# CS-480—Senior Seminar
# Study questions for *How the Virtual Inspires the Real*
# Fall '02

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Daniel Hillis, *The Power to Shape the World*

1. According to Hillis, "Each year, there would be a hot new technique, and the following year, everyone would be using it. A new level of realness would be achieved." What can you imagine about this new level? how would it blend with reality, and to what extent?
2. The details in which Hillis described how the teapot was forming in front of them were very impressing. People are trying to take every small detail into account to imitate the real thing. Is it possible to make these objects interactive with the world around it? Or do you think that this level is more than enough for a decent simulation?
3. Computer Graphics has entered the industry market very quickly. Does this mean that knowledge in computer Graphics is a prerequisite to work in this field (mainly designing)? How is this going to affect employees in this field?
4. The idea of affecting Human bodies through this virtual reality is frightening indeed. Is this going to be a similar issue as human cloning?
5. "Computer graphics has become our way of connecting to what is real." The examples Hillis gave to support this are undeniable. But how can we have complete trust in what we see on the screen?
6. The responsibility that Hillis lays on humans is a great one. Do you think certification is also needed in this field?

Alvy Ray Smith, *The Reality of Simulated Actors*

1. What's the destinction that Smith is after when he says: "... we must separate acting from (the appearance of) actors" ?

2. Smith expects that it will take about 20 years to produce the fully digital "live action" motion picture. Doesn't that seem to be a lot of time, especially that we already have movies like *Toy Story* and such? Is there something more that Smith is expecting in a such a digital movie?

3. Smith claims that we will never replace actors, but he says that animators are also hired based on thier acting skills. Doesn't this mean that actors have to have computer-graphics backgrounds? Doesn't this also mean that actors will become animators (or vice-versa) ?

Clemens Wagner, Markus Schill and Reinhard Männer, *Intracoular Surgery on a Vritual Eye*

1. The first 3 or 4 paragraphs talk about how realistic they are trying to make the environment around the surgeon for practice purposes. Dont you think that they missed the psychological factor here, especially that the surgeon knows that this is not real? Looking at the 2 pictures on page 46, you can notice a lot of difference that could create more pressure on the surgeon.

2. What other suggestions besides optical tracking would be reasonable for monitoring the practice? can you think of other ways to make the practice more realistic?

3. Complexity of objects behavior resembles a real challenge for some professions. Consider how critical it is for surgery purposes, and compare it to that of designing a racing computer game.

**A final question:** It seems like computer science is getting a seat in every profession. How dangerous or how good is that?

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