

Is Artmaking Sustainable? What does that mean? How do we know?

SWAC presentation by John Risseeuw and Stephen Hoskins

(Title Slide)

John: I would like to thank the Arizona Commission on the Arts and the organizers of this conference for inviting us to speak today. It is a privilege to share our thoughts and research with you.

Steve: Before we begin, we wanted to be make it clear that while health and safety issues are important, our presentation goes beyond those issues to span the larger issues of sustainability, which include them.

John: We also wanted to explain that we have scripted our presentation and will read it in turns to you. This is done for several reasons; one, it helps keep things within the time allotted and will allow for questions at the end; two, it helps us make sure that all of the facts and specifics are covered and covered accurately; and three, it prevents us from wandering off too far from our intended subjects.

(Robert B. Gibson quote slide)

Steve: Croatian artist Ivan Ladislav Galeta has said, 'Only art today does not think about recycling,' referring to our culture's increasing stockpile of art works, and the dilemma felt by artists using non-Earth friendly materials and processes to express their aesthetic ideas. But issues of environmental concern are greater than simple recycling, and the costs to the planet of making art, like the costs of all other human activities, should come under scrutiny. Sustainability in art, it seems, will require thoughtful attention.

John: In an effort to examine current theories and issues of sustainability as they relate to printmaking and print media, I took residence at The University of the West of England's Centre for Fine Print Research in September 2008 for four months. In conjunction with Stephen, along with input from various staff members, science faculty, and manufacturers, we investigated the literature and current thinking in sustainability, looking for applications of theory that printmakers may incorporate into their practice.

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A bit of background and how we each came to this study:

Steve: I have always been a practical person and came to Art and printmaking at a very young age. For a period of ten years I was a commercial, then edition screenprinter and understood some of the health hazards of these high solvent products. When I came to research in the early Nineteen Nineties, health for the user was becoming a major issue and my first research project was to undertake a study of water based screenprinting. During this period, I had the benefit of teaching etching to a Professor of Chemistry. He introduced to me a balanced view and the problems of just looking at the data in isolation by pointing out that in the UK Health and safety Bible, 'Sax's properties of Dangerous Materials', whisky scores the highest toxicity levels and under no circumstances should be taken by inhalation.

John: Like most artist printmakers of my generation, I was excited by the combination of process and multiplicity of effect found in printmaking. I was a chemistry major for three years before changing to art; I understand something about the materials I use. Yet I was slow to recognize the health hazards, let alone the larger effects on the environment. I worked for several years with lacquer-based screenprinting inks and to this day feel fortunate to have no apparent adverse health effects. I also saw, in the rising, sometimes manic, movement toward "safe" printmaking a lack of understanding of materials and misapplication of terms, like "toxic." "Non-toxic" intaglio, for instance, implies that traditional intaglio is "toxic," which it is not. It may use substances that can be harmful and corrosive, but toxic they are not.

Artists may have several immediate responses as to just what sustainability issues are. They may equate the word with environmental concerns, i.e., protect the environment, stop using petroleum-based solvents, dispose of wastes properly, and so on.

Another response is to reject out of hand any intrusion into the studio, where *art* is being made: there are more important things to worry about than the latest buzz words.

Others may see that the rising drumbeat of concern over total environmental health that increasingly impinges on our daily life must have application to the studio as well and require a balance of responsible practice.

And many, perhaps, do not exactly know what sustainability actually means. So let's start with a primer on sustainability.

(Our Common Future)

The influential and seminal 1987 Brundtland Commission report, Our Common Future, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

(Voisey's Bay pictures)

In its 1999 Environmental Impact Statement Guidelines for the Review of the Voisey's Bay Mine and Mill Undertaking in Canada, the panel stated that progress towards sustainable development will require the following: "the preservation of ecosystem integrity, including the capability of natural systems to maintain their structure and functions and to support biological diversity; respect for the right of future generations to the sustainable use of renewable resources; and the

attainment of durable and equitable social and economic benefits.”

Building on the initial desires to define human development projects in terms of sustainability — read “responsibility to the earth” — applications of sustainability concepts to include all human activity soon appeared and the expansion of the concept beyond environmental consciousness has developed.

(The “Five Pillar” structure of Sustainability)

A “five pillar” construction of sustainability theory recognizes ecological, social, economic, cultural, and political concerns involved in all material, development, and process considerations, although there are other perspectives as well. We are particularly fond of this approach because it includes cultural considerations.

(UK's Sustainable Development Strategy)

Governments, from national to local, soon recognized the necessity of framing sustainability issues. For example, the UK's Sustainable Development Strategy, published in May 1999, defines sustainable development in terms of four objectives: 1) Social progress which recognises the needs of everyone, 2) Effective protection of the environment, 3) Prudent use of natural resources, and 4) Maintenance of high and stable levels of economic growth and employment.

There are plenty of other definitions, some rather self-serving or intentionally narrow. We encourage you to take up the search for more information.

There are other terms you may have heard:

(Carbon Footprint)

Sustainability assessments are often developed using information like **Carbon Footprint**, a measure of the amount of carbon dioxide (CO₂) and other greenhouse gases emitted by a human activity or accumulated over the full life cycle of a product, process, or service. My friend Stephen here has a rather large carbon footprint because he flies to about 12 conferences and meetings a year, around the world. His air miles total some a third of a million miles, 20,000 alone gathered coming to this conference. Mine, I must say are nearly as great, totalling around 275,000 air miles in the last ten years.

(Life-cycle Inventory)

Another term is Life-cycle Inventory, an analysis that quantifies the raw material and energy consumption together with all wastes and emissions to air and water (the environmental burdens) for all processes within the system,

(Life Cycle Assessment)

and there is also **Life Cycle Assessment**, a systematic method for identifying, evaluating, and minimizing the environmental consequences of resource usage and environmental releases associated with a product, process, or package. Often these data are used *comparatively* to evaluate two or more products, practices, or outcomes and determine which is more desirable.

The results of life cycle assessments are sometimes surprising. For example:

(Electric vehicle)

• *Assessment studies have shown that when electric vehicles reduce air pollution on the road, they increase the air pollution generated by power plants and generate a toxic waste problem regarding battery disposal.*

• The promotion of the reuse of glass bottles leads to a major elevation in water pollution (and air pollution when transportation distances increase).

(Recycling)

• *The recycling of cardboard leads to a massive transfer of pollution from water to air at a high recycling rate.*

(Recycling plastic)

• Waste to energy is often a sounder environmental solution for disposing of plastics than recycling (lower atmospheric emissions, water effluents, and solid waste). In some cases, there is a very clear argument for incineration with energy recovery instead of material recycling.

(Diapers / Nappies)

• *A now classic 1994 life-cycle inventory of baby diapers found the use of cloth diapers lowers the generation of solid waste but increases water use relative to disposable diapers, and energy requirements may or may not be significantly different between the two systems, depending on whether the cloth diapers are laundered at home or commercially. A definitive preference for one diaper over the other could not be determined.ⁱ*

(Ink cans)

We are printmakers, users of graphic processes for the production of fine art, so our focus has been on those processes; you will see that there are similarities with other art media: oil-based and acrylic paints, for instance, bring up some of the same issues as oil-based and acrylic inks.

One problem in the print community is the confusion between products that are healthier in their use for the artist in the studio (or which meet health and safety guidelines) and the true environmental impact of a product in its production, use, and disposal.

What specifically should printmakers and artists be concerned with? Let's start with the obvious: inks, solvents and papers. Petroleum-based inks, paints and solvents have life-cycles that require large amounts of natural resources and energy in production, use, and disposal; they place a “burden on the environment”, in the terms of sustainability theory, and this

includes the need to ship the raw materials and the finished products long distances, requiring energy-gulping, carbon-emitting transportation.

(Gutenberg and Dürer)

When Johann Gutenberg and Albrecht Dürer boiled locally- or regionally-grown linseed oil and ground lampblack into it, eventually cleaning the oily ink with lye made from wood ash, they were unwittingly following sustainable procedures.

(The papermill)

The 14th C. European papermaker made paper with linen rags, river water, waterpower energy (or windpower in Holland), and a great deal of human labour. It was a fairly sustainable enterprise; recycling old clothing for fibre sources, utilising clean river water and adding only biodegradable substances in the process, harvesting freely available energy. The benefit to the culture of this enterprise, with a low impact on the environment plus the establishment of a new economic contributor, especially once Gutenberg had come along with movable type that created an explosion of printing on paper, makes the hand papermill an admirable example of sustainability.

Yet we cannot implore today's artists to make their own inks, make their own paper, or use only ink and paper from local artisans. Our world has grown beyond the local.

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Many artists see themselves as responsible citizens of the world. We enhance culture and offer critical analysis through art, pursue deep philosophical and aesthetic thinking, add positively to the visual landscape, and we do not participate in financial system meltdowns.

Yet while some of us actually treat themes of environmental responsibility, waste, inequality, world ecology, and other such issues in our artwork, we may not be producing that artwork with responsible, sustainable processes.

At least, that was one of the questions we posed at the beginning of this study.

(Red and yellow ink)

A case in point is found in printing ink.

(Photos of ink mills and manufacture.)

The late 1970s and early 1980s saw efforts in industry and art to change the composition of ink to reduce the use of petroleum-based substances for economic, ecological, geopolitical, and human health risk reasons.

(Acrylics)

*While water-based acrylic screen inks are now the norm within the educational printmaking environment and are a gain for the health of the user because they have greatly reduced the use of petroleum solvents for washup and the resultant release of Volatile organic compounds into the atmosphere, they are not necessarily "green". Acrylics are made from petroleum distillates with a similar environmental burden to most other plastic products. Even as far back as 1999 in my introduction to my book *Water Based Screenprinting*, where I advocated using water based acrylics, I wrote, "Environmentally there is little to choose between solvent and water based inks, both are petrochemical products, plus acrylic resins do not break down easily, so causing disposal problems. They can be filtered from the water system but still must be disposed of in other ways."*

In disposal, the long-chain polymers become cross-linked and are another form of plastic with a lifetime in our water and soil systems lasting hundreds if not thousands of years. More comparative studies remain to be done on these materials to determine the true nature of their sustainability.

(Photo of Cranfield in Wales)

A different and quite simple solution to solvent cleanup of inks was researched by The Centre for Fine Print Research a few years ago, in collaboration with Cranfield Inks in Wales.

(Caligo Safe Wash inks)

We helped them develop an oil-based ink with a surfactant added which allows washup with soap and water. These are traditional inks made with linseed oil and a single pigment. The surfactant causes the oils to become emulsified, with the addition of soap and water to wash the material away. The resultant waste is biodegradable; the waste from acrylics, you may remember, is not. The water-wash inks Cranfield markets are for relief and intaglio, but may have other applications.

(Soy plants and fields)

Soy inks have risen to a level of awareness and promotion that may also be undeserved. Oils from the soy plant are not acquired without the use of petroleum-based fertilizers, pesticides, and fuels in the agricultural sector. Although a 100% soy ink has been developed, most commercial soy printing inks contain 50% or less of soy oils, depending on their usage (e.g.: heatset web printing, newspaper), so the glow of going green is somewhat illusory.

Michael Craine of Cranfield Inks says, "Anything that can be said about soya can be said about linseed. The insertion of the word "vegetable" before "soy" was brilliant marketing (by the soy industry), but is totally redundant and means nothing, while suggesting that other ink vehicles are not sourced from plants, which they are".

(Soy or Oil or ???)

The advantages of soy inks include that they contain less than half the Volatile Organic Compounds of petroleum-based inks. Soybean oil is naturally clearer than other vegetable oils, making it easier to obtain brightly coloured ink. Since the oil is more clear, less pigment is necessary to produce the same effect. On the other hand, disposal of leftover soy ink is still a problem. All soy inks still contain some petroleum oils, the pigments may contain heavy metals and soy inks still require petroleum distillates for wash up. Therefore the inks may have to be disposed of as liquid hazardous waste, depending on local law. Some reports are that soy ink is more difficult to remove in de-inking operations for recycled paper.

(Soy deforestation)

And, the soy industry has deforested large areas of rainforest in South America in order to grow more soy to meet the demand they have created.

(Graphic Chemical)

Dean Clark of Graphic Chemical & Ink, of Chicago, supplier of hundreds of thousands of pounds of ink annually to the fine art graphic world, like 10,000 pounds of bone black etching ink alone, says, "The inks that we manufacture do on occasion use some soy-based material, but we stick strictly to linseed-based vehicles for a variety of reasons". He points out that linseed oil, "like soya products is a renewable commodity. Secondly, soya presents problems with drying that don't exist for linseed oil, and we find linseed more controllable for the production of inks. Bodied linseed which is what is used in printmaking inks, is a relatively low VOC material". In other words, there may be few good reasons to want or require soy-based inks for printmaking.

(What are VOCs?)

What are VOCs? Volatile Organic Compounds (VOCs) are carbon-based compounds that have a high vapour pressure and low water solubility, emitted as gases from certain liquids or solids. VOCs are often components of inks, paints, cleaning supplies, petroleum fuels, hydraulic fluids, paint thinners, solvents, and dry cleaning agents. VOCs are common ground-water contaminants and major contributors to atmospheric pollution, including greenhouse gases. Additionally, VOCs may have short- and long-term adverse health effects. VOC's are also emitted from cigarette smoke

(Simple Green, d-Limonene, Vegetable Oil)

• What are the life cycles of butyl cellosolve (Simple Green) or d-Limonene (citrus-based cleaner) or vegetable oil? How do the energy inputs and waste outputs compare with other cleaners and solvents? Are they sustainable substitutes?

(Solvents and tanker trucks)

And let's get some real facts and data including life cycle evaluations on solvents, petrochemical and otherwise.

(Pigments)

Finally, the one other constant in all inks and paint is the pigment colour. All contemporary inks and paint apart from black use a chemically derived colour. The sustainability and lifecycle of colour pigment and dyestuffs is another research project in itself.

(Diagrams of paper manufacture and paper machines.)

Basically, paper is made one three ways: by hand, by cylinder machine creating so-called "mould-made" paper, which constitutes most art papers, and machinemade paper. Paper choice for most artists is usually based on 1) archival qualities, 2) suitability for the printing process (e.g.: ink absorption, surface texture, susceptibility to "picking"), 3) preferences for colour, surface, size, weight, etc., and 4) cost.

(Fourdriniers)

Does the life-cycle or carbon footprint of a particular paper matter when aesthetic choices are being made? Does it matter for you to know that a certain paper is made in a sustainable energy situation with cleaner water exiting the papermill than entering?

(Cylinder machine close-up)

Should the British artist for example consider using Somerset paper made in England, over Arches or Rives made in France because they yield similar results in print but Somerset is not shipped as far and so incurs a smaller transportation carbon footprint? But what about the North American cotton linter used in both papers, which is shipped to Somerset, England for one and to Vosges, France for the other? Should one consider using handmade papers that utilize reclaimed cotton cloth as being more environmentally efficient? Should one, in fact, make one's own paper?

(Handmade paper at Twinrocker)

Kathryn Clark, co-founder of USA's Twinrocker Handmade Paper, offers this: "When a person manufactures on a very small micro scale as we do in a studio, there is very little waste."

(Photos of St Cuthberts)

Steve Carroll, at St. Cuthbert's papermill that produces Somerset and other mould-made art papers reminds us that there are no cylinder paper machines outside of Europe.

(St Cuthberts cylinder machine)

"Mould-made papers for use by artists are only manufactured in Europe, there are possibly only 4 or 5 such manufacturers. Most artists have a preference for one particular grade of paper and will purchase it wherever it is manufactured." He notes that St. Cuthbert's is heavily regulated regarding water use, quality, and effluent. In addition, market pressures constantly require them to reduce costs and energy use

What changes are necessary? When will they come, and how? John Purcell, of John Purcell Paper, London, who has been selling paper to the art world for over thirty years and observing our world for longer, says, "There has to be a trigger for change." He points out that humans are cultural animals.

(Gutenberg)

"In our millennia of development," he says, "progress has been inexorable; Gutenberg had to happen . . ."

(Industrial Revolution)

"as did the Industrial Revolution . . ."

(Smokestacks, cities)

Progress . . .

(Digital Revolution)

and, probably, the Digital Revolution. "But now we know the damage," he points out. We are faced with serious problems demanding action. What will the trigger be? Environmental crisis or the slow realisation that we are all part of the problem and part of the solution?

And speaking of digital,

If we question the true production costs of each gallon of solvent or gallon of ink or each copper plate or sheet of paper, we must also question the true costs of the digital revolution. We are encouraged from multiple directions to incorporate digital media into traditional artmaking processes, but we must also face the debt of trichloroethylene ground pollution at semiconductor plants worldwide (something we know about here in Arizona), pollution from lead and heavy metals as monitors and outdated computers are dumped in landfills or into the sea, and the energy costs of manufacturing all of that hardware that now has less than an average 3-year lifetime. The cost of a digital-heavy society may in fact be unsupportable. If digital-heavy culture is questionable, digital-heavy art is, too.

The quantity of electronic products discarded globally has skyrocketed recently, with 20-50 million tonnes generated every year. If such a huge figure is hard to imagine, think of it like this - if the estimated amount of e-waste generated every year would be put into containers on a train, it would go once around the world!

(E-waste)

Electronic waste (e-waste) now makes up five percent of all municipal solid waste worldwide, nearly the same amount as all plastic packaging, but it is much more hazardous. Not only developed countries generate e-waste; Asia discards an estimated 12 million tonnes each year.

Did you know?

The average lifespan of computers in developed countries has dropped from six years in 1997 to just two years in 2005. 249 million computers were sold worldwide in 2008 - a 10.9% growth rate. By year-end 2008, 1.17 billion units were estimated to be in use. Computers contain cadmium, hexavalent chromium, mercury, bromine, PVC, and lead among other materials.

Mobile phones have a lifecycle of less than two years in developed countries.

1.28 billion mobile phones were sold worldwide in 2008 - 11 percent more than in 2007. Cell phones contain toxic materials such as lead, mercury, beryllium, arsenic, cadmium, and antimony. Many of the materials found in cell phones are also on the EPA's list of persistent bioaccumulative toxins.

20% of a PC's total energy consumption comes from using it, a whopping 80% comes from manufacturing it. By 2010, there will be 716 million new computers in use. There will be 178 million new computer users in China, 80 million new users in India. Scary. And way beyond the scope of our study, but very worthwhile studying.

But let's get back to artmaking, and sustainability.

(Les Demoiselles, Guernica, and Picasso)

Is it right and fair to consider art within concepts of sustainability? Thought of another way, how many VOCs do you suppose were released when Picasso painted his "Les Demoiselles d'Avignon", or "Guernica", from his paints . . . and his smoking? [Parenthetically, in July 2007, Newsweek's article about Les Demoiselles described it as the "most influential work of art of the last 100 years". Of "Guernica", an anonymous author on Wikipedia describes it as "This monumental work has eclipsed the bounds of a single time and place, becoming a perpetual reminder of the tragedies of war, an anti-war symbol, and an embodiment of peace."] Does the value of those works to our history and culture override Picasso's VOC emissions? Would the works have been possible without those emissions (paint *and* smoke)? Is it absurd to even question sustainability of works like this? If so, when do we know that we are in fact talking about art works of this magnitude, making the sustainability assessment irrelevant, at least in terms of environmental impact?

On the other hand, who wants to be discovered fiddling while Rome burns? Can we at least put out our own fires, put our own house in order? Individual responsibility for safe practice that is as nearly sustainable as possible would seem to be a reasonable watchword.

This is not to say that VOCs are not a serious threat to the environment. Much information is available and all who produce them — e.g.: drivers, artists, printers, smokers, manufacturers, cattle ranchers — are encouraged to learn how to reduce their contribution to the problem.

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We could, conceivably, produce through Life Cycle Analysis or other analyses a comparison of the different graphic media and their impacts on the environment and general sustainability ratings. For example, stone lithography may or may not be lower impact and more sustainable than screenprinting, but the exercise would be mostly futile since artists choose their media for a wide number of reasons that include aesthetics, surface, colour intensity, immediacy, and such indeterminate criteria which are impossible to rank with seeming practical considerations like carbon footprint. They are not equal alternatives or means to a single end result.

(Questions)

So here are a few of the questions that we have collected during this study. More will be found on the Centre for Fine Print Research website, when our paper is published. Some will be researched at the CFPR. Some need investigation by others in the field. Some will need research grant funding support and we challenge those of you who are interested and committed to take on a subject of interest and pursue it to a conclusion to be shared with the rest of our broad Art community.

Questions like:

- What volume of usage do artist's account for compared to industrial and commercial usage?

(Paper)

- *What is the carbon footprint of one tonne or one hundred tonnes? of woodpulp paper? recycled woodpulp paper? archival paper? Or handmade paper?*

(Ink smear)

- What is the volume of paint and ink consumed annually, worldwide? What is the volume of fine art paint and ink consumed annually, worldwide? What are the similar figures for solvents?

(Pigments)

- *What are the annual consumption levels of pigments used in all inks and paints? Of those levels, what percentage use pigments known or thought to be harmful to the environment and/or human health? While known carcinogens cadmium and lead are now almost non-existent in current pigment manufacture due to their health problems for the user, this does not mean their replacements are necessarily any healthier for the environment. The vast majority of dyes and pigments are synthetic and are manufactured as part of the Petro-Chemical industry.*

[mining photos]

- What volumes of aluminium, zinc, and copper are consumed annually for graphic art purposes (litho plates, intaglio plates, relief plates) worldwide? What portion of total aluminium, zinc, and copper usage does this represent? Does the life cycle of these metals raise any questions about sustainability of use?

(Darkroom)

- *Is printing out digital films — digital pigment inks onto polyester or acetate film — any better or worse in sustainability terms than graphic arts process films with silver emulsions, in all production/processing/disposal considerations? And, as previously mentioned, what is the true environmental burden of the digital culture? Can it be sustained, and how?*

(Screenprinting)

- Taken solely on an environmental evaluation, does the lifetime production of a prolific fine art screenprinter — working in a studio in which editions of fine art prints are produced— amount to an acceptable or unacceptable burden on the planet? Using oil-based inks and solvents or water-based inks? What might be a life cycle evaluation with a carbon footprint for each edition of 100 prints?

(Lithographer, Intaglio, Relief and Letterpress)

- *Taken solely on an environmental evaluation, what are life cycle evaluations for editions of prints in lithography, intaglio, relief and letterpress?*

(Acrylic screen inks)

- *Are acrylic polymer screenprinting inks, which are based on cellulose ethers, in particular, ethyl-hydroxyethyl cellulose, or hydropropylcellulose, in fact sustainable when energy and material inputs of manufacturing and waste and disposal outputs are considered? This may be extended of course, to cover acrylic paints of all kinds.*

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Well, obviously, the questions go on and on.

At this point, we have many questions and few answers. Some of what is currently promoted as “green” may not be green and all products need to be considered within their own whole product life cycle. From the results of our study, we have no prescriptions for best-use materials or processes. We certainly have no proscriptions against particular activities. What we wish to pass on to you is a heightened awareness and concern for the big picture, not just environmental factors but additionally let us remember the five pillars of sustainability and consider economic, social, cultural, environmental and political issues.

Artists are an extraordinarily creative and tenacious group. We collaborate, share information, and continually examine what we do and how we do it. We are confident that the more we learn, the more sensible solutions we can create that should work for both individuals and the art community.

First and foremost, we need a sensible debate that tackles the issues in an informed manner. We must not just take up products because they are the latest things, or appear to be more environmentally friendly. Our practice and processes have evolved over hundreds of years. We need to adopt and assimilate new products and processes both with an eye to the quality of their use to us as artists and the real nature of the environmental impact, both good and bad.

Looking at both new and old art materials, let's ask;

- *How is it produced and how does the energy and carbon footprint of production compare with other materials?*
- *That is, what is its life-cycle?*
- *How is it disposed of and is it anymore or less biodegradable than alternative materials?*
- *Does this change produce a net gain to the environment, to my health, and to the production of my art?*

- *Does it actually work properly and efficiently?*
 - *Is this the best product or is there an alternative with a better life cycle?*
 - *Am I making the most efficient use of this material?*
- And so on.*

The answers may well lead us to adopt new materials, or change our methods, or perhaps continue making art as we have been, but it is important that the decisions be made with best available information applied to the most reasonable and comprehensive theory. We can say without argument that whatever you use, whatever you do, is a problem. The charge is not for artists to eliminate the problems, but to minimize them. In a recent online discussion of “green” practices, one printer said, “Greenest thing you could do is close down your shop, start farming and dumpster-diving, and check out of the . . . economy”. Assuming that few of us want to go to that extreme, we can only examine our individual practice in our particular circumstances and determine what supplies and processes we can use that will have the lowest impact on the environment — present and future — while still creating the art and contributing to the culture in a positive manner.

It may actually be that good housekeeping and careful use of materials is perhaps better for the environment than trying to find that healthy cleaner that is in a plastic container and has travelled thousands of miles by road and air.

(Robert Gibson quote)

If anything, this study is a recognition of “how little we know” but it also a commitment of our best intentions to learn, to assess, to change when necessary, and to leave our art to a better world.

(Thank you)
