Hack the Experience: Tools for Artists from Cognitive Science

Ryan Dewey

Published by Punctum Books


For additional information about this book
https://muse.jhu.edu/book/84174

For content related to this chapter
https://muse.jhu.edu/related_content?type=book&id=2920895
Spatial Arrangement & Schematic Structures

Space is structured by the presence or absence of things that occupy space, define space, and provide avenues through space. These presences and absences do not just exist in the physical world, in fact they often become concrete building blocks for how we think about the abstract world (Lakoff and Johnson 1999; Tversky 2011). Before discussing how space is used in abstract reasoning, exploring the way that space is actively constructed helps identify some basic spatial primitives.

Lynch (1960) proposed a set of spatial primitives used in urban planning that also inform the spatial categorization of events, particularly events that feature path based motion and non-path based motion. His primitives are node, path, edge, area, and landmark. Nodes are points along a path, a path is the connection between nodes, edges are boundaries between areas, areas are the spaces contained within edges, and landmarks are a type of node that anchors an area and structures paths that cross edges to reach the landmark. In Chapter 9, this system of spatial organization will be discussed as part of a model for mapping an event space and categorizing areas in an event space. This will help to begin connecting spatial elements to activity/process elements when looking at the overall flow of the event experience.

These spatial arrangement tools may be familiar to you, but what might not be familiar is how they tie in with cognition. These primitives, along with the schemas below, show up in the way that people talk about space and reason about space. Consider the last time you gave someone directions. Likely you used a series of nodes, paths, landmarks, and other primitives to help scaffold the description in a memorable way.

Beyond giving people directions, schematic features show up in the metaphors people use to reason about the abstract world. Let’s look at these schemas before offering an explanation.

Similar to the schematic nature of Lynch’s spatial primitives, but arguably older and more pervasive in human cognition, image schemas provide a world-forming scaffold to artists and experience creators. Image schemas are pre-conceptual which means that they are the structure of concepts and show up in all types of objects, ideas, activities, beliefs, and other products of cognition (Figure 8).

We begin to experience these image schemas from birth (and possibly earlier in some cases) and they contribute to our ability to learn and adapt as we grow older. Think of image schemas as the skeletons of concepts. There are many schemas available to humans, but a basic list that suites the purposes of this book includes: containment (container, in-out, full-empty, contained/contents), space (center-periphery, up-down, front-back, contact), plexity (unity-multiplicity, part-whole, link, collection, merging, etc.), motion (path, source-path-goal), and force (blockage, removal of restraint, compulsion, etc.).

Looking at this list it is also obvious that these are not merely tools for organization in cognition, but that they also describe motion, composition, and energy in physical reality — capable of describing an earthquake’s violent behavior (force, up-down, center-periphery), the way trees join together to make a forest (multiplex-uniplex, part-whole), the movement of a hunting cat (source-path-goal), or the way that syrup spreads out over a stack of pancakes (container, center-periphery). In fact, when these schemas are used in compositional strategies for 2D work they give a strong sense of dynamism in the imagery.
Since concepts and physical conditions share image schematic properties there is a connection that forms between concrete and abstract reality—conceptual metaphors emerge to structure abstract concepts based on how image schemas structure our embodied experience of the world. Adopting conceptual metaphors in the design process of experiences provides a direct link between the mind and the world and provides source materials for novel conceptual scaffolding for people to make sense of the event experience.

As you will see throughout the remainder of this book, you can link abstract notions of things like time, love, or uncertainty to direct physical experience of things like music, touch, and spatial arrangement of objects.

**Apply this now:**
- Start looking at daily life in terms of these schema to get a sense for how they exist in the wild. Think about ways to borrow the natural occurrence of these schema in your own work.
- Start looking at your art in terms of what schemas you already use. If you paint, you might notice them in the directionality of the brush strokes. But if you are strictly an installation artist, find the flows of energy and containment and clustering in your installations. Do those flows follow a schema? If not, could they?
- Start looking at other people's art in terms of these schemas. Which schemas do the more cohesive works of art use most often? Does the artist routinely work with the same schema? How does the schema structure the content and subject of the work?

**The Sculptural Qualities of Spatial Events**
Think about installations like a sculpture that is turned into a spatial event. The sculpture has an armature on which material is formed, and that material communicates the content of the sculpture. The visual qualities of the content tell something about the sculpture, but you can also tell something about the sculpture with the materials and techniques you choose to use. It’s the same way with instal-
lations, and armatures in this case are the schematic structures of the installation, the skeleton of the experience.

Determine what skeletal structure your experience will have and then fill it in with the form and content. Sometimes your armature will be the pathway segments and you will fill in the form and content along the path segments. Sometimes your armature will be the nodes and you will fill in the form and content at the nodes, leaving the path between the nodes unarticulated, formless and lacking in content. Sometimes your armature will be the pathway and the nodes along the path, in which case you fill in content for everything. Sometimes with the most complex installations you will have the armature be an abstract experience that finds its form and content in the expression of the path. In this case, the path acts as the physical anchor for an abstract concept, for instance, the idea of Life is a Journey is a metaphor system in which the content (in this case, the departure-to-destination experience of life) is reified in the concrete terms of a journey (like paths and roads).

**How to Use Schemas to Structure an Experience: Examples of Source-Path-Goal, Paths, Containers, and Narratives**

Schemas such as the Source-Path-Goal schema fit nicely with narrative structure. Life Is a Journey is a particular conceptual metaphor (a metaphor that uses our physical experience to structure our abstract experience) that uses the Source-Path-Goal schema. More on conceptual metaphors in the section on embodiment (Tool #4) and the chapter on narrative (Chapter 5), for now let’s look briefly at how this schema helps tell a story.

**Path Schemas and Narratives as Design Primitives for Experience Design**

When you design a story, design it as a path. Narrative arcs can be plotted with the rule of thirds grid to translate a story into a physical experience. This makes the narrative into a kind of physical path. Instead of following a story line by reading it, visitors follow a story line by walking along the story line as a path. This makes use of the physical metaphor: Story/Experience is a Path (a variant of Life is a Journey), and it makes use of the schema: Paths connect Places (a variant of the Source-Path-Goal schema).

This schema Paths connect Places is easy to grasp because it is such a common experience in our everyday lives. If you want to move from Point A to Point B, you take a path between them. A and B are connected by a path. All locations, nodes, landmarks and spots connect through some path. The path can be ad hoc, where someone chooses a path that is not predetermined, or the path can be determined and people have to take the path that is already decided for them. Ad hoc paths are paths that users choose, while determined paths are paths that the designer chooses. The story with each type is clearly different, the user drives the story in an ad hoc path (while working with the limitations in the universe of content that the designer created), while the designer drives the story in the determined path. Both can be useful and interesting.

A path defines the experience that a user has by providing different information to the user. Some paths provide viewpoint information, mixing up immersive participant views with the vistas and views of a spectator (more about this in Tool #3). Other paths focus on using participant and spectator perspectives with the non-visual senses. Still other paths can provide information that relates to time and temporal experience, and others provide direct information through text and language (known in the literary world as a sequence of “information dumps”). A path reveals information as the visitor walks along the path and comes across the different intervention nodes in the space. The segments of the path that connect the nodes can be any length, and the lengths of path combined with the frequency and spacing of the nodes creates a kind of rhythm to the experience of walking along the path. For example, if you want to borrow the rule of thirds into your path design, and you want to coordinate that with the climax of your narrative, you would design a path that has the climax node in the third segment of a four segment path (or whatever multiple of 4 that structures your path).
Paths that focus on visual experience (such as an outdoor path focused on alternating views of a landscape) define the experience of a participant by providing different types of views in some sequence. The path will oscillate between immersive participant views and removed spectator views and vistas at whatever rate and frequency that you as the path designer/story teller decide.

Scale is another dimension of paths. Paths can be designed on small scale (such as the path you want someone’s eye to follow in an image) or they can be designed on larger scales, such as paths through a building, through an environment, or through a forest. Paths take different lengths of time to follow. Some paths are intended to be completed in a single short session while others can require repeat visits to experience all of the details (think about how some museum exhibits always seem to have something you didn’t see before). There is no reason that you can’t design paths that take years or even lifetimes to unfold completely. While conventional gallery experiences may only last an afternoon, nothing prevents artists from designing path experiences that are much longer.

Path linearity can be coordinated with the linearity of your narrative. A linear narrative will have a rather straightforward linear path, whereas a non-linear narrative might not have a determined path or might provide an unstructured path or general ambient environment. A narrative that is multi-linear will have different narrative paths that, depending on which path you take, your experience follows one narrative out of many alternative options (the Choose Your Own Adventure series of books is a great example of this). Linearity in path shape is the ordered sequence of the path linked with some narrative. If the experience is non-narrative you could still use a linear path without using a narrative to tie it all together. This type of experience would have the feel of assemblage, bricolage, and even randomness, perhaps evoking a surrealist dream-like experience. This is not to say that primal and visceral experience can only be built into a non-narrative experience, instead, these emotive and visceral sensations can be applied to any of the path shapes.

How do you give people the experience of ownership in an experience?

Path entry points provide access into the experience, and the entry point determines the part of the story a person is walking into. An entry point can be a physical entry point like a door, or it can be a sensory entry point like a sound that the visitor hears in the background that draws them in toward your designed experience. “Entry point” is more of a concept and how it manifests in your design is up to you.

Keep in mind that multiple entry points means that people will not all enter the experience with the same background information. People entering an experience at points later than others will not have learned the story world in the same way. You may have to catch new people up to speed with the story, or perhaps you want to keep new people in the dark. Whether or not you catch people up to speed with the earlier parts of the narrative that they have missed, you should help people acquire a sense of ownership or belonging in the experience to make your visitor feel comfortable enough to stay in the scene without simply exiting the experience.

In this kind of experience where people enter from multiple entry points, you could say it has a metaphor schema of something like: Multiple Paths lead to a Unified Story, combined with the spatial metaphor: Experiences are Containers.

If you look at a map of a river system, the smaller streams and brooks and creeks that feed it resemble the system of arteries and veins in a body. Borrowing from this dendritic pattern, the narrative path schema of your designed experience is like the main body of the river. The smaller flows are the series of paths that lead into the main thrusting narrative path. Your goal is to funnel all of the smaller flows into the main experience of your work. Funnel all attention and use the smaller flowing streams to catch people by surprise and lead them into the main experience.

If you hike through the mountains and come across a small stream and you follow it in the direction it flows, you will eventually come to a large river which if followed long enough takes you to the
ocean. The experience as a participant is linear, a path schema, and you only see what lays in front of you. The other tributaries that feed the river are invisible to you, blocked by the contours of the terrain jumping up around you. But that doesn’t change your experience of the main river. You experience your path to the main experience and you enter the main experience with your path-based conditioning.

One way to open people to the experience is to give them something that is familiar that they can identify and use to make sense of the experience as they enter into the experience. One way to do this might be to use the language of doors and windows to help people think about the experience as a building or a room. Doors, doorways, thresholds, stairs, windows, and even screens give a sense of in and out. You often walk into a building and look out the window. This means that you can think of a room or a building as a type of container that has an inside and an outside. You can extend this idea to other environments like cities, neighborhoods, galleries, forests, and so on. All of these forms have insides and outsides, and borrowing doors (by physically placing doorways along a path, or by using language that suggests a doorway) can help you provide an entry point that is conceptually recognizable as an entrance into an experience.

We think about states, locations, events, and emotions as types of containers that we move between as we go about our daily lives. “I’m in a bad mood, and I have to go into a meeting but I’d rather get out of here,” or “She’s in a better place now that she left from that relationship.” These aren’t just figures of speech, they are ways that people think about abstract mental states by using a concrete notion of containment, and English happens to point this out by the way that we use prepositions. Since experience in general is a container, where you place the “openings” to your controlled experience depends on how you want people to engage. Experiences often have literal openings because the experience takes place in a discrete location (e.g., in a room or in the woods) or in some other spatial container, but they also have less tangible openings because experiences take place in a time frame, in a context, in a particular order, in no particular order.

Learn to think about experiences as containers for controlled events. These experience containers need an opening for people to enter the experience.

People go into the experience container and come out with memories and lingering sensations, new knowledge states, and hopefully new emotional states. The experience container acts very much like a reaction chamber where energy is fed into the chamber in one state and converts to a new state before exiting. A change takes place in these container-reactors.

Learn to think about experiences as containers for events and memories and sensations. Experiences are like containers that people enter into and so you need to provide a door into the experience. This doorway is important because it also acts as an exit out of a person’s everyday experience as they enter into your engineered experience. Entry points are transitions and they are the first transformational experience as people put aside their everyday and enter into the new experience you are providing. Perhaps your entry point is a physical location like a tunnel into a space or an actual door, but equally it can be a sensory entry point like a sudden waft of a haunting and familiar smell. You might also use a training area as the entry point where people are presented with signs and symbols and other stimuli that prepare and prime them in some way for the experience in which they are about to partake. Maybe a little classroom where patrons sit for a lecture or briefing acts as the door. Whatever your door is, it needs to help people exit their distractions and enter a world of focused attention on whatever it is you want them to focus.

These notions of path schema and narrative are covered more extensively throughout this book, as are the notions of sequencing, viewpoints, and conceptual metaphors.