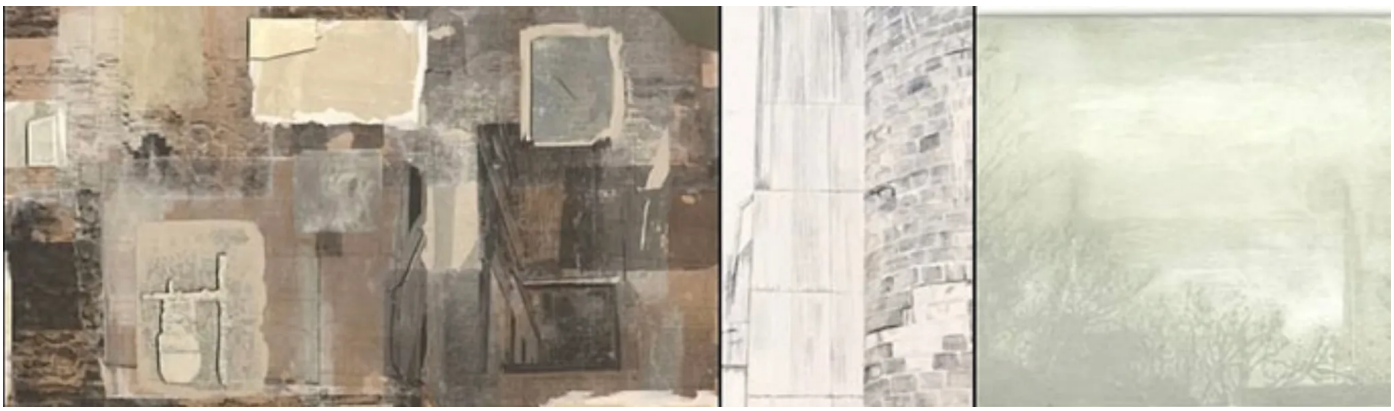
De-toxing Print Shops

“De-toxing” University Print Shops
by Erin Smith



An ardent environmentalist proud of my school’s commitment to environmental initiatives, I graduated Wesleyan University as a Print major in 2006. My thesis show
consisted of 16 exactingly executed etchings–prints etched with nitric acid, printed with oil-based ink, and cleaned with turpentine. Attributing the dizziness I felt when I left the print shop to fatigue, I was only vaguely aware of what I was being exposed to.

A year later, I embarked on my printmaking career at Mixit Print Studio in Somerville, Massachusetts, where I needed to provide my own materials, including ink. Catherine Kernan, shop proprietor, advocated Akua water based ink. She also informed me I would have to adjust to Mixit's policy of using ferric chloride and cleaning with SoySolv. I was impressed by the health and environmental conscientiousness of the shop and, excited to be printing again, was happy to adapt. I took to Akua quickly, and I have not used oil based ink since. I was not entirely freed of toxic materials–still using asphaltum-based grounds, for instance–but my awareness was being raised.

My goal upon beginning my MFA at Concordia University in 2009 was to bring my

practice in line with my world-view, based on deep concern over the state of the environment. Ironically, I also bought my first organic respirator, a requirement of all Print Media students. Concordia takes health and safety very seriously, with separate rooms for solvents and acids, and ample ventilation. However, these protective measures only raised my awareness–and alarm–more as to the inherent dangers of traditional printmaking materials.

> I wondered why we adapted to the materials rather than adapting the materials to our health and safety needs.

My environmental concerns are thoroughly enmeshed with the increasing health and safety awareness in printmaking today. Both are important, and often what is safer for health is also better for the environment. Yet my dual concerns, I find, up the ante in the quest for "safer" printmaking. They increase the questions– where do acrylic polymers go when they enter the waterway? Why does the Estisol MSDS say it is toxic for fish?– making this quest both more daunting and more pressing. A concern for the environment, moreover, may provide more

incentive to the next generation of print students in Universities today to switch to non-toxics. Theirs is a generation only too aware of the threat posed by climate change and other environmental disasters, despite the fact that their own (im)mortality often goes unquestioned.

Printmaking at Concordia University

Printmaking at Concordia University

On this premise, I applied this year for a research grant through the Sustainability Action Fund, an initiative of Sustainable Concordia, which describes itself as “an organization that strives to create a culture of sustainability at Concordia, and thereby improve our university community by making Concordia an ecologically aware, economically responsible, and socially equitable institution.” Drawing inspiration from the strength of the student-run sustainability movement on campus, I proposed to disseminate information on non-toxics directly to the Print students. I banked on their experimental and inquisitive natures to allow them to pick up these techniques themselves, without (or, to assist in) an official, wide-sweeping policy change.

When in 2010 the school acquired a letterpress that, due to space restrictions, could not be housed in a ventilated area, I was asked, along with some other

graduate students, to research non-toxic printing techniques so that solvents would not be required in the new letterpress studio. This was Print Media's first Sustainable Concordia grant.

We sampled several VCA's and water-based inks and finally implemented Akua on the letterpress. Since then, I have taught several letterpress workshops to students using only Akua ink, and they have been generally receptive.

Letterpress is a minor part of Concordia's print program, however. Only a handful of students wander into the letterpress studio throughout the school year to complete a special project or two. Over three hundred students enroll in Print classes every year:

students exposed to Varsol, asphaltum-based hard grounds, nitric acid and lithotene in lithography, and myriad other materials with less than sparkling MSDS information. (At the time of printing, the shop technician was actively working on switching to lower-VOC solvents to replace lithotene and Varsol).

> One of the biggest toxicity hazards in the print shop, says one Master's student, is the sheer number of students. Inevitably, safety protocols are transgressed.

Unfortunately,

these numbers are also a reason switching to more non-toxics has been difficult: overstretched faculty and a single print technician can not switch to new methods

overnight. They are concerned, as are many University faculty, about maintaining expensive rollers if they stop using solvents and let VCA's, which can eat rubber, into the hands of students .

The initial research for the letterpress opened a vast world of alternative

possibilities. It seemed a shame to peek into this world and then leave it behind. It was also clear to me that the faculty did not have the time to explore and implement these options themselves. After finishing my Master's thesis, I did not want to leave Concordia without first making more headway with non-toxic printmaking. I spent two months compiling information on non-toxic printing, asking questions of leaders in the field, and testing various processes. Binders with information, resources, instructions, and questions for future research (for I only made a dent) are now available for lithography, letterpress, and intaglio students, as well as online PDF versions. Most of the information is health and safety based, while my questions and advice focus on environmental impact. The faculty, supportive of my work, are brainstorming the most effective way to hand off the information and encourage continued research (simply leaving the materials laying around the studio without proper communication will lead nowhere.)

My observations of students during my three years at Concordia give me reason to both hope and despair that they will ignite around this initiative. Bringing my Akua inks with me to graduate school sparked immediate interest–and skepticism– among many of the students. They thought it sacrilege that I was splashing water around so freely to clean up my ink and that I was barely soaking my paper. The older students, those returning to school after another career, were most keenly interested in the non-toxic properties of the ink. One in particular had been exposed to chemicals as a teen and had developed a low-grade intolerance; though a print major, she avoided lithography and silkscreen classes because the lithotene and ink fumes made her nauseous. "It is easy to think that you won effects," she says, "while it just pops up in other people." Younger students often don't think health dangers apply to them–and, like me during my undergrad, they don't necessarily associate printmaking and environmental hazard. I don't think all students will uniformly flock to my

research materials. “Mature” students who had already experienced the toxic effects of art-making, and those students with children, seem most concerned. I think those few who engaged with me whenever I pulled out my inks will want to try some ink grounds or a few of Nik Semenoff’s demos (he was kind enough to send a DVD of his techniques). Monoprinting is popular at Concordia, and access to Susan Rostow’s DVD on monoprinting with Akua ink will certainly inspire. I think a few more students will see their success and/or struggles, and be interested to try for themselves.

Regardless, it behooves students to know what is out there and where the currents

of the print world are trending: Schools such as Nova Scotia College of Art and Design, Ontario College of Art and Design, Queen’s University, University of Alberta, and University of Saskatchewan in Canada, plus University of Maine, University of Kentucky, University of Montana, Rochester Institute of Technology, and Smith College in the United States–to name a few–have all at least adopted VCA’s if not taken further measures to eliminate toxins in their student print shops. Many dozens of professional print shops around the world have all made it part of their mandate to be as non-toxic as possible. If students want to continue their studies or pursue print careers after undergraduate, they clearly need to know about non-toxics.

I sent out a survey to graduate and undergraduate Concordia print students to see

what they think about non-toxics and about my initiative. Not surprisingly, those who responded were either the “mature” undergraduate students or the Master’s students who had already had several years of exposure to print chemicals. Apathy among younger students certainly does seem to be an obstacle. In a program as large as Concordia’s, with such a wide demographic, I can hope that the significant ratio of mature students and the grad students–who are highly

visible, respected, and have a close working relationship with the undergrads– can serve as motivating role models to the apathetic crowd.

I corresponded with many print educators about the challenges of changing the old
ways of printing and of convincing students to care. Nik Semenoff shared some interesting insight:
I did a Google search into 'Acceptance of new technologies' to find that it takes ages for any profession to change. You will likely say how fast people have taken to iPods etc., as these technologies are developed? Just consider the millions used to promote the articles, as well as the news stories on TV and popular journals talking about the developments. Popular press is not interested in how artists put images on paper. Marketing and branding is the
name of the game.

Erin Smith, mixed media print (intaglio)

I unfortunately do not have a large enough grant to plot a glamorous marketing scheme. The sheer breadth of material I discovered upon embarking on my research, however, and the fact that the transition to safer printing started almost thirty years ago at this point means that though change is slow, it is certainly coming to one degree or another.

I was also excited to discover during my research how much is happening in the field right now. So many new breakthroughs (most discussed on this site) have been
made just in 2012. However, I approach some with caution. "Greenwashing" has been a negative side effect from those looking to capitalize on consumers aware of the environmental impact of their purchases, and I fear this trend leaking into the fine arts world. Whether or not something it labeled non-toxic or "AP" approved, it seems the "nose knows." Both surveyed students and professional printmakers I spoke to at a shop
outside Montreal said they shy away from any fumes and thus distrust marketing claims; linseed oil based water soluble inks, for instance, tend to fall in this category of mistrusted "non-toxics." Often, MSDS information is frustratingly sparse, especially in the category of environmental toxicity, and trade secrets hinder the transparency of ingredient lists.

Nevertheless, the field is undoubtedly moving forward, but the question remains, as Nik Semenoff says, as to how to get the word out there. It is especially important to spread the word to students. There is a prevalent attitude, or hesitation, among those I spoke to, that the same quality can not be achieved with non-toxic materials as with traditional materials. This attitude came about with the first line of non-toxic products and has been passed down to new printmakers. Many still think that brittle acrylic grounds are the only alternative to

tar-based grounds and that lithography just can not be done without the full-strength chemicals. A print professor I spoke to said she would never use Akua ink because she didn't like the 'plasticy' feel of acrylic-based ink (Akua is not acrylic).

Such misinformation is damaging to the cause. With more and more Master Printers
involved in non-toxics, techniques and materials have been fine-tuned. The engagement, commitment, and enthusiasm of those I corresponded with about the developments they were making was truly inspiring. I asked Concordia students what they thought the best way to spread the word was. Unanimously, they agreed it was important to just keep talking and making information available. As one student said:
Just keep talking about it, spreading the word (encouraging people to observe what side effects they feel when they are using these chemicals).
When I told one person in one of the print classes how I felt kind of spacey and nauseous sometimes if I was in the studio too long, or there was too much ink out on the tables, she had had the same experience but had'nt mentioned it to anyone, but then started to pay more attention and respect her limits with the chemicals.
The flashy media blitz comes about in the form of successful prints made with non-toxic materials–especially prints made by classmates in the university shop. This, students agreed, would be the motivating, transformative factor, and it is, indeed, possible.
My research showed me that not only is it important for students to be aware of and adopt currently available non-toxic techniques, it is imperative that a next generation of printmakers continue researching non-toxic print methods. As has been established, nothing in print is completely non-toxic, and the field has broadened enough that even the initial steps into safer printmaking could be

made even safer. Often, home-made safer solution still contain harsh, toxic chemicals–they are simply commercial rather than industrial. I was unable to satisfactorily answer for myself what even the 'non-toxic' chemicals are doing to the environment. I wonder about all the acrylic polymers used as replacements for petroleum and solvent based products: acrylics are plastics, plastics are derived from petroleum, and they never biodegrade. I contacted several acrylic-based
printmakers in the field, and no one had answers. . . yet.[1] Given the environmental
awareness of the university generation, such questions may seem more immediate and relevant to them than those of health and safety. Environmentalism may be the angle to take in order to add more momentum and younger voices to the field of non-toxic research.

[1] Conveniently, Liz Chaflin of Zea Mays, in conjunction with Artists in Context and the Illinois School of Public Health, is working on just such difficult questions.
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