Learning Slowness: Impacting Students' Senses of Contemplation and Intention in Relation to the Digital World

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We currently occupy an era permeated by the discursiveness of digital platforms and processes. As our experience of the world becomes more immaterial and less phenomenological, our faculties for contemplation and reflection become diluted. First year design students are increasingly challenged by this paradigm, toggling between app-based environments and the real world demands of the design studio.

While rooted in history, stone lithography offers the unique capacity to unify digital and hands-on techniques as a contemporary practice. It provides an opportunity to engage physical, haptic senses along with visual and conceptual considerations. The drawn image and digital methodologies work in concert with material processes to guide personal development through trial and error. My past five years of teaching this medium to early design students have yielded many themes that are applicable across all design curricula. Students engaged in this practice learn through making, engendering deeper appreciation of process, technique, and creation. In particular, stone lithography provides students with the opportunity to explore mediation and human touch, material interventions translating to the pictorial plane, and the convergence of digital imaging and physical mark-making. Each of these opportunities will be further discussed, but first, some background…

Lithography is a printmaking process that was invented in Europe during the late 1700's as a commercial printing process. It utilizes the fundamental chemical property that oil and water do not mix and repel one another. Waxy or oily materials are used to draw on the surface of a limestone and then etched with a water-based nitric acid solution. The oil in the drawing repels the acid solution, while the open areas of the stone are exposed to the acid and made to be more hydrophilic. Once the stone has been etched in this manner two to three times, it is ready to be printed. During printing, the entire surface of the stone is wiped with a sponge that has been soaked in water, and then rolled with an oil-based ink. The ink only adheres in the areas where drawing has occurred (as oil sticks to oil) and is repelled in the damp, open areas of the stone (as oil does not stick to water). As long as the stone is kept wet with the sponge while inking, the stone will only hold ink in the drawn areas, and the prints produced from the stone will have striking fidelity and clarity.

The process of preparing, etching, and printing a stone is quite time intensive; a single-color print will usually require a week's time at minimum. Students begin by grinding and graining the surface of the stone with large, analog metal disc grinders. Often an image will be left on the stone from its previous user, and the entirety of the old image must be ground away. Once the old image is removed, the stone is grained with progressively finer grit to smooth its surface as a means of insuring the fidelity of the drawing. Because stones can be reused in this way, a single stone can be used an innumerable

amount of times and can last for potentially hundreds of years. In fact, the stones commonly found in schools and fine art print shops are often old stones that are remnants from the late 1800's when this form of lithography was the most commercially viable option for printing.

After the stone is properly grained, drawing can take place on its surface. There is a myriad of traditional drawing materials that produce distinct effects. Lithographic crayons create lines and value reminiscent of graphite, tusche washes mark the stone like a diluted ink drawing or watercolor, and oil sticks leave deep, opaque marks. Beyond traditional lithographic materials, absolutely any substance that has oil, wax, or grease content can be used to mark the stone. When the drawing is finished, the stone is etched with a water-based solution of nitric acid and gum arabic. The first etch must remain on the stone over night before the stone is etched a second time and, again, left over night. The stone can then be printed as described earlier. The etch is washed away with a wet sponge, and the stone is sponged with water while oil-based ink is rolled onto the stone. The stone is run through a large press made specifically for lithography, and almost as if by magic, a print is created.

As time intensive as this process is, it is also incredibly physical. The material mutability of the drawing materials, the exhausting motion of grinding the stone, mixing acids and gums like a mad scientist, smearing asphaltum and grease while printing – the entire experience is frustrating, strange, and exciting for students. The time between expectation and final outcome is stretched over a number of days spent working for several hours at a time, all while immersed in these processes that engage all haptic senses. This period of mediation, from initial drawing to finished print,

Image 1

Image 1

demands of students to fully contemplate what it is that they are trying to achieve visually and conceptually. This mediation also creates opportunities for mishaps and mistakes that have to be rectified and reworked in the moment using material processes. Often, moments of catastrophe evolve into serendipitous moments of creative intervention. *Image 1* shows a student's stone in the midst of revision. While printing his stone, the margins began to fill with ink, and a mild panic ensued. With my guidance, he stopped printing and began problem solving, first by erasing the unwanted ink with mineral spirits and acetone and then painting the affected areas with a highly acidic etch. These strategies proved effective, and in seeing this, the student began to imagine how they could be applied to his drawn image to create misty effects. He began lightly erasing and etching areas of the drawing and eventually printed an image that was wholly different from his initial drawing *(Image 2)*. A potential disaster became a potent and unpredictable instance of creation. In this manner, students truly learn and discover by doing; temporal and physical engagement is paramount, and problem solving creates new visual outcomes.

Stone lithography also leaves room for material experimentation at the outset of students' projects. As mentioned earlier, any material that has grease, wax, or oil content can be used as a drawing material to mark the stone. This opens up a multitude of material possibilities, the majority of which lie outside of traditional lithographic drawing tools. *Image 3* presents a student's experimental approach to mark-making. Upon noticing the greasy stains left by a slice of pizza on a paper plate, the student was struck with the idea of attempting to mark a stone in the same way. Theoretically, the pizza grease would create areas that would be receptive to ink, but the appearance, value, and fidelity of these areas would be completely unpredictable. After the stone was etched and the student began to roll it up with ink,

Image 2

Image 4

the tonal range of value produced was nuanced, broad, and completely surprising. The simple, everyday splotches of orange pizza grease transformed into something resembling a nebulous apparition. The student excitedly ran with this permutation and decided to print it with a split-fountain roll, which incorporates multiple colors onto the surface of a single ink roller. As a finished print (*Image 4*), the image barely reveals its humble origins, appearing as something transformed and singular. Such opportunities for material experimentation truly give students a sense of agency in the work they are producing and exploring. While some of these experiments meet dead ends, others open up and build new visual languages over which students can claim complete authorship.

This translation from material to pictorial can also work in reverse using digital imaging processes in tandem with stone lithography. Students today, much like the rest of us, are immersed within a culture of digital imaging. Rapid image manipulation and distribution is just another part of a typical Tuesday morning, and these activities are progressively becoming more incorporated into the movement of everyday life. Within stone lithography, digital imaging converges with material output methods in the form of solvent transfers. A digital image can be transferred to stone and printed in a completely

Image 5

Image 6

reproductive manner or, more intriguingly, can be incorporated into hand-drawn mark making and printed within a unified pictorial field. In *Image 5*, a student has chosen to take the latter approach.

This stone was initially marked by a digital solvent transfer, wherein a digitally composed piece of light gray text was directly transferred onto the stone. The student's initial plan was to simply etch the stone and print the text unaltered, maybe as a poster or T-shirt. After some thought, however, she realized she missed the sense of touch inherent in something drawn by hand. Using a lithographic crayon, she began to carefully draw on top of the text, giving it the subtle imperfections of something created with a stencil rather than a computer. This combination of digital imaging and hand drawing was etched and then rolled up with a white ink, creating a printable stone that had discernable qualities of both approaches. In considering the tactility created by this combination, the student began to imagine new futures for the eventual print. Subtlety became key, and she decided to print the white image onto a soft pink fabric which created something that could flicker between legibility and illegibility with slight changes in light (*Image 6*). The several days of time spent creating and revising the stone had given her space to reflect upon and reconsider the conceptual dimensions of her project. She wanted the print to exist on an object that engaged the viewer/user's senses of tactility and intimacy, similar to the experience of making and preparing the stone. She eventually decided that the printed fabric would be sewn into an edition of pillows, both as a nod to the content of the text "THERE IS NO SOLACE IN A MISOGYNISTIC WORLD" and as means to engage an audience experientially *(Image 7*). All of this decision-making is owed to the slow, considered nature of the process of stone lithography, which allowed for both a temporal and cerebral space of contemplation. The initial rapid processing and output of digital imaging was made to accommodate a more measured pace, and the results became more conceptually robust and complex in turn.

Image 7

As the manner in which we interface with the world gains velocity and becomes more untethered to our physical senses, engaging students' faculties of contemplation, introspection, and reflection will become more challenging. Directing them toward materials and working processes that are atavistic in nature yet still able to converse with the contemporary (such as stone lithography) helps to confront their assumptions and habits while instilling a richer understanding of their own creative process. They are tasked with problem solving on an individual level, accepting and utilizing failures, embracing the unfamiliar and unpredictable, and learning through material and sensual manipulations. These

experiences can only further their own senses of agency and authorship and lead them through design education in a manner that develops their own languages and perspectives as designers.

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