

NMD 306/Professor Scott
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A Review of "Make It So" Chapters 4-7 (pages 75-155)

-Chapter 4: Volumetric Projection-

Aesthetics of Volumetric Projection, How they are used, Problems with Real-Life Implementation, Volumetric Projection; defined by Science Fiction. Not a *hologram*; that was claimed by 2-D medium, Volumetric Projection is defined like this: "

The most specific term to describe what this chapter is about is *volumetric projection*—those massless, moving 3D images that are projected into space, which anyone can see with their own eyes from any direction without the aid of special viewing devices, such as glasses. This is really a long way of "

(Chapter 4, Page 78)

Mid-Section of Text: Differentiating between Volumetric Projection and Reality. Image, Sound or Data may be altered so that the audience may establish it, from real-time.

Most of these cues adopt the visual artifacts of extant media. The peaked whites and bluish monochrome references black-and-white television. The scan lines and flicker reference broadcast television signal. More recent VPs adopt the edge-lit appearance of the electron micrograph. The use of projection rays references the projection light in a cinema. By adopting these visual conventions, the makers build on the audience's existing associations, helping them understand even more quickly and thoroughly that an object is only a projected image.

(Chapter 4, page 80)

Communication, Navigation and Medical Imaging

Two Types of Technologies using Gestures: **Synchronous** (simultaneously) and **Asynchronous** (third party encoding) Technologies.

Most Interesting: "**Gaze-Matching Problem**" where the "Synchronous Technology" in sci-fi isn't corresponding to the real-life result we have today with direct eye contact. Recall Pip's reaction on Class 3, Monday January 25,

2014. His idea was a hope to someday have the ability to look a person in the eye during video chat. Currently, if one wants to connect with another person, the built-in i-sight is above the screen image, so if you want to look directly at the user, you look at the camera. The problem here, is that the camera is not the image of the person we are trying to connect with, we would have to look down to see the person; so video-chat still lacks the reality, but we deal, because it is all we know, now.

-Chapter 5: Gesture-

Natural User Interfaces; Direct Manipulation is just that, no device in between user's cause and effect; gestures simulate, machines correspond.

Seven Gestures covered in Chapter 5:

1. Wave to Activate
2. Push to Move
3. Turn to Rotate
4. Swipe to Dismiss
5. Point/Touch to Select
6. Extend Hand to Shoot
7. Pinch and Spread to Scale

Use Gesture for simple commands and *language* for more complex abstracts.

First Person Interface: Clear mapping between the user and the avatar. Problem is that sometimes there is a lag with the information being received by the avatar.

Second Person Interface: User manipulates states of the objects or data. Book Example: Iron Man's exosuit and Chrysalis's telesurgical interface.

Third Person Interface: Inside Introspection. We see what the avatar sees.

Problems with Gestural Interfaces:

Cost Ineffective: Doesn't it always come down to funding?

The main promise of these interfaces is that they are easier to learn and use. But because they require sophisticated and expensive technologies, they haven't been widely available until the past few years.

(Chapter 5, Page 102)

-CHAPTER 6: Sonic Interfaces-

Some kind of sound helps us understand, "the action in a film or TV show."
Alarms, Buzzers and Bells.

Foley: Named after Jack Foley, who launched background sound field in 1927. Telephone appeared late 1800's and remained one of few sound interfaces until "well into 1950's," (Chapter 6, Page 111).

many of our expectations are set or influenced by what we see in media, developers must consider more sophisticated sound solutions in their interfaces.

(Chapter 6, Page 112)

Ambient Sound: Clicks indicate an interface is working. Book Example: "hum" of the Enterprises' engine is slightly off, viewer can determine, through ambient-sound, something is not right.

Directional Sound

Humans naturally hear in three dimensions.

(Chapter 6, Page 112)

We can, through directional sound, understand where a sound source occurs in space, it's direction, and speed. Difficult to replicate, technology must be precise when imitating this complex sensory perception (Our senses are subconscious and fast happening).

PAGE 114 of "Make it So" to continue...

-Musical Interfaces-

Light and Sound Indicate Welcome Response

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by monitoring the user's gaze, inferring from the content of conversation, and asking when it is uncertain. But in cases in which a user needs to be discrete or the technology isn't sophisticated enough, give the user controls. ”

*Simple Voice Output, Voice-identification Systems, Limited-Command Voice Interfaces, Conversational Interfaces. Conversational Interfaces are the most complicated of the four types of interfaces. The computer must identify the person's voice: assesses, timbre, tone and spectrum. It must also recognize, accent, inflection, vocabulary; all the while, ignoring what does not relate.

Although Conversational Interfaces appeal most to the user, I find them to be one of the most complex. A large problem with it; how does to machine know you are commanding it to do something? Solution: Call it by name, like "Black Magic;" it only responds when it receives its name. This all leads me to bring up, "the CLAPPER." It's late, Grandma's laying in bed, she wants to turn the lights off, she claps her hands together three times, the result; the lights hear three claps and turns off. If you remember this commercial, I remember having a clapper and if I yelled three times, the clapper responded. I remember thinking, loud clanking of pots, a baby's cry, a dog's bark; all of these things could get the Clapper going, so I never really wondered what happened to the Clapper, I knew what it was capable of. Point being, these types of technologies are complex.

-CHAPTER 7: Brain Interfaces-

Topics: Physically Accessing the Brain, Disabling the Mind, Two Directions of Information, Active Subjects, Dismantling Two Sci-Fi Brain-Tech Myths, Where Are the Thought Interfaces? Brain Interfaces: A Minefield of Myths.

The Matrix, the rod that they insert into the back of the brain; It makes most of us shiver. I think it's so bothersome because it is an experience most of us are familiar with; getting a filling, at the dentist. You go into room, they strap you down, tell you everything's going to be okay, Novocain, and insert a syringe the size of your forearm into the back of your mouth. Maybe they gas you, so you pass out, either way, when its over; you stand-up, weak from the drugs/hour of laying on your back, confused: "What just happened?"

Brain-Computer Interface Technology measures faint electromagnetic waves coming from the brain, "as a result of clusters of neurons firing"(Page 128).

Physical Restrain: Most of the science-fiction examples of Brain encoding/decoding is centralized at the brain. I think the body is a communication device, why not have a epidermal suit that detects reaction. Emit a smell; detect bodily response, play tones in intervals; detect bodily response.

Mind-Mapping: OmniGraffle, Wolfram Alpha, Prezi. We already have the tools to download and upload information; used in ways to aid our memory, we just have to put a little more thought into connecting it to the information station(the brain).

-Over-all review of Chapters 4-7 of "Make it So"-

I truly enjoy this book, it is a good read; even though I am not a big user of Science Fiction, this book has me wondering, why wouldn't I be? I loved 2001: A Space Odyssey. Every now and then I think of machines and what they have become, and I am vividly reminded of HAL speaking to Dave: "I can feel it Dave, I can feel it." Maybe this is too morbid, but it reminds me of the numerous prisoners put to death by lethal injection, and the study contradicted the theory that lethal injection does not hurt. One particular study brought skepticism when a prisoner broke free of the restraining straps-mid-kill-and screamed, "This hurts, this is hurting me."

If thought is what builds the brain, than a brain can be emulated, but never read. It can be recorded and documented but not altered for an intended outcome. I think we need to understand the mind and it's contents completely, and we can assume in theory. This also brings me to the guy with the rod in his head; Phinneous Gage. A steel rod knocked out a shit-ton of this motor skills when it impaled his frontal-lobe; his body continued to operate, he continued to speak, but none of the words made sense. What can a person think, when something like this has happened? If you go playing around in the brain, what are the consequences?