

BREATHING CONTEMPORARY ART

JASON WORKMAN

THE STUDIO

For several months during 2007, I donned an assortment of safety equipment to work in an art fabrication studio situated in an increasingly hip, yet notoriously polluted Brooklyn neighborhood.

Thanks to a combination of fortuitous timing and a persistent friend, I found myself suddenly, and somewhat unexpectedly part of a small team of artisans fabricating sculptures and installations for a number of celebrated artists. The studio, located a stones throw from the East River, occupied three spaces across three floors of an early twentieth century building. The remainder of the premises was tenanted by an assortment of businesses, mainly small production outfits and other artisan workshops. The studio was utilitarian, with generous floor spaces, battered functional workbenches, and industrial shelving for housing molds, tools and raw materials. Artist's drawings and Photostat images of proposed work were tacked to the walls, and lay haphazardly on bench tops as an occasional source of reference. There was ample light from mostly south facing windows, but the studio's temperature was determined by the season. The hot New York summer was an especially unpleasant time for those of us fully clad in protective equipment.

The studio engaged specifically in the fabrication of contemporary art, mostly cast pieces for a small band of predominantly male artists. Aside from the exception of an independently wealthy artist, these high profile, mid to late career artists, were backed by

equally high profile galleries¹. The scope, size and budget of the projects corresponded accordingly. We undertook a diverse array of projects, ranging from large installations, multiples and one-offs, that were fabricated from materials specifically for casting (as in water based resin) to more experimental substances, such as chocolate. These projects spanned anywhere from a number of weeks, to several months, depending on their scale and technical difficulty. The frequency of deadlines, along with the influx of new work, ensured constant full-time work. We worked in small teams, often in pairs, and rarely saw the artists whose work we were fabricating, most of the contact being digital, mediated through the gallery in the case of remote artists, or else private meetings with the owner of the studio somewhere else.

PROCESS

Maquettes or drawings provided the starting point for each new project. By the time a given artwork left the studio it was ready for viewing. The studio, due to the workers' broad skill base, outsourced very few tasks. The process of each new project pretty much ran as follows; the artist (and gallery) would hold conversations with the owner. The owner would confer with one or sometimes two senior staff (without the artist being present) and decide on a method for undertaking the project. We would then be instructed as to what was required of us, which in reality were no more than general guidelines.

As to the process of making an artwork, our projects were never straightforward. All the work was deceptively complicated, especially with regards to casting, which involves multiple, time consuming stages in its undertaking². Rarely does an artwork offer any particular indication as to the number of processes involved in the making of that work.

There are few stories relayed by a finished form as to its conception. Each process erasing the evidence of the previous step until finally you have before you an object that appears as a neutral surface, unable to disclose the nature of its production.

DUST

As to the conditions of this work, dust abounded within the studio. Particles of gypsum, fumed silica, resin, manufactured boards and various metals resided on the floor, the walls, shelves, light fittings, and on anything that presented itself as an opportunity for things to settle. When the floor was swept, weekly or at the completion of a project, some of the dust reoriented itself within the room while other particles entered the suction stream of the extraction fan, a rudimentary piece of equipment that simply ‘caught’ particles and disposed of them outside, past the bars, the boutique clothing stores, blown invisibly with the wind out into the neighborhood. A dust mask was required not only during a routine cleanup but constantly³, as everything we ever did created a residue; sanding plaster or resin, grinding metal, splitting a mold. And as a result no room was immune from the finest evidence of these materials. The tearoom was used also for soaking plaster molds, and for occasionally disposing of the odd miscellaneous liquid, and as in all the spaces featured a ubiquitous coating of sculpture ‘fall out’ on the floor.

MATERIALS

The studio fabricated with timber (MDF⁴, plywood) and metal, sculpted with clay and polystyrene, and cast forms and components (by far the majority of our activities) with PUs⁵ and plaster composites (resin plaster composite⁶, or water based resin⁷). We also

extensively used fiberglass⁸, polyester filler⁹, and fumed silica¹⁰. The use of synthetic materials within fine art is not particularly recent, as artists such as Vladimir Tatlin; the brothers Antoine Pevsner and Naum Gabo, the Italian Futurists Fortunato Depero and Giacomo Balla, and Marcel Duchamp were employing materials such as cellulose acetate¹¹ within their practice during the 1910's and 20's. The history of use of plastics in art dates back to the 19th Century¹². As the clarity and flexibility of plastics increased (with Perspex in the 1930's)¹³, more artists continued to embrace these new materials. But aside from this early pioneering work it wasn't until the late 1960s with the rapid development of PU's, predominantly for the automobile industry, that the use of plastics became extensively widespread within fine art practice. It seems that material choices available within the fine arts today are limited only by budget, and to a vastly lesser extent, by ethical considerations.

DISPOSAL

In terms of waste, there is no process within the studio that doesn't produce an off-cut, a pile of dust, or a material that is surplus to the requirement of the immediate task. It is particularly important within sculpture, when pouring a surface or casting a form, to avoid having shortfalls of mixed materials, so the process itself demands that you over-mix every time, and subsequently you have surplus (waste) at the bottom of every bucket. Very rarely is such waste able to be re-purposed, due to contamination, chemical reaction (setting, hardening), or size in the case of an off-cut being unsuitably small. It is therefore trashed, and in the case of the studio, trashed along with Brooklyn's general waste collection, ending up in one of the twelve landfills in the states of Pennsylvania, Ohio or

Virginia¹⁴. Regrettably, nothing was separated, recycled or disposed of, in accordance with any regulations (such as a specific hazardous waste collection). Aerosol cans, spent bottles of thinners, expanding foam and polystyrene went out in the general collection with everything else, wood, silicone, resin, plastic, fiberglass, and numerous plastic bottles. We put the bin out on the street each Wednesday. 3 to 4 cubic meters of detritus week in week out, amounting to somewhere in the vicinity of 180 cubic meters a year.

HAZARDS

The dust in the studio is not merely some inert substance that provides the opportunity for a minor respiratory irritation; it is rather the finest particles of a raft of chemical constituents that form the basis of the materials that the studio used. While equipment was often worn (respirators, eye glasses) this was only done for the duration of a task. The ambient air quality has to be acceptably clean otherwise you are exposed to the continual risk of inhalation of those particles that circulate invisibly, that are set in motion with every opening door, and gust of wind. The other methods of contamination are via ingestion and contact absorption (through the skin and mucous membranes) and as we stored, ate and drank food and beverages in a workspace that had no adequate extraction, insufficient ventilation, inadequate climate control (meaning clothing was worn to suit the climate and not the hazards), no occupational health or safety advise beyond, 'I'd put a mask on for that', you have the very real potential for injurious contamination within the workplace. And to exacerbate this problem, workers often displayed certain recklessness and disregard for the hazardous materials they frequently handled.

The ambient air quality of my workplace was not only the remainder of the waste left after extraction from the studio, but rather the sum of everything within the workplace. Materials in storage awaiting use, like MDF and Ply¹⁵, which are part of a group of substances known to emit Volatile Organic Compounds (VOC's), and in high concentrations produce a condition common to many workplaces known as Sick building syndrome. It is good and well when you can sense a hazard, but when the danger is imperceptible, it is only through experience, acquired knowledge and training or a hunch that precautions can then be taken. If there were some safety provisions made for us there was however none made for our immediate neighbors. The noxious vapors of our daily work frequently permeated beyond our workspaces down the corridors and into the adjoining rooms of the building. There was nothing less potent and nauseating than automotive filler (polyester filler) and other PU's, which readily escaped our unventilated and unsealed rooms. The 'spray booth' was divided from a larger workshop by a set of drafty French doors. It was the space set aside for the most airborne of the PU's, and when in use it was extremely unpleasant to be around.

To answer any question regarding what specifically it was we were being exposed to, and in what quantities, would have required extensive testing. What current toxicological research data enables us to see however is that many industrial chemicals used day in day out within this studio, pose significant, acute and chronic health hazards¹⁶.

A STUDY

My arrival coincided with the studio undertaking their most sizable project ever, an installation that occupied the majority of the studio. The artists of this ambitious work

were a Cuban and American duo whose work often deals allegorically with the excesses and homogenizing effects of capitalist production. A core group, consisting of 5 of us, carried out the majority of the work over a period of 2 months, and at one stage or another, we had the assistance of everyone within the studio, as well as a team of 3-4 casual workers who were brought in for a handful of weekend shifts. The high labor inputs were equally matched by the material demand of the project, which consumed large quantities of latex (5000 liters), plaster (100-150 20kg bags), fiberglass (1000 square meters), extruded polystyrene (15-20 cubic meters¹⁷), and other secondary products such as expanding foam, acrylic paint, and hundreds of paint brushes.

The installation, originally commissioned, fabricated and exhibited in Miami, was ‘sculpted’ on-site, as a temporary installation, and was one large, continuous work that was to have been destroyed at the conclusion of that exhibition. It however found a reprieve in the form of a major Museum gallery in the United Kingdom, and was subsequently cut into transportable pieces and freighted the 2100km to our studio in Brooklyn to be transformed into a giant portable 3-D jigsaw. Unfortunately the installation did not merely consist of a number of neatly interrelating objects, but rather was a complex ‘semi-circular’ shaped cluster of 20+ uniquely irregular, architectural and organic forms, which rested, intersected and jutted out from one another. Basically it was an architectural structure nestled amongst a series of rocky outcrops.

Our work, which was to reinforce, remodel, resurface and most importantly, construct a neat fit between adjoining components, was laboriously repetitive due to the seemingly endless surfaces (comprising of hundreds of square meters) that had to be covered with layer upon layer of fiberglass mat for strengthening and modeling. For the first 4 weeks, I

did nothing aside from cut and attach small squares of fiberglass to these undulating forms, meticulously following every rocky crevice multiplied by 4-6 layers multiplied by 6 surfaces to each form. As the project progressed the large architectural components, which had also been treated with, fiberglass (a heavy duty grade) became prohibitively heavy to lift, and as we were without any equipment (hoists or winches) it became not only straining, but also often dangerous to maneuver the work, yet according to the owner, such lifting was a part of the job¹⁸. As the deadline and summer approached, we were implored to work longer hours and extra days, it was with no small amount of relief that the installation was completed, crated up and flown at an extravagant expense¹⁹ to London, arriving just in time for its twelve-day gallery exhibition.

THE ART AND THE PROBLEM

While the studio may in business terms, be seen as somewhat exemplary, with an increasing profile, regular new contracts, and steady expansion, I became increasingly uncomfortable with my role as participant within the workplace. Specifically, as I was contributing to the pollution of the neighborhood (and beyond), while being constantly at personal risk of injurious exposure to harmful materials in the workplace. And generally, in that there is a continual problematic at play in the outsourcing of work, where not only is responsibility deferred to another party, but also the risk and all other factors that are relative to the nature of the work. Most work that is outsourced is not pleasant. It is often dirty, difficult, monotonous, time consuming and hazardous, and as was evident in our studio, may readily be avoided if one has money.

In this exchange, the worker, who is not a stakeholder in the equation (neither receiving a

share of the profits nor a share of the product), is excluded from any decision-making process that impacts on the actual nature of their daily work and working conditions. They essentially are at the mercy of the profit margin, which is subject to the inclination of the owner. Like with the absence of equipment to lift heavy objects within the studio. The owner has a responsibility to the worker, but so do the beneficiaries, artists and financiers of the artwork. They surely are not absolved from these scenarios simply because of their privileged status? If the artists, galleries and institutions are unaware of the implications of their requests (initially on the worker, and then beyond) then it is either for lack of motivation to acknowledge the contradictions inherent in the production of art (the social, environmental and economic costs) or else, and worse, it is out of a general indifference or disregard to these contradictions.

Art production, on the scale discussed in this essay, is a costly, resource-heavy activity which produces large amounts of waste, yet the issue of waste in the production of art should not be restricted to debates about the relative toxicity or improper practices of any given individual or workplace. All medium to large-scale projects for the most part can be subject to the same considerations, and yet, almost nobody appears to identify let alone discuss the broader implications of this consumption at a time when the fragility of ecological systems is both critically important and readily apparent. The art world, prodigiously vocal and frequently overburdened with commentaries, critique and cultural theory is curiously almost absolutely silent on this matter. The notion of 'art as pollutant' is seemingly indemnified from even a cursory mention amongst the industry's numerous public platforms for dialogue, and the best you are likely to hear from an artist, is a mumbled apology as their work heads for the garbage at the conclusion of an installation.

Seldom is the microscope turned onto artists themselves, onto the frameworks in which they operate, querying the ethics of a supply and demand modus, querying the gestures that rarely display a sensitivity to the current environmental reality. An addiction to a culture of growth (a continual, unchecked, unsustainable and unquestioned expansion) locates this as a defensible position, and subsequently completely fails to address the issue of excess. There are simply too many gestures, of too large a scale being produced too frequently. On the one hand you have demand, and on the other an absence of perspective concerning the consequences of meeting these demands²⁰. Of course, the art world never implicates itself. When it regards waste, it is the politics of its use, its appearance as an aesthetic, its creative re-purposing, or else it is merely a commentary of the consumptive excesses of ‘others’ There are few questions, and fewer prickly issues that actually make their way into the public arena. One artist (who re-purposes detritus in the course of his practice) provides us with some indication of why this may be so, he suggests that we, the art world, are not significant enough an industry of polluters to matter²¹. The problem then, like so many others, remains perennially external.

POSTSCRIPT

After several months, with the monotony and toxicity of the work, I found I could no longer justify remaining in a workplace or industry, which so deftly avoids any notion of responsibility to anyone or anything beyond the negotiation of the task at hand. I therefore offered two weeks notice but walked out only a few minutes later after being directed to leave immediately.

1 I will not identify any particular person, place, or institution as it relates directly to my previous employment.

2 Especially with the variables of scale, intricacy and the nature of a particular material.

3 Unless of course a respirator was required instead.

4 MDF (medium density fiberboard) - an engineered board, consisting of densely compacted broken down wood fibers.

5 PU (Polyurethane)- the generic categorization of a broad range of products; foams adhesives, resins, polyesters, gelcoats, varnishes, paints, and contribute by far the highest proportion of materials used within the studio. PU's are any polymer (large molecule of repeating structural units) consisting of a chain of organic units formed by urethane.

6 Resin plaster composite - a versatile material that may be cast solidly or applied to an existing structure. It is a 3 part composite of resin, latex, hardener, which is mixed with an alpha gypsum (plaster of Paris) to enhance the gypsum's strength and durability.

7 Water Based Resin - used for solid casting, molding and for gelcoats. It consists of a polymer emulsion, a polymer compatible gypsum and various thickeners, accelerators, and retardants as required.

8 Fiberglass - a fiber-reinforced polymer or glass reinforced plastic, used as a reinforcing material.

9 Polyester filler (automotive body filler) - used for repairs in resins, plaster composites and other products. It is a two-part product consisting of filler and a catalyst, which enables it to harden. The catalyst MEKP (methyl ethyl ketone peroxide) used extensively within industrial and domestic applications (bleaches, hair care products).

10 Fumed silica - a non-crystalline fine-grained silica used as a thickener and bulking

agent, it is used extensively by the food industry to thicken shakes and as an anticaking agent in powdered food.

11 Cellulose acetate, first prepared in 1865, is the acetate ester of cellulose.

12 Hard rubber (1839), ebonite (1853) ebony, linoleum (1883), celluloid (1869)

13 Lodder, Christina. Naum Gabo and The Quandaries of the Replica, Tate Papers, autumn, 2007

14 Iannucci, Lisa. Where Does the Garbage Go? New York City's Recycling Programs. The Cooperator, The Co-op and Condo Monthly, Sep 2006

15 These two materials contain formaldehyde resins and urea formaldehyde (in interior grade ply) respectively and outgas (a slow release of gas trapped or absorbed in a material) at room temperature for several months after their manufacture.

16 Isocyanates (e.g. Toluene diisocyanates (TDI's), Hexamethylenediisocyanate (HDI's), Diphenylmethane diisocyanate (MDI's)) are essential to all PU's, and due to their reactivity are harmful to living tissue. TDI's are one such isocyanate that is especially toxic to animals that via inhalation die from pulmonary oedema and haemorrhage. In humans, occupational Asthma and decreased lung function are notable common effects from exposure to prepolymer TDI's, with abnormalities of asthma potentially persisting for years after the cessation of the exposure. HDI's have been associated with the potential incidence of a small airways disease while MDI's induce asthma, hypersensitivity pneumonitis, and inflammatory upper respiratory tract diseases through inhalation of either polymeric or monomeric MDI. It is generally the inhalation of an aerosol during spraying or foaming that constitutes the hazard but in the case of TDI and HDI the evaporation of the material alone can emit a hazardous vapor.

Styrene monomer (STYRENE-7,8-OXIDE), the stuff of styrene cups, is used extensively in the manufacture of polyester resins, surface coatings, and treatment of fibers and textiles and as a chemical intermediary for cosmetics. It is classified as a group 2B carcinogen (possibly carcinogenic to humans) in the respiratory system it can cause shortness of breath, central nervous system depression, and in larger concentrations a build up of fluid in the lungs. In chronic cases it may cause, menstrual and fetal abnormalities, functional disorders of the nervous system and the liver and mutagenic effects (inducing cell mutation).

Formaldehyde is ubiquitous within the environment, occurring both naturally and through the production of various resins, disinfectants and preservatives. It is a group 1 carcinogen (carcinogenic to humans) and is found in materials such as particleboard, plywood, treated fabrics, rugs and paper. The major source of atmospheric discharge is through auto emissions.

MEKP (methyl ethyl ketone peroxide or 2 Butanone) used in the manufacture of acrylic resins and a hardening agent for fiberglass-reinforced plastics, is toxic by all routes (i.e., inhalation, ingestion, dermal absorption). There is insufficient evidence to establish it's carcinogenicity, however it does produce developmental defects in mice (fetal weight and fetal malformations) and slight neurological, liver, kidney and respiratory effects. It is highly corrosive and explosive, and when ingested it is often fatal.

17 Without access to records, I can only make an educated guess as to the material usage based on my daily involvement on this installation. The figures quoted here, I consider to be conservative.

18 On one occasion when I inquired into having to move an extremely heavy sculpture,

the owner retorted, “this is part of the job”.

19 In excess of \$130,000 USD.

20 Consider the massive CO2 emissions caused by air freighting contemporary art around the globe.

21 Jones, Patrick. Greenwash #3. Trouble. Australia. August 2009