AD HOC/RE HOC:
HOW CRAFTING INTERIM SOLUTIONS CREATES BETTER DESIGN.

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1. DO-IT-YOURSELF

During the decade following the Second World War, America's *can-do* attitude encouraged people to believe that what they did not have, they could make—and what they had, they could improve upon. Throughout the United States, publications such as *Popular Mechanics,* as well as the *Sunset Book* series fueled homemakers and small business start-up entrepreneurs with blueprints to build a better life. For instance, a widespread 12 volume do-it-yourself (D-I-Y) encyclopedia included strategies such as how to construct a home-built bandsaw from pipefittings as well as how to hide a foldout workshop under an apartment bed. Whether tinkering in a garage-shop or being a homemaker, books like these offered the knowhow to "…keep your household well-run, well-furnished and in good repair." (Popular Mechanics Do-It-Yourself Encyclopedia, 1955, v.1.) Saving money, labor, and time; making and repair knowledge were seen as keys to social mobility.

The '60s saw a different kind of mobility, less interested in mirroring existing product paradigms with similar style-oriented outcomes and more concerned with where one's ecological footprints went. In Papanek & Hennessey's book on how-to-make Nomadic Furniture the authors present renderings of new lightweight furniture made from minimally manipulated wood, plastic tubing, dowels, rope, big buttons, foam sheet, canvas and so forth (1973). Many of the designs were likely derived from Papanek's international travels where he worked extensively in the developing world documenting perusing the "…genuine needs of man…"(Papanek, 1971).

1.1. NECESSITY IS THE MOTHER OF ALL INVENTION

While mid-century America relished crafting the *American Dream* from off-the-shelf parts, the 60's counter-culture celebrated a more incidental approach. In 1968 Charles Jencks coined the term 'adhocism' and later stated that, "It can be applied to many human endeavors, denoting a principle of action having speed or economy and purpose or utility. Basically it involves using an available system or dealing with an existing situation in a new way to solve a problem quickly and effectively. It is a method of creation relying particularly on resources which are already at hand." (Jencks & Silver, 2013) In their seminal 1972 book *Adhocism: The Case for Improvisation* Jencks and Silver contextualized the ad hoc movement within the existing DIY "industry" and hippie ethos of re-use adaption of existing things. The alternative non-materialistic hippie life-style subjected an entire generation to the possibility of *doing more with less*.

2. AD HOC: FOR THIS

The phrase-word *ad hoc* in Latin literally means *ad* "for" + *hoc* "this" or "for this". Nearly half a millennia old, today *ad hoc* is widely used in everything from committee and commission formation to computer network systems that setup with little planning. In this paper *ad hoc* is explored as quick makeshift improvised things to serve immediate precise needs. As interim solutions, they are often used in place of products: a key for a bottle opener, a wine bottle for candelabra, and a match to sterilize a needle. However provisional, some solutions genuinely compete with produced products such as a hollow-core door modified to become a lightweight table top or a plumbers blowtorch to caramelize crème brûlée. Functional and simple, ad hoc methods quickly cut to essential need and become popularized with equal speed.

2.1 LIGHTS CAMERA AD HOC

For seven years the American action-adventure television series *MacGyver* ran internationally. The clever-hero Angus MacGyver was able to transcend seemly lethal situations with nothing more than a Swiss army knife, chewing gum (with foil wrapper) and duct-tape. First aired in 1985 post a severe global economic recession that left the developed world reeling from unemployment: During one's leisure they could imagine solving hard problems on a shoestring with good olé Yankee ingenuity. Today, to *MacGyver* can be used as an informal verb. One can say, "The iPhone screen cracked, and my wife *MacGyvered* it with plastic wrap".

Ad hoc solutions are tremendously popular for their usefulness, ingenuity, wittiness, and absurdity. As process-based creations, they evolve through community sharing and commenting, in online fix-it, hack-it, modify-it, and make-it forums. *YouTube* channels and media outlets such as *Make* magazine as well as boundless blogs and skill-sharing *hackathon* meet-ups support individuals in their quest to solve problems in clever and fun ways. The Internet has opened a latent platform for sharing ideas that can be non-commercially. While designers create consumer products to sell solutions to specific problems, a parallel informal economy of open sharing and *adhocism* has also arrived.

2.2 AD HOC GLUE

In resourceful hands (MacGyver's for instance) duct tape can be thought of as a material with universal potential. What nascent *affordances* are contained in other consumer goods? Normally less stylized things contain manifold applications. Ubiquitous examples of open platform products include: binder-clips (Figure 1), paperclips, clothespins, cable ties, wire coat hangers, sheet rock grabbers, carabiners and so on. Query online for '101 uses for (fill in the blank here)' and a rich archive of applications and strategies for everyday things results. For binder clips alone there are thousands of uses—everything from a "tea bag saver" to a "knife sharpening angle stabilizer" (Danger, 2012).

Figure 1. Binder clips used as a money clip and as an ad hoc button/belt closure. Images copyright © 2013, Rama Chorpash

2.3   JUGAAD

In the seminal book *Jugaad Innovation* the authors present a broad survey of juggaad, "…(the)…Hindi word meaning an innovative fix; an improvised solution born from ingenuity and cleverness; resourceful." (Ahuja, Prabhu, Radjou, & Roberts, 2012). Stemming from conditions of poverty, the colloquial expression is not intended by the authors to supplant existing systems of innovation methodology typical of the developed world, but to compliment Western structures by employing a greater willingness to embrace and learn from "marginalized" participants as "cocreators". The jugaad mindset matches the ad hoc attitude in that it challenges one to act in a non-linear way through intuition. "Jugaad innovators do not reply on focus groups or formal market research to decide what products to make…they know their customers and their products intimately—and ultimately, they trust and follow their hearts" (Ahuja et. al, 2012. p.23).

Jugaad and ad hoc approaches rely on the creator to simultaneously think *while* doing; as opposed to think *then* do. This hands-on tactic increases experimentation and variation and gives concrete feedback. Designs are developed in real-time, with tweaks and adjustments done on the fly. Working through failure, regular citizens can produce out-of-the-box designs of extreme novelty and contextual appropriateness. Disturbingly though, much of this work goes unrecognized outside its' most immediate community. The unpolished, cobbled together solutions can be outright ignored by mainstream designers, or pejoratively rejected as inadequate planning.

3.   RE HOC: AGAIN THIS

The phrase-word *re hoc* in Latin literally means *re* "again" + *hoc* "this" or "again this". Towards implementing a new lexicon, the author coined *re hoc* to encourage designers and educators to learn from and develop existing solutions—doing them again. While the litmus for innovation is often considered a breakthrough transformational change, *Ad Hoc/Re Hoc* methodology maintains that invention also resides in incremental and sustained change.

Take Brendan Ravehill's *Nail Bottle Opener* for home accessary brand AREAWARE as an example of manufacturing a makeshift solution. Plainly mass-produced from a small block of hardwood with a common construction nail—as a bottle top opener, the design readily communicates the original typology and function of a 'worker' made wood stick and nail opener. Ravehill added a concealed magnet to catch bottle tops, as well as

rear magnet for hanging from a refrigerator. The *re hoc* here is recognizing the simple genius of stick and nail openers and celebrating its rugged function and aesthetics through clear detailing and subtle improvements. While creating *ad hoc* objects is a human right, *re hoc(ing)* requires a designer to employ deep knowledge of the field by editing ergonomics, color and finish, material yield, production logistics and so forth.

Figure 2. Left image—Typical New York City bicycle rack. Right Image—Copenhagen City Bikes Project. Copyright © 2013, Rama Chorpash

Pictured on the left, the long bicycle rack is seemingly littered with individuals' Kryptonite security hardware (Figure. 2). While the locks and chains are the de facto lock-up for bicycles in most major American metropolitan cities, the brand's top security line "New York Fahgettaboudit" can weigh in at 12 pounds: Half the weight of a reasonability priced road bike! As shown in this early morning photograph, commuters have left locks overnight smartly avoiding having to lug the weight home. Although lock systems are upwards of 100 dollars, it is not uncommon for riders to *lock-leave* in two locations across the five boroughs.

As a *re hoc*, how could designers leverage the ad hoc phenomenon of *lock-leaving?* Surely heavy locks do not belong with riders. Why does Kryptonite's design team not recognize the locks dangling from racks? Pictured on the right is an empty Copenhagen bike-sharing rack that includes an integral chain lock-leaving strategy (Figure. 2). New York City's recently launched *Citi Bike* system has an even more complex heavy-duty bike docking station, also with the notion that locks remain in situ.

Photographing first-hand *ad hoc* solutions establishes strong points-of-entry for designing *re hoc*. In this airport bathroom door, note how the finish wore through to bare metal (Figure. 3). Noticeably the maintenance crew attached a secondary protective horizontal push-plate trying to cover and accommodate hand-wear. Also present are paint layers showing that the facilities team had first tried to repair the finish. If the maintenance crew were given another five years, perhaps they would have developed a more aesthetically resolved and hygienic solution than this ad hoc jerry-rig fix. What can a designer learn from all of this? How can they *do it again*?

Figure 3. Restroom door Bangor International Airport, Bangor MA. Copyright © 2013, Rama Chorpash

Unfortunately the designer, engi neer, and manufacturer of the door will probably never see the wear or the multitude of quick fixes. The door will likely be reordered (by a 3rd party specifier), and a cycle of obsolesce will begin anew. How could the door designer be on the ground, working more closely to learn from users who adapted their door? Short of accumulating frequent flyer miles to visit doors and maintenance crews, they could leverage learning from social media forums. Take *IKEA Hackers* for instance, what brand would not be delighted to see an online community dedicating themselves to hacking their products? A company such as *Quirky* offers contributors incentive for helping to design and evaluate products. Other brands may do the same—documenting mutations done by end-product users.

The marketing mantra of tapping into dormant hidden consumer desire is a hollow certainty in comparison to actually building-upon users' genuine experience and documented innovations. The *ad hoc/re hoc* approach presents a social imperative where the process of product development is seeded by idiosyncratic anomalies of everyday life. It celebrates alternative ways of doing things, and to do them again using designs' full methodological frameworks. From a university perspective, instead of having learners synthetically trying to create radical innovation, design educators should guide students towards authenticating prevailing niche solutions. Groundbreaking work surrounds us; it's simply a matter of institutionalizing them through design.

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