

Lea

LEONARDO ELECTRONIC ALMANAC

VOL 17 NO 1 A collection of articles, reviews and opinion pieces that discuss and analyze the complexity of mixing things together as a process that is not necessarily undertaken in an orderly and organized manner. Wide open opportunity to discuss issues in interdisciplinary education; art, science and technology interactions; personal artistic practices; history of re-combinatory practices; hybridizations between old and new media; cultural creolization; curatorial studies and more.

Contributions from

Frieder Nake, Stelarc, Paul Catanese

and other important cultural operators.

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W V 2 H

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Leonardo Electronic Almanac
Volume 17 Issue 1
August 2011
ISSN: 1071-4391
ISBN: 978-1-906897-11-6
The ISBN is provided by Goldsmiths, University of London

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Leonardo Electronic Almanac is published by:

Leonardo/ISAST
211 Sutter Street, suite 501
San Francisco, CA 94108
USA

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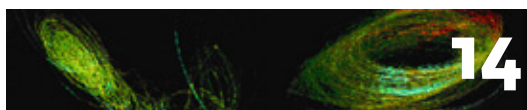
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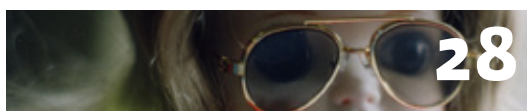
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Figure 1. Visiting Artist Laboratory, Central School Project Artist Community, Bisbee Arizona.

Mish/Mash

by

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PRELUDE

In grain brewing, mash comes early in the process – its raw, messy, problematic, unresolved – but fermentation requires it, thrives on it. With this metaphor in mind, I keep thinking about mishmash in the art process: about chaos and rigor. I'm finding that I'm simultaneously attracted to mishmash (*a confused mixture*) and a bit annoyed because it's a noun – too languid – just not the verb I want it to be. In a description of the theme for this edition of LEA, the editors provide a particularly revealing definition; offering us that, among other things, mishmash is:

"..not necessarily undertaken in an orderly and organized manner.."

There is a gulf between the implications of chaos and a haphazard undertaking; one implies cosmology, the other: untidiness. The complexity of mixing things together can be grand in scale, mesmerizing, protean – but also painful, rife with dead-ends, and uneven: wildly swinging between the startlingly rapid and agonizingly slow, a syncopated staccato so jarring, forwards and backwards are often indistinguishable without further examination or inquiry. Of mishmash,

one can ascribe seemingly paradoxical traits: a mode of forming questions, a lens for meta-cognition, a gambler's dilemma, a rehash of monkeys and typewriters, a ludic blossoming of multimodality, or perhaps the most devastating: an arbitrary wheel-spinning.

So how do we convert mishmash into something more active and potent, while embracing its divergent characteristics of disorganized and meticulous? How can we make harnessing chaos less about realizing the financiers' dream of successfully applying *Parrando's Paradox* – a ratcheting strategy for success by alternately playing two losing games – and more about developing rigor through experiment that integrates iteration and reflection? Can an injection of punctuation – from mishmash to mish/mash, be enough? I'd have to say its doubtful, but I'll admit that I prefer the latter, since it points in a direction that attempts to provide a framework to the confused mixture. I want to disrupt and detach the word mishmash from its formal definition enough to indicate it also represents a continuous process of examining, arranging, combining and hybridizing concepts and techniques – and not just an isolated roll of the dice, arbitrary hodgepodge, or confused mess. I am here to argue for mish/mash, and hopefully by refocusing the lens by which we examine the term, can allow it to possess a new connotation of vastness, possibility, and the entropic.

INTRODUCTION

Several years ago, I began considering that the intellectual space and process of developing installation, which provides a great deal of malleability, itself began to require extensions to its conceptual topology. It occurred to me that I crashed into a similar problem earlier in my practice with regard to the conceptual topology of theater and browser-based installation; I began to require additional dimensions in order for the manifestation of the artwork to embrace a discussion of the threshold between complex and intractable. I considered my visual aesthetics and the role of drawing, sketching and notation as an instigator and analyzer of form within my work – a process that I seated within experimentation, but rarely explored as an outcome or manifestation. This wasn't the only force acting on my thoughts, because I was also becoming more and more involved in artist residencies, which I have come to regard as one of the more important activities for my practice. A pivotal fellowship at the Kala Art Institute in Berkeley provided me with

proximity to printmaking. As I worked on programming individual black and white pixels into animations for *Digital Cornell Boxes* within the confines of reverse engineered *Gameboy Advance* handheld game systems, the proximity to letterpress printing, assembling handset type and the printmaker's notion of the matrix hinted at conceptual and practical implications for a potential new direction.

With that conceptual starting point in mind, I began experimenting with how I might integrate my familiar domain of the digital through subtractive Computer Numerical Control (CNC) industrial processes (e.g. laser etching/cutting, routing/milling, water-jet) into a printmaking process. It seemed that CNC, as a good intermediary between the raw space of digital thinking, which itself provides permeability among virtualized forms, and propulsion into the physical world could pair well with printmaking as an outcome. Since I am also attracted to the (somewhat) fixed nature of a print alongside the contrasting ephemeral nature of digital practice (and installation for that matter), the *slow ephemerality* of printmaking seemed an interesting foil to traditional definitions of creating art in a fleeting domain.

New, old, or ancient: media instigates hybrid practice. In my own work, this injection reinforces existing disruptions to disciplinary orientation and provides a complex refiguring of the ephemeral, a changed relationship to artifact and terrain.

INTERDISCIPLINARY ORIENTATION

I've been thinking about the theme of this issue: mish/mash, and that it is a useful device for discussing how interdisciplinary practice with digital tools is central to my work. It's also relevant to a discussion about how this framework for thinking integrates within my teaching. Since creating and teaching art are intertwined, it is important for me to introduce that I teach in the Interdisciplinary Arts department at Columbia College Chicago, which fosters dialog between the fine, performing and media arts. It's a graduate department, with two MFA programs and an MA program. In terms of facilities, we have everything from computer laboratories, a sound studio, electronics fabrication, laser cutting, video editing, installation laboratories, space for performance as well as letterpress, offset, intaglio printing, papermaking and bookbinding – and the conceptual desire to mix all of these (and more) together. The faculty and students share a passion for conceptual thinking that leads creative decision making as contrasted with strictly disciplinary-oriented choices driving outcomes. We share a commitment to the idea that *interdisciplinarity is a defining characteristic of contemporary art practice. a necessary prerequisite for those artists who will shape the future of creative practice.* It's an invigorating department – certainly a good Petri dish for incubating mish/mash. Beyond a particular temperament, a receptive environment is necessary for mish/mash as it is fragile in its earliest stages. Like the mash from grain brewing, its rawness is its potential.

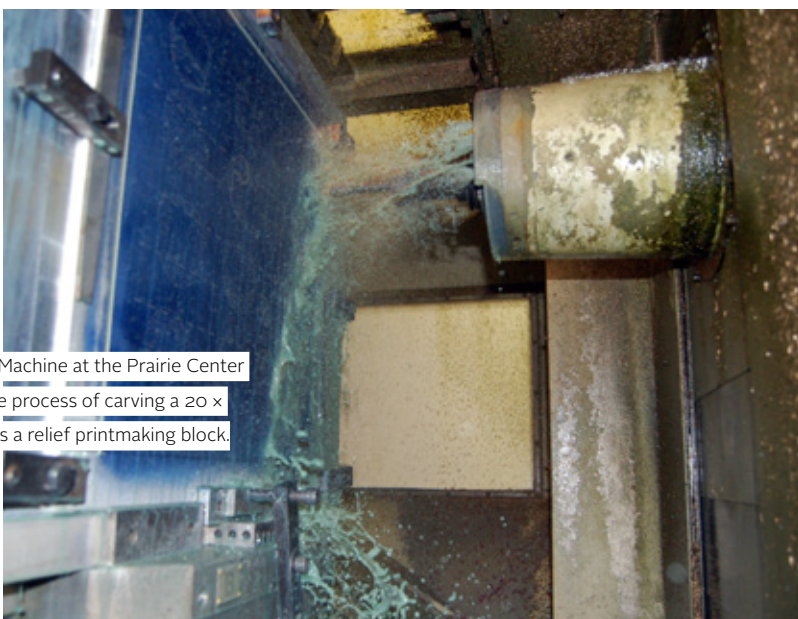


Figure 2. Horizontal CNC Milling Machine at the Prairie Center of the Arts in Peoria Illinois, in the process of carving a 20 x 20 inch aluminum plate for use as a relief printmaking block.



Figure 3. Over-beaten abaca paper with el-wire inclusion.

HANDMADE MEDIA

One of the MFA candidates in our department, Daniel Mellis, wrote an interesting article for the *Journal of Artists Books* a few months ago that was a working model for establishing an ANSI code for a *handmadeness* scale. Incorporated with his article is a remarkably well thought-out insert that includes all of the materials required for building a *handmadometer*, a quasi-slide rule / paper-based computing machine for calculating how handmade a given object is. This idea was immediately intriguing to me. Though he developed the scale with handmade books in mind, I couldn't help but consider the juxtaposition of the handmade and the digital; about how the handmade is often thought of as existing beyond or outside of media. I am also very interested in the notion of an emerging post-digital materiality that can be found in

performing, media and fine arts practice, so engaging with this idea was compelling. I started thinking about an invented term: *handmade media* – imagining a host of archeological media projects that would define its boundaries: steampunk mechanical televisions, home-brew capacitors and nimbly woven core memory.

For a starting point that I could test immediately, I decided to look beyond my familiar studio processes and techniques. I considered that although there are extensive papermaking facilities in the department, I hadn't actually made paper before and decided that addressing this would become part of a series of experiments to play with the notion of *handmade media*. My initial tests involved simply learning about the process, about the tools, the studio, the fibers – and it occurred to me that everything about the creation of paper was essentially wet. For someone who often works with or engages electronics, that seemed like an instant challenge, which is why I began writing lists of all of the different electrical components that I thought could possibly survive a trip through the GOOPI press which is critical to the process of making ethereal, gossamer sheets of paper. A few components stood out: nitinol, magnetic dust, copper coils, and the one I eventually settled on: electroluminescent wire. Readily available, easy to power, and easy to wire up, the phosphor coated solid copper core of el-wire is thickly wrapped in a heavy plastic sheath that protects it during the pressing process.

The initial tests were relatively successful, resulting in still-functioning el-wire embedded as an inclusion in handmade paper. Building on the early success, an additional round of experiments combining el-wire and fiber optics to re-distribute lines of light as points of light throughout the paper had mixed results. Since fiber optics are highly susceptible to high-pressures, pressing introduced minute fractures that greatly diminished the ability of the fiber cables to reliably

carry light short distances. At this moment, I am experimenting with building a new series of tests with fiber optics in order to determine which combination of paper fiber and cable diameter compliment one another well enough to assist in the functional aspect of the fiber optics to more successfully survive the pressing process.

Simultaneously, my colleague who teaches papermaking in the department, Melissa Potter and I, have been discussing ways to combine aspects of our practices to make new opportunities for students. In preparation for offering a workshop on *sound and paper* that would invite ways to consider how those two ideas are potentially resonant for one another, we began thinking about what possible devices we could have



Figure 4. Handmade speaker / microphone from cast esparto & abaca fiber paper.

students make in an afternoon. Though we have interest in the sound that paper can/does make, performing with sounds of amplified paper, or paper based instruments, we wanted a demonstration to integrate media at a fundamental level – which is where the notion of *handmade media* offered a way forward. Coupled with the fact that I think it is a bit of a rite-of-passage into the media arts to learn how to solder up a contact microphone, and that I have seen students learn how to in an afternoon and be making artwork with these devices by evening, I wanted the students to engage in a similarly immediate process. That being said, piezos didn't survive the pressing process to become electronic inclusions so well (not a big surprise there, though piezo films probably would make it through ok). Once Melissa and I started talking about the possibilities of cast paper – that's when it popped out. Since winding copper coils is no more difficult than soldering up a contact microphone, a roll of 32AWG enameled copper wire and a rare earth magnet later, we ended up with a quick prototype of a handmade speaker / microphone – a relatively straightforward device that offers a great deal of flexibility, variation and experimental potential. This interaction typifies the interplay between scholarship and experimentation as a dialogue between thinking and making, where sharing and collaborating function as a form of concentrated questioning, an energy exchange, a playful inquiry – a mish/mash.

DE-TETHERING DIGITAL PRINTMAKING

I have been working with developing methods for integrating industrial CNC processes within a digital printmaking workflow for several years. Currently, I am in the process of co-authoring a book on this subject with Dr. Angela Geary, who teaches at Northumbria University, to be published by A&C Black in 2011. My initial workflow has been to use a *Wacom* tablet with

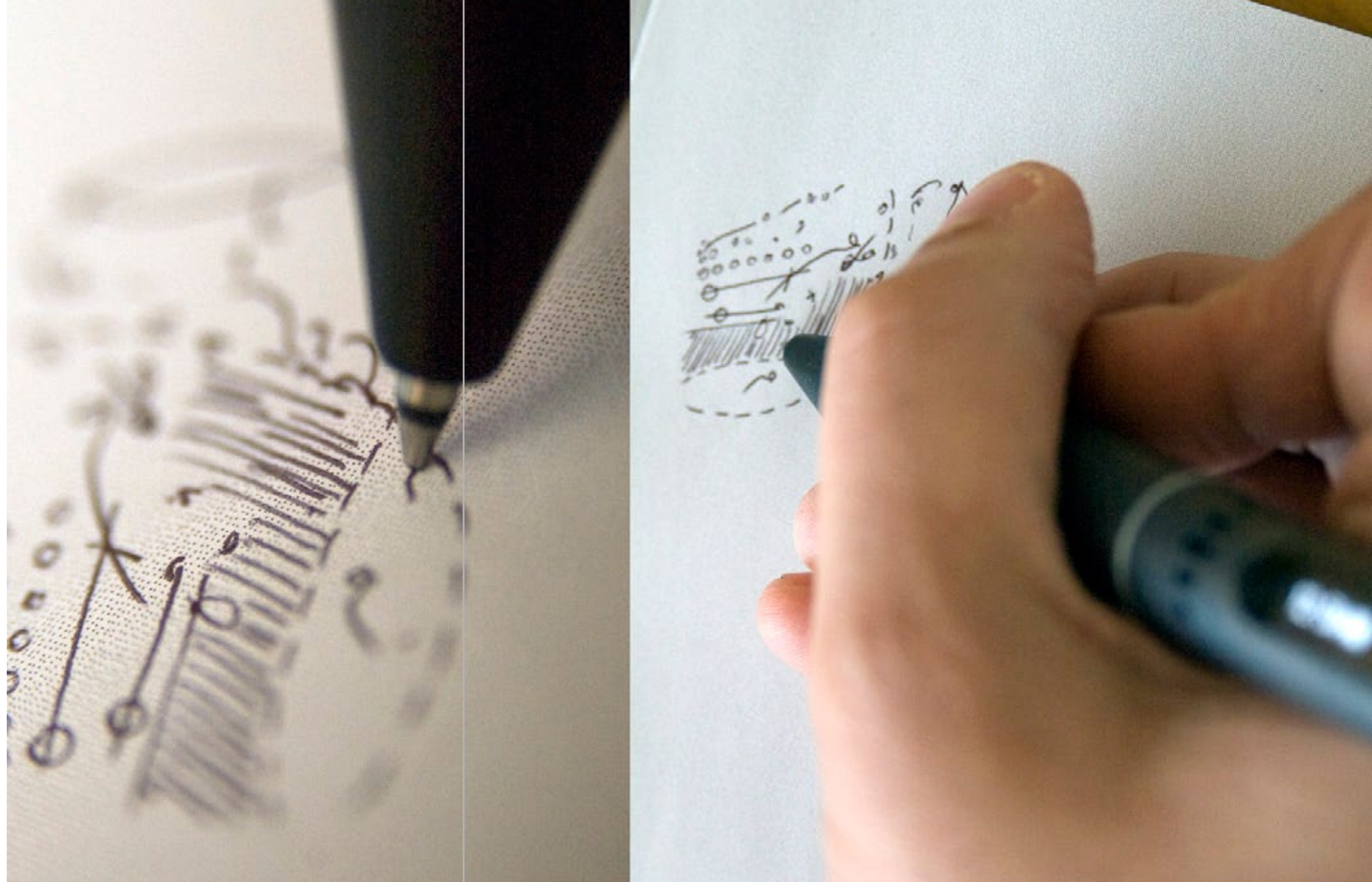


Figure 5. Livescribe digital pen in action; on left, micro-dot pattern is in focus at center.

custom drawing software to generate a host of different output formats: g-code for CNC mills, AI & PDF for laser cutters, and a custom XML format that is flexible and allows me to convert drawings into future formats that I might want to explore. My drawing software is pared to precisely the tools I need to make marks, and because it is tailored to the types of drawings I make, it allows me to work very rapidly. Those drawings can then be carved in steel, routed in wood, laser etched, scribed into copper, scribed through hard or soft ground on copper or zinc and then bitten with acid, or turned into intaglio and relief printmaking plates in a number of other ways.

I continue to use the workflow previously described for the many advantages that it provides me. However, a more recent workflow involves working with a digital pen; in this case, the *Livescribe* – one of several products that integrate a ball-point pen with a miniature camera that is able to collect accurate x/y data when used with a specialized paper printed with a unique non-repeating micro-dot pattern. By gaining access to the raw x/y data collected by the *Livescribe*, which dovetails with my existing digital printmaking workflow. Now I have access to a digital printmaking process in which the drawing aspect is de-tethered. The de-tethering has become important for me - as the space of drawing - and the space of my installations have begun to move into the natural environment.

THE VISITING ARTIST LABORATORY

In 2009, I was invited to a summer residency at the Central School Project Artist Community in Bisbee, Arizona. It was a unique opportunity where I was provided space and time to work. The level of engagement with the community was very useful; the studio remained an open environment in which visitors could drop by at any time. Conversations erupted at any moment, work in process, processes in process, notes, sketches, scribbles, mistakes, all were examined and in view. Some visitors might ask many questions, others just watched – or would even lend a hand. It was a curious space – an emptied third-grade classroom in a giant elementary schoolhouse built in 1905. Time worn oak wood floors, original slate chalkboards, twenty foot ceilings, huge antique cylinder-glass windows and a view of desert mountains, rich with copper ore and blossoming ocatilla greeted me each day.

For my process, the effect of this residency has been immense. A suite of new problems, questions and trajectories erupted from this period of inquiry. The laboratory reframed the role of reflection and illumination in my work, introduced the gentle buoyancy of balloons as a welcome partner in establishing surrogate vision, scale-models of drawings viewed from the moon, and other raw mish/mash demands further exploration in an upcoming residency in June 2010, at the Goldwell Open Air Museum, just outside of Death Valley. Actions, time-events, performed and re-performed moments, experiments and variants, will unfold. Drawing is a trace of gesture and kinetic action, indicator of future motion and trajectory, it provides notation for performance, but also records, as field notes, it is evidence of action.

CONCLUSIONS

I have always been interdisciplinary. Breaking creativity into subdivisions is a learned construct; and while the magnetism of disciplinary orientation, with the convenience of established answers and traditions is alluring, mixing things together is in itself a rigorous practice. It is unsettling to be disoriented, and challenging to engage in willful disorientation.

There are components of studio practice that require discovery through iteration. Experimentation in this regard refers to the cyclical structure of making, observing, reflecting and renewed making. The rigor exists in the process. This also allows for play and variation. It provides a framework for creating a mess – and then learning from the eruption through close examination and reflection, like a bubble chamber. It is primarily additive, and can generate a great number of directions from a respectively small set of givens. Systems created do not have to work; parts of the systems do. Running a broken machine can still perform though it may not function.

Each artist will interpret the usefulness of experiment as well as the balance of experiment within their practice as compared to other elements (theory, history, profession, craft, material, isolation, performance, public interface, technical, collaborative, etc.) I do not suggest that the experiment is the artwork, though it can be. I do suggest that in my case, experimentation

defines the studio; that studio, becoming open, within the context of residency, provides engagement and rupture. The studio as open laboratory transforms experiments into performance. Perhaps here I will take a moment to refine mish/mash again – an invitation to the unresolved, the performance provides witness to unfolding action.

Handmade paper with electronic inclusions, cast paper microphones and speakers, de-tethered digital printmaking, the open studio as performance – all of these experiments, these snapshots of moments within an unfolding process exist in the wilderness of hybrid art practice, and embody my personal vision of mish/mash. Additionally, they exemplify the hybridization of process that erupts from integrating art and teaching practice, the influence of collaboration, and the importance of artist residencies as a manner of accessing expanded perspectives. ■

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photograph Murat Germen,
Muta-morphosis #79, Istanbul,
150 x 85 cm, 2011, 7 editions + 2 AP,
courtesy of C.A.M. gallery.