Limitations

By Ashlee Bird

Having only ever viewed the world of hacking from an extreme distance, today was nothing short of a revelation. While I mentioned in my previous blog post that I want to pursue Gitelman's insistence on dissecting a particular medium before analyzing its contents, today's workshop brought into perspective just how intensive that task actually is, if it is to be done with any kind of serious depth. Simply analyzing the code of *Super Mario Bros.* (*SMB*) in our attempt to change the text "Mario" to "Nerds" was not only achieved through much trial and error on our part, but had additionally been prefaced by a 30 minute intensive lecture on hexadecimals, their chronology, and the effects that different values may have on *SMB* specifically. Furthermore, the lengthy amount of time it took us to de-solder our EPROMs and recode the little bit of *SMB* that we managed to was expedited by the fact that we were using a pre-ripped version of the game, as well as pre-packaged tools such as the tile editor to insert our peace signs and datacrystal.com to locate the code for particular elements such as the color of bushes or the "Mario" moniker. Even the soldering iron that has the vacuum component attached accelerates the process of de-soldering significantly. These tools and pre-readied pieces of technology saved us huge amounts of time and made the entire experience much more user friendly. However, that's rarely what media archaeology is and this was one isolated incident with an experienced guide, optimized tool and technology, and we still didn't complete the entire process of finishing our own individual cartridges.

Not only did this workshop demonstrate to me the limitations of what I would be able to discover by dissecting a SNES or a SNES game based on my limited knowledge with coding and the various hardware and software components, but it thoroughly demonstrated Gitelman's point and made it abundantly clear

that Parikka's discussion of media archaeology as a means for exploring the possibilities of past and future media, is not as open ended and expansive as one might believe, but instead has very fixed parameters, based on the limitations of a specific medium. Once again, I very well could discover the possibilities and limitations of the SNES were I too break open a cartridge and compare code with say that of an Atari or an NES, and the resulting code might enlighten me as to why this console was better for adapting Disney movies or Nickelodeon shows. Maybe it is able to render more vibrant shades of color. Maybe it can produce more complicated combinations of sound, lending itself to movies that boast a powerful soundtrack. However, not just for the researcher, but for the independent hacker/media archaeologist (aren't hackers and circuit benders etc. just doing it outside of the academy to a degree?) hacking is an endeavor of privilege.

- Time
- A multitude of tools
- Internet
- Very specific knowledge set
- The ability to interpret code
- Ability to achieve desired effect with new code
- Consoles and games

Above is a list of just the most obvious things one needs in order to do the simple bit of hacking that we did in the workshop today. All of these things, of course, also add up to money. The more money, the more efficient and successful the process. Having this hands-on experience today thoroughly changed the way I viewed hackers. The appreciation I now have for those self-taught, independent hackers that save their money for equipment and spend hours combing the Internet just to be able to make some of the basic changes that we did today is so much greater than ever before. The motivation of these hackers, and any hackers, really, seems to be a deep passion for this media, one so great that there is a need to

contribute (even at an informal level) to push back, to know every piece and exhaust possibilities. However, there are those among us that don’t want to know how all this media work. This is something that the Starosielski article had me thinking about, and was furthered by today’s work. As she says, there are many people that simply don’t want to know how their technology works, where it comes from, or, they simply don’t care. Not knowing the limitations of the hardware and software of a console make it much easier to complain about how the graphics aren’t realistic enough, the sound quality is poor, or the physics are floaty. Knowing, however, is a much greater responsibility.