of power imposed in discourse on those without power
7. Information imposes order on a chaotic reality

Dervin points out that there's another narrative: she states, "It is possible to look at narratives #2 through #7 as a struggle with two ideas inherent in narrative #1 – the notions of a fixed and orderly reality and of a human power to observe that can accurately perceive that reality." (Jacobson, pg 39-40) She continues, stating, "Narrative #8 builds on the earlier narratives most clearly in its position on observing at the same time as it attempts to transcend the impossible choice by accepting both the ordered realities of narratives #1 through #5 and the imposed/chaotic realities of narratives #6 and #7. Thus narrative #8 posits that humans live in a reality that sometimes manifests itself in orderly ways and sometimes manifests itself in chaotic ways." (Jacobson, pg 40)

What does this have to do with Information design?

Good question - because we all travel different paths through life (and “time and space”) we all have a different perspective on physical, natural and social realities. There are gaps in these realities that present an inherent inability to be completely instructed (i.e., to attain complete information). (*Jacobson, pg 41*)

Design is the answer. The 8th narrative (humans live on a reality that sometimes manifests itself in orderly ways and sometimes manifests itself in chaotic ways) refocuses our attention away from the information. Because humans are both ordered and chaotic – moving through a world that is both ordered and chaotic – the information is designed and redesigned for any specific reality. Information is confirmed, supported, challenged, resisted and destroyed. (*Jacobson, pg 41*) According to Dervin, this perspective introduces power as a primary consideration (see narrative #6). The result of this is that the current design situation is one in which information is assumed to be natural but is in fact designed. And, according to Dervin, “because it is designed without attention to design, it fits the needs, struggles, and resources of the designers – putting all others at a disadvantage.”

(*Jacobson, pg 42*)

Sense Making

The theoretical approach to sense making is a set of assumptions, a set of research methods and a set of communication practices. According to Dervin, "The approach was originally developed to assess how patients/audiences/users/clients/citizens make sense of their intersections with institutions, media, messages, and situations and apply the results in designing responsive communication/information systems." (*Jacobson, pg 44*)

Sense making is the explicit acceptance of a reality assumed to be both orderly and chaotic. Sense making can be defined broadly in terms of the set of assumptions about reality, observing, and power suggested by Dervin in narrative #8. (***Jacobson, pg 44***) It is that time and space that lies in-between something ordered and something chaotic. It allows humans to reason with the world and understand our surroundings. Dervin writes about two assumed mandates for humans with regards to sense making. The first is to make sense without complete instruction in a reality, which is itself in flux and requires continued sense-making. The second is to reach out to the sense made by others, in order to understand what insights it may provide into our continuing human dilemma.

(***Jacobson, pg 45***)

The theories and methodologies of sense making can help a designer provide information that helps close the gap between ordered and chaotic realities.

Interaction Design

Based on the writings of Nathan Shedroff – the unified field theory of design (Interaction Design) is the intersection of the disciplines of Information Design, Interaction Design, and Sensorial Design. (*Shedroff, Unified, pg. 1*) The act of creation is what differentiates interaction design with the traditional definition of information design. Information designers, according to Shedroff, organize and present data in valuable and meaningful ways. They take data that already exists – they may need to research and discover the data, but it's there.

The creation of data (something all humans do to some extent) has only recently been identified as a discipline with proven processes that can be employed or taught. (*Shedroff, Unified, pg. 1*) In simple terms, interaction design is story creating and telling. As you might notice, this derivative of information design is not dependent on the medium. Stories have been created, recorded, and told for thousands of years. Today, the technology many of us use provides a new forum to create and tell stories.

How is this related to Information Design?

The information designer is telling a story through communication. If one is able to communicate a story through the design, the information may translate more clearly to the recipient. Shedroff gives an example of information design that also tells a story in his Interaction Design essay. He writes about the Vietnam War Memorial in Washington D.C. Shedroff states,

"The names of all of the US military personnel who died in the Vietnam War are inscribed on the surfaces of two long, black granite walls. The walls start out short (around twelve inches) and grow to more than nine feet in the center where the two meet. They are constructed this way for a special reason. All of the names are arranged by time (date of death), from the first who died during the "police action," to the mounting death toll at the height of the war, trickling off as the US pulled out of the area. The names thus chart the pattern of US involvement in Vietnam and the personal stories of the real people involved and most affected. Imagine how different the monument would be without this organization. Suppose the names were organized by alphabet (which was actually proposed once the design was accepted). While it might be easier to find a particular person, the search and the names themselves would be reduced to a mechanical list, a granite White Pages. Lost would be the individuality of each name and life. In a list of seventeen John Smiths, which one is yours?" (*Shedroff, Unified, pg. 7*)

Using information as a tool to tell a story may help people understand (consciously or unconsciously) the magnitude and importance of the information. Organizing information based on a story can provide a powerful end result. Organizing information with the traditional tools (e.g. alphabetical, numerical, etc.) can make the information impersonal.

Signs & Wayfinding

Information design, to some, may sound like a new term that describes a method of organization in digital media. The truth is that information design is really just an umbrella terms – covering the planning over everything. User instructions, warning labels, manuals, timetables, official forms, invoices, traffic instructions, signs, wayfinding tools, maps, technical information sheets, scientific papers, computer layouts and virtual environments all communicate information. (*Jacobson, pg. 83-84*)

Wayfinding, a form of Information Design, refers to the cognitive and behavioral abilities associated with purposefully reaching a desired physical destination (*Jacobson, pg. 88*). According to Romedi Passini, the author of the fifth chapter of Jacobson's book *Information Design*, wayfinding was introduced in the mid-1970's to replace the notion of spatial orientation, which referred more specifically to an individual's ability to mentally represent a place. (*Jacobson, pg. 88*) Wayfinding conceptualized in terms of problem solving comprises three major processes:

1. Decision making and the development of a plan of action to reach a destination
2. Decision execution, transforming the plan into behavior at the appropriate place(s) along a route
3. Perception and cognition (information procession), providing the necessary information to make and execute decisions (*Jacobson, pg. 88*)

Wayfinding is different than information design that's purely digital because it exists, for the most part, in the physical world. For example, signage in an urban area that helps pedestrians find their way to a specific place would be characterized as a form of wayfinding.

According to the conceptual definition of wayfinding, people need information to

make and execute decisions. (Jacobson, pg 89) If this is true, how can a designer understand and know what decisions users are going to make in the future?

According to Passini, there are two empirical observations that help in answering this question: first, for similar tasks, decisions vary a great deal from one type of setting to another. Second, within the same setting, the decision of different users tend to be similar for a given task (*Jacobson, pg. 89*) These observations suggest that the setting and its architectural characteristics are more important than individual characteristics.

Sign posting, as an example of information design, work best when the signs are part of a larger system. They should all work together to inform the user of their place and direction. A grouping of signs allows the user to work within a system, an information system. More over, because a system is being defined (assuming there's a need for multiple signs) the designer (or information designer) is able to create a learning experience. In creating a learning experience, designers are confronted with the perfect opportunity to actually employ design as interpretation. Signs, labels, written directives, and environmental graphics serve a wide array of purposes when employed in public places. (*Trulove, pg. 10*)

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Conclusion

As a field, Information Design relates to all communication products and experiences. It does this without dependence on medium and is primarily concerned with clarity and understanding. Through this document, we've explored concepts of information and how bias, place and time all have an impact on fact and the true value of information as a tool of both understanding and power. We've explored how these concepts reside in a reality that is both ordered and chaotic – and dissected sense making – the explicit acceptance of a reality assumed to be both orderly and chaotic. We've explored the power of storytelling in information design by detailing interaction design – the intersection of the disciplines of information design, interaction design, and sensorial design. Finally, in this document we've explored information design in the physical world by detailing signage and wayfinding as a decision making tool and an information system.

This essay only scratches the surface of information design theory. The seemingly unrelated sections of this online document were put together to help the reader understand the far-reaching powers of design and information organization. Both in digital media and the physical space, information design provides an instruction system. By understanding the concepts of information, power of storytelling, instruction systems and the ability to make sense of a reality that holds together both order and chaos, we are able to convey the knowledge in information.

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