FOOD PHREAKING
ISSUE #00

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The Center for Genomic Gastronomy
In early 2012 the Center for Genomic Gastronomy wrote:

“Singapore can be described as a food utopia; simultaneously a ‘perfect place’ with an abundance of affordable and diverse foods, and a “no-place” where most things are imported. Eaters, not farmers, are the major agents of selection. Singapore’s multicultural food system, is driven by cultural and economic flows as much as biospheric flows.

How will Singapore’s unique agri-eco-culinary system adapt to the challenges of the 21st century? What kinds of changes can we expect in the composition of genomes and biotechnologies that makes up the human food systems in Singapore?”

Based on these questions, the Center for Genomic Gastronomy was invited to spend a month in Singapore in the autumn of 2012. We roamed widely, visiting individuals and exploring institutions in every corner of the island nation. We met architects, entrepreneurs, students, farmers, chefs, eccentrics and scientists. We visited hackerspaces, gardens, kitchens, parties and classrooms. We would meet and talk with the food people on a Tuesday. Then, we would hang out with the technology people on a Wednesday. But there was very little overlap.
FOOD PHREAKING: EXPERIMENTS, EXPLOITS AND EXPLORATIONS IN HUMAN FOOD SYSTEMS

This book contains stories that might be useful to Food Phreakers. Who are Food Phreakers? They are individuals and groups interested in experimenting with human food systems at multiple scales. Food Phreakers believe that food culture should be open, free and accessible. Some Food Phreakers have professional skills as farmers, seedsavers, chefs, biohackers and food scientists. Others just tinker in their backyard, basement, kitchen or home lab. The Food Phreaking journal aims to connect foodies who care about sustainability with the scientists and hackers who care about open culture. Food Phreaking is where food, technology, and open culture meet.

Food Phreakers not only observe natural systems, they also explore, experiment, and seek exploits in the human food system. They breed, mutate, grow, harvest, sell, process, cook, celebrate and serve food.

This book documents 38 concise examples of what Food Phreaking might be, and what it most definitely is not. These examples have been grouped into four themes, and are organized into four quadrants.

INTRODUCTION

All this roaming about and discussion showed us the need for a space where food and technology people can mingle as equals. We left Singapore with the basic outline for creating a forum where food and tech communities could come together to critically and creatively explore the potential overlaps between their work.

You hold our first attempt at this interdisciplinary forum in your hands.

We would like to thank Lonce Wyse, Denisa Kera, Tembusu College and the National University of Singapore for hosting us during our visit. This artist book was generously funded by the Arts and Creativity Lab at NUS through the Art/Science Residency in 2012.
The Food Phreaking journal is a platform for research, action, intervention, reflection and foresight. We hope you enjoy the #00 issue, and contribute to issue #01, which will be launched later in 2013.

Not all of the examples contained in this book are cause for celebration. Many examples catalog the methods used by transnational corporations to privatize human food cultures and to design snacks that maximize profit at the expense of human and environmental health. Other stories feature some of the biohackers, mad chefs, betatasters and open source seed savers that are attempting to keep food culture open. Partly by design and partly by circumstance human food systems are less open than they have ever been.

Food Phreaking is where food, technology, and open culture meet.
LEGAL & OPEN
OPEN SOURCE FOOD SCIENCE & PARTICIPATORY FOOD DESIGN
Quinoa’s ancient South American neighbors, potato and chili, spread during the Columbian Exchange. In 2013, this whole-grain, gluten-free, protein-rich, NASA-approved seed-crop is finally making its global leap.


The process is not short. Neither is curing a ham. Why should we be afraid of taking time with vegetables?
We still don’t know exactly what is causing Bee Colony Collapse Disorder (CCD). Why not limit yourself to a diet of non-bee-pollinated ingredients? Taste the future, today. And be prepared for bio-adversity.

Seed companies like Burpee are creating new products such as ‘Big Rainbow Tomato’ by grafting the heirloom fruiting parts to disease-resistant and stress-tolerant rootstock. You can even see the scars!
Chefs and gastronomic entrepreneurs are moving ingredient preparation from simple chemistry to molecular assembly and biophilic culturing. Isolating and purifying the essential elements of regional cuisines. Eating GloFish® sushi may be unexpected, but it’s not illegal. But make sure to read the terms of service on patented animal ingredients because breeding them is not allowed.
Todd’s Mitcham Peppermint may be the most ubiquitous radiation-bred food, but you can look up thousands of other mutagenic varietals using the IAEA’s handy META Database.

You too can clone natural mineral waters by adding a clever cocktail of salts and carbonating. Use lookup tables to mimic water from specific places and corporate brands. Or create your own liquid remix.
Forcing chefs to simulate the cruelest dish in France using only non-animal ingredients is fun! However, you still have to eat it with a sheet over your head to hide your shame.

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A list of ingredients can’t receive a copyright, but that doesn’t stop some people from seeking out legal methods for privatizing common food culture.

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PROPRIETARY PROVISIONS

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9

Intensity scale 0-60 points
attributes that show significant difference (alpha=5%)

texture
firm/knife

fast melting

moist consistency

sticky consistency

fluffy/light consistency

firm consistency
difficult to spread

rough/knife

sticky/knife
crumbley/knife

Pilot 0% aer
Pilot 10% aeration

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VEGAN ORTOLAN COOKING CONTEST
CULINARY CIVIL DISOBEDIENCE
& OUTLAW INGREDIENTS
Despite appearances this hungry fish is a drug, not a food, in the eyes of the law. For the past 10 years it’s been awaiting approval and if legalized, it would be the first GM animal for sale in supermarkets.

European regulations dictate how much milk a farmer can sell. This has given rise to raw milk vending machines on street corners and at nearby grocers, which sell surplus milk direct to consumers.
In 2011, Dow AgroSciences paid a civil penalty for moving and selling corn seed containing low levels of an unapproved genetically engineered (GE) plant-incorporated protectant (PIP).

In 2011, the artist Adam Zaretsky let participants take home sprouted beans they had tattooed with DNA-laced ink, so they could grow their own edible mutants.
Raw milk is illegal in some states of the U.S., and in Canada, Australia and Scotland. However, there are many advocates who drink raw milk illegally.

Okanagan Specialty Fruits Inc. is currently seeking approval in the US and Canada to sell GM apples that use gene silencing to inhibit the expression of polyphenol oxidase enzyme.
Only registered seed varieties may be commercially traded and grown in the EU. For agribusiness, the high seed registration fee is trivial. Meanwhile, seed savers associations championing biodiversity are criminalised.

Instead of supersizing the food, why not shrink the human? NASA began research into breeding smaller humans for more efficient long distance space flight.
Newcastle Brown Ale was granted Protected Geographical Indicator status in 2000, cementing its local ale provenance into law. In 2007, it was forced to cancel its status when the brewery moved to North Yorkshire.

In 1991, poisoned milk resulted from a herd of cows eating a bag of insecticide. The milk was going to be dumped on the ground, but then an artist turned the milk into cheese and exhibited it as sculpture.
ILLEGAL & CLOSED
BLACK HAT FOOD HACKING & FOOD CRIME
The 1980s smelled like Obsession and heart of palm salad. When every fashionable restaurant in New York and L.A. featured the core vegetable, Amazonian landscapes were ravaged with unsustainable palm poaching.

Twenty tons of poisonous glass noodles were destroyed after it was discovered that some Chinese companies cut costs by using corn starch instead of mung beans and added lead to make the adulterated noodles more transparent.
A would-be food-forger was caught red-handed when he used cheap glass containers to bottle his bulk-buy. Exploding upon shipment, his edible (but non-designer) ketchup spilled on designer tables everywhere.

Considered by many to be one of the cruelest dishes in the world, sale of this bunting bird dish is no longer legal, but some say Ortolan is still consumed in the dark shadows of professional French kitchens.
Soy is easier for farmers to save and replicate than other crops because 2nd-generation beans don’t lose hybrid vigor. Cue Dupont sending in the cops to prosecute soy piracy and Monsanto siccing their lawyers in the supreme court.

In 2002, the USFDA told Kraft that Velveeta® was not fully a “Pasteurized Process Cheese Spread.” Instead of complying with dietary minimums, Velveeta became a “Pasteurized Prepared Cheese Product,” a term which has no legal status.
A restaurant in the Hague released Procambarus clarkii alive into a canal. The invasive crustacean promptly expanded throughout the Netherlands, challenging the structural integrity of riverbanks nationally.

Unannounced genetic testing by advocacy groups like Oceana have shown that many fish are being intentionally mislabeled at restaurants, sushi bars and supermarkets. Do fish really taste that similar?
LEGAL & CLOSED

PROPRIETARY FOOD ENGINEERING
& CLOSED SOURCE FOOD DESIGN
Thirteen “fatal reactions” to 5-hour energy drink consumption have been reported to the USFDA. According to the product’s creator it’s like this: “Water is good, but if you have too much you drown.”

The U.S. ignores international food naming standards, allowing companies like Kraft to market their dairy flavoured dandruff as “Parmesan.” In Europe, Parmigiano-Reggiano knockoffs range from “Pamesello Italiano” to “Rapisan.”
Remember when some pranksters suggested that KFC had to change their name because they had started serving genetically modified non-chickens that had no beaks, feathers or feet? Now you do.

U.S. federal labeling regulations don’t require bottling companies to list the source or method of water purification, and many brands simply bottle and resell municipal tap water.

They are trademarking Korean words to be used as product names, AND patenting biological processes in order to own recipes, all in secret unmarked labs?!? Say it ain’t so!
Combine 20% lupin flour with 80% ground beef to and feel 20% better. Save money too! According to Meatless®, most eaters can barely detect hydrated vegetable fibers when blended with meat, cheese and fish.

Purple sweet potatoes from aboard the Shenzhou 6 space flight are the latest Valentines Day Food Fad. Buy your lover a meal that tastes more “glutinous.”
Lean finely textured beef (LFTB) and boneless lean beef trimmings (BLBT) are heat-centrifuged and ammonia-purified beef products–originally used in pet food and cooking oil and approved for human consumption in 2001.

By law, Roquefort cheeses must be aged in the Combkalou caves of Roquefort-sur-Soulzon, France and be made from the milk of the Lacaune, Manech and Basco-Béarnaise breeds of sheep.
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