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Reading Response 2 Tangible Bits

Just as Nicholas Negroponte, the founder of MIT Media Lab, claims that "the haves and have-nots are now the young and the old" or between the ones that do and do not know how to manipulate technology within the field of digital computing, technology is rapidly changing and diversifying. McCullough's admiration of human hand mainly refers to conventional craft, such as fine arts and handcraft work, that required repetitive practice and learning. However, as modern technology developed, the definition of craft also expanded to "digital" craft, and I believe the emphasis transitioned from hand to more of our cognitive abilities.

As a semi-serious gamer, I want to refer to StarCraft, a classic real-time strategy PC game, to illustrate how computers are tools for the mind. As a brief explanation, StarCraft set the beginning of today's eSports culture as professional gamers elevated gameplay to another sophisticated level. The game is more than just building armies and battling, but rather involves various strategies, psychology, unit positioning, elaborate timing, maintaining economy, and more. An average professional gamer's actions-per-minute (APM) ranges from 200-300 clicks per minute. That means that different keys and mouse clicks are done more than 3 times in a second.

When I look at these gamers' game screen, the play is truly amazing. It is more than just hands moving rapidly, but all these movements have meaning and purpose. Thus, such elaborate coordination requires measuring timing, thinking what to do and thinking what to do next continuously. As the game goes on, the players' eyes and hands become highly coordinated into one.

Just as piano can be practiced and learned, manual dexterity will improve as I play the game. I would memorize what keys to press and know how to better maneuver controls. However, the game is more about intellectual agility as it is important to have a mental model of the overall flow of the game. The skillset that can be learned through practice heavily relies on cognitive abilities rather than mere physical hand speed. For example, when we evaluate the skillsets of two different gamers, we hardly say player A is better than player B because A's hands are bigger and flexible, more optimal for game play. While having big hands with firm grasp can be beneficial in sporting activities, such as basketball, even good basketball players would need cognitive abilities to coordinate deliberate movements and positioning within the game.

Perhaps the reason that hands are underrated is that hands mainly work as a medium to achieve a certain object. Connecting back to the activity theory, hands can be identified mainly as a tool to mediate between us and the physical world. For example, I am not using a smartphone to exercise my finger touches. Because the purpose of using a smartphone is to contact or surf the Internet, we pay more attention to the content displayed on the screen. When we try to put a nail on the wall, we do not focus on the hammering part. We do care about the hand coordination and safety while we hammer the nails, but our main goal lies on placing a picture frame on the wall.

Thus, I believe hands are definitely important because they work as key mediators for us to interact with the world. We do not manipulate objects with our feet or other parts of the body. Hands are designed to touch and handle tools. While I do agree that hands "have life of their own," I believe digital technologies became more focused towards cognition and mind as cyberspace is an intangible, virtual world. Instead of directly touching the object, hands interact with secondary tools, such as mouse and keyboard, to interact with the computer system now.