

## Theory for Practice

*By David Sless*

### Introduction

In the two previous years that I have been invited by Peter Simlinger to address Vision Plus, I gave presentations in which I talked about the ways in which my colleagues and I at the Communication Research Institute of Australia defined the practice of information design (Sless 1996), and the transitions in thinking that we have gone through over the last few years (Sless 1997, a revis). It is clear to me from some of the reactions to these papers, particularly to the last paper, that I have probably not made sufficiently clear the differences between two contemporary approaches to information design. On the one hand there is the constructivist approach based on formalist aesthetics, cognitive science and social psychology, and on the other hand the approach that I and my colleagues have taken which is based on a constructionist view of communication.

So I would like to use this occasion to mark out that difference and suggest to you that a constructionist view offers a much simpler alternative perspective on information design practice and theory.

This paper draws on the corpus of work undertaken at our Institute, synthesizing and making explicit the main theoretical notions that have developed out of our work since 1985.

As I have suggested, my work arises from within what has been broadly called a constructionist approach to communication (Pearce 1996).

“Constructionism” is concerned with how we mutually construct our social realities through conversation. I would like to commend this approach to you because it offers a coherent, simple and uncluttered approach that may be relevant to your own information design practice.

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### **Theory as an emergent property of practice**

How then do I define theory? Theory from a constructionist view is simply the description given to what people do. There is nothing mysterious or esoteric about this view of theory (although I recognize that there are some mysterious and esoteric theories abroad). It is, however, useful to think of theory from this perspective as intertwined with practice, as a different aspect of the same thing.

Theory as far as I am concerned, then, is best understood as an emergent property of practice. Theories are in part post hoc rationalizations—the plausible stories which we tell ourselves to account retrospectively for our actions.

The stories we tell as information designers are very limited, created to give coherence to certain episodes, which we call information design projects. The episodes themselves—the projects—are delimited by a kind of punctuation, like full stops or commas. The punctuation artificially marks moments in the continuous stream of life: the start of the project, the stages of its development and the finish of a design project. Thus, like the fairy tale that starts with “once upon a time” and ends with “they lived happily ever after,” the story of many design projects begins with “a problem” and ends with “a solution.”

Both these punctuated moments are constructed by us to give coherence and shape to our actions in the past so that we can shape our actions into the future. It is to these constructed stories, to which I give the name “theory.” Thus the type of theory I want to talk about is the accumulation and refinement of stories that my colleagues and I have constructed about our past actions, which we use to construct the future.

These stories take a modest view of the position of theory in information design. In the stories we create, as part of our work, you

will not find mention of such things as human information processing, attitudes or feelings. We make no attempt to offer an explanation of the cognitive processes relevant to understanding information, we offer no account of attitudes towards designed objects, and make no claims to know or understand the feelings and preferences that people have towards information artifacts. Indeed, we make no explanation at all.

These stories do, however, spend a great deal of effort exploring the dynamic relationship between people and the information they use. The primary focus of interest is on the dynamics of interaction—what happens in the space between people and information. The dynamics of interaction arises solely between people and information. It exists in action, in what people do with information and the way they use it to construct meanings appropriate for actions.

This leads to an exploration of the types of problems people have creating meaning from information on which they can act. And this is then followed by the development of designs that are appropriate for helping people overcome these problems. Thus the heart of information design practice is concerned with making information accessible and usable for people.

### **An opening question**

There are many ways in which information design projects arise. Sometimes organizations want to improve their communication with customers; they don't necessarily have a clear sense of what 'improvement' might mean, how to achieve it, or indeed how to evaluate whether or not they have achieved it. Or an organization might wish to inform its customers about new products or services. Whatever the ways in which projects arise, and there are far more ways than the two mentioned above, if the problem seems resolvable through information design, the focus should be on a particular question: what do you want people to do with the information you are giving them?

Notice how this question focuses on action. There is no focus here on people's attitudes and how they might be changed. Nor is there a focus on behavior and how that might be changed. Nor is there a focus on how people process information, or what they might or might not understand. Nor is there a focus on the problem, so much as on ways of moving forward.

Opening questions are ways of beginning a conversation with a client in order to explore beyond the problem domain; they are to find out what the client wants people to do with the information, and with what the people want to do with the information.

### **The five P's: principles of information design**

Guiding this opening question and the subsequent approach to solving information design problems are five major principles. By a happy lexical coincidence they can all be expressed in English using words that begin with the letter "P."

#### *1. Politics*

All information activities take place within a political environment, by which we mean that there are always particular organizational or personal interests at work in information activity. There are no disinterested players; even information designers see information design and its use from a particular point of view. Everyone has a stake in particular outcomes and they will use information and access to information for political purposes. These interests must be known and taken into account in any information design project.

Experience suggests that political factors are the greatest single threat to the outcome of an information design project. Dealing with them adequately can take 50 percent or more of the effort in any project, and requires particular skills and methodologies (For a more detailed

account see Sless D (2000) Experiences in co-designing). <  
[http://www.communication.org.au/cria\\_publications/publication\\_id\\_3\\_1312654719.html](http://www.communication.org.au/cria_publications/publication_id_3_1312654719.html)>

#### *2. Position*

By "position" I mean the logical relationship that exists between one information user and another. What people see and how they act in relation to information depends on their position within the communicative environment. This means that you should automatically expect any information artifact you create to be seen and used differently by different people depending on their position, and this includes yourself. Indeed, one of the most important professional lessons for a trainee information designers to learn is, firstly, an understanding of their own position within the process, secondly the effect this will have on what they can and cannot see from their position, and thirdly the steps they need to take to overcome these positional limitations. As trainee information designers rapidly discover, they have very limited control over the communication environment in which they work. They cannot easily control their own position, nor the position of others. They cannot expect to create a consensus about the meaning and usage of a particular information artifact between people who occupy quite different positions within the information landscape. But they can also learn that it is not necessary for everyone to agree on the same meaning they construct when using an information artifact. It is, however, important that the artifact seems appropriate to everyone from their particular positions even though what they see might differ. These positions need to be known and the logic of positions governing them needs to be applied so that the relationship between people, the information they are using, and the position of other people within the landscape can be mapped out. (For a more detailed account see: Sless D (1978) A matter of position) <  
[http://www.communication.org.au/cria\\_publications/publication\\_id\\_61\\_1949863768.html](http://www.communication.org.au/cria_publications/publication_id_61_1949863768.html)>

### 3. *Parsimony*

A well-established and successful principle in science, called Occam's razor, can be applied with equal success to information design problem solving. Simply put, the principle states that one should not resort to elaborate and complex accounts if an equally good simple account will do.

There are compelling aesthetic and intellectual reasons which drive the quest for simplicity. There are also, of course, the real-world imperatives driving designers towards solutions that are simple and economical, though it does not always follow that the most elegantly simple solution is the most economical to achieve. As many designers know from experience, achieving simplicity can take a great deal of effort. Nonetheless, the principle of parsimony is important in shaping our intellectual and aesthetic projects.

Beyond the aesthetic and intellectual reasons specifically concerned with information design craft, there are more general reasons for choosing simple intellectual strategies.

Put simply, we work with people to arrive at useful outcomes—and we do not need to posit minds, ideas, attitudes, etc. to do so.

Direct one-on-one conversations with people using information, observing their actions and discussing their actions with them, is the most reliable method for diagnosing information usage problems and arriving at workable solutions. Such collaborative conversations with users, in which designer and user together diagnostically test the usability of a design, offers not only the most productive investigative methodology, but also one of the most economical.

Conversations conducted one-on-one with as few as six people in each round of a series of iterative design and modification cycles offers the best return on investment of time and effort in exploring the dynamics of interaction between people and information. The patterns of interaction that such conversations reveal—though non-predictable from starting conditions, and having limited stability over time—are sufficient to diagnose major failures in a design and to develop potential ways of overcoming the failures

This conclusion has not been arrived at lightly, but after much analysis of alternative methodologies and findings in the published research. As a result of this analysis, my colleagues and I have concluded, against the prevailing constructivist view, that a knowledge of mental models, cognitive processes, attitudes, beliefs, preferences or feelings does not help us solve information design problems, but direct conversations with people using information does.

Such a view might seem to be heretical. It certainly marks out one of the cardinal differences between a constructionist and constructivist point of view. Indeed, taking a broader view, one can see that the constructionist position breaks with one of the most enduring intellectual projects of the twentieth century, in which theory has been elevated above practice to argue that there are underlying principles and rules that guide practice.

Throughout this century, many of the intellectual projects in the behavioral and social sciences, in the humanities, and in the arts have been concerned with attempts to develop such theories. This "turn to theory" has become so much part of ordinary thinking in our time that many people hardly notice it as an aspect of our culture and treat it as if it were part of the natural order of things: that underlying all surface phenomena there must be deeper causes and explanations. But this view, like any other, is something that people have invented in order to

give intellectual coherence to lived experience. People have created plausible metaphors to live by.

The root metaphor for these various theoretical projects is to be found in the notion of a foundation of underlying principles and rules: the idea that there is a substrate—a hidden layer of activity—which powerfully controls the surface phenomenon. For example, the Gestalt rules of visual perception structuring what is seen; attitudes and feelings shaping behavior; human information processing shaping reading; deep structures shaping language use and so on. In each case, the substrate, which is entirely hidden from direct observation, is presumed to control the observable surface phenomena: that is what is seen, the behavior, reading, language use and so on.

One of the consequences of these theoretical projects is that the presumed underlying activity is treated as if it had objective, even material, status. Thus, for example, instead of talking about what people need, we talk about people having “needs.” Such reification gives an altogether misleading impression, endowing vague, hypothetical and, by definition, hidden states with objective status.

This view and the methodologies it has created—such as experiments, surveys and focus groups—have been extensively used in information design research to “reveal” the underlying processes that control and explain information users’ behavior. While it has led to some intrinsically interesting findings, and some modest improvements in design, the evidence shows that this way of thinking and its attendant methodologies do not directly generate action oriented outcomes.

I have no doubt that many people who have invested their careers and reputations in the application of these methodologies to information design will find the view I have just developed totally unacceptable. I

can only counter with the observation that there are simpler pathways to enable action.

As I shall go on to illustrate, what is generally called usability testing and protocol methodology is much more readily described as conversations arising from simple politeness.

#### *4. Politeness*

Information design is for us a polite craft, a considerate craft, one devoted to helping people and providing them with information they can use. The conversations we have with people in doing this craft are an expression of that politeness. Underlying politeness is a profound respect and valuing of others.

It is within this respect and valuing that the aesthetic and moral dimension of information design finds its expression. Good manners and good design go together.

As part of this respect and valuing, it makes polite sense to consult users of information and find out what they want to use the information for and what difficulties they might have in using it, before proceeding to give them the information. It also makes polite sense to go back to information users to check whether the solution we have created for them will enable them to use the information appropriately.

Equally the material form of a design, the manifest evidence of fine craft and skill, the attention to detail and the creation of visual delight and pleasure for others, is all part of valuing and respecting others.

It is also important to observe that such things are a matter of specific social context: they cannot be prescribed in advance by some universal rules—a lingua franca, a scientific methodology, or a formal protocol.

They are necessarily the product of mutual interaction and sensitivity—an appropriately polite dynamic of interaction.

### *5. Performance*

Business and governments are interested in successful outcomes, and it is the responsibility of any profession to stand by its work and offer some guarantee of outcome and quality.

But this is not the same as prediction. Constructionist thinking argues that we construct our social reality in and through conversation. Thus meaning and knowledge are emergent properties of the system, not inputs or outputs.

To biologists studying complex ecosystems this notion of emergent properties will already be familiar. Biological systems produce complex self-sustaining patterns from sometimes very simple starting conditions. But as the recent research on complex systems shows, the form and behavior of the self-sustaining patterns are non-predictable from the starting conditions. It is not possible, even with a complete knowledge of the starting conditions, to predict the type of patterns that will emerge from such biological systems. Likewise in communication, meanings emerge in a non-predictable way out of conversation. When we take part in conversations we construct meaning and sense out of the process, and frequently we do not know what the outcome will be until we participate. Thus, the interactions between people and computers, between people and documents or between people and wayfinding systems are like conversations. In all these examples, as in conversation, usage emerges in a non-predictable way out of interaction.

It is important to note the distinction between unpredictability and non-predictability. In the former, prediction is beyond reach because one does not know all the relevant variables and how they interact

within a system. In the latter, prediction is impossible because of the inherent nature of the system itself.

In practical information design work, however, there is a real imperative to produce measurable performance levels of usability. The answer lies in the conversations we have with information users, followed by modification, and then followed by further conversations. It turns out that the best indicator of how people might use information tomorrow is how they used it today.

But this is a very limited form of prediction, if indeed it is prediction at all—trying to hold in stasis a shimmering pattern, a constellation of actions and events that at any moment might change and transform into a new pattern. Moreover, once one looks beyond the specific instances of interaction to the institutional and social context in which the information is used, it becomes even harder to hold that larger system in stasis or even in a stable dynamic configuration.

Thus it is possible to make short-term predictions, but my best estimate is that six months is a long period of stable performance.

One consequence of this short-term stability is that organizations wishing to maintain optimum usage of information must continually monitor what is happening so that they can continually fine-tune or modify their designs.

In practice, the only way to do this is to put in place either direct or indirect measures of information usage, to routinely monitor the changing patterns of usage. But to do so we have found it necessary to begin from a specification of what one expects the information usage to be in the first place. In other words, one has to have some way of judging the performance of a design—how easily or successfully it is

used—and continually measures its performance against a set of established criteria.

For example, in the provision of consumer information on medicines, we found that it was possible to lay down a precise minimum criterion which stated that for a document to be accepted 80 percent of literate consumers should be able to find information that they need and use it appropriately (Sless and Wiseman 1994).

But it is extremely important to emphasize that performance measures are not an end in themselves. The criteria for good design, which may include consideration of aesthetics, efficiency, equity and economy, need to be established prior to establishing performance criteria. It is only when one knows what is important to success and what priority to assign to particular criteria, that one then decides on the particular performance measures to be used. However, at the focus of this concern with measurement is the question we started out with: what do you want people to do with the information you are giving them? A performance measure must in the end tell you whether or not people can indeed do what you want them to do with the information you give them.

### **Conclusion**

Necessarily, I have given you a highly simplified account of constructionism applied to information design practice. But I hope you will find this useful as a guide to your own practice. In those situations where decisions have to be made rapidly and corners cut, I would make a plea for you to always retain the principle of politeness and the practices that flow from it.

It seems to me that information design as a field is at its best when we value and respect others, and what we do would no longer be information design if it were not done out of politeness.

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