

Design Hermeneutics

Towards an Interpretive Model of Design Research

Joel Grossman

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Joel Grossman

Managing Principal

Pivotal Click, LLC

<http://www.pivotalclick.com>

joel@pivotalclick.com

At Rashōmōn Gate



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Rashomon (1950) is a film by Akira Kurosawa, based on two stories by Ryunosuke Akutagawa. It tells the story of a horrific crime from the perspective of four people: a priest, a woodcutter, a commoner, and the deceased husband of the victim (through a spirit medium). As we witness the re-enactment of the event from each of the four different perspectives, it is not merely the differences between their stories, but *which* differences, that are evocative of each character's intent and perspective. Which of these is *true*?

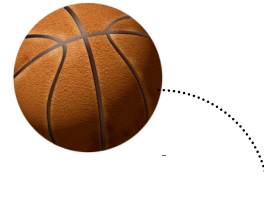
If we want to convict a murderer, the *truth* of the matter is of the utmost importance. But we're not always convicting murderers, or establishing minimum safe distances, or answering straightforward, clear-cut, *purely rational* questions.

What's interesting about *Rashomon* is the fact that it is our reading of the characters' interpretations that enables the audience to make *its interpretation*, and arrive at some sort of evaluation.

During shooting, the cast approached Kurosawa en masse with the script and asked him, "What does it mean?" The answer Kurosawa gave at that time and also in his biography is that "*Rashomon*" is a reflection of life, and life does not always have clear meanings.

Kurosawa: "Human beings are unable to be honest with themselves about themselves. They cannot talk about themselves without embellishing. This script portrays such human beings—the kind who cannot survive without lies to make them feel they are better people than they really are. It even shows this sinful need for flattering falsehood going beyond the grave—even the character who dies cannot give up his lies when he speaks to the living through a medium. Egoism is a sin the human being carries with him from birth; it is the most difficult to redeem. This film is like a strange picture scroll that is unrolled and displayed by the ego. You say that you can't understand this script at all, but that is because the human heart itself is impossible to understand. If you focus on the impossibility of truly understanding human psychology and read the script one more time, I think you will grasp the point of it."
(<http://www.criterionco.com/asp/release.asp?id=138&eid=213§ion=essay>)

Don't Play Ball in the House



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In *The Brady Bunch* Episode 37, “Confessions, Confessions” (1970), each of the Brady children retell a different version of events, placing themselves in the blame for an unfortunate collision between a basketball and Mrs. Brady’s favorite vase.

The Canonical Brady Bunch Guide: “The other children each confess to breaking Carol's favorite vase (“Mom always says, ‘don't play ball in the house.’”) in order to prevent Peter from getting grounded and missing a camping trip. The parents put Peter in charge of doling out punishments to the others.” (<http://www.nyx.net/~thill/bbeg.html>)

Mom always says, ‘Don’t play ball in the house!’

Surely You Must Be Joking, NASA



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Edward Tufte uses the case of the Space Shuttle Challenger as an example of how the poor design of information, in particular statistical information relating to the reliability of the shuttle's solid rocket O-rings, in his book *Envisioning Information*.

Tufte cites the contributions of **Richard Feynman**, physicist and exemplar of human greatness, as particularly telling, in his Appendix to the Presidential Commission that investigated the accident.

Feynman: "If a reasonable launch schedule is to be maintained, engineering often cannot be done fast enough to keep up with the expectations of originally conservative certification criteria designed to guarantee a very safe vehicle. **In these situations, subtly, and often with apparently logical arguments, the criteria are altered so that flights may still be certified in time.** They therefore fly in a relatively unsafe condition... Official management, on the other hand, claims to believe the probability of failure is a thousand times less. **One reason for this may be an attempt to assure the government of NASA perfection and success in order to ensure the supply of funds. The other may be that they sincerely believed it to be true, demonstrating an almost incredible lack of communication between themselves and their working engineers.**"

from "Personal Observations on the Reliability of the Shuttle" in *Report of the Presidential Commission on the Space Shuttle Challenger Accident*; Appendix F.

What was striking here was not so much Tufte's point about information design (valid though it may be), but Feynman's point about 'apparently logical arguments' and the danger of purposeful or naïve miscommunication. The implication is that a *series of conversations, reflective of competing interpretations* of the Shuttle's safety created a context for tragedy. Good old rational science might not have told the whole story.

What is Hermeneutics?



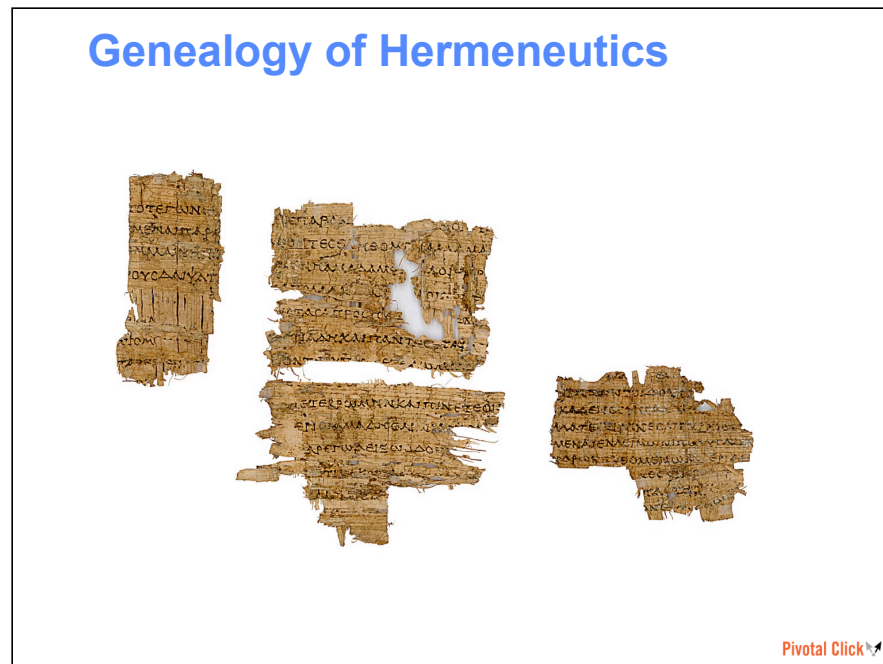
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This is only My Interpretation.

Hermeneutics is the interpretive study of *texts*, a method originally used for generating insight through iterative engagements with religious writings, and later applied to law and critical social inquiry.

The word *hermeneutics* comes from the Greek word *hermeneuein*, "to interpret," which carries a threefold meaning: the speaking of a text, the explanation of a state of affairs, or a translation. *Hermeneuein* comes from *Hermes*, the messenger deity of the ancient Greek pantheon, who not only told the news but often provided a commentary or *interpretation*.

Hermeneutics began as the study of spiritual texts in multiple cultures passed down from practices surrounding an oral tradition. In the hands of more organized religions, it became a tool for cementing a *particular* interpretation. Later, in response to the preeminence of naturalistic scientific inquiry, it reemerges as a tool for engaging in critical social inquiry.



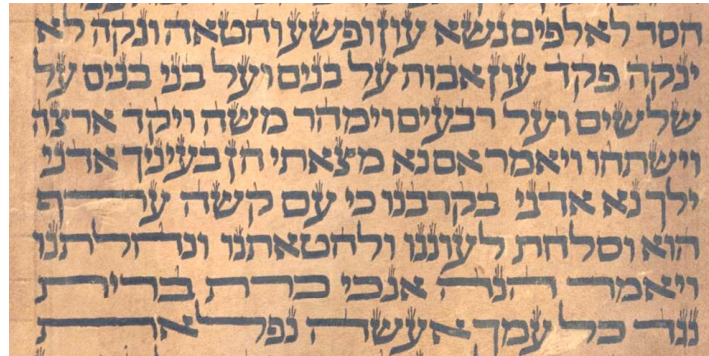
Greek Analysis

As an organized system of inquiry, Hermeneutics dates back to the ancient Greeks' study of literature, as a method for codifying, assessing, and later identifying particular texts based on particularities in style, grammar and content. Essentially, interpretation became a basis for establishing authorial identity based on the organic 'wholeness' of a text.

HOMER: THE ODYSSEY XII: 9 - 14; 17 - 28; 41 - 46; + 8 NEW UNRECORDED LINES MS in Greek on papyrus, Egypt, late 3rd - 2nd c. BC, 3 fragments from column 1-3 of a scroll, 32 lines in Greek uncial. Commentary: Homer's poems were originally composed orally in the 8th c. BC, and transmitted orally until written down in many different versions several centuries later. The first critical editions were made by the Alexandrian scholars, Zenodotus (325-234 BC), Aristophanes, Librarian of Bibliotheca Alexandrina (195-180 BC), but foremost Aristarchus, Librarian of Bibliotheca Alexandrina (180 - ca. 145 or 131 BC), who published his definite edition in the middle of 2nd c. BC, which is still the standard. The very few surviving Homeric papyri that date from before Aristarchus' edition, are of the greatest textual importance, since they alone preserve the earlier forms of the poems, as they were recited by singers in the archaic and classical periods.

Source: <http://www.nb.no/baser/schoyen/4/4.3/434.html>

Genealogy of Hermeneutics



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Rabbinical Exegesis

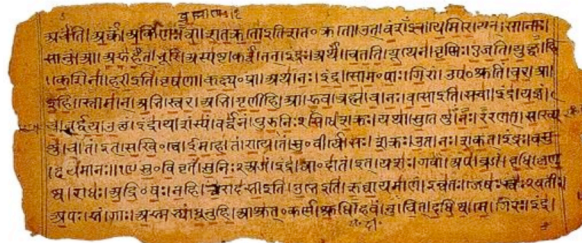
The Jewish tradition of *Midrash* (Hebrew for investigation or research) is a method for interpreting elements of scripture in associative insights. It arose following the Diaspora as a means for explication that went beyond literal meaning and emphasized the value of multiple interpretations as a means for illuminating God's word. A particular question, such as "Why 40 days and nights?" is used as the jumping off point for considering fundamental religious concerns.

"Dogmatic thinking must rely on an unambiguous text. The Hebrew Bible does not lend itself easily to the formulation of dogma, because of the obscurities which haunt almost every biblical verse. These two differences – the ability to use the total semiotic message of the text, and the use of an obscure, and therefore polysemous, Hebrew original – create a most significant gap between Jewish and Christian exegetes and preachers. In Rabbinic Judaism it is almost impossible to use a biblical verse as a final proof in a religious controversy; every verse can be and was interpreted in fully legitimate ways to support conflicting arguments. An opponent's way of interpreting a scriptural verse would rarely, if ever, be considered as falsifying a text."

– Joseph Dan, "Midrash and the Dawn of the Kabbalah"

Fragment of Torah scroll circa 1200 BCE recovered from the island of Rhodes
 from <http://www.rhodesjewishmuseum.org/torah.htm>

Genealogy of Hermeneutics



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Vedic Interpretation

The Vedas are the oldest extant text in human history. Their oral (and later written) interpretation, some argue, was a method for reconciling the content of the texts with the religious momentum that developed around them. But which came first, the interpretation or the sense of the sacred?

“The Vedas are part of the Hindu Shruti — these religious scriptures form part of the core of the Brahminical and Vedic traditions within Hinduism and lay the inspirational, metaphysical and mythological foundation for later Vedanta, Yoga, Tantra and even Bhakti streams of Hinduism. In Sanskrit the word means Knowledge or Truth...Many Hindus believe that the Vedas were transmitted, via an oral tradition, for perhaps 8000 years...However, it is acknowledged by most that the Vedas did indeed have a long oral tradition and were passed on from teacher to disciple for at least many centuries before first being written down, which has led to some estimates that the earliest parts of the Vedas' may date back to 2500–2000 BCE. The Vedas are acknowledged to be the world's first recorded scripture, and are perhaps the oldest consistent and complex body of knowledge detailing astrology, astronomy, ritual practice, and how these relate to the spiritual life of humanity.”
from <http://en.wikipedia.org/wiki/Vedas>

Fragment from an unnamed Vedic text
from http://www.pearls.org/hinduism/hindu_holy_books.html



The Medieval Catholic Clergy promulgated its own hermeneutics, presenting Biblical text simultaneously as a source of spiritual allegory and pre-emptive explanation of Church doctrine, regardless of the apparent meaning of the text. The Protestant Reformation, in this light, was a reinterpretation of the sacred that affected the profane. Its radical notion that inner projection of one's own experience into the text brought understanding carried hermeneutics conceptually all the way up to the 19th century.

Wilhelm Dilthey (1833-1911) develops a secular, philosophical hermeneutics as a response to the predominance of positivist approaches to social inquiry. Dilthey deploys the concept of the *hermeneutic circle*, a process in which one examines an event or text, alternating between specific details and general context, linking interpretations to the investigator's own knowledge, and iterating through these until a satisfactory interpretation is achieved.

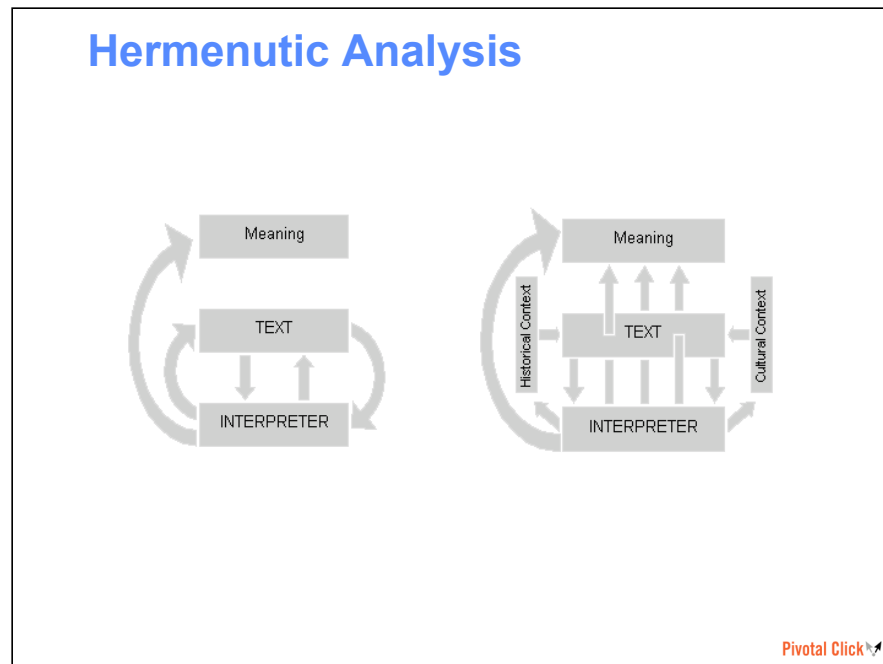
Karl Popper, a positivist not associated with Hermeneutics, nevertheless provides a critical catalyst for 20th century hermeneutics with his concept of *falsification*. Popper states that "the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability." The Hermeneutists beg to disagree.

Martin Heidegger brings the *relativistic* nature of interpretation to the forefront, by recognizing that any interpretation necessarily presupposes other interpretations of other texts, which are themselves interpreted through others, ad infinitum. He also redefines the hermeneutic circle, describing it as consisting of a paradoxically-linked breaking-apart and returning-to-whole. Heidegger argues that interpretation is inescapably subjective and non-rational, as the chicken-and-egg of the hermeneutic circle is only escaped through intuition.

Hans-Georg Gadamer takes a strong linguistic-phenomenological approach to hermeneutics, arguing that *nothing* exists out of language, intriguingly analogous to quantum physics' denial of a "deep reality." While this removes the challenging task of synchronizing interpretation to "reality," Gadamer's relativistic approach considers no one interpretation more valid than another.

Paul Ricoeur attempts to extricate hermeneutics from the trap of relativism by

Are you the next Hermeneut™?



Hermeneutics in Practice (Recently)

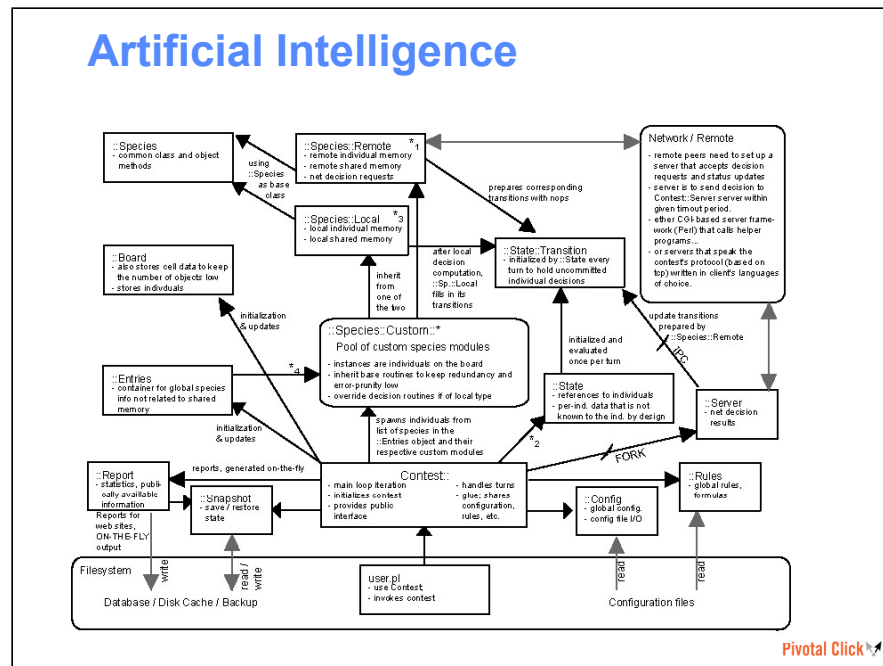
In its modern (20th-21st century) form, practitioners make use of a process in which one examines an event or text, alternating between specific details and general context, linking interpretations to the investigator's own knowledge of cultural and historical context, filtered through a critical perspective, and iterating through these until a satisfactory interpretation is achieved.

This begs the question: how do we know that we have arrived at a satisfactory interpretation?

The hermeneutic approach is at a significant remove from the scientific method that most quantitative and qualitative research relies upon. There is none of the concrete certainty we have all come to expect. Yet, hermeneutics suggests that there are good reasons for staying open to multiple interpretations.

What all forms of hermeneutics share is an emphasis on what Aristotle called *phronesis*: understanding and decision-making that required analysis of both specifics and generalities in combination with situational particulars. This is a profoundly *human* capacity, something we sometimes call gut instinct, or intuition, and accounts for our seemingly impossible ability to make snap decisions about life-threatening situations. We are not wired like machines (by default) to consider the vast range of possible states of affairs, but we *do make these sorts of phronesis-based decisions every day*.

I am arguing that hermeneutics provides us a basis for applying this reasoning to design research.



Hermeneutics as a Path to AI

"...hermeneutics seems to have discovered a quality in the human situation that is vital for knowledge of others and oneself but has not yet been simulated mechanically. Because these doubts are generated from an ongoing intellectual tradition and because they refine some fairly common intuitions, they cannot easily be dismissed as "irrational technological pessimism." On the other hand, these doubts should stimulate attempts by AI researchers to overcome them... Hermeneutics can suggest constraints, orientations and even criteria in the design of AI systems that are intended either to understand natural language or to represent knowledge of the social world... As a consequence, systems would not merely illustrate isolated and perhaps idiosyncratic theories about linguistic phenomena but would begin to support (or deny) major philosophical positions in ontology, epistemology and philosophy of mind. But the generally pre-computational nature of contemporary hermeneutics calls for specific formulations that can be tested computationally. Computational experimentation, an empirical philosophy, can then feed back into the reformulation and refinement of ideas about both hermeneutics and AI.

from Mallery, Hurwitz & Duffy's 1986 "Hermeneutics: from Textual Eplication to Computer Understanding?"
<http://www.ai.mit.edu/people/jcma/papers/1986-ai-memo-871/memo.html>

Hermeneutics vs. AI

"When we make [a] choice, we do not perform an exhaustive search through all possible scenarios and simply choose the one that has been predefined to be the most ethically correct. This is because there are always scenarios in which the exact opposite of what might be ethically correct from an exact definition standpoint is actually the correct maneuver. As Gadamer says, "there is a courage that avoids the fight, as well as one the engages in it, a dignity that abases itself as well as one that refuses to stoop, and there is always a loyal disobedience as well as obedience." His point is that while the general concepts of an ethical choice can be predetermined, one cannot simply employ them without taking the current situation into account, for the current situation itself partially defines the correct choice... It is this characteristic of human understanding that AI is not able to achieve, and makes it implausible that strong AI will be sufficiently developed".

from Mario Ferentino's "Strong AI in the Hermeneutical Situation (<http://www.philosophy.ucf.edu/ahcs1.html>)

Steffen Mueller's conceptual map of an iterative distributed artificial intelligence, as implemented in a (what else) Perl namespace. This is part of an AI simulation programming contest called "Species: Distributed Artificial Intelligence." (<http://steffen-mueller.net/species/>)

Rail Safety



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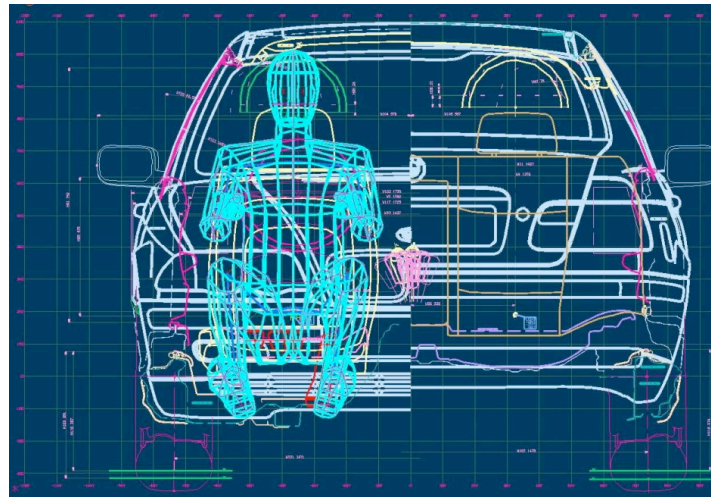
When Conventional Analysis Breaks Down

"The Confidential Incident Reporting and Analysis System is a confidential database set up for the UK railways by the University of Strathclyde. CIRAS is a project in which qualitative safety data are disidentified and then stored and analysed in a central database. Due to the confidential nature of the data provided, conventional (positivist) methods of checking their accuracy are not applicable; therefore a new methodology was developed – the Applied Hermeneutic Methodology (AHM). Based on Paul Ricoeur's 'hermeneutic arc', this methodology uses appropriate computer software to provide a method of analysis that can be shown to be reliable (in the sense that consensus in interpretations between different interpreters can be demonstrated). Moreover, given that the classifiers of the textual elements can be represented in numeric form, AHM crosses the 'qualitative–quantitative divide'. It is suggested that this methodology is more rigorous and philosophically coherent than existing methodologies and that it has implications for all areas of the social sciences where qualitative texts are analysed.

While it has often been claimed that a hermeneutic approach to texts can produce data as reliable as those produced with 'scientific' methods, this has been more often talked about than done. Perhaps this is due to a feeling that it would introduce an over-'scientific' approach to a tradition that developed as an alternative to western concepts of science. This of course assumes that the 'hard' sciences are in fact the positivistic activities they are sometimes claimed to be, in the face of the evidence of social creation of pragmatic consensus (by NASA engineers) detailed by Vaughan (1996). Be that as it may, a trial of agreement or concordance merely shows the degree to which members of a social group agree with each other in terms of interpretation. It does not at all imply that this viewpoint is 'correct' or 'true'. Therefore, it is not the case that high reliability is somehow compromising the hermeneutic process. Moreover it must be stressed that the process must remain open, social and democratic: reflexive, but socially reflexive, not individually so. If the group were to decide that the fundamental categories were to be revised it must always be possible to do so in the face of texts that are difficult to interpret. Given that this is the case, it is hoped that the applied hermeneutic methodology (as described here) has justified itself, not just in human factors but in many other areas of research, and that, therefore, it can take its place as an appropriate research tool for a 21st-century social science."

from Wallace, Ross & Davies' 2003 "Applied hermeneutics and qualitative safety data: The CIRAS project"
 (<http://cogprints.ecs.soton.ac.uk/archive/00003092/>)

Design Research Implications



At the heart of hermeneutic project is the central issue of the relationship between a designer's intentions and the meaning of their design. The approach starts from the notion that the way we understand things is always shaped by the personal, historical context in which we live, and that this 'shaping' is not always obvious to us. Far from preventing understanding, this 'shaping' in fact is what *produces* knowledge—each person's process of fitting things into their own set of experiences.

The implications of this are profound but subtle. First, there is no such thing as an erroneous understanding—there are *many* understandings—and that it is equally our attitudes, interests and assumptions that complete a conversation with a designer's product to determine what an object means. What follows is the notion that the research and inquiry we perform in trying to design something should not be oriented around trying to uncover an objective and independent "right" way to respond, but instead around *mediation*—making the possibility of mutual understanding through conversation.

The output from Vitronic GmbH's Vitus high speed three-dimensional Body Scanner.
(<http://www.vitus.de/english/>)

That Old Nagging Feeling



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Can You Get Any More Esoteric?

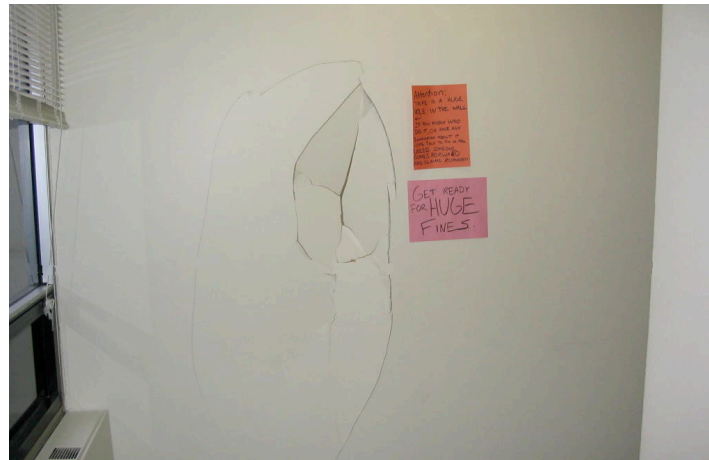
A bit heavy? Yes, but what we are after here is an answer to the nagging feeling. You know the nagging feeling, right?

We feel it a lot in user experience design, because everybody parses things differently (and are having many conversations) and so we do things like put both search and browse functionality on pages, and have multiple navigation schemes, and we cut discussions short with the 80/20 rule (for good reasons).

The nagging feeling is the sometimes deep and dark, sometimes wide out in the open fear that the decisions we make are ultimately subjective, that we end up deciding on our experience, our expertise, or simply because we're there. And that's OK, particularly for those of us with egos or IQs or twenty years of experience. For beginners, or people trying to learn the value of design research on the front lines, or those under the microscope, it's a challenge.

A hermeneutic approach, or even a hermeneutically-driven review of existing research, is a way for us to say, "it's OK that the decision is subjective, and it's subjective because I am trying to have a conversation with someone that will either make decisions about or use this product/service/experience that *make sense* to at least some of us." We can only make sense of things we study *with particular expectations*, but we must constantly revise these expectations in terms of the new conversations we have. This is the *production of knowledge*, not just the collection of data.

Poke Holes in the Fourth Wall



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Applying Hermeneutics

From an applied research methodology perspective, what does all this mean?

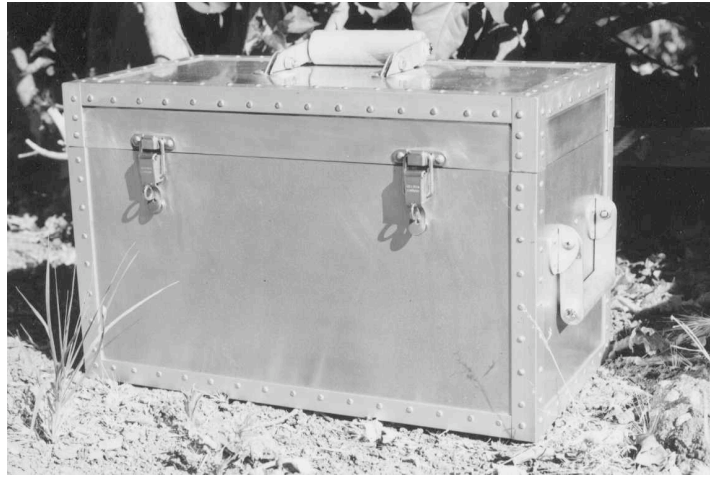
It means we focus on dialogue that *carefully* breaks some of the fourth wall between research subjects and the other interested parties: the facilitators, the marketing people, the sales people, the engineers, the customer service people, the financiers, the senior management, whomever has a stake in what's occurring.

Like so many of us who have spent the time gaining weight in the dark research observation room, I caught myself verging on the ridiculous in attempts to maintain a certain scientific, dispassionate perspective on the testing process. And I began to wonder why this was so important. And I thought of the Morton Thiokol engineers, and the NASA administrators, and I thought of all the Web sites and applications I had built, and why I loved them, and I got working.

Design hermeneutics approaches the artifact (product/service/experience) being design as an intersubjective, continuously updated *hypertext*.

Unpacked, this means that we view the design and research process as something that is defined by a constantly evolving shared understanding *that no one person or group consistently defines*, that should be organized by the designers so that related items of information are represented in their dynamic connections to one another. We should characterize these connections as a series of conversations between the people designing, the people using their artifacts *and the context in which this use occurs*.

Where Are the Tools?



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Real World Hermeneutics or Polite Suggestion?

How do we begin to take some of these concepts into practice?

Part of me resists the notion that we *can*. The Hermenauts™, from early on to Ricoeur, were *philosophical* hermeneuticists.

Maybe this should just be a required elective, something to keep in mind, to surface and return to after a lot of detail work.

But then I started thinking about the ways that we can document *hypertext* -- a series of conversations. And I arrived at a few initial thoughts that may be helpful.

Surfacing the Conversations



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Getting it Out in the Open

The first and simplest is the idea of simply documenting and visually diagramming the conversations taking place.

In the countless project post-mortem exercises we have all conducted, how many times have you been able to find the sub-text or unspoken consideration that was the lever for the way things turned out? I want to have a resource like this to help me improve our process and better prepare my clients.

Normally this sort of documentation is done from an omniscient, 'objective' perspective. I think we need to turn the mirror on ourselves a bit when we do so and openly introduce the conversations taking place behind the mirror and behind the corporate firewall.

What is the conversation taking place between the CEO and the CMO, the customer service people and the sales people, the different agencies working on this whole thing? They are *all* valuable, and should be included.

"The classic model of high production quality, broad distribution advertising, and marketing is becoming less effective, and certainly less cost-effective. What seems to work is the quirky, funny, sincere stuff. Glossy and slick are tired. Authentic, quirky, and funny are wired. If the goal is authenticity, then openness might be a way to achieve the goal... What if advertising and marketing materials were published with a Creative Commons license, perhaps requiring attribution but otherwise encouraging, rather than prohibiting, derivative works? What if the goal were less to restrict and control the use of images but rather to encourage derivative use? Let's call it open-source marketing. Isn't it time to let the audience in on the creative process? And I don't mean focus groups. Make your advertising open source. If you're lucky, your audience will improve your message and your image, making them better and more effective."

from Hans-Peter Brondmo's "Open Source Marketing" (<http://www.clickz.com/experts/brand/sense/article.php/3397411>)

Let Personas Talk to Each Other



If You Can't Talk About It, Let Your Personas.

The second idea is the time honored practice of using personas and scenarios.

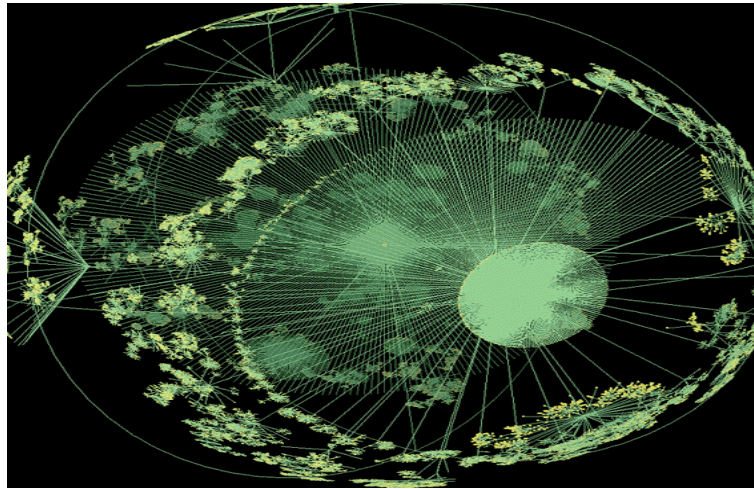
I am a rampant and widespread user of persona and scenario-based design practices. But the thing that always bothered me about them is that they tend to be static, or at least go into hibernation between design iterations.

And while it is entirely possible that I have not diligently read the latest update to the Cooper methodology, the persona conversations seemed more like moments trapped in amber than living dialogue. So I say, let them talk to one another.

Why? Because that is what happens once these products and services are released, and people begin to experience them. Grandmas talk to grandkids. Teenagers bug their parents about the way the remote control is set up. People in line at a grocery store don't belong to the same demographic, but they still talk about the same products.

So instead of letting a smarmy user experience geek jump up in an ideation session and say "Tommy the Yuppie would *not* like that at all!" let Susie the working mom talk back!

Hypertextual Interpretation



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Blog It, Wiki It, Love It

The third idea is making use of the actual hypertext itself; the idea that we can best document hypertext with the tool that made hypertext famous--the Web.

This is not a new idea by any means, and it is also a reworking of the idea that “everything should have its own Web page.”

A Web page is a wonderful place to document conversations taking place around a design research process. The more interesting tools of this sort are collaborative forms of Web sites like Wikis and Blogs, and new forms are emerging every day.

Our practice is using this sort of thing during product innovation and ideation sessions, where the early work is blogged or Wiki'd for later collaborative perusal and commentary. We are trying to get clients used to interact in this way, and it works--instinctively.

Our next step will be to try to convince clients to let the customers in on these conversations as well.

A representation of the connections between pages on the World Wide Web, circa 2000.

Thank You for Coming.

This presentation will be available at
<http://www.pivotalclick.com/chi2/>
on April 21, 2005.

Joel Grossman :: joel@pivotalclick.com :: 847.363.6341

Pivotal Click 

Joel Grossman

Managing Principal

Pivotal Click, LLC

<http://www.pivotalclick.com>

joel@pivotalclick.com