MODELS

A Primer for Doblin Group

Bradd Shore
Emory University
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A MATTER OF PERSPECTIVE

The New Yorker once featured on its cover a map of the world that was to become famous and reproduced in many amusing variations. This was Steinberg’s “A New Yorker’s View of the World,” a cartoon-like rendering of a big chunk of the world beginning on the East Side of Manhattan. It covered in some detail city landmarks familiar to the well-heeled readers of The New Yorker. It then went on to encompass in increasingly vague detail the Midwest, the West Coast, the Pacific and Asia. Each area was marked by appropriate conventional icons of famous landmarks outsiders associate with those areas (i.e., the Golden Gate Bridge, the Rockies, and a pagoda).

What was it that so amused people about this map that even non-New Yorkers would chuckle? Steinberg had created a public image of the mental model that some New Yorkers might well have of the world. It was a model with New York as the center and the rest of the world at the margins. And it was a powerful and humorous evocation of the New Yorker’s insularity. More generally, it was a map of someone’s experience of the world, a public representation of a personal point of view. And while only a small number of people actually see the world from that particular point of view, people quickly got the general point: that everyone visualized the world from some point of view.

What followed was a fad for producing maps of the world from different perspectives. One particularly effective tee-shirt showed the world from an Australian’s point of view, an upside-down map with the Southern Hemisphere on top. It was weird and disorienting. And it brought home especially well the point that all models—even those claiming a neutral stance—represent someone’s point of view.

In some sense it’s obvious that all models are particular perspectives. But in another sense it is eye-opening to consider the implications of this fact. So many models are standard for us, and taken for granted, that we come to think of them as natural or perspective-neutral or objective representations of the way things actually are. Our globes seems to us to be the way the world really is. North America is (of course) on top, and Australia is down under. And everything is labeled in English. But of course there is no “up and down” from an astronaut’s-eye-view of the earth, no labels and no neutral way to represent it.

The same goes for virtually all models. How would an ant or an elephant model the same rock? Every model represents a particular relationship and an implicit purpose. With this in mind, we can understand the importance of user research at Doblin and its link to strategic and design models. Good user research helps companies to adapt their models of products and services to the point of view of the customers for whom the products and services are intended. Use the wrong model, take the wrong perspective, and you end up with poorly designed products, services and environments. Which is just plain bad business all around. This is where Doblin Group enters the picture.

Special thanks to Ben Jacobson, Inga Treitler and Tom Mulhearn of Doblin Group for helping me to organize this essay and to take my thinking about models in directions useful to Doblin Group.
This essay is intended as an internal primer for Doblin Group’s own staff of designers, researchers and strategic planners. It brings together insights from anthropology, cognitive psychology and semiotics on the role of models and modeling in human life and highlights their relevance to the diverse activities of Doblin Group.

Doblin Group’s mission has not always been easy to convey to potential clients. In part this is because Doblin Group brings together a kit of design and analytical skills that are generally associated with several different kinds of companies. The notion of modeling as developed in these pages presents Doblin Group with a kind of umbrella image under which all of its activities can be conceptually linked. Though this essay has been written as an internal document, it can also serve as a kind of conceptual springboard for putting together a set of integrated and concise pieces for clients on Doblin’s various modeling capabilities. The essay ends with the claim: “Doblin Group’s expertise is modeling, all the way down.” Let’s begin our exploration of these seminal concepts of modeling and models to see why I think this is no overstatement.

MODELS, EVERYWHERE

Human beings are virtuoso makers and readers of models. We all already know a lot about models. They’re everywhere around us. For many in our culture, “models” point to fashion, living mannequins posing in magazines or on fashion runways, with the talent and the bodies to make clothes look appealing. Models of a different kind are also found on the street. Signs, traffic lights, traffic cops directing traffic flow with arcane hand signs, buildings designed so we know immediately what goes on in them all serve to model complex messages.

And then there are the cars. We can instantly recognize many kinds of vehicles on the street, though some of us are better at this than others at fine grained model identifications. Vehicles come in all sorts of models, and a hierarchy of genres. Each “model year,” new models roll of the production lines of the major auto manufacturers. In fact car enthusiasts can use changing car models and as a kind of calendar to mark the passing of the years.

If you can’t drive yet, or don’t have the cash for a car, you can always buy a model car kit at the local hobby shop and assemble a new scaled-down car for yourself. Use your real car to get somewhere unfamiliar and you’ll most likely need a model of the area you’re traveling to—a map. These come in lots of formats, and in many degrees of granularity. Modern computer modeling of places allows us to instantly “zoom” in or out of an area, changing the granularity of the map depending on our needs.

Kids seem especially drawn to models. This is because kids (adults too!) rely on play models of reality to learn about grown-up skills in a safe way. Girls are often drawn to scaled down babies or young girls—dolls—and to play houses. Boys seem to prefer miniature vehicles, weapons and soldiers. Other play forms like games, nursery rhymes, movies, and bedtime stories also serve as relatively safe play models for learning about life and dealing with things that scare us on a controllable scale. And when kids learn their lessons well, grown ups will point to them as “model children” or “model students.”

More advanced students continue to play with models in order to learn, but we call these models things like “novels,” “theater,” “sports,” “theories” and “experiments”
and “concepts.” In fact all these are still play models. And because they are models of reality rather than the real thing, they let us experiment with reality in controlled, scaled-down ways. Sometimes, however, it’s pretty serious play.

**BUSINESS MODELS, USER MODELS, DESIGN MODELS**

In a less playful vein, companies use many kinds of models to help track sales, markets, consumer trends, and business strategies. They’re not always called “models” but they are models. We know them as graphs, sales forecasts, consumer trends, strategic plans, production schedules, stock trends and the like. Economists specialize in making models or all sorts of human transactions. Taken together such economic models make up a kind of super model we call “the economy.” Furthermore, the ability to make effective strategic models is an essential skill for any company that is to thrive in a dynamic and competitive environment.

Scientists also model reality, but their models tend to be called “theories.” Sometimes, as in the case of the chemist’s molecular models, scientific models take a very concrete physical form. In other cases they take the shape of algorithms or mathematical equations. Statistical patterns are still another way to model the natural world. And finally, the typical case study is a particularly effective kind of model for revealing the characteristic qualitative features of something under study not brought out by statistical models. Case studies are especially useful in modeling certain aspects of human life.

Scientists all assume that nature is understandable to them because it is organized in patterns. These patterns—like the double helix structure of DNA or the structure of the atom—might be thought of as nature’s models or God’s. With the right toolkit, these patterns can be observed and represented in simplified form as theoretical models.

Just like natural scientists, social scientists also study models and produce models. Rather than atoms, molecules, or cells, social scientists observe family patterns, personality structures, cycles of economic behavior, patterns of language use or cultural patterns that distinguish one community from another. If human behavior weren’t already patterned, social scientists wouldn’t have anything to discover. But fortunately for them human life appears to be so thoroughly modeled in so many ways, that social scientists are unlikely ever to run out of things to study.

**User research** is a kind of social science which studies the implicit models that underlie the patterns of consumer behavior. Based on careful observations of consumer behavior, researchers construct simplified models—frameworks—of what they observe. When done right, frameworks and other models have the power to bring into vivid relief otherwise hidden patterns of user behavior.

Artists and designers are really specialists in creating new models out of old ones. Artists such as musicians, painters, sculptors, writers or dancers model the world of sight and sound, word and movement. Good art produces pleasure and insight by crystallizing significant forms in every sensory mode. What we call “aesthetic” pleasure is really conditioned by the human love of finding emotional and intellectual meaning in models. Pure art is the joy of modeling for its own sake.

Designers are also modelers. But design models are more tied to practical functions than is art. The challenge of good design has always been the perfect union
of significant form and function—a work of art you can sit in, or eat with, or drive, or wear. Well designed environments work because they bring together function—a deep understanding of how an environment is actually used by people—with an artist’s sense of significant form.

NO MODELING, NO MEANING

Clearly, we could go on identifying models everywhere. Yet this very pervasiveness of models is also cause for confusion and doubt. In this broad view of models, it seems as if almost everything is a model. But if something is everything, it’s also not anything in particular. Which means it’s hard to get a handle on just what a model is. It’s true that the term “model” can be used in so many different ways, it leads to inevitable questions. Do all these different uses of “model” have anything important in common? Is there anything that is not a model? Why include so many diverse things under one umbrella concept? These are tough questions, but fair ones. The rest of this brief will try to answer some of them.

The reason that models can be used in so many ways is that modeling is a key part of understanding anything. To understand something in a clear way, and especially to communicate it to others, we need to model it. Now it just so happens that the human nervous system is a marvelous modeling tool. The brain is constantly generating models in the form of electrochemical patterns—neural networks. The brain is also continually monitoring the external world through its sensory portals, seeking patterns in the world to model neurally. When our brains can match external patterns with those already stored in memory, we get “meaning.” So meaning is both a kind of discovery of the world and a kind of recognition of what we already have in mind.

People also fill their external worlds with home-made models of all kinds. Evolution endowed our species with the ability to project our internal models into material forms. The sapient hominid is also Homo faber—maker of artifacts. Our penchant for physical modeling is built in to the design of our hands. Compared with those of even our closest primate cousins, human hands are quite distinct from our feet. These feet were made for walking. The “foot thumb” gradually shortened into a big toe, poorly designed for grasping but very good at balancing the upright body of a creature making its way on two legs. By contrast, our hands are equipped with a fully opposable thumb, very nimble fingers and zillions of nerve endings at the tips of our fingers. These hands were made for precise manipulation. With the help of a big forebrain, humans extended these manipulative capabilities through the invention of tools, both physical and symbolic. And if you think words and other symbols can’t manipulate the world, just try crying “fire” in a crowded subway station.

These home-made models that people project into the world are not just physical things. True enough, many public models do take the form of objects, both natural (such as the sun as a way of keeping time) and constructed (a clock). But public models can also take less concrete forms like spoken words, or repeatable behavior patterns such as a handshake or a bow. What all these models share is that they are projections of mind into the public world. They become objects for mutual orientation, the familiar symbolic furnishings of human environments.
It is perfectly possible for humans to create purely personal and private models. But most models people project into their social worlds are not purely personal models, but social models. They are made available for communities, packaged in forms that allow these models to be socially stored, repeated and transmitted. This is how models-in-the-world become “institutions” or “instituted models.”

Humans also developed the ability to internalize models, turning external models into models-in-the-mind, what scientists call mental models. Even newborns seem to have some innate mental models—reflexes we sometimes call them—such as the pattern of the smiling human face to which infants respond very soon after birth. The socialized adult carries around an untold number of mental models, most of which are acquired from experience. This vast stock of mental models represent possible states of the world simplified, schematized into an easily remembered format, and stored up for potential use in negotiating an ever-changing landscape of experiences.

Our penchant for mental modeling is built into the human brain. Primate evolution left us with a dramatically expanded forebrain, language areas and association cortex. The old reptilian and mammalian brain cores didn’t go away of course. But they were literally overrun by the brain’s newly expanded cortex—the proverbial gray matter. This meant that most of our responses to the world would be inevitably filtered through layers of complex symbolic models. No aspect of the human mind has received more attention than language. Language is usually thought of as a communication tool, which it is. But equally important is the fact that language is perhaps our greatest tool for modeling reality, more powerful even than our hands.

Together the mind and the hands model the world for us. Through this back-and-forth modeling, aspects of world are brought literally to mind and aspects of the mind are projected back into the world. So important is this joint modeling activity of the mind and of the hands that we might say: “No modeling, no meaning.” No wonder then that models seem to be so important in our lives.

**MAKING SENSE OF MODELS**

We wondered above whether anything could be a model. The simple answer was that anything that we hope to understand clearly and to communicate to others has to be modeled in some form. But models come in so many different forms and perform so many different functions, that if the notion of a model is to be at all useful, it really needs to be broken down quite a bit. Models do all kinds of work. They help us orient ourselves to the world and to each other. They make it possible for us to remember, to think and even to feel. And models enable us to communicate these thoughts, memories and feelings to others. Through models we tell, we ask, we propose and we try to convince others. Finally, we use models to control and manipulate our environments. So far as form is concerned, models come in myriad shapes, packaged in many media and they take advantage of all of our senses. We will be examining the many forms and functions of models in great detail. Before we get to these detailed categories of models, let’s start by trying to define what we mean by a model in general. Then to begin putting some flesh on this complex concept, we will examine several important distinctions we can make about different kinds of models.
WHAT IS A MODEL?

A model suggest both a thing and a process. As a thing, a model is a representation of something else—"the modeled." Sometimes "the modeled" already exists. At other times it’s only reality is in the eye of the modeler. For something to serve as a model for something else it must be in some sense more easily understandable. A model of something is usually *more readily understandable* in a whole variety of senses. Below is a table summarizing the main ways in which models enhance understanding.
To enhance understanding, a model is simplified in one or more ways. A model can be:

<table>
<thead>
<tr>
<th>Models</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stripped of detail</td>
<td>to reveal only relevant features. Compare a map of a city with a city, or an architectural plan to a real building.</td>
</tr>
<tr>
<td>Reduced or enlarged in scale</td>
<td>to make the model easier to perceive than the modeled. Maps and molecular models are good examples of how models can work both by reducing and enlarging scale in the interest of comprehension.</td>
</tr>
<tr>
<td>Reduced in dimensions</td>
<td>usually from 3 to 2 dimensions. Maps, architects’ drawings and models usually are two dimensional, often showing different views of the same object through a series of views.</td>
</tr>
<tr>
<td>Reduced in sensory properties</td>
<td>Schematics are not usually in color. Even color maps do not or naturalistically, but to categorize types of features. Black and white photos are models in this sense of reduction, as well as scale changes. Most visual models use only one sense, while the thing modeled normally be experienced in a variety of senses. Perfumes model a person or relationship with a beautiful sense.</td>
</tr>
<tr>
<td>Reduced in quantity</td>
<td>A statistical or mathematical model represents a large number of instances in a single formulation. A prototype or a case study represent many particular things through one (or at best a few) exemplars.</td>
</tr>
<tr>
<td>Part-for Whole</td>
<td>The White House or the Capitol Building can model the U.S. Government, but it does so only as a small part standing in for the whole. Exemplars (like robins) model whole categories (birds) as they are appropriate stand-ins. What kinds of things can model classes as part-for-whole stand-ins? Some good candidates are things which are typical, famous, noticeable, original, recent, prestigious.</td>
</tr>
<tr>
<td>More concrete</td>
<td>Many models use abstraction to bring out the general features of something. In certain cases a model may help us understand something abstract by making it concrete. This is the case with exemplar models, and with case studies. As general concepts, sadness or desolation are hard to grasp. It can render these conditions in a face or a story or a powerful musical piece and allow us to experience a model.</td>
</tr>
</tbody>
</table>

Models are good to think and feel with. They also allow us to manipulate features, to experiment, to play and to reconfigure things much more easily than we could do with the thing being modeled. So models are not just things, but point to an activity—modeling—which is an active process of simplifying, manipulating, focusing in the interest of making something more intelligible.

**SOME HANDY DISTINCTIONS**
With these general features of models in mind, we can now turn to some basic distinctions between different types of models. Though there are many distinctions we could make about models, four are particularly important for our purposes.

We’ve already seen that in terms of their location, models come in two basic forms: models-in-the-world and models-in-the-mind. Often this distinction is not clear when people talk about models. But it is a very important distinction. As we noted earlier, one of the hallmarks of human intelligence seems to be the input-output give-and-take between the mind and the world. Mental models (ideas, mental images, feeling states) have a way of finding their way into concrete forms. Explicit representations like words, or paintings, or gestures are literally re-presentations of mental images, the mind made matter. And conversely, many of our most intimate thoughts and feelings are modeled on something or someone in the world.

2. Users’ Models vs. General Models
This distinction has to do with point of view. While there are potentially an infinite number of particular points of view that crop up in models, two are of special importance. Users’ models need to be distinguished from general models. A general model attempts to represent something simultaneously from many points of view, or from no particular point of view, depending how you look at it. A good example is a city map. The actual point of view seem to be that of a bird equipped with special vision capable of seeing street outlines and general outline contours but no buildings or other objects. This kind of map rises above any normal person’s point of view in order to provide a generalized perspective usable by anyone anywhere in the range of the map. It tries to coordinate lots of potential perspectives.

By contrast a users model takes the point of view of a particular individual situated somewhere on that map. The New Yorker cover mentioned above was just such a map. When someone asks you for directions you can choose either kind of model. If you use perspective-independent coordinates like “east” and “west” in your directions you’re implicitly using a general model. But such models are hard for most people to use (many can’t place themselves on standard maps, either). More common in giving directions are user’s models in which the direction-giver places herself mentally in the shoes of the direction-asker and walks or rides him from landmark to landmark,
using markers like traffic lights, street names, and user-specific coordinates like left and right.

The irony is that while user models are much more intuitive for individuals, many products and environments appear to be designed from general models, i.e., an overhead point of view (the way conventional architect’s renderings or mechanical diagrams conceptualize an environment or design object). This kind of mismatch between a model’s perspective and its intended audience is a serious problem for anyone trying to reach that audience effectively.

3. Models Of vs. Models For

A detailed description of a landscape, a sketch of the landscape and a photograph of that landscape are all models of a pre-existing reality. They are descriptive models. By contrast, a landscape architect’s plans for a new park and his mental images that he used to imagine the park are both models for an intended reality. They are prescriptive models. The fact that we call both of these things “models” suggests their intimate links, the transformations models undergo as we take in what’s already there, transform it mentally and then project a new vision back onto the world. Models of reality are often in transit, on the way to being converted into new models for reality. And vice versa.

This give-and-take between prescriptive and descriptive models has something to do with the key role of analogy in creative intelligence. Cognitive psychologists, poets and linguists have long suspected that our ability to make analogies is a basic form of human intelligence. “I cherish more than anything else the Analogies” wrote the scientist Johannes Kepler, who called analogies “my most trustworthy masters. They know all the secrets of Nature . . . .” The scientist’s sentiments were echoed by those of the writer. Herman Melville, put it this way:

\[O \text{ Nature, and } O \text{ soul of man! how far beyond all utterance are your linked analogies! not the smallest atom stirs or lives on matter, but has not its cunning duplicates in mind.}\]

Analogies use what we already know as a bridge to something new. This is why we find ourselves grasping for similes and metaphors when we struggle to comprehend something unfamiliar or hard to understand. An analogy takes a model of something more familiar and turns it into a model for something less familiar. In this way what is becomes what might be. And under the right conditions what might be can eventually become what is. And so on. We know this process as creativity.

Prescriptive and descriptive models depend on one another in all creative activity. At Doblin Group, user research—summarized in Activity Briefs—and secondary research on economic and technological trends—summarized in Arena Briefs—are largely descriptive models. By contrast, the design models and strategic business plans contained in our Innovation Briefs tend to be prescriptive models, food for our clients’ imaginations. Clearly both families of models enhance one another. Only by accurately modeling what is can we create effective models for what might be. This is why Doblin Group’s teams are put together to optimize the integration of user research and arena analyses with strategic planning and design.
4. Mechanical Models vs. Statistical Models

This distinction was made famous by the French anthropologist Claude Levi-Strauss. The difference is easily intuited from examples. How do we best understand, say, the French family? One way is to present a vivid and detailed case study, a description of a particular French family. Another way is to collect a vast sample of behaviors of a cross section of French families and present a model of French family life in the form of a statistical profile of behavior distributions. The first approach uses a mechanical model; the second uses a statistical model.

Both kinds of model simplify the French family in the interest of intelligibility, but in different ways. The mechanical model is qualitatively rich, descriptively subtle but uses a very restricted sample. The statistical model is qualitatively reduced (particular people and events are reduced to quantitative “instances” of general types), but broadly representative of an entire population.

Mechanical and statistical models are both powerful ways to model reality, and have complementary advantages and disadvantages. Not surprisingly, Doblin Group uses both kinds of models in its work. User research, activity briefs, design models and innovation briefs all stress qualitatively rich mechanical models. Business analyses and arena briefs use both mechanical and statistical models. Most market research is limited only to statistical models. The power of Doblin Group’s approach is tied to its recognition of the complementary power of both kinds of modeling and the synergy derived from combining them.

WHAT MODELS DO

Models help us organize our worlds and perform complicated tasks. They orient us in time and space, and in our complex social worlds. Without models we wouldn’t have clear thoughts and feelings. And we certainly couldn’t communicate anything with any reliability to anyone else. To help get a handle on the variety of things models do for us, it is helpful to group models into very general functional types.

What follows is a list of five global functions for models. Though these five functions are hardly exhaustive, and there’s inevitable overlap among them, they summarize many of the important functions of models in our lives.

1. Conceptualization
2. Orientation
3. Task Management
4. Control
5. Play

Types of Models: Functional Distinctions

As we’ll see, each of these general categories has its subdivisions. In fact there’s virtually no limit to how fine-grained our functional classification could go. But without going into too many levels of distinction, it is illuminating to survey in a bit of detail some of these functional subdivisions into which we can place models.
1. CONCEPTUAL MODELS

Conceptual models serve the general psychological function of allowing us to formulate our experience in the form of images and memories, thoughts and feelings. Almost the whole of our inner lives is governed by conceptual models. We can debate endlessly whether we can really experience thoughts or feelings that have no form. Maybe we can, maybe we can’t. What is clearer is that such unmodeled experiences tend to be fleeting, relatively inaccessible and incommunicable. Like all models, conceptual models have two lives. They live within each of us as private forms of feeling and thought. And they inhabit our public spaces, as models-in-the-world. Sometimes we need to experience such overt models in order to know how we think or feel. We do this when we rely on the ideas or representations of others, or when we talk aloud. Often we don’t know what we believe until we can see or hear it. Speech, forms of writing, all art forms, mental imagery and rituals are all examples of conceptual models. Let’s take a closer look at five important kinds of conceptual models:

| X | Language models |
| X | Image models |
| X | Emotion models |
| X | Organizational models |
| X | Memory enhancement models |

A. Language Models

Sometimes we use language to reformulate concepts and experiences that we acquired in other ways, so that we can express them to others. On other occasions language is the primary medium for formulating concepts. Language might be thought of as the great “pickler” of experience. In all its forms, language allows us to displace our experiences, and save them up for future uses. Through words we can capture a whole variety of feelings, sensations, memories and experiences and preserve them in a form that we can readily call up and pass on to ourselves and to others at some future time and place.

So powerful is language as a way to conceptualize experience that children often confuse words with the things they represent. “Say ‘please’” we tell them, as if it is a magic word. Children’s stories are full of power words and wishes that affect the world. This is all “word magic,” a potent marriage of word and deed. The power of words to stand in for reality is no secret to advertisers, poets, magicians and religious leaders. It is amply attested to in the Bible. “In the beginning,” The Gospel of Mark tells us, “was the Word. And the Word was with God. And the Word was God.” Genesis assures us that, if the speaker is right, whole worlds can be literally spoken into creation.

B. Image Models

Image-based models are very different from language models in their power to conceptualize experience. Language is linear, and requires us to chunk our experience into units and sequence it in time and space. But images are more direct. They are perceived holistically and are often more emotionally evocative, at least at first sight.
No one, with the possible exception of artists and movie makers, understands the conceptual power of imagery better than advertisers.

C. Emotion Models

At first blush, nothing seems further from models than the emotions. Emotions seem utterly resistant to modeling. They flow, overlap, transmute themselves, and are generally hard to pin down. Yet emotions are in fact modeled in several different ways. The body is primed to model primary emotion states like fear, rage and surprise by a patterned marshaling of physiological responses to emotional experiences, response including heart rate, blood flow, endocrine production and body temperature. People read some of the more visible of these body markers in others as models of their emotional state. And they monitor their own inner feeling states to check on how they are feeling. We check these inner feelings in part to know how we are responding to the world. Feelings act as prompters for us, a second level of evaluation, much like the musical accompaniment in movies or opera.

Less obvious perhaps than the more universal aspects of emotion modeling are the specifically cultural models that we learn for how to feel and how to express our feelings. Emotion states have their specific names, associations, body postures, related stories etc., so that in great part we have to learn how to model our feelings. The limbic system of the brain, the old brain, is often said to be the control area for emotions. This has led many to assume that emotions are not subject to higher level cognitive control. Yet many (though not all) of the pathways from the limbic system go through the cortex, and are subject to a kind of secondary evaluation and filtering from learned models. So however we may feel about emotions, our emotional life is in fact modeled all the way down.

Music seems to have a special relationship with the emotions. The power of music seems to be that it speaks the language of our feelings more directly and powerfully than almost anything else (except perhaps smell). So musicians might be thought about as people who crystallize our deepest feelings in a publically accessible and shareable form. Ironically, Western music theory is a highly cognitive and analytical system for arranging tones. The result however is usually anything but analytical.

D. Organizational Models

An important part of conceptualizing is organizing the things we experience into frameworks that simplify our understanding of them, are easy to recall and communicate, and useful in everyday life. Language makes it relatively easy to organize the world through all sorts of classificatory schemas. For instance, grammatical classes provide frameworks by which language orders time and space, objects and actions. Every language contains numerous taxonomies for organizing our experience of domains like color, disease, social relationships, days of the week, numbers etc. Such category models are so pervasive and important in conceptualizing reality that we generally don’t think of them as models at all. Our categories seem to us simply to mirror reality, and it is only when we compare categories across cultures and languages that we realize how much our thinking is dependent on classificatory models.

Categories are just the most basic kind of organizational models. In fact it is mind-boggling to contemplate the sheer number and variety of organizational models in
a complex society like our. Books of all kinds, from telephone books, to account books, address books, dictionaries and encyclopedias are organizational models that depend on writing. Other organizational models like catalogues or color charts or the periodic table of the elements use pictures and colors as well as words. Doblin Group employs specialists — information modelers — who produce highly sophisticated organizational models for conceptualizing and displaying complex data. Frameworks, diagrams, lists and briefs and several locally developed sorting programs for the computer are favored organizational models at Doblin Group, though others may be found as well.

E. Memory-Enhancement Models.

Starting with the invention of the printing press in the mid 15th, we have experienced a dramatic increase in our capacity for external memory storage. It is fair to say that the geometric growth of these external forms of memory — books, libraries, computers, the Internet, the World Wide Web have also taken their toll on our personal memory. Scholars have repeatedly documented the dramatic loss of memory skills that accompanies the transition from oral to written cultures.

Before technology began to supplant the individual’s memory, forms of collective memory had long been around in the form of oral traditions and especially of ritual. Modern social models for remembering and forgetting include ritual, textbooks, educational curricula, and the mass media, whose representations have a powerful impact on what is remembered.

At a more modest scale, we also have all sorts of more homely mnemonic models. Here are some examples:

X mnemonic devices for remembering important things: “thirty days hath September. . .”; VIBGIO (colors of the visible spectrum), post-it notes are all mnemonic models for recalling useful information

X small framed photos of loved ones

X perfumes leave a powerful memory trace of the wearer

X songs: why can we remember every lyric we ever sang but can't remember what color socks we have on today? Rhythm, rhyme and melody have always aided memory

2. ORIENTATIONAL MODELS.

A popular folk songs assure us

I know where I’m going, and I know who’s going with me.
I know who I love, and my dear knows who I’ll marry.

All people must continually orient themselves to their worlds. Orientation is an ongoing process, as we are constantly updating our relations to our surroundings. Whereas organizational models help us to order the world, orientational models (which are
sometimes also organizational) function to locate us in our worlds. The many orientational models are all connectors orienting us

X in space

X in time

X in a world of social relations.

A. Spatial Models.

Our most basic models for spatial relations are built into our nervous systems. To physically navigate the world we must learn how to model our senses like sight, hearing/balance and touch. Many of our most basic orientation models are actually learned through experience. Congenitally blind people given sight have to learn to see in such a way as to orient themselves through this new modeling medium. Spatial orientation draws on many pre-stored mental maps that we use to get around or to orient others to our world. Bird’s-eye-view mental maps are very different from the kind of dynamic point-to-point egocentric maps we use to move through a familiar space. These two types of maps (above we’ve called them general models and users’ models) seem to be stored in different areas of the brain. Many of our spatial models are instituted models, part of our kit of cultural devices for orienting people in space. Maps of all kinds are the most common examples of spatial models, but there are also others. Australian aborigines modeled complex spatial relations and migration routes in songs and in bark paintings. Micronesian navigators used star charts and wave patterns as navigational models.

B. Temporal Models.

Temporal orientation includes biologically based models like circadian rhythms or internal “alarm clocks” and physical features by which we identify others in terms of their stage of life. Temporal models also include a whole host of cultural time-keeping devices. Calendars, clocks, sundials, feast cycles, conductor’s batons, life-histories, and genealogies are just some of the many ways people around the world model time. We live simultaneously in many models of time. Abstract computed time that clocks made possible is a relative newcomer on the scene. And important as it has become, it is hardly the only sort time we model.
C. Models of Social Relations.

In the course of our lives each of us belongs to numerous groups and social categories which taken together define our complex social personality. Without models of social relations, we would have a hard time understanding and communicating these social statuses. How many social designators can you think of that fit you? Here are some examples: male, teenager, democrat, Smith, daughter, uncle, Ms., gay, girl scout, middle class, Baptist, freshman, engineer, sales manager, registered voter, fullback, private first class, teamster and beginner. Each of these terms points to one or more schemes of related classifications and so each is one element of a particular model of social relationships. In simpler societies kin relations and marital relations were the basic model for almost all social relationships: economic, educational, religious and political. But as societies became increasingly complex, the number of distinct models for social relationships increased geometrically.

3. TASK MANAGEMENT MODELS

People spend much of their lives performing tasks. Sometimes tasks are one-time events, but mostly they are repeated tasks: taking out the garbage, brushing your teeth, making dinner, shopping, driving the car, getting dressed, shaving etc. If you have a novel task to do, you may experiment with it until you figure out a way to get it done effectively. Now imagine how much time and energy would be wasted if we had to figure every single task out from scratch. Cultural task models are prepackaged solutions to common tasks that are passed down from generation to generation. Sometimes, as in cooking, they are written down as recipes. Complex tasks may be formalized as part of school learning. Many tasks are learned through social learning, observation or imitation.

What kinds of models are available to aid in task management? Biologically, human action is subject to habituation, so that actions repeated enough times become fixed like pseudo-instincts. Personal or social rituals exploit this capacity for habituation but in a highly conventional way. In oral cultures complex tasks were modeled by elders and repeatedly imitated by novices until the skills became habits. Lack of writing does place severe limits on how complex task routines can be, and effectively they can be transmitted. Tasks could be modeled indirectly in songs, dances and stories, and these formats were often developed in such a way as to enhance memory. Declaring certain kinds of knowledge as “sacred” also enhanced its memorability. In our own society models for managing complex tasks include: recipes, checklists, manuals, syllabi, instructions, videos and project management software programs, play books in sports, etc.

4. CONTROL MODELS

The existence of both science and religion attest to how important it is for humans to be able to control their worlds. Control implies an extremely broad range of things such as predicting (weather, sporting events, the future), adjudicating disputes, managing natural resources like game animals or crop rotations, treating disease, controlling mechanical devices, and influencing other’s opinions and feelings (as in love magic, prayer, sacrifices, debates and political advertising). There is a great range of models aimed at control. Here is a brief list of some of them:
Convincing/cajoling/imploring: spells, prayers, rain dances, ritual, styles of begging, debate techniques, advertising

Diagnosing/predicting/forecasting: diagnostic models for diseases, weather prediction, oracles, stock market forecasts, astrological models, fortune telling, emotion expressions

Behavior control: legal codes, models of punishment and reward, socialization, training models, acting methods, models for shaming

(Mechanical and biological) systems control: governors (for engines), thermostats, servo-regulators, biofeedback devices, the immune system, crop rotation systems

5. PLAY MODELS

Despite it’s name, play is a serious business for human. In his famous study of the human play impulse, *Homo Ludens*, Johan Huizinga argues that play is an irreducible human drive. Though play behavior is found among the young in many mammalian species, only humans regularly play as adults. When something is done in a playful frame of mind, it is removed from everyday seriousness and consequences and done “just for fun.” While play doesn’t seem to have any serious functions, scientists have long pointed out the importance of play as a way for the young to try out in a protected mode important skills and roles that they will need as adults. In this way play can be looked at as a primary modeling activity, an experimental frame of mind.

Humans have elaborated numerous genres of models whose function is play in this sense of experimentation. Games, sports, plays, and jokes are important kinds of play models. The play frame of mind is evident in all artistic creation as well as in the scientist’s experiments, where hypotheses can be tested out in a controlled and relatively safe setting.

Play can be thought of as simulated behavior. *Simulations* are important kinds of play models. Mock warfare or war games, or computer simulations of war are examples of three different models for fighting. Many art forms like dancing and painting simulate aspects of nature, often with religious overtones. Some educational techniques work through simulation, as when a student tries out a new technique in a laboratory setting, or an athlete simulates a difficult feat in a safe setting. Design mock-ups are relatively low-tech forms of playful simulation where designers can try out different design approaches. On the high-tech end of things, virtual reality simulators are powerful play models which are being used increasingly to allow doctors and pilots to learn dangerous and difficult techniques in a realistic but still “just pretend” environment.

MODEL FORMATS

Having reviewed many of the functions of models, we come to the question of form. Models come in all shapes and sizes. They exploit every human sense, and are made of virtually any material you can think of. Watson and Crick discovered back in
the 50s that the basic genetic template, DNA, came in the form of a double helix, a form that had a lot to do with how DNA replicates itself by a neat unraveling-rewinding move. The material for this primal human model turns out to be four chemical bases (the “alphabet” of biological life as we know it) anchored to a framework made of phosphates and sugars.

Other more familiar models are made up of all the familiar construction materials we have around us. We model with icons, colors, sounds and all kinds of physical materials. Then there are the important modeling media that we never really think of as formats for models, media like air (words/music, the gentle breezes of Hawaii), bodies (gestures/expressions/dance) and natural features (stars and mountains which serve as spatial models, while the sun and the moon modeled the divine for many peoples). There’s no way we can survey all the formats in which models come. But it is important to consider a few of the more important general formats that models come in.

LANGUAGE

Language forms have a special place in any discussion of model formats. So important is language as a modeling tool that it is natural to make a general distinction between linguistic models and all others. Linguistics, the scientific study of language, considers all of this modeling capacity of language by studying the myriad patterns of language structure and use. In fact there are so many ways in which language models experience for us that those of us who are not linguists mostly just take it all for granted. Until we encounter a foreign language, language is mostly transparent to us. That language has complex forms first becomes clear to many in school when students studying grammar begin to take their language to pieces in a way that’s hardly intuitive.

In fact, the so-called “parts of speech” are just the tip of the iceberg. A better metaphor for language than iceberg might be “Chinese box,” for language is structured on many levels, one inside the other, and each level is its own modeling world. >From the tiniest units of sound—linguists call them “phones” and “phonemes”—our language gives us a fantastic facility for modeling reality. Even tiny sounds can model meaningful things for us, as when we emphasize words in joy or disgust, or in the case of sound symbols (like the /g/ in glitter, gleam, glisten or the /udge/ in sludge, fudge, trudge and grudge). Words (lexemes) and basic word-parts (morphemes) like pro- or -tion feel to us like the atoms of language. Any word is part of a vast set of alternatives, so that words come with invisible partners and frameworks. While stand-alone words can serve as models (the word “skunk” models the concept of animal for us minus its smell and other perceptible features) words generally are used as the building blocks of more complex language models (both written and oral) that come in many forms: phrases, sentences, stories, conversations, lectures, arguments to name a few).

Many important instituted models are language built. Proverbs, poems, lectures, fairy tales, plays, play-by-play narrations of sporting events are just a few. At a more abstract level, language models the world for us through hidden dimensions of language like grammatical forms. Different languages grammatically model time, action, and objects in very distinct ways. Models of reality are also built into the metaphors we use. When I say, I’ll see you at eight,” or “I spent too much time on this” I’m actually using the metaphors “time is a place” and “time is a scarce commodity” which are certainly not ways that all languages model the concept of time.
Language in action also models many important aspects of our social relations. The ways we can or can’t express ourselves has a lot to do with who we are: male or female, noble or commoner, child or adult, straight or gay, our line of work, the part of the country we’re from and so on. So sensitive is our speech to modeling who we are that a skilled linguist can read off a person’s speech volumes about who they are and what their history is. Our identity settles in deep into our speech habits.

THE BODY

Like language, our bodies provide us with a supple modeling medium that has the advantages of being portable and always close at hand (so to speak). Our bodies are so adept at modeling that they communicate a lot about us whether we want them to or not. Whole styles of body come in and out of fashion, as any trip to an art museum will attest to. When we meet someone, it is usually their body that we see first, and so many snap judgments are made based on immediate impressions of a person’s body type and how they move.

Bodies are constant engage in deliberate and unconscious modeling. We inevitably model a lot about our mood and our relationship to what we are doing in the very posture we adopt. Each individual has a distinct “resting posture” from which people read messages (intentional or not, true or false) about our basic attitudes toward the world: assertive or passive, angry, upbeat, contemplative, withdrawn etc. And these postural model can go through a lot of changes during a day as our bodies model for the rest of the world to see how we are reacting to things around us. Different cultural groups have distinctive stocks of conventional postures for modeling basic emotional attitudes like shame, joy, suspicion, skepticism, sexual interest, pity, supplication etc. Some of these postures find their way into important works of art (think of the Pieta or The Thinker).

What’s true for posture is equally the case for gait. How we move through space constantly models our relation to what we’re doing, as well as other relations (like the fact that children commonly model their gait on one or both of their parents’ movement styles). Words expressing a variety of gaits suggest how conventional our associations can be with different ways of moving and how many fine discriminations we regularly make about a person’s gait. Consider the following:

X They trudged through the school yard on their way back from recess.
X The senior management team marched into the office to have a talk with the entire staff.
X She skipped down the street whistling a lively tune.
X The young couple sauntered through the park, deep in conversation.
X He stalked his way through the aisles, looking for the canned tomato sauce his wife had asked him to bring home.
X The newlyweds glided down the aisle of the church into the waiting getaway car.
X The girl virtually tiptoed up to her father to ask him for the money to buy a new car.

Gestures, facial expressions and forms of sign language are all important kinesthetic models. Like our inner feelings, gestures provide a running commentary to
speech, often underscoring what is being said and sometimes undercutting it (as when we say we like something, but our gestures give our real feeling away). Not only do individuals differ in their kinesthetic habits, but there are profound cultural differences in both particular gestures and how acceptable gestures are as a part of communication. Interesting, it is much harder to lie with gestures and facial expressions than it is with words. Our bodies seem to have a more intimate relationship with our true feelings and thoughts than do our words.

Dance is probably the most elaborate and self-conscious form of kinesthetic modeling. The film-maker Maya Deren, referring to dance styles she had observed in Haiti, once called dance “a meditation of the body.” Dancers speak through their bodies, in ways that are not easily translated into words. Throughout the world, different peoples have always danced out important aspects of their lives, and through dance have signaled to others their identities.

Bodies also model by what we put on them, becoming living display racks for all manner of adornment. Body decoration is rarely arbitrary and generally follows strict conventions of culture or fashion trends. Cosmetics, clothing, tattoos and jewelry all tell stories about us, some intentional, others not. Body decoration and modification are also important feature of many rites of passage. Permanently scarring or otherwise modifying their body is a powerful way of modeling people’s changing social statuses. Often painful body-modeling of status changes is immediately visible to others. Moreover it can be a powerful and often unforgettable inner experience of status as well.

**MODELING WITH ALL THE SENSES**

With the beginnings of modern science in the 17th century, the sense of sight became the privileged way for Westerners to know the world. Empirical science is grounded on the idea of ocular proof— laboratories are places where we try to “observe” the way the world works. Sight is also the most distanced of the senses. We can’t really see something clearly unless we get some distance from it. Each of the human senses has its own experiential characteristics, and different cultures and historical epochs have stressed different senses in their modeling practices. So it is important when thinking about model formats to consider how they take advantage of the meaning-potentials of the different senses. As a design firm, Doblin Group’s idea of design generally privileges visual design. But effective human design is always going to be poly-sensory.

As musicians know sound is also a very effective modeling medium, and doesn’t the require a person to be facing a model in order to perceive it. Cultures differ quite dramatically in how much credibility they give to sound versus visual models. The most common form of sound modeling is of course speech. But speech and music are hardly the only ways that sound is used for modeling. We constantly model our emotional states to others through a variety of grunts, clicks, and styles of breathing that communicate more clearly and directly than any words ever could. Many rituals used things like bull-roarers (an object swung rapidly around on a string, making a distinctive whirring noise) and drums to accompany religious rites, as if the gods or the ancestors would respond to such sounds more readily than to words. In our own society, we use
sirens, horns, bells and whistles of all sorts to model different states of alarm, and
changes in activity ("back to work," "time to change classes," "end of first quarter," etc).

As sight-based models gained in importance in modern society, models based on
smell and taste withdraw into relatively specialized corners of experience (perfumes,
incense, soaps, wine, and food). Gradually our environments became increasingly air-
conditioned. Air conditioning extinguished many of the characteristic smell-models that
distinguished public spaces as well as the tactile models of heat, cold, wind and
moisture. Smell, which in many societies orchestrates a wide variety of is a highly
articulate public models (associations with cosmologies, mood, gender, emotions etc.),
became associated in the west with very private and personal memories, often of a pre-
air-conditioned world.

Synaesthesia is an important kind of cross-modal sensory modeling by which
people perceive sensory equivalences between color and sound, or sound and touch.
While some individuals are far more likely to perceive synaesthetically than others,
unconscious synaesthesia is a very important aspect of how we make meaning out of
our experiences (one sensory experience reminds me of another, and so takes on new
meaning). It’s an interesting fact that many of our sensory words actually originated in
words for other senses, suggesting the intimate relations among the senses in human
experience.

CULTURAL MODELS

Thinking about the importance of models in our lives turns out to be a big help in
thinking about cultural differences. The notion of model gives us an excellent candidate
for a basic unit of culture. There are lots of different ways to think about culture.
Cultures have been characterized in terms of shared, institutions, value systems,
beliefs, world view, material artifacts (houses, clothing types, food etc.), and ways of
talking about things ("discourses"). All of these descriptions are useful. There are
advantages, however, in thinking of a culture as a community which shares a
significant stock of instituted models and the mental models derived from them. Models
are diverse enough to capture the real complexity of what is shared in communities but
still give us a basic unit of culture to work with so we can specify just what is shared and
the nature of that sharing.

Thinking of culture in terms of models commits us to a distributive notion of
culture. In other words a culture is not really a bounded entity with clear borders and a
fixed shape. Cultural models inevitable change. They are known and used in various
ways by differently positioned members of a community. In addition, models flow in and
out of communities and are transformed in the process. To some extent the meaning of
a model will be dependent on the local context in which it is used. For some cultural
artifacts (like guns, or missionaries), there are strong internal constraints on what and
how something will mean, no matter where it flows.

Despite the fact that cultures are not water-tight changeless units, many of us
often think of culture in this way. In part these common misconceptions have to do with
how cultures are represented in museums, textbooks and in the popular media.
Cultural stereotypes exert a powerful influence on our understanding of cultures, and
tend to make us think of cultures as homogeneous, tightly bounded and changeless
entities. Moreover, it’s frankly much easier to think in terms of neat categories than it is
to conceptualize something that is as dynamic and fuzzy as actual cultural units tend to be. Ironically, while cultural stereotypes are often offensive to those being so characterized, ethnic and identity politics has actually encouraged a form of self-stereotyping by many ethnic groups anxious to become recognized, legitimated and gain access to valued resources.

**THE DISTINCTIVE “FEEL” OF A CULTURE**

If cultures are not really bounded units, but simply share a lot of common instituted models, then why is it that when we travel from culture to culture we get a different “feel” from each? In addition to all of these specific models that cultures share, aren’t there more general sources of cultural coherence that account for distinctive world views? These are reasonable questions, and point to a limitation of this models approach to culture. The answer turns out not to be so simple. The sense one gets of cultural coherence is not really an illusion. But it’s also less true than most people think it is. Cultural coherence can be traced to at least four quite different sources:

1. Cultural themes
2. Key models
3. Deliberate cultural ideologies
4. Foundational schemas

1. CULTURAL THEMES

Significant **cultural themes** are usually distributed across many cultural models. When such themes appear in a large number of important cultural models, we come to associate them with a community, sometimes characterizing the culture in terms of this theme. For Americans "rugged individualism" is such a theme. It is important not to confuse such themes with cultural models. “Individualism” is not a single cultural model but is manifested in one way or another in many models: narratives, proverbs, posture, musical genres, naming practices, styles of dress, plays, films, etc.

Most cultural concepts like individualism do not exist as abstract general formulations. They are what we could call “distributed concepts,” embedded in a wide variety of instituted models. “Love,” “success,” “marriage” and “self-reliance” are other examples of distributed cultural themes in American life. Any one of these can be formulated as a philosophical abstraction by an anthropologist or a natives. The fact that we can represent them as abstract, general linguistic models doesn’t mean that this is how people normally understand them.

I think that when we use a term like “individualism” we understand it in relation to one or more salient cultural models (books, movies, proverbs etc.) which model individualism for members of that community.

2. KEY MODELS

The appearance of cultural coherence is often attributable to a particularly salient cultural model—a key model—which comes to represent the entire community. Baseball—America’s national past time—is sometimes used as such a key model for Americans. Flags or insignias do the same thing. The Japanese tea ceremony
exercises such a summarizing effect on outsider's views of the Japanese as a single cultural community, just as the kava ceremony does for Samoans. In terms of their typifying power, not all cultural models are created equal.

3. DELIBERATE CULTURAL IDEOLOGIES

Explicit ideologies of ethnic or national unity can create a strong sense of coherence to outsiders, and sometimes to insiders too. Sometimes, as in the case of the Académie Française, or the Council of Nations for native Americans, an official body is constituted to promote and even legislate this ideology. Special celebrations with traditional foods and dances can serve to underscore this kind of ideological cultural unity. But deliberate ideologies can also be a problem, often privileging the views of certain groups or classes as the “real” culture, while masking the actual diversity of views and experiences of a community.

4. FOUNDATIONAL SCHEMAS

Foundational schemas are like cultural models, but they are very general, usually abstract and often underlie or link together a family of specific cultural models. While cultural models are often concrete and consciously known and even labeled by natives, foundational schemas tend to be abstract and rarely are labeled or conscious. Models related through a foundational schema share a common form, either because they were based on the common schema or because model B was based model A, model C on model B an so on, creating a chain of models sharing a common format. In the latter case, the foundational schema is not the actual source of the common models, but emerges from the causal relations among a chain of particular models.

Many contemporary airports, malls, airline route structures, some school buildings and corporate organizations share a "hub-and-spoke" foundational schema. Numerous American institutions (e.g., school curricula, furniture, conceptions of 'life style,' office environments) are organized by a "modularity" schema which accounts for a distinctively American feel to so many of our experiences. When we sense a common "feel" to many cultural models, we may well be touching upon one of these foundational schemas. Products, designs and advertising campaigns which tap into people’s implicit knowledge of foundational schemas are likely to trigger powerful responses.

BRINGING MODELS TO LIFE

With all the distinctions at play in this long discussion of models, it’s all too easy to forget that models aren’t always so neat as our categories make them sound. Models are best thought of as tools used by real people in all kinds of messy situations. Hundreds of time a day we employ cultural models without thinking much about them. But sometimes it’s not quite so simple. Maybe it’s a case of needing a model that doesn’t quite exist in our repertory of models. How do you deal with the sorrow of your psychotherapist who has just lost her daughter to cancer? There are plenty of cultural scripts for this sort of occasion, but your intimacy with this particular analyst has been pretty much one way. You have to tailor a ready-made model for an unusual occasion. Sometimes the models we have at our disposal are poorly suited to the purpose they seem to be designed for. Language is a good place to look for poorly designed models, because sometimes our language forms have not caught up with changing
times. In certain languages (Swedish is one, I believe), in addressing someone you can choose between a form of “you” which is very stiff and formal, and one which is excruciatingly intimate. So how do you address people who don’t fall within either category-- in other words most of the people you know? One answer is avoidance. You work your way awkwardly around the situation by avoiding the term “you” completely. A similar dilemma occurs on those rare occasions when you meet someone who is impossible to clearly identify as male or female. This is more common on the phone, but occasionally happens face-to-face. The gender models you have in mind are somehow not working here. Such encounters are usually very awkward, and most people do whatever they can to get out of the anomalous encounter as fast as possible.

Models are sometimes negotiated and even fought over. In real life, models can produce serious conflict. People often misread each others models. A teenage boy may grow a beard or a girl may get her navel pierced to model a coming of age that society doesn’t adequately mark. But these kids parents may see something quite different in the act. People may readily agree on what constitutes cultural models, but not on what any specific instance of it means.

Cross-cultural conflicts and misunderstandings are often the result of incompatible or poorly interpreted cultural models. Traveling abroad, we may be pretty well prepared for differences in dress or food. But differences in how people model interpersonal space, or differences in how the body and its excretions are treated can drive people from different cultures to distraction. It’s pretty easy to be tolerant when people differ in their musical taste or their dance styles or their manner of food preparation. It’s a different story, however, when their models of physical contact or the use of physical violence against others are fundamentally different. Cultural differences like these tend to trigger deep emotional responses in people.

Finally there are those cases where an individual is simultaneously committed to several incompatible models for the same situation. Negotiating intimate relations seems to be a scenario particularly open to such “muddles in the models.” The current concern with “date rape” on college campuses and other forms of sexual harassment may leave confused young men trying to figure out how to simultaneously suggest sexual interest for a young woman he’s attracted to without opening himself up to an accusation of harassment. In the age of AIDS, sexuality is itself a field brimming with ambivalence where the same act can model both love and death.

Or take the case of closeted gays who have a split identity. There is the straight social persona, developed over a lifetime of “pretending,” a pretense so well rehearsed and so reinforced by others that it doesn’t feel false. And then there is the hidden gay persona, reinforced by every intimate feeling. The simple account of this situation is that the closeted individual is living a lie and should “come out.” But it is not experienced simply as a lie but rather as a case of two incompatible models— one socially derived, the other private.

Such dilemmas and conflicts are intrinsic to human life, are the stuff of great art, and are deeply involved with models in action. So this kind of focus on models does not have to commit us to an overly mechanical view of human life. Models in action are, like everything human, full of fuzzy edges, emotionally charged, and subject to negotiation, conflict and transformation. But models will differ radically in their stability,
so that not all models are equally subject to these vicissitudes. Models learned young, like patterns of eating and expressions of intimacy, tend to be hard to change. Unconscious models, like those governing much of our language use, are also unlikely to be contested or easily changed. Others of our models seem to be easily reconfigured. In fact, marketers have encouraged great flexibility in people’s eating or dress habits in order to make them subject to changes in fashion. Those models which are most easily influenced by fashion to change are aspects of what we have come to call “lifestyle.”

MODELING AT DOBLIN GROUP

Doblin Group’s expertise is modeling, all the way down. The company has brought together several distinct species of modelers, and taught them how to work together, to read each others models and to use this modeling skill to show companies how to reframe their fundamental approach to markets, products and services.

User research studies the implicit cultural models at play as people shop or fly or stop for lunch. This research produces our own models of consumer behavior in specific settings, organized as frameworks and incorporated into Activity Briefs. User research tends to use mechanical rather than statistical models, though the qualitative models we construct are generally based on many hours of observations of lots of examples rather than a few detailed case studies. The aim of user research is specifically to understand users’ models of these commercial environments, rather than the general models that sometimes guide marketing decisions.

Primary research is supplemented by secondary research. Secondary research sometimes produces Arena Briefs, which are really high level models of trends in a particular industry or area of life. Where appropriate arena briefs will use statistical models as well as mechanical ones. Both primary and secondary research aim to produce useful models of consumer behavior.

Strategic models, on the other hand, are models for the future, giving companies a sense of how they might revise their game plan by seeing themselves and their products in a new way. Designers at Doblin are skilled at doing both descriptive models of what is and prescriptive models for what might be. During the primary research phase of a project, designers are likely to be looking for design problems in the commercial settings under study, making dozens of small sketch models of problematical areas under observation. At the same time, they begin to devise possible models for redesigned environments which eliminate the observed problems.

Designers work in an elaborate modeling process called prototyping. Prototyping is the successive creation of increasingly complex and “finished” models. Prototyping proceeds in six phases.

\[\text{Thanks to Doblin Group’s Tom Hynek for his very useful insights into the designer’s prototyping process.}\]
By taking the point of view of the user, designers and strategists are able to envision new ways of doing things that have a better fit with the ways customers actually experience the world. These insights are often summarized and modeled for clients in a wide variety of formats—time-lines, frameworks, architectural sketches, photographs, etc. brought together in Doblin Group’s signature Innovation Briefs.

**SOME REFLECTIONS ON MODELS AND PRODUCT DESIGN**

If the notion of models is good for us to think with, then it should help us to think about design in some interesting ways. Rather than end this essay with an exclamation point, I’d prefer to end up in the subjunctive mood, with a few ideas that might stimulate people to pick up the ball and run with it, seeing where thinking about modeling gets them.

**One. Design prototypes.**

Design prototypes as described in the previous section seem to be a key instance of what we have termed *models for reality*. But where do such prototypes come from? To some extent they are probably modeled on already existing things, but with modifications. They are the products of analogical creativity. Prototypes are also projections into matter of someone’s idea or vision. So they are not simply *models for reality*, but rather a bridge between descriptive and prescriptive models. Prototypes are the product of a complex modeling process, involving several different kinds of modeling.

**Two. Related groups of models.**

Product designers must consider a model in relation to several kinds of “sets” of models:
A. A product line. How does this product fit into a related line of products. What are the functional relations? What are the common design cues that may suggest membership in a common line?

B. Product updates/versions. When products are regularly updated to keep up with technical innovations, current design trends, the competition or just to give consumers the confidence they’re buying the “latest,” designers have to find an acceptable balance between:

(1) Continuity of form and function from older to newer versions to maintain product identity and usability, and

(2) Sufficient differences in form and function from old to new versions to give people an incentive to want to update or upgrade.

This tradeoff is a major issue for software design. I imagine car designers are sensitive to these issues too. What other product lines manifest this problem?

C. A family of competitive products. These are like the “alternative models” that can come into conflict when they are held by the same person. In product design, what are the features of a model that come into play when positioning a new product within a family of potential competitive products? This is the standard work of both marketing and design folks. Some of the relevant considerations are:

(1) Niche: where does the product fit in relation to its competition?

(2) How many major players are consumers likely to be able to distinguish. In many products two big guys seems to be the rule, with a shadow third very common: Coke/Pepsi/(rest); Ford/GM/(Chrysler); Hertz/Avis/(rest); IBM/Apple/rest.

(3) Differentiating the product sufficiently from its competition. To what extent is this a design issue vs a marketing issue for different products?

Three. Designers vs. Artists

What is the relationship between “artists” and “designers” in their use of models? It should be in the degree of practical application of products/designs. But there are gray areas. Very prestigious designers like Michael Graves and most high-end fashion designers are hailed for designs that have little functionality, but set the style or change the aesthetic climate for others, who adapt these high-end designs into serviceable product lines or environments. What’s a good term for such meta-models? They are very much like foundational schemas discussed above, which organize a whole family of related models, and provide a distinctive and common “feel.” In the case of these designers, their product is really a “look” or a new “aesthetic.” The function of their actual creations may be less to have the high-end designs adopted wholesale than to reframe an aesthetic vision and organize a new family of practical designs.
In a sense, isn’t this what Doblin Group’s Innovation Briefs often accomplish? It is sometimes less important that clients actually adopt the specific innovations proposed by Doblin Group than that they adopt the larger vision that generated these proposals. The clients often come to Doblin Group wanting new models, and what Doblin Group ends up giving them is actually closer to a new, generative foundational schema for a whole new family of models.