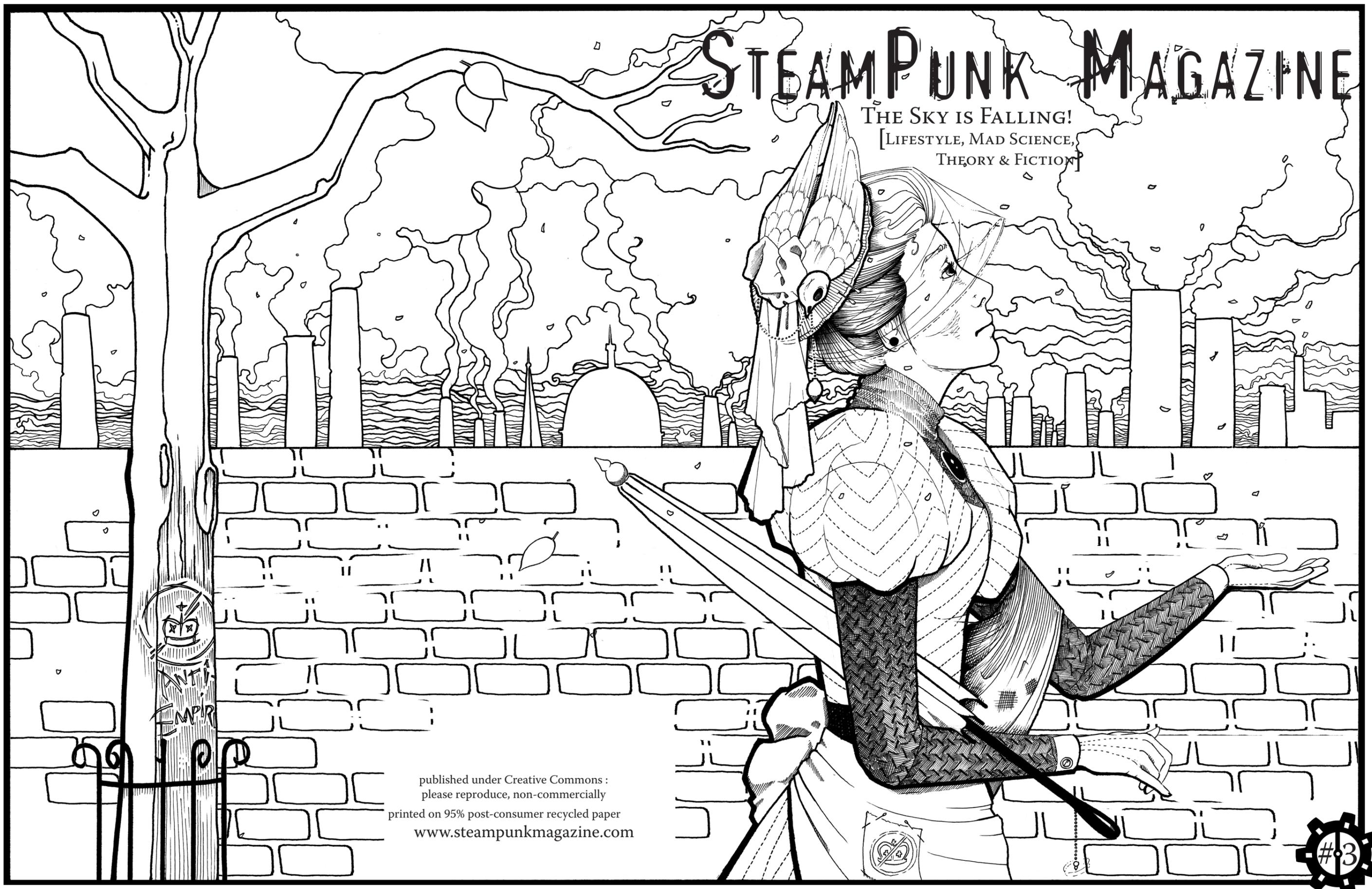


# STEAMPUNK MAGAZINE

THE SKY IS FALLING!  
[LIFESTYLE, MAD SCIENCE,  
THEORY & FICTION]



ANTI-EMPIRE

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artwork by Steve Archer



It is an absurdity, it is laughable, to speak of such a pending disaster as “The End of the World.” We are discussing the end of Humanity, or we are discussing the end of Civilization, or we are perhaps even discussing the end of some this or that Empire that we mistakenly believe to identify with.

The end of the *world* will come when the sun expands and engulfs it.

Now, is it truly a surprise that our discourse relates economic tragedy with an ecological one? That we actually behave as though a marked downturn in the Market can somehow be compared to the death of Nature? We are so enamored with our vastness and resource that we have forgotten the lark and the sparrow.

So I say, come armageddon. Come, you horsemen. Let us speak these things no more.

—Takici Kaneko, 1934

*The cover was illustrated by Suzanne Walsh*

## ISSUE THREE: THE SKY IS FALLING!

Another few long months have transpired and it is with tremendous relief and joy that I invite you to read this, our third issue. Our apocalyptic issue.

The growing threat of ecocide and extinction are as real to us Steampunks as they are to anyone else. The water levels threaten to rise, the polar bears drown, and the bumblebees disappear. This affects us because we live in this world, we play in this world, and we hope to contrapt our world into one that better suits us. How can we but think in this context?

With such thoughts do we open the simple discussion: what is our future? The future of our subculture hangs upon the same precipice as the future of our earth. What can be done? At the very least, and let us reinforce that it is the *very least*, we can radically re-envision our lives, our interactions with both people and technology. Both concepts we explore within this issue.

Let it not be said that I seek to scare you! I'm not convinced of impending doom. I'm only convinced that there are many, many grievous errors that need addressing, that there are serious perils directly ahead.

And on a more intimate scale, I inquire again as to our future. Steampunk is growing rapidly, drawing the eye and ear of farflung sources. Let us not lose ourselves, blinded by this limelight. Steampunk is of interest to people because it is earnest, caring, honest. We will not be swept up and carried away by the mainstream, but will instead offer a channel for the clever and curious to escape into.

And the magazine: the magazine goes well, thanks in no small part to the enthusiastic support of so many contributors and readers. Thank you all.

— Margaret P. Killjoy

## SUBMIT TO NO MASTER! BUT SUBMIT TO US!

We are always looking for content for our magazine. Two points to keep in mind before submitting: we publish under Creative Commons licensing (see below), and we compensate you no more than we compensate ourselves (which is to say, you will receive no money for your work). We apply our issue's theme lightly, and non-themed work is accepted as well. The theme for next issue is "Our Lives As Fantastic As Any Fiction" and the deadline for submissions is December 15th, 2007.

**FICTION:** We appreciate well-written, grammatically consistent fiction. Certainly, we are suckers for 19th century prose styles, but we do not limit ourselves to this. We are more interested in representing the under-classes, the exploited, rather than the exploiters. We have no interest in misogynistic or racist work. We will work with fiction of nearly any length, although works longer than about 5-6 thousand words are less likely to be run and will probably be split up over multiple issues. We have volunteer fiction editors who, if you would like, can provide feedback on your work; other than this, we will only edit lightly and will always check with you before any changes are made. Submissions can be in .rtf or .doc format attached to email.

**ILLUSTRATION:** We maintain a list of illustrators who are interested in helping us. If you are interested, please email us and let us know, either sending a sample of your work or, preferably, providing a link to a portfolio website. If your work is to our liking, we will add you to our list of interested illustrators.

**HOW-TOS:** We are always looking for people who have mad scientist skills to share. We are interested in nearly every form of DIY, although engineering, crafts, and fashion are particularly dear to us. We can help adapt things to print format, if you need.

**COMICS:** We would love to run more. Contact us!

**REVIEWS:** We accept books, movies, comics, RPGs, music, etc. for review (as well as free tickets to shows!). In addition, if there is something that you would like to review, we consider reviews written by others. Just don't go around reviewing your own stuff. That ain't fair.

**FASHION:** We are more interested in DIY skill-sharing than the exhibition of existing work. If you want to share patterns or tips for clothing, hair, or accessories, then please let us know!

**ADS:** We are not interested in running advertisements at this time.

**OTHER:** Surprise us! We're nicer people than we sound like.

collective@steampunkmagazine.com  
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# REVIEWS

contact collective@steampunkmagazine.com to get a shipping address for any physical things you would like reviewed.

EP

## The Dust Collectors

“Music for the Scrapyard Dancehalls”  
self-published, 2007  
thedustcollectors.net

Let it be said: The Dust Collectors is my favorite SteamPunk band. And I say that not to disparage the other SteamPunk innovators who populate our small and growing world, but that, simply put, this is a band that lives up to every hope I have had for steampunk music. With their four song, 22 minute EP, they have covered it all: “out-dated” instrumentation performing a more modern, punk-influenced style; creepy lyrics centered around machines that tell a remarkable story; male and female vocals both; and a hand-stitched zine as part of their packaging.

Track 3, “a big machine,” being entirely ambient, there are properly three songs on this album. The first one, “Jack Cannonball/Like Lung,” is my least favorite, and perhaps a poor indicator of what is to come—I shall describe it as a sort of “weird jazz,” with harsh vocals and electric guitars. I do not doubt that there will be many among you who will enjoy it to its fullest, but it pales in my eye after hearing the entire album. Soon enough, we get to “Our Lady of the Flowers,” a well-composed, spooky, seven-minute track that relates to us a portion of their strange Industrial Inclination mythology.

And after our track 3 interlude, we are presented with “The Men Without Eyes,” a bizarre and entirely listenable confounding of jazz, punk, and gothic.

I can only imagine their live performances.

There is no doubt in my mind that The Dust Collectors ought be heralded proudly by those of us of the steam inclination as innovators and creators of the utmost quality.

—Margaret

GRAPHIC NOVEL

Jane Irwin

“Vögelein: Old Ghosts”

Fiery Studios, 2007

www.vogelein.com

This book is sweet. It’s sweet in that slang way, meaning “really damn cool,” and it’s, well, emotionally sweet. I’m not sure I’ve read a fantasy book more earnest and compelling, and earnest is a welcome thing in these dire times of irony.

For those who haven’t read the first book [reviewed in SteamPunk #2], Vögelein is an clockwork fairy given life, surviving in the care of successive guardians who wind her every 36 hours. The first book tracks Vögelein as she first learns to live alone in modern, urban America, and the second finds her well adapted to city life. Her survival needs fulfilled, she turns her energy inward.

The characters radiate warmth, unabashed hope, and a refusal to fall into cynicism. While not glossing over the horrors of the world—indeed, we are presented with long-forgotten atrocities as well as the insanity of the modern era—this story makes one happy to be alive. Even the antagonists are viewed compassionately, as portraits of obsession.

Every panel in this 150+ page book was painted individually. Every historical fact was researched, and this attention to detail is part of what breathes life into this book.

The book overflows with DIY in all its best, and it is clearly the kind of work that could only come from someone with no regard for the needs of the mainstream comics world: the back brims with footnotes, photos of the body models, and a gallery of guest artists. The plot itself pays little heed of mainstream methodology, moving gracefully between scenes in an understated, often un-dramatic way that is refreshingly realistic for fantasy.

Perhaps the biggest drawback to the book is that it is printed in black and white, when the paintings so clearly long to be seen in full color. But it seems that the artist has learned from the first book and the artwork in the second is more intentional.

—Margaret

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# LETTERS

write us at [collective@steampunkmagazine.com](mailto:collective@steampunkmagazine.com)

## Dear SPM,

I predict the makers of this magazine will soon be (if they're not presently) afforded the opportunity to take this fine publication to a "larger audience". I do dearly hope that their principles are where their publication's are. With a small, but growing audience that would shudder at the sight of glossy covers and pages, and full page ads offering steam-punks something to buy to help accentuate their culture and express themselves better. I agree with the disclaimer on the "Steam Gear" article. Steampunk is not a commodity, though the article is cute. Do not attempt to make better what is just perfect the way it is. Steampunk can be (and is) everything Cyberpunk wanted to be. It has a tangible essence to it that Cyberpunk lacked in a time of overwhelming superficiality and blind consumerism. It calls out for us to have a place with hand tools in it that we *use*, to make things that we *need*. Things that cannot be bought. It calls for us to re-examine the last hundred years as potentially a "Second Dark Age", a cul de sac where technology and [humanity's] ambitions took a wrong turn. It *should*

make us wonder if Nikola Tesla, John Keely, and other such men of their period were right (also Schauburger, Moray, and L. Rota). Steampunk magazine is at the right place at the right time, bearing the ostensible sensibilities to have what it takes to be a fukin PUNK!

Keep it up,  
TechnoAlchemist

*You may rest assured that SteamPunk Magazine will not be going newstand glossy, and we are dedicated to continuing to keep the Punk in SteamPunk.*

## In Response to Lord Teh, [See SPM #2],

As an anthropologist who has studied music, I'd have to say that Noisecore is likely to be popular if it had been "invented." My reasoning is that the familiar sounds of a culture's environment tend to get embedded in their music. For example, the Tuvans who respect horsemanship highly have "Bonanza-esque" rhythms which emulate a galloping horse, and industrial (the real gritty stuff) started with working class youth working in factories. Someone who

hears gears, steam and clanging metal will try and distil their culture into a representative music, where it all falls together a little more neatly than in the shop.

Cheers,  
Cameron

## Dear SPM,

Greetings! My name is Albert Bedell and I hail from a small town in the northern reaches of British Columbia (that's in Canada for the unenlightened), I've been reading your zine and finding it quite to my liking. [...]

I have to fight back at your coal editorial, you were fairly accurate with your portrayal of the coal mining/power industry in the US and China, but it should be mentioned that generating power from coal in a clean and efficient manner is not just a wet-dream. Already coal plants are being brought on line which use the heat released by coal more efficiently while, at the same time, reducing emissions to practically nothing. I won't say that this technology makes coal power a perfect choice, the by-products of

sounds and video has always been a big part of his life, therefore he developed both an affinity for drawing and noise in parallel with programming. His work can be found at <http://m0oo.com>

**Olga Izakson:** (Author, *A Spark From The Rails*) Olga Izakson is a seventeen-year-old writer and poet from Brooklyn. She is currently writing a novel from which this story is a 'missing moment.'

**Juli(A):** (Editor) Juli(A) teaches ceramics to kids.

**Kate Khatib:** (Editor) Kate teaches classes on film and literature at Johns Hopkins, helps edit the Comparative Literature issue of Modern Language Notes, writes surrealist rants, and collages obsessively when she's not busy with her book-selling responsibilities as a member of the Red Emma's Collective in Baltimore. Someday soon she might even finish her dissertation on American Surrealism and start her own publishing house.

**Margaret P. Killjoy:** (Author, *Yena of Angeline*; Editor) Margaret writes fantasy stories, plays music, and generally hates the government. Margaret also is a major contributor to Strangers In A Tangled Wilderness, [www.tangledwilderness.org](http://www.tangledwilderness.org)

**Nick Kole:** (Illustrator, pages 11-15) Nicholas Kole is a student at the Rhode Island School of Design, studying illustration (particularly sequential art... yeah, comic books) and a long-time believer in the aesthetic steam revolution. He's always seeking opportunities to expand his portfolio and make exorbitant amounts of money. But, of course, every little bit helps! email: [nkole@risd.edu](mailto:nkole@risd.edu) ; web gallery: [homasrex.deviantart.com](http://homasrex.deviantart.com) ; Art-Directing this Steampunk project: <http://mods.moddb.com/9551/steam-front/>

**Juan Navarro:** (Illustrator, page 22) Juan Navarro is an artist living in Miami, FL. He handles various art styles and has recently begun various projects for the video game industry. You can see his work and get hiring info off his site at [ThisIsJuan.com](http://ThisIsJuan.com)

**Rachel Olson:** (Editor) Rachel designs steampunk jewelry—available at [ratchet.etsy.com](http://ratchet.etsy.com)—and teaches ceramics to kids. Her portfolio can be viewed at [www.waneandwaste.com](http://www.waneandwaste.com)

**Rachel E. Pollock:** (Author and Illustrator, *5 Button Spats & Reflected Light*) Rachel E. Pollock is a professional costumer, lecturer, and author of the crafts artisanship blog "La Bricoleuse" at <http://labricoleuse.livejournal.com/>

**Laura Pelick:** (Illustrator, page 66), [laura@fallenlights.net](mailto:laura@fallenlights.net), <http://fallenlights.net>—Surreal, organic fantasy artwork.

**Will Strop:** (Author, *The Ornithopter*) Will Strop is currently a student and beginning writer, but he is working on a number of projects. If you are interested in his work, you can contact him at [wstrop@gmail.com](mailto:wstrop@gmail.com)

**Suzanne Walsh:** (Illustrator, cover) A los angeles pen and ink artist and writer putting a surrealist bent on history one rendered rivet at a time. for more information check out <http://www.myspace.com/sfos>

**B. Zedan:** (Author and Illustrator, *It Can't All Be Brass, Dear*) I'm just an obsessive maker of things who feels she can do most anything, just in a workmanlike fashion. My library has a solid chunk of pulpy science fiction and a wide range of reference books. Online portfolio available at: [bzedan.com](http://bzedan.com)



comic by Doctor Geof



# hire our/about our CONTRIBUTORS

**Steve Archer:** (Illustrator, page 80) Steve is best known for his work with the band Ego Likeness, but is an artist as well. His children's book *Luna Maris* is being published in 2008 by Raw Dog Screaming Press. He lives in Baltimore with his wife and his hairless cat. His musical work can be found at [www.egolikeness.com](http://www.egolikeness.com) and [www.hopefulmachines.net](http://www.hopefulmachines.net)

**Libby Bulloff:** (Editor) Libby helps run Axis of Evil, south-central Indiana's only recurring dark dance night (<http://www.axisofevilbloomington.com>), and has just finished a multimedia steampunk solo gallery show in Bloomington, Indiana: [www.exoskeletoncabaret.com](http://www.exoskeletoncabaret.com)

**Catastraphone Orchestra:** (Author, *My Machine, My Comrade*) The Catastraphone Orchestra is a politically artistic collaboration between musical operators and mechanics who make and serve fantastic machines in the hope to overthrow this rotten system. We are anarchists by profession and musicians who are influenced by punk and H.G. Wells. We can be reached by carrier pigeon or if you must by e-mail: [greenapplecollective@yahoo.com](mailto:greenapplecollective@yahoo.com)

**Colin Foran:** (Illustrator, pages 28, 30, 34) Colin's artwork and hiring information can be found at [www.colinforan.com](http://www.colinforan.com)

**Dr. Geof:** (Illustrator, page 4) Contrary to popular opinion, Dr. Geof is both an illustrator and perpetrator of the fetishman comic series ([www.fetishman.co.uk](http://www.fetishman.co.uk)), as well as an astronaut, a scientist, a lion-tamer, a spy, emperor of Mars, a dinosaur, and an accomplished, if unconvincing, liar. He is collating his humorous physics etchings, with the occasional steampunk doodle, at a secret underground webspace that is secret: ([www.islandofdoctorgeof.co.uk](http://www.islandofdoctorgeof.co.uk))

**Cheshire S. Grin:** (Interview with Dr. Steel) Seamstress, inventor, pewtersmith, enthusiast of many things, and proud Toy Scout for Doctor Steel is available for creative collaborations of any kind. If I can't make it, I know someone who can. [www.cheshiresgrin.com](http://www.cheshiresgrin.com)

**Claire Hummel:** (Illustrator, page 16) Claire Hummel is a student of illustration with a penchant for historically accurate costuming, good grammar, and rather large snakes. She's always willing to discuss commissions, so feel free to send her an email at [shoomlah@gmail.com](mailto:shoomlah@gmail.com) or visit her gallery at <http://shoomlah.deviantart.com>.

**Ikaruga:** (Illustrator, page 7) Ikaruga is a multidisciplinary art developer. He spends most of his time studying life and human interconnectivity with electronic mediums. The synthesis of

combustion still need to be dealt with. Today that means taking sequestered CO2 and forcing it underground in an effort to drive more oil to the surface, which is economical, but not very beneficial for the environment as we are basically substituting coal generated CO2 for oil generated CO2, but it is a start, and eventually all we'll end up doing is putting the vacant pores left by centuries of oil exploration to good use as storage tanks for the by products of coal power plants.

Of course, super high tech coal plants aren't very useful when it comes to building amazing mechanical contraptions.

I have no idea why I wrote this other than the fact that I felt that it should be known that even when the world has gone 'green' many of us will still be relying on our old, grimy friend coal to keep the lights on. Just means that we'll have to find something other than soot to get our hands dirty with.

Thanks for your time,  
Albert Bedell

*We'll believe clean coal when we see it. So far, these "attempts" have amounted to nothing other than greenwashing. Instead of releasing as many pollutants into the air, they are releasing them into the ground, and we highly doubt that it is possible to burn toxic materials without releasing toxins, or to gut mountains without destroying them; so yes, clean coal is just a fantasy. In the meantime, it is reprehensibly irresponsible to ignore the tragedy that coal—like every other widespread form of electrical generation—has and is inflicting on the world about us.*

## Steampunk Magazine,

Myself and some friends are working on an interesting bit of software. We intend to craft a steampunk world with just a dash of fantasy. When it is complete enough to be shown to publishers, we hope to sell the project off in order to obtain sufficient resources to bring it to the market.

The setting has grown in fascinating ways. In this steam driven world, coal is even more dangerous and difficult to

mine than in the real world. This creates fierce competition between and among petty lords and free townships for that most valuable resource. The high cost of energy creates a division between those capable of mining and affording coal and those less capable. Partially filling the energy gap is the power of magic. Magic in the game is not the tremendous force witnessed in many other settings. It is certainly versatile and a skilled mystic is quite dangerous but there are no grand artifacts, no sorcerer-kings, and a wizard has never felled an army.

As work progresses on this labor of love, we hope to submit pieces to your magazine to showcase our talents and entertain fellow steampunk enthusiasts with tales from and depictions of our world of clever tinkers, conniving despots, and bold explorers.

Unfortunately, we suffer a tremendous lack of resources. Most specifically, our combined artistic talents would be insufficient to render a proper stick figure. My sincere hope is that you could somehow assist us. While I understand you are not looking for ads, we believe the growing steampunk community may be interested in lending their considerable talents to this endeavor. We seek artists, animators, and programmers who are willing to work with us to make our dream of an interactive steampunk world, and our dream of huge piles of money for everyone involved in the development effort, a reality. Any aid you could possibly render would be highly appreciated.

Sincerest regards,  
Stephen Burkett  
[[stephenb.2006@gmail.com](mailto:stephenb.2006@gmail.com)]

*If anyone is interested, please contact them!*

## WHAT IS STEAMPUNK? WHAT IS STEAMPUNK MAGAZINE?

THE TERM "STEAMPUNK" WAS COINED to refer to a branch of "cyberpunk" fiction that concerned itself with Victorian era technology. However, SteamPunk is more than that. SteamPunk is a burgeoning subculture that pays respect to the visceral nature of antiquated technology.

It's about "steam", as in steam-engines, and it's about "punk", as in counter-culture. For an excellent manifesto, refer to the first article in our first issue, "what then, is steampunk?"

SteamPunk Magazine is a print publication that aims to come out seasonally. Full quality print PDFs of it are available for free download from our website [[www.steampunkmagazine.com](http://www.steampunkmagazine.com)], and we keep the cost of the print magazine as low as possible. All work on the magazine, including articles, editing, illustration, layout, and dissemination, is done by volunteers and contributors. To see how you can get involved, see the second-to-last page.

# WHAT THEN, IS STEAMPUNK?

*steampunk is awesome.*  
(being a declaration of sorts)

by a Collection of People  
illustration by Ikaruga

WHAT IS IT, TO BE STEAMPUNK? STEAMPUNK is a vibrant culture of DIY crafters, writers, artists, and other creative types, each with their own slightly different answer to that question. And this difference is a good thing. Already we are seeing the cross-pollination of ideas among participants; one person creates something cool, then another takes the idea and runs perpendicularly. As each new iteration of the idea becomes more ambitious, the mutations are delightfully limitless and unpredictable. This is how culture is formed, we contend, not by codified law or canonized text.

Take as example, if you will, when a certain Jake von Slatt entered into the field of musical kitbashing with his Steampunk Stratocaster. It featured a beautifully etched brass pickguard bearing a stunning clockwork design. Robert Brown (of the band Abney Park) modified guitarist Nathaniel Johnstone's Ibanez RG-7620 guitar with real clock gears and antique wood trim shortly thereafter. This year, Thunder Eagle Guitars fully hacked a Rhoads Jackson V to create The Villainizer, a music machine coated in copper tubing and inlaid plasma balls. Each of these artists used similar themes and materials as a basis for their work, but the end results were entirely inimitable.

Steampunk art is changing steampunk fashion into its own singular look, as well. Just last year many of us wore simple, sleek, purchased pocketwatches, and now people like Haruo Suekichi drive us to brainstorm and create fantastical wearable pieces that do more than basically tell time. Last year's fashion trends amongst many emerging steampunks borrowed predominantly from neo-victorian and goth clothing, and more recently, the internet has displayed steam fashion hacking at full force. Hand-drawn patterns for aprons, hats, spats, and petticoats are popping up like daisies. It is this organic process, this near-literal blossoming of ideas, that means that DIY maker sites like Etsy.com and train-hopping street vendors will forever be more fruitful sources of steampunk garment inspiration than Hot Topic.

Like so many subcultures before it, however, steampunk is beginning to go through some growing pains. Ought our mini-societies exist as mere spin-offs from the mainstream, our social interactions functioning in much the same manner? For better or worse, we have been socially conditioned and the behaviors ingrained by the mainstream spill over into our proverbial steampunk creek. Many people who are beginning to define themselves as steampunk tend to behave in a fashion

that mirrors our icy and judgmental outer world. Elitism and exclusion are two devilish habits that no one knows how to break, particularly on the internet, where steampunk currently flourishes. Even online, we are not mere faceless avatars—as commonplace behavior on message boards and blogs seems to assume—but creatures of flesh, blood, and emotion.

Why do we seem to have this nagging desire to define this culture in terms of yes or no, black or white? What *is* steampunk? What *isn't* steampunk? Why do we keep asking this question of ourselves? In long, looping threads, people attempt to set the boundaries of some steampunk nation.

We believe it is a constructive, curious urge that drives individuals to interrogate steampunk. Steampunk should definitely be questioned, but it should not be systematically restricted. Steampunk is not a pure notion; its inherent mutability and organic inclinations are what keep it beautiful and inviting. When an outsider inquires "What is steampunk?" of an insider, it is the insider's duty to the nature of steampunk to speak in terms that are descriptive rather than definitive. Steampunk can blur into clockpunk can blur into sandalpunk can blur into biopunk can blur into goth can blur into punk can blur into metal, and nobody needs to get hurt in the process! Certainly, we may refine of the idea of steampunk, but we ought not build our own cages. Indubitably, some of steampunk's natural vagueness can be attributed to the fact that it has only recently organized itself subculturally and as of yet there are no serious rules, but it is also intrinsically whimsical. It is fantasy made real.

The main problem with fixating on what *isn't* Steampunk is that the constant nitpicking hinders unbridled creativity. We begin to lock ourselves in brass boxes of homogenized, pre-packaged aesthetic. Steampunk loses its rusty allure when it becomes simple. A major reason as to why steampunk is

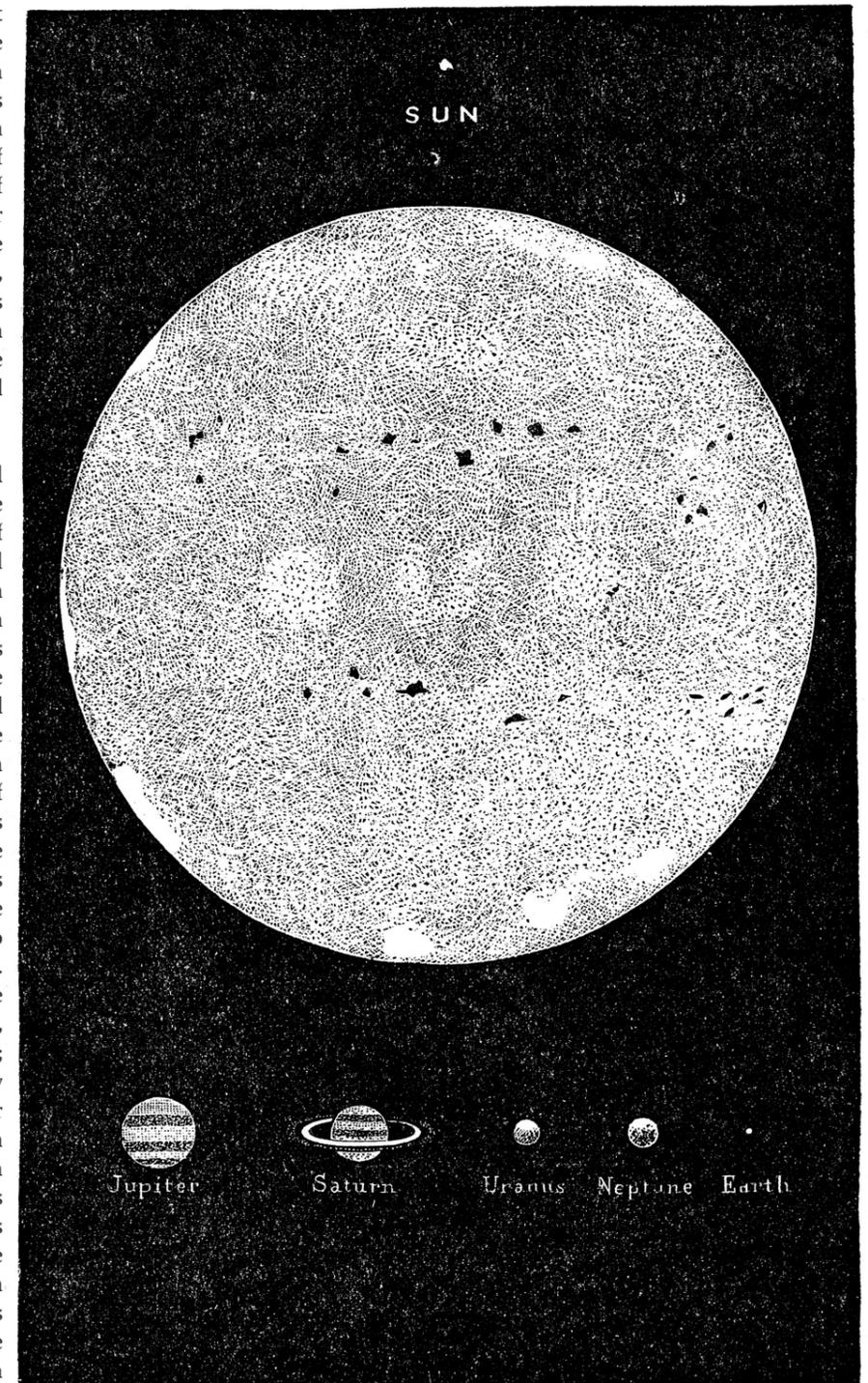


the world. This simple statement suffices to show that the phenomenon to which we give the name of night belongs really to the earth, and that the heavens and the rest of the universe are independent of it.

This is the reason why, if at any hour of the night we let our minds soar above the terrestrial surface, it will follow that, far from remaining always in the night, we shall again find the sun pouring forth his floods of light through space. If we carry ourselves away as far as one of the planets which like the earth, revolves in the region of space where we are, we shall understand that the night of the earth does not extend to those other worlds, and that the period which with us is consecrated to repose does not exert its influence there. When all beings are buried in the stillness of silent night here—above, the forces of nature continue the exercise of their brilliant functions—the sun shines, life radiates, movement is not suspended, and the rein of light pursues its dominant action in the heavens (as on the opposite hemisphere to ours), at the same hour when sleep overcomes all beings on the hemisphere we inhabit.

### Space Has Neither Beginning Nor End

It is important that we should know, first of all, how to habituate ourselves to this idea of the isolation of the earth in space, and to believe that all the phenomena which we observe upon this globe are peculiar to it and foreign to the rest of the universe. Thousands and thousands of similar globes revolve like it in space. One of the most fatal delusions which it is important we should get rid of at once, is that which presents the earth as the lower half of the universe, and the heavens as its upper half. There is nothing in the world more false than this. The heavens and the earth are not two separate creations, as we have had repeated to us thousands and thousands of times. They are only one. The earth is in the heavens. The heavens are infinite space, indefinite expanse, a void without limits; no frontier circumscribes them, they have neither beginning nor end, neither top nor bottom, right or left; there is an infinity of spaces which succeed each other in every direction. The earth is a little material globe, placed in this space without support of any kind, like a bullet which sustains itself alone in the air, like the little captive balloons which rise and float in the atmosphere when the thin cord which retains them is cut.



RELATIVE SIZES OF THE SUN AND PLANETS.

# EARTH SEA AND SKY

Welcome, gentle soul, to our third installment of "Earth Sea And Sky", excerpts from a 1887 natural history tome of the same name. Here we present you with a realization of the immense philosophical ramifications of the modern universe.

From the discoveries of astronomy it appears that our earth is but as a point in the immensity of the universe—that there are worlds a thousand times larger, enlightened by the same sun which "rules our day"—that the sun himself is an immense luminous world, whose circumference would enclose more than twelve hundred thousand globes as large as ours—that the earth and its inhabitants are carried forward through the regions of space at the rate of a thousand miles every minute—that motions exist in the great bodies of the universe, the force and rapidity of which astonish and overpower the imagination—and that beyond the sphere of the sun and planets, creation is replenished with millions of luminous globes, scattered over immense regions to which the human mind can assign no boundaries.

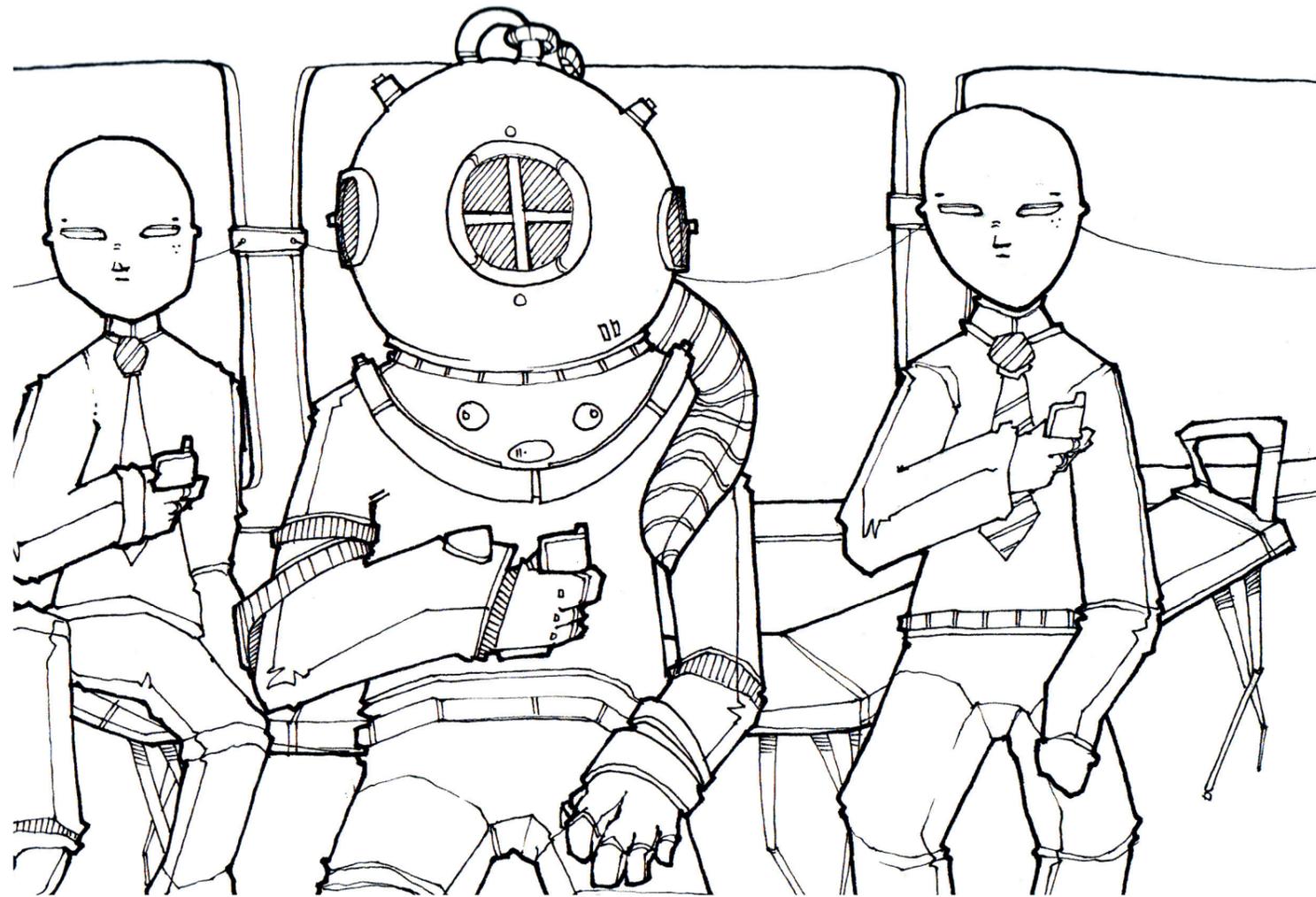
Where are the souls to whom the spectacle of starry night is not an eloquent discourse? Where are those who have not been sometimes arrested in the presence of the bright worlds which hover over our heads, and who have not sought for the key of the great enigma of creation? The solitary hours of night are in truth the most beautiful of all our hours, those in which we have the faculty of placing ourselves in intimate communication with great and holy Nature. The orb of day conceals from us the splendors of the firmament; it is during the night that the panoramas of the sky are open to us. At the hour of midnight, the heavenly vault is strewn with stars, like isles of light in the midst of an ocean extending over our heads.

### Orbs of Amazing Brilliance.

In the midst of darkness our eyes gaze freely on the sky, piercing the deep azure of the apparent vault, above which the stars shine. They traverse the white constellated regions, visiting distant realms of space, where the most brilliant stars lose their brightness by distance; they go beyond this unexplored expanse, and mount still higher, as far as those faint nebulae whose diffused brightness seems to mark the limits of the visible. In this immense passage of sight thought is carried away by its flight and wonders at these distant splendors. It is then that thousands of questions spring up in our minds, and that a thousand points of interrogation rise to our sight. The problem of creation is a great problem! The science of the stars is a sublime science; its mission is to embrace all created things! At the remembrance of these impressions, does it not appear that the man who does not feel any sentiment of admiration before the picture of the starry splendor, is not yet worth of receiving on his brow the crown of intelligence?

Of all the sciences astronomy is the one which can enlighten us best on our relative value, and make us understand the relation which connects the earth with the rest of creation. Without it, as the history of past centuries testifies, it is impossible for us to know where we are or who we are, or to establish an instructive comparison between the place which we occupy in space and the whole of the universe; without it we should be both ignorant of the actual extent of our country, its nature, and the order to which it belongs. Enclosed in the dark meshes of ignorance, we cannot form the slightest idea of the general arrangement of the world; a thick fog covers the narrow horizon which contains us, and our mind remains incapable of soaring above the daily theatre of life, and of going beyond the narrow sphere traced by the limits of the actions of our senses. On the other hand, when the torch of the Science of the Worlds enlightens us, the scene changes, the vapors which darkened the horizon fade away, our mistaken eyes contemplate in the serenity of a pure sky the immense work of the Creator. The earth appears like a globe poised under our steps; thousands of similar globes are rocked in ether; the world enlarges in proportion as the power of our examination increases, and from that time universal creation develops itself before us in reality, establishing both our rank and our relation with the numerous similar worlds which constitute the universe.

If we imagine the terrestrial globe suspended in space, we shall understand that the side turned towards the sun is alone illuminated, whilst the opposite hemisphere remains in shadow, and that this shadow presents the aspect of a cone. Moreover, as the earth turns on itself, all its portions are presented successively to the sun and pass successively into this shadow, and it is this which constitutes the succession of day and night in every country of



happening and is necessary right here, right now, is because there is a desperate need to revive the DIY in a time of ossified, shattered, banal iPod culture. Annalee Newitz paraphrases steampunk culture guru John Brownlee in her article "An Old Aesthetic for New Technology" [<http://www.alternet.org/columnists/story/55942>]:

It's also, Brownlee contends, to recall an era when amateurs could contribute meaningfully to the development of science and technology. We live in a time when no single human being can fully comprehend the Windows operating system. No wonder we're nostalgic for the days when beachcombers could be naturalists and tinkerers could invent the telephone... I think the popularity of steampunk also expresses our collective yearning for an era when information technology was in its infancy and could have gone anywhere.

It's also been said, "those who say it can't be done need to get out of the way of those who are doing it." The internet is a powerful communication tool for us as an international culture, but the internet isn't our culture; our culture is in garage laboratories, on our easels, in our quills, typewriters, and word processors. Our culture is on the streets, in clubs, on city

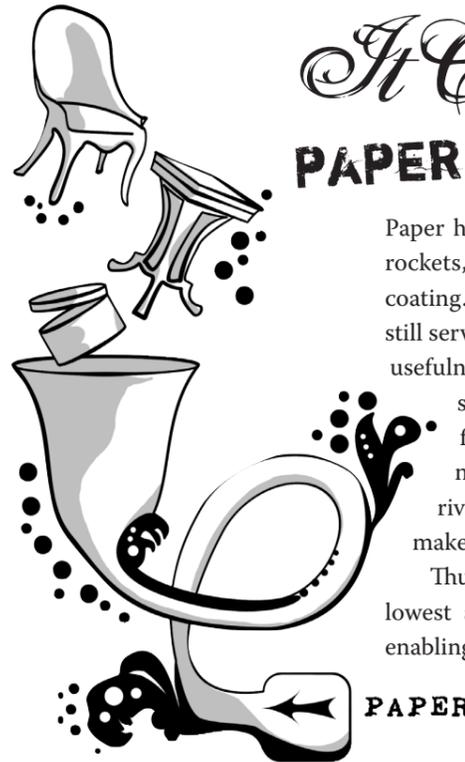
rooftops, in suburban parlors.

There will always be the folks who will see steampunk as a successful lifestyle when they can easily buy their faux-vintage goggles and toppers at the mall, and there will be those people who don't want to actually *work* at this, and it will be spirit-dampening. We will press on. We will not back down in fear of judgment or fear of being just plain silly. We will not allow the naysayers to terminate our imaginations.

Banter, debate, and disagreement are certainly encouraged—lest us be a culture of mindless say-nothings!—but so is a tip of your hat when you see a fellow steampunk on the street or at a club. "My," you may think, "I was the first to don a top hat in this town!" But does this give you right to lambaste your fellow, who was so clearly inspired by your bold act? These times in which we wish we did not live in are cruel; let us not be so.

We leave you with a quote from Jake Von Slatt:

"Last year I scribbled a multi-page 'Steampunk Manifesto' in a moleskine notebook. The exercise was valuable in that it got it out of my system, and I lost the urge to pursue it further: Is light a particle or a wave? I don't really care, but I love the way it shines through your hair..."



# *It Can't All Be Brass, Dear* **PAPER MACHE IN THE MODERN HOME** *written and illustrated by B. Zedan*

Paper has proved its enormous strength by resisting the great power of gunpowder in rockets, cases, and is now used extensively for water-pipes, lined with a bituminous coating. And when, finally, its beauty is gone and its strength is consumed, the refuse still serves in the untiring hands of Industry, and rises once more to renewed beauty and usefulness; for the scanty remains, mere stray bits of paper even, are carefully gathered, stamped into a paste, pressed into shape, saturated with oil and glue, and finally finished off by an artist's hand into the thousand beautiful forms which we call papier-mâché. Tiny boxes embossed with classic patterns, and gigantic house-ornaments rivalling ancient marbles, come forth from the despised fragments; the same past makes the heads of insipid dolls and the works of art that adorn many a lordly hall. Thus it is that paper is one of the powers that rule the day; giving work to the lowest and to the highest, drying the tears of the poor by easy employment, and enabling the genius of the artist to mould the loftiest conceptions in pliant material.

*-De Vere, Schele "A Paper on Paper." Putnam's Magazine. April, 1868.*

WE LIVE IN AN AGE OF PLASTIC. FROM OUR PERSPECTIVE, simple process. In sheet papier-mâché, absorbent sheets of paper the materials available to the Victorians were simple things; were layered into moulds with a flour-glue paste. The moulds glass, wood, metals like brass and an exciting new invention were then put in a "hot room" and dried at 200° fahrenheit. The called "vulcanised rubber." In adapting and re-imagining the formed pieces were then saturated with oil and put back in the Victorian era to suit steampunk needs, those materials are hot room until dry. The final step of soaking the papier-mâché what we turn to for historical accuracy and to achieve the right in oil waterproofed it. A cheaper method was to pulp paper feel to a piece of work. There are, of course, drawbacks—cost scrap with water, mix it with paste and press it into moulds<sup>5</sup>. and weight being most obvious. That metal, wood and glass Extra strength for structural elements was added by forming could be prohibitive materials was not news to the Victorians. the papier-mâché around wire mesh and a piece could be fire- Enter papier-mâché, which is literally translated as proofed by adding clay, borax, or phosphate of soda to the pulp<sup>6</sup>. "chewed paper." A favoured substrate for the popular art of Once formed, sanded and smoothed, it could be decorated after black lacquer work, called "Japanning"<sup>1</sup>, in the last half of any fashion. Popular finishes were black lacquer and enamel the 1800's innumerable applications for papier-mâché were work with embedded shells, bronze painting, and faux marble. in use. Of course, there were a multitude of trinkets and What use now does papier-mâché have for the steampunk decorative objects, ranging from jewelry boxes and dolls practitioner, beyond novelty? For one, papier-mâché can replace to mirror frames, clock faces and architectural ornament. the plastic parts that sneak into our work. It's malleable, cheap and Beyond such fancies, papier-mâché was brought into honest easy to use in the home, without the need of specialised tools. It is a service as a lightweight and portable roofing material<sup>2</sup>, tables, fantastic use of scrap paper and old newspapers, is lightweight and and as a key part to an improved process of casting iron type a historically accurate material. For every reason that the Victorians for printing<sup>3</sup>. Papier-mâché could imitate anything, cheaply chose to employ papier-mâché in Industry, so should we. and easily:

In the same articles it can be made, if required, far lighter than plaster, terra-cotta, metal, or even wood. Neither heat nor cold affects it; it can be sawed, fitted, nailed or screwed, quickly adjusted or removed, gilded, painted, marbled or bronzed. It can be made as light as cork, or as heavy as stone; never discolours by rust, as will iron; is not affected by temperature or oxygen, as is even zinc.<sup>4</sup>

Possibly, as a recent writer remarks, "when the forests of the globe are regarded as curiosities, and the remaining groves are preserved with the same care that has guarded historic trees, the cast-off rags of mankind, and the otherwise useless weeds, reeds, and grasses of the marsh and swamp, will take the place of timber in construction, and many will welcome the change, if for nothing else than it will obviate much of the nuisance of frequent repaintings.

*-"Practical Chemistry and the Arts," Boston Journal of Chemistry and Popular Science Review. August, 1882.*

And it was cheap to produce. Papier-mâché was the plastic of the 19th century.

How a relatively flimsy material such as paper can be made water-proof, fire-proof and incredibly strong is a surprisingly

"I didn't know you played in a band," Erecura said, as she lay on her back to stretch and Yena tried not to stare.

"Yeah," Yena mumbled.

"I suppose there's plenty I don't know 'bout you, then."

Yena smiled weakly.

"Maybe sometime I'll get to know you a bit better." Erecura stood, smiling, and began to gather up her various belts and pouches.

"You going to be in The Vare long?" Yena asked.

"Got a sailbus out of here in a few hours, I think. Heading up to the trainline and out to Angeline, matter of fact."

"Yeah," Yena said, "be careful out there. And if you ever come back ..."

"I'll see you then."

Yena reluctantly said a general farewell to the band and walked out of the building. In the daylight, the Gaslamp district smelled of sewage and drunk, as though the whole quarter had suffered a hangover and had induced vomiting.

Walking back the way they came, they nearly stumbled upon the sandy corpse of the beggar man that they had discussed the night before. His flesh was stripped off in spots, with glinting clean bone exposed, and he still lay prostrate, submissive.

Biting down guilt, Yena defended her callousness: "He could have gone in to any of these buildings. Most of them are abandoned. He could have taken care of himself."

"It's not as simple as that," her sister replied, crying softly as they walked on, "it really isn't." ❁

clay soil. 'Just imagine what a castle we may build here,' she told Nigel, as she began to mold the clay into a simple pillar.

"But Nigel was distracted, for his rock, built too roundly, began to roll off from the curved peak of the moon. He must have cried for help, but gravity cannot be stopped, and his rock crashed back down through the heavens, splashing into the sea with such vigor that the glass bridges shattered the world round. The fish, who used to rescue humans with admirable grace and remarkable friendliness, turned a cold, scaled shoulder to his plight and he was forced to swim for the whole of a year before landing upon shore.

"Nigel became a broken man, but he held onto his genius, even if his sanity had drowned in the cold blue ocean. Once more, he began to build a rock and sling so that he might come to the rescue of his beloved Queen, although any rational person might have known with morbid certainty that she must have starved, alone on her moon.

"For one hundred and seventy years he built—for the lifespan of a person is quite shortened by the toxic act of sleeping—until he had a castle of stone and fire, prepared to be slung to the moon to rescue Abigail. Once more, the people gathered, for none had been alive to witness his first journey, and once more the fish stood on their tails in silent protest. The castle went up in a massive arc and then exploded, a fireball the like of the sun, and Nigel became, for a brief moment, such a star as those he had studied so raptly in his youth. But a star ought not be so close upon the earth, and the entire land was unforgivably scorched.

"Only the mountains, above the exploding castle, remained unharmed, and it was to the mountains that the few survivors turned. And it was in the mountains that my people grew both young and old, never venturing to the poison-scorched earth below."

The narrator laughed deeply, a guffaw that echoed throughout the theatre. "And here, if this were a thousand years ago, I would admonish you to stay above the level of the snow, and tell you that land below is filled with cruel monsters."

Erecura looked significantly at the gold-headed cane that Yena bore as trophy, and it occurred to Yena that there might be truth in Raka's tale of wasteland monsters.

The evening thus concluded, Raka reached forward and tightened the gas valve on the torch, throwing the room into perfect darkness.

"C'MON, LADY, WE'VE got band practice at noon." Set's voice first seeped into Yena's jumbled dreams and then roused her properly.

"Er..." Yena managed to rumble. She was curled up on her side, and Erecura's arm was draped lightly across her. Yena looked pleadingly up at her sister, but Set was unmoved.

"What would we tell Fera? That we didn't feel like coming?"

Erecura sat up, and Yena followed suit. They were still on the stone stage, a thin blanket lain out beneath them as a mattress, the mid-morning sun casting the room into sharp relief.

THE BASIC INGREDIENTS TO CREATING PAPIER-MÂCHÉ AT home are paper and glue. That's it. For paper, newspaper is most commonly used because it is easily available. Textured or coloured papers work wonderfully as a final decorative layer, instead of paint. Many water-based glues work well in papier-mâché; watered down PVA or white glue, wallpaper paste and flour glue are the most popular options. Pulp papier-mâché is available at most craft stores, but the modified sheet papier-mâché process, using layered strips of paper, is the sturdiest and most malleable.

The overall process of creating an object out of strip papier-mâché is as follows—

1. Decide what you're going to make. A box? A goggle cup? A decorative cane topper? A mask?
2. Build the framework or mould for what you are making. Wire, mesh screen, cardboard of any type, modeling clay and even crumpled newspaper work very well as armatures and frames. Plaster or any non-absorbent shape works well as a mould. Keep in mind these questions: How light do I want the object to be? How sturdy? Will there be moving parts or pieces that need to fit together snugly? Experimentation with different forms is key. Everybody has a different way of going about things, you must figure out what works best for you and your needs.
3. Gather your materials. Paper, glue and a stiff brush for working the papier-mâché into tight spots are about all you need. It can help to take the time now to tear your paper into strips and small sheets. Consider the object you are creating, will narrow strips work best, or larger shapes?
4. Begin layering your paper, dipping or brushing each piece with your glue. Strips of papier-mâché, when layered perpendicular to one another, create great strength; topping a base of such layers with larger, smoothed, sheets can make for a finished look that is very strong.
5. Let the object dry between layers, or every other layer. This allows everything to dry evenly, avoiding buckling and mouldering. A warm oven, around 200°-250° Fahrenheit can be used to speed up the process, but direct heat can warp some pieces, as it dries them quickly, but unevenly.
6. When finished, if the piece needs to be water or weather proofed, brush three or four coats of linseed oil on it and bake the object at 200°-250° Fahrenheit until dry.
7. Uneven spots can be smoothed with spackle, and the object sanded, before applying a primer coat of paint.
8. All that is left now is decoration, a process with as many options as you desire.

#### A BASIC RECIPE FOR FLOUR GLUE

This glue is perfect to use in papier-mâché and decoupage, or anywhere you'll need strength. This is just one version of the many flour glue recipes out there, experiment and look around for what works best for you. The basic ratio is 1 part flour to 2 to 4 parts water, mixed and added to 20 parts just boiled water.

- Something to mix in
- A saucepan
- 2-4 parts room temperature water (1/2 cup)
- 1 part flour (1/8 cup)
- A fork to mix with
- 20 parts water (2 1/2 cups) just boiled

Set the 2 & 1/2 cups water to boil. While it's heating, mix together the 1/2 cup water and 1/8 cup flour, dissolving any lumps. Once your saucepan is boiling, take it off the heat and add the water and flour mix from earlier. Stir well. Do remember take it off the heat when doing mixing the flour in, or you will end up with dumplings.

Simmer your flour glue until it is a thick, almost mucus-like consistency. Let cool to bathwater temperature and use. Flour glue penetrates the paper best when warm, so store any leftover in the fridge and warm it back up in a saucepan when you need it again. Adding oil of cloves, a natural fungicide, will keep it lasting longer.

A fantastic source for those interested in the many applications of papier-mâché is [The Art and Craft of Papier Mâché](#), by Juliet Bawden. ❁

#### NOTES:

1-Ripley, George. [The New American Cyclopaedia: A Popular Dictionary of General Knowledge](#). New York: D. Appleton and Company, 1860.

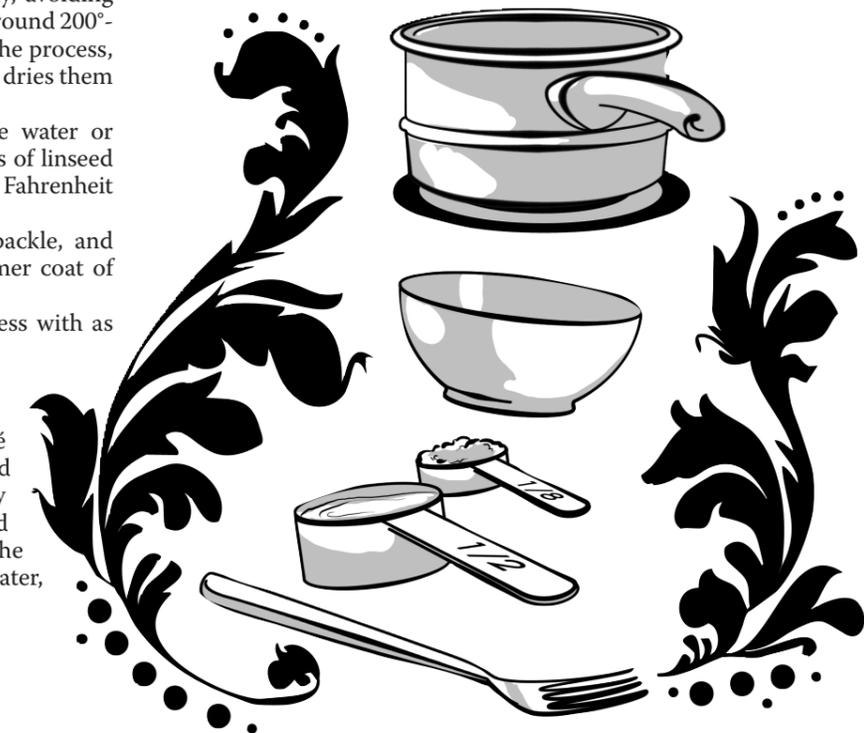
2-"Notes and News." [Science: An Illustrated Journal](#). May, 1889.

3-Partridge, C.S. [Stereotyping, the Papier Mache Process](#). Chicago: Mize & Stearns Press, 1892.

4-"Practical Chemistry and the Arts." [Boston Journal of Chemistry and Popular Science Review](#). August, 1882.

5-Urbino, Madame L. B., Prof. Henry Day, et al. [Art Recreations](#). Boston: J. E. Tilton and Company, 1863.

6-Thorne, M.A. Robert. [Fugitive Facts: An Epitome of General Information](#). New York: A. L. Burt, 1890.



# THE END JUST WELL MIGHT BE NIGH, ALL TOLD

illustration by Nick Kole



Here, for our reader's fancy, we present ten different scenarios that might bring about the end of the world as we know it. Unfortunately, we cannot present this work as fiction.

## PEAK OIL :

IN 1956, GEOPHYSICIST MARION KING HUBBERT PREDICTED the end of the world as we know it. Or rather, he predicted an end to cheap oil. He said that, essentially, the extraction of oil, or any fossil fuel, would follow a bell curve.

Quite soon now the oil production of the world may enter terminal decline. But it is not the *end* of oil that frightens so many; rather it is the *peak*. When humanity hits peak oil, the results could be staggering.

The oil companies, of course, downplay the scenario. The peak, they say, is forty years hence. But many scientists claim otherwise, and a global economic disaster could be as close as 2010.

Modern industrial agriculture is entirely dependent upon petroleum-based fertilizers. The trucks which transport our plastic-wrapped goods are powered by diesel. And our demand for oil continues to rise. As demand rises and production falls, so may our entire global economy.

But there will be negative effects as well; most industrialized cities only have enough food for a few days, and the shortages might spark deadly riots. If the economic downturn is serious enough, governments may resort to drastic, and fascist, methods of maintaining their power.

**LIKELIHOOD:** Barring the spontaneous invention of cold fusion that would allow our society to continue unhindered [see *status quo*], or ecological collapse [see *ocean acidification*] some level of peak oil is essentially guaranteed.

**SURVIVAL:** As Peak Oil is the best-case end-of-the-world scenario, we suggest investing in such guides as “The SteamPunk’s Guide to the Apocalypse.”

## SUPER-STAPH :

BEFORE THE 20<sup>TH</sup> CENTURY, BACTERIA-BORN INFECTION WAS a brutal, lethal, fact of life. Although a few cultures, notably the ancient Chinese, had developed the use of antibiotics, they remained rare and misunderstood until Paul Ehrlich’s 1909 discovery of Salvarsan, an antibiotic cure for syphilis. Penicillin, much more widely useful, was applied to medicine 19 years later.

Unfortunately, the scientists who pioneered the use of antibiotics had not taken into consideration the lessons offered

by Darwin and his ilk. Humans, when exposed to diseases, slowly adapt resistances and immunities to those diseases. Bacteria do the same with antibiotics.

Western hospitals, utilizing the medical equivalent of saturation bombing, simply throw antibiotics at any problem that springs up. And for years, this has worked. But these hospitals are now the breeding grounds of new, super-resistant disease strains and doctors have fallen into a desperate arms race to develop stronger antibiotics.

Staph, *staphylococcus aureus*, is our fastest-evolving foe. The first to resist penicillin—in 1947, ten years after penicillin’s mass manufacture began—staph has caught up and is currently ahead. In 2003, the first case of this modern super-staph was reported.

Staph is transmittable by touch and lays dormant your skin until a cut appears. It then enters your bloodstream and travels, causing sores to erupt in different places across your body. Eventually, untreated, it is likely to kill you.

**LIKELIHOOD:** Super-staph is here. The only questions are how fast it will spread, and how quickly we will evolve to fight it.

**SURVIVAL:** Keep your immune system strong by eating food from the trash. Avoid hospitals.

## THE SINGULARITY :

THE TECHNOLOGICAL ACHIEVEMENTS OF HUMANITY, IF plotted on a chart, show an exponential rise. We figure things out faster and faster, and these new things allow us to figure out *newer* things faster and faster. There are some who predict that this exponential trend will continue until new discoveries are made at a near infinite rate.

Essentially, these futurists claim, parts of humanity will become gods; much like eugenics, proponents of the Singularity advocate for a breed of super-humans so intensely *capable* that the vast majority of humanity is simply outdated. This may be accomplished by cybernetics, genetic engineering, nanotechnology, artificial intelligence, or any combination thereof.

The tortures of flesh, the world of sin, will be washed away as we become one with machines. Our consciousness will be freed from the prison that is the body. To some, this is the

every day of his life hard at study and most every night with his eyes to the heavens, studying more. He studied so greatly that he never slept.

“Far across the seas, a month-long walk across the bridge of glass, was a woman, a full-grown woman whose vigor had passed but whose mind and beauty remained. Her name was Abigail, and she was the queen of a small tribe. It is for her that we have named Queen Peak, the tallest and most majestic of the Monnigels Mountains. It had been her dream since childhood to walk upon the surface of our moon.

“And when Abigail heard tell of Nigel the Sleepless she sent a summons to him on the wings of a gull, a summons Nigel received with joy. He had few friends, so lost was he in the night heavens, and so it was with great happiness that he set out across the glass bridge.

“For four weeks he strode bravely in solitude, and although his mind required no sleep, his tired and weak body forced him to lie for hours at a time on the clear deck of the bridge. Every time he slept, great fish leapt from the water and spoke to him.

“Let me be clear when I say this: the fish did not speak metaphorically, as they might today. The fish of those times were quite articulate, and they spoke in the words of Ihguls, the tongue of those days. They told him to return to Bamore, and they told him that the queen ought not walk on the surface of the moon.

“But Nigel was well-studied and believed not the words of fish. He had faith in his own reasoning, a reasoning that saw no possible fault in the Queen’s ambition. So it was that when he reached Abigail across the seas that he did not confide in her the misgivings of the fish, but instead worked night and day to allow her to walk on the moon.

“He fell deeper than science and deeper than magic, into the darkness of alchemy. He learned to craft the combustible soil we travel across today, and he learned to silence the voices of the sea, so loud were they in exclaiming their dissent. Yet Nigel was not an evil youth, merely a young man in love with knowledge and, increasingly, with Abigail herself who spent many hours in his company.

“After less than a year at her side, he announced to the world his greatest discovery, a discovery that would allow Abigail to walk upon the surface of the moon. Thousands of people, collected from all of the tribes on the land east of the glass bridge, came out to watch the proceedings. A great rock would be hurled by magic and science, Nigel proclaimed, and he and Abigail would ride it.

“The fish of the sea and the fish of the lake stood on their tails above the water, screaming silent dissenting pleas, but the festival air drowned out their silence, and Nigel and Abigail stepped onto a glorious pedestal of rock and metal, decked in the finest of cottons and even silk. Abigail announced that the pair would be wed upon their return, a return that would be effected by the simple means of gravity.

“So the great sling hurled the great stone, and the two fled upwards at fantastic speeds, until they were soon perched on the very peak of the moon itself. ‘Glorious,’ Abigail shouted, and she danced in the gray

weak as a spider's web, she looked disappointed. "They were, at any rate. Just imagine."

And Yena did imagine. A thousand years before, when the train-line had first run across the whole of Tudines and the Empire had first formed, this must have been a wealthy district. She imagined the grand plays that must have been performed, the operas and recitals. But as she tried to lose herself in such pleasantries, she remembered the beggar they had carried in with them and she fingered the head of the cane that might well have killed the poor woman.

"It's an utter shame, you know," Yena said, turning to the crystallaphone player who stood beside her.

"'Bout the woman? She'll survive."

"No. Well, yes, it's a shame about the woman. But it's a shame on this town that you have to play out in the street for your food when there is a stage like this in here, waiting for you."

The small woman ran her hand up to the back of her head, scratching lightly under her crimson-red hair, and Yena smelled her underarm musk, sandy as the wind outside. "Yeah, I suppose it's a shame," the crystallaphone player started, "but there's something so ... so lovely ... 'bout playing out on the cobbles, ya know?"

"My name's Yena, by the way," Yena said.

"Yena? Yena is a lovely name." The crystallaphone player smiled, relaxing Yena. "Name's Erecura. Not as pretty, I suppose."

"Where are you all from?"

"Most of them met a few years ago in Bamore. But me? I'm off the low wastes."

"Low wastes?"

"Yeah, over east. We're up on the high wastes now, but the low wastes lie between us and the coast."

"Oh," Yena said, trying not to feel stupid. She had only a shadowed conception of the world east of The Vare.

"Where're you from, then?" Erecura turned from watching the children to look up at Yena, smiling with endearing crooked teeth and the crow's-feet eyes that reminded Yena of Icar.

"Angeline. Capital of Angelina."

"Out on the west seas, is that right?"

"Yup." Yena looked down.

"Well, I like your mohawk, Yena of Angeline. Makes you even taller, yeah?"

"Yeah," Yena laughed, "I suppose it does."

From the stage, the play-acting children interrupted their conversation. "Oh doth the rapture await?!" announced the older child as he fell down, run through by an imaginary spear. He quivered dramatically on the stone before flopping to stillness with a final, over-acted sigh. The room burst forth in applause, and the previously-dead child jumped to his feet and bowed graciously, extending his too-big top hat in front of him.

HOURS LATER, THE storm still raged and its screams kept most of the company awake. Set snored atop a pile of decayed, pink velvet seat cushions, and the papaver mother lay curled with her boys in a dark corner of the auditorium.

Yena, Erecura, and the others sat cross-legged on stage, the gas torch turned down to a candle's flicker. Yena had met the rest: Lir, the lowhorn player; her husband Braygan, the bellydancer; and Raka, the pot-bellied drummer and father of the boys.

After introductions, silence dominated the conversation for nearly an hour before Raka spoke up. "How, then, about a story?"

Everyone nodded lightly, drowsily, in the soft glow of the torch.

"A story for the dust storms, then, a story Those of the Mountain used to scare their children from climbing down to the wastes."

"MY STORY BEGINS more years back than there are years in front of the whole of humanity. It begins when the wastes were not the wastes, when they were verdant grasslands. When the seas were not the seas, when they were crossed with bridges of glass. When humanity was not newborn, but when it was not so far gone as now. My story begins when the city we sit in this very night was younger than my sleeping sons. And of course, my story begins with the romantic whimper of fate.

"There was a young man from Bamore, scarcely more than a boy, who loved the stars more than he loved himself or his people. His name was Nigel, and it is for this boy that the mountain range to our west Monnigels is named. Nigel spent most

techno-rapture. To others, this is the end of the world. If our technological capacity approaches omnipotence, there is no limit to the good or ill that may result.

**LIKELIHOOD:** The "bell curve" model casts some doubt as to the likelihood of the singularity, but continued exponential "progress" is not to be ruled out entirely.

**SURVIVAL:** Humanity 1.0 stands a rather weak chance when combating humanity 2.0, and the best chance of survival would come from preventative measures or by hoping you are not left behind.

#### NUCLEAR ARMAGEDDON :

WHEN THE STALINIST USSR FINALLY COLLAPSED IN 1991, when the Cold War came to its whimpered end, the threat of nuclear winter melted in the warm spring air. Did it not?

There are a documented 20,000 active nuclear warheads in the world today. The USA and Russia top the list, of course, but the United Kingdom, France, China, India, Pakistan, and North Korea have them as well. Israel is widely and profoundly rumored to have nuclear weapons, and South Africa at the very least *used* to have them.

But any industrialized nation could be only a year or two from nuclear testing, and it is a well-rehashed meme that warheads could be obtained from ex-Soviet republics.

The American Geophysical Union has asserted that even a regional nuclear war—such as between India and Pakistan, or Israel and its neighbors—could disrupt global climate for decades [see *Runaway Global Warming*].

Nuclear holocaust is possible. Millions will be incinerated in an instant. Billions will die slowly of radiation poisoning. Soot will blacken the sky, dropping temperature to dangerous levels in a Nuclear Winter. The ozone layer will deplete, so when winter subsides a Nuclear Summer will take over. Far away from the blasts, millions will die as global fallout settles and poisons the waters. Electromagnetic pulses put out by the blasts will destroy nearly all 20<sup>th</sup> century technology (at least some good will come of it, then!).

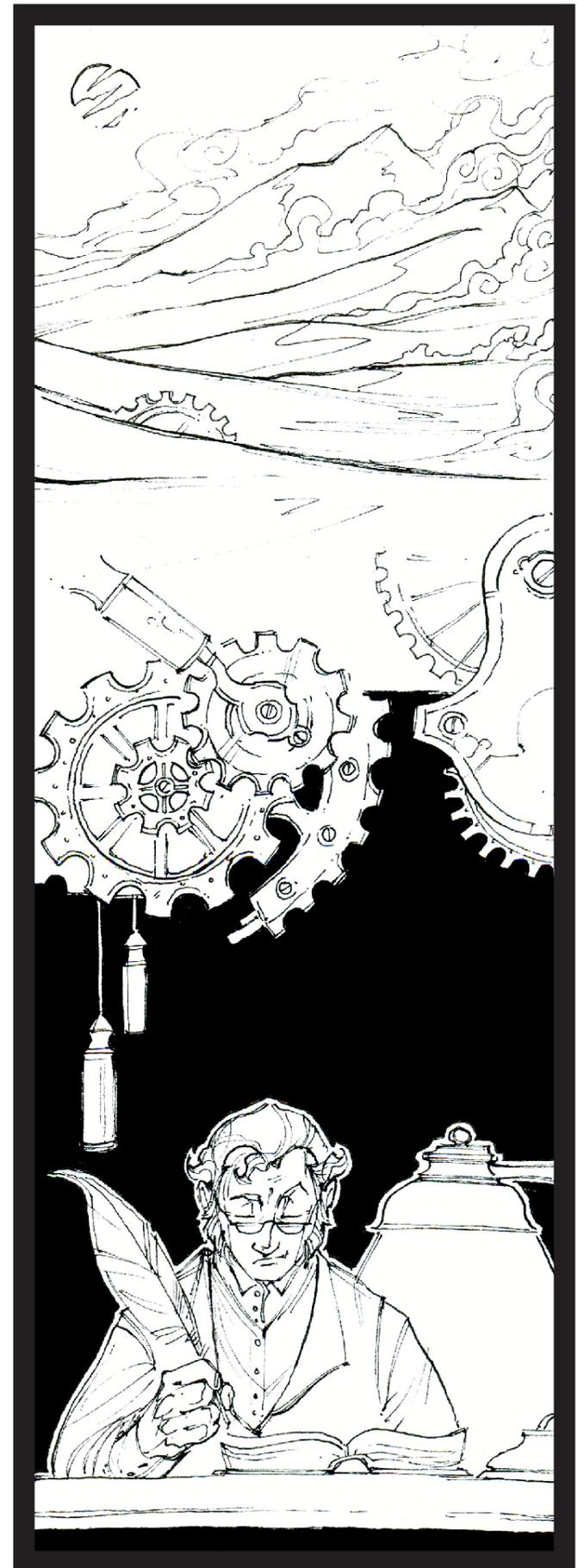
**LIKELIHOOD:** At the moment, politics are comparatively stable between the nuclear powers. But as the waters rise...

**SURVIVAL:** Consider investing in a complete, self-sustaining fallout shelter that is mechanically powered and will house hundreds, for hundreds of years. Finally, you'll have the time to finish writing that novel you've been working on.

#### LARGE HADRON COLLIDER (LHC) :

THE WORK OF THOUSANDS OF SCIENTISTS FROM DOZENS of countries will come to fruition in May 2008, when work is completed on the Large Hadron Collider that sits underneath Switzerland and France. The scientists hope that this 17-mile long circular tunnel, the first particle accelerator of its kind, will unlock the secrets of the universe, but skeptics in the physics community say it risks bringing human life to an abrupt end.

The scientists seek God. Or rather, the "God Particle"—a hypothetical sub-atomic particle that lends mass to the massless, that, much like Aether, fills the "void" of outer space. Apparently, all of modern physical science is founded on the existence of this unproven particle. Like demonologists of





old, the scientists hope that with their fantastic circle they will summon forth the God Particle, or disprove its existence once and for all.

But of course, this summoning bears certain risks. Protons, sped up to 99.9999991% the speed of light, are kept circling by colder-than-deep-space super-conductive magnets. Then the protons are slammed into each other.

The scientists hope that the protons, when collided, will collect with their energy to form the God Particle. Any black holes produced in the process, officials assure us, will be benign: the theory is that any black hole, once created, will be evaporated by *Hawking radiation*. The existence of Hawking radiation is still unconfirmed. The odds of creating an artificial black hole that will devour the earth within minutes are quite slim, they claim, but existent.

And then, of course, there is the chance that the experiments might create strangelets, the things that might be inside neutron stars, and turn our entire world into a different sort of matter.

**LIKELIHOOD:** Neither impossible nor likely.

**SURVIVAL:** We suggest that an old-fashioned diver's suit be converted to black-hole duty.

#### **RUNAWAY GLOBAL WARMING :**

SO WHEN THE AVERAGE GLOBAL TEMPERATURE GOES UP A few degrees, it will scare humanity into adopting greenhouse gas restrictions and the like to ease ourselves out of the crisis. Right?

Possibly. But there's a cliché about "the best of intentions" that just might apply. Quite unfortunately, there's something called positive feedback. Western Siberia, as an example, has seen a 3° Celsius temperature rise—and buried under melting permafrost is a peat bog larger than France and Germany combined. That permafrost—in place since the last ice age—began to melt a few years back and will potentially double the amount of methane in our atmosphere.

And western Siberia is not alone; there are similar *clathrates*—trapped methane pockets—all over the earth. 251 million years ago these pockets erupted into the atmosphere, and nearly every form of life on Earth was wiped out, for 20 million years.

It is quite possible we have less than 10 years to all but stop the human addition of greenhouse gasses if we are to prevent runaway global warming.

**LIKELIHOOD:** A lot of people will tell you a lot of things, for a lot of different political purposes, but at least some of us here at SteamPunk Magazine are nearly paralyzed with fear.

**SURVIVAL:** Survival, if it can be called such a thing, may only be found in subterranean, self-sustaining colonies. We suggest you pack a book to read, since you will be underground for longer than the human race has previously existed.

#### **OCEAN ACIDIFICATION :**

THE OCEAN: WHERE LIFE ON EARTH BEGAN. THE OCEAN: THE bottom of the food chain, on which all life depends. The ocean: destroyed by the Industrial Revolution?

"Yeah."

Solid slow minutes progressed as the pair stood hidden in the crowd, watching the band. Yena took to staring at the crystallaphone player, alternating rapidly between a romantic infatuation with the stranger's musical prowess and a deep jealousy of the same. Set, for her part, rarely let her eyes waver from the veiled man.

A hideous shout and a tormenting cracking of bone broke the song into silence, however, as it echoed down from the nearest alley. Shortly after followed a deep, drunken guffaw.

Certain that ill was at hand, the crowd split immediately into two uneven parts: the majority slunk backwards—affecting the look of the unconcerned—while Yena, Set, and the musicians strode without hesitation into the alley.

At the midpoint of the alley lay the bleeding mess of a second beggar, beaten into silence. Surrounding her were five sons of the upper class, resplendent in their cotton and lace. Three held the gold-handled walking sticks affected by The Vare's rich, clearly converted for use as cudgels, and all looked laughing down at the wretch they might have just murdered.

Grumbling a curse at having left her tool-belt behind, Yena ran forward, bare-fisted and enraged. Set at her side, she dodged a clumsy, surprised blow from the first man she encountered and disarmed him with practiced ease.

On Yena's left, Set had taken an unarmed man to the ground, grappling his throat with her legs and sending him quickly into unconsciousness.

Right behind the twins came the street musicians, each armed with a long, knapped glass knife, each with a face contorted into calm ferocity as they prepared to revenge the murder.

Seeing their companion on the ground and the small mob charging forward, the four standing drunks took flight toward the far end of the alley and into the crowded street beyond. Yena stood triumphant and held her new cane aloft as she watched them run.

The belly dancer stopped and helped Set to her feet while the crystallaphone player checked the beggar on the ground.

"She's not dead," she said, in a voice every bit as musical as her instrument, "but when she wakes

up she's going to realize that her ribs are broken."

The woman ran her hands gently along the beggar, checking for blood, and Yena watched her calm, professional manner with a further sense of awe until a gathering wind took her attention.

"Sandstorm!" Yena yelled over the quickly howling wind. Somewhere, hidden behind the buildings, a seemingly solid wall of radioactive sand approached.

Yena tucked her new gold-headed cane under a shoulder and helped the medic lift the beggar and carry her out to the street, casting only a brief glance at the unconscious young man they were leaving behind.

The two children—having stayed behind to watch the instruments and beg change and food from the crowd—were madly gathering together all of the group's personal effects. All the people on the street were dispersing quickly as the storm approached, and the sober drummer kicked open the door to the abandoned building behind them.

Yena and the medic brought the beggar inside while the rest of their companions worked to barricade the door, and the dust storm howled its approach.

"WELL OF ALL the Wastes and Seas," Yena exclaimed lightly when a gas torch illuminated the hall, "a theatre."

The torchlight flickered off of the nearby stone stage, and was lost to shadow before it saw the roof above them. Rows of plush seats spread outwards from the raised stage, all the way back to the entryway in which they stood, and empty balconies overlooked.

Giggling, the two children chased one another to the stage and leapt onto it with a remarkable grace. "Unto thee!" exclaimed the younger of the two boys.

"And through thee with blades!" shouted the second, repeating the words from a popular play of the time. Their voices carried through the hall to the waiting ears of the band. The two drummers smiled deeply and proudly, and Yena assumed them to be the children's parents.

"Are these seats *velvet*?" Set had wandered into a row of chairs, and pulled lightly at the cushion of one. When the fabric of it came away in her hand,

“What are your plans for the night,” Icar asked Yena.

“I’m going out with Set. Twins’ night out.”

Icar looked disappointed as Yena climbed down.

AS TWILIGHT FELL, the twins walked along under skies still bright with the vivid colors of polluted air. The western horizon, just barely visible between the buildings, glowed with an eerily beautiful array of blue-greens and pinks.

Just as the last of the evening light dispersed, Yena and Set walked into the namesake yellow-glass glow of the gaslamp district. Crazy papaver laughter met their ears, mingled with the crystal music of the bowed tines.

“So where are we going?” Yena asked her sister, her mood still fatalistic as she stood on the lamplit cobble.

“I met a man,” Set began, “simply gorgeous. And he ...” Her voice trailed off as her eyes were drawn to the beggar prostrating himself at the entrance to a cramped alleyway. His long, thin, gray hair was matted and tangled with blood, his bare back a patchwork of cuts and bruises.

“Who did this to you?” Set asked, choking softly with emotion.

But the beggar gave no response, his empty hands open before him.

“This is just what I had hoped to escape, you know.” Set was controlling her voice with effort as they continued to walk.

“I know.”

“It’s simple cruelty. It’s economic cruelty.”

“If that man wanted a different life, he could walk thirty blocks to The Cally Bird and join us.” Yena spoke almost absent-mindedly, her eyes darting to balconies above where drunks and madfolk gibbered happily.

“Oh and do what? It’s not as simple as that. It’s really not. Do the squatters take just anyone?”

“They took us, didn’t they?” Yena lowered her voice. “Instead of lying down in defeat, he could learn to do for his own, with us. In Angelina, it was different. But here? It *could* be as simple as that.”

Set, as usual, let her twin have the last word, and Yena, as usual, felt guilty about it. Up ahead, the music was louder and small goutts of flame

illuminated the street.

“Here we go,” Set said, and then raised her black hood, hiding her shy face. She took Yena by the hand and led her to the source of the music and flame.

A band of street performers was splayed out around the entryway to an abandoned building. Around them, their fellow poor and the slumming bourgeois stood rapt.

A small woman Of the Waste sat, playing the tines of her crystallaphone, her bow of bone and hair sweeping gracefully around the glass instrument. Its resonating belly was shaped like a gourd, from which nearly twenty finger-thick stalks rose up, each a different note. Its voice, while soft, cut through the silent upper registers of the street and sang like a choir of opium ghosts.

Two drummers kept time. One—a woman

rhythm on a massive steel drum with a mallet, gazing out into space, clearly intoxicated by papaver. The other, a short, round man Of the Mountain, snapped complex fills and overlays on a series of hide drums with his hands, grinning with mad sobriety.

The lowhorn of the sea, a massive copper horn overflowing with complex mechanical switches and gates, shuddered across the lower register. A sturdy, tall woman Of the Sea blew occasional resonating notes through it that shook Yena’s ribcage softly as she watched.

Two ragged, happy children took turns spitting fire on either side of the performance, grinding flammable soil between their teeth and blowing it forth onto gas torches.

But in front of it all was a belly dancer, a giant of a man, skin as dark as the deep of the ocean, who captivated the crowd with his gyration. Ostentatious black plant-fiber veils were draped from his neck and forehead—hiding his eyes—and gold chains encircled his waist, chiming in time to his undulating muscle.

“That him?” Yena asked, staring at the man’s exposed belly that glistened with sweat in the firelight.

“Yeah.”

Yena put her arm over her twin’s shoulder. “Why aim shy of the sun, that the idea?”

When we began to spew coal into the air, the oceans began sequestering the excess carbon. But as they did so, their pH began to drop—from 8.179 in the 1700s to 8.104 today. The Royal Society of London—not exactly a group of paranoid environmentalists—predicts that it may fall as low as 7.9 by 2100. Although this may seem negligible, it represents a greater change than the earth has seen it at least 2 million years, and at such a rapid pace that ocean life may not adapt.

Specifically, the change in pH increases the hydrogen ion content of the water, reducing the ability of calcifying organisms—coral to crabs, phytoplankton to mussels—to form their “bones.” Even the “higher” life forms of the ocean, such as fish and squid, will find the oxygen content of their blood going down, leading to weakened immune systems or even asphyxiation.

It doesn’t take much of an imagination to realize what will happen to the earth when the bottom of the food chain is cut out from under it.

And it may already be too late; like so many anthropogenic effects on our greater environment, the acidification of the oceans does not happen overnight. The lag between cause and effect can take scores, if not hundreds, of years. We have no idea what we’ve gotten ourselves into.

**LIKELIHOOD:** Given the inability of the global powers to sufficiently address the issue of carbon dioxide, and the fact that it may already be too late, we *will* see adverse effects from the acidification of the ocean.

**SURVIVAL:** We recommend the construction of an ark-dirigible, with one of each of every species of plant and animal you would like to eat, and then floating above the earth.

#### NANOTECH GREY GOO :

IMAGINE: A CREATURE—SEEMING INNOCUOUS, SEEMING benign—that reproduces at a breakneck pace and excels at turning organic and inorganic materials alike into machines. No, not humanity [see *Status Quo*]. Nanotech robots.

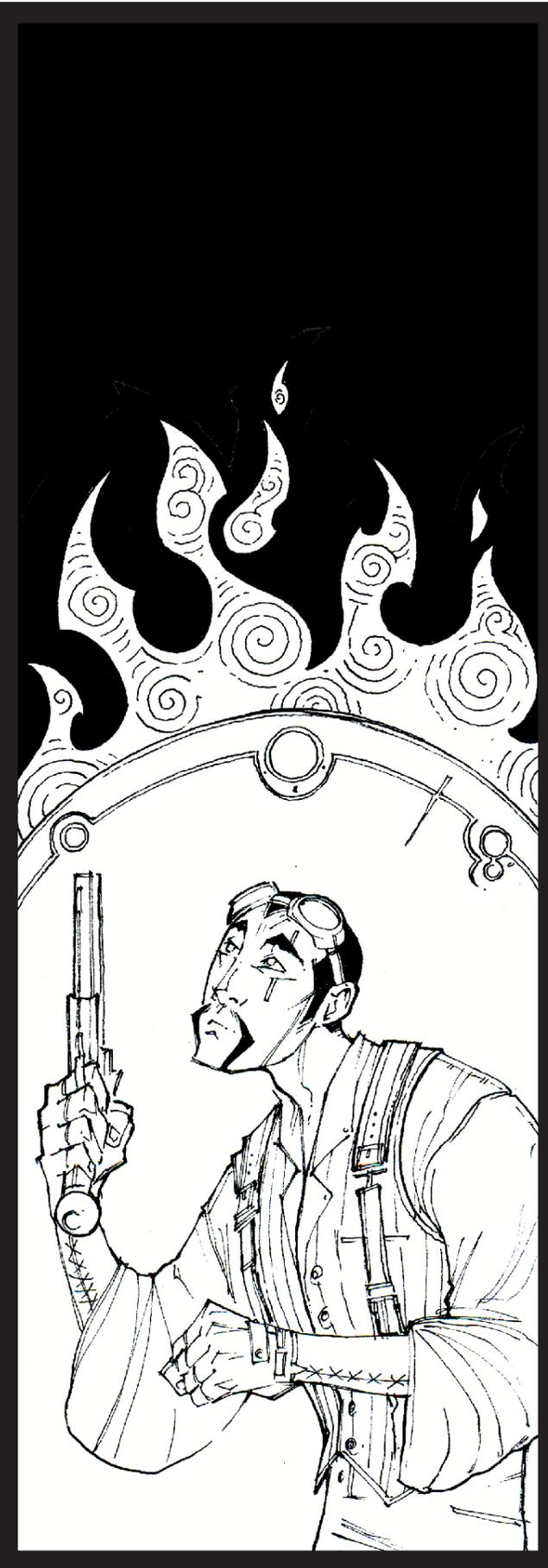
Nanotechnology seeks to build machines atom by atom, machines smaller than the eye can see. Once created, nanotech robots could change *everything*. From shirts that repair themselves to inorganic “drugs” that confront disease in the body, from holograms to cheap manufacturing, nanotech offers to revolutionize society.

Or, alternatively, to turn society into nanobots. Nanotech pioneer Eric Drexler warned us back in 1986 that self-replicating robots, unleashed, could literally devour our world, breaking down matter and reforming it into their own likeness. The entire planet would be converted to a grey, living goo of robots. This process is called *ecophagy*: the devouring of an ecosystem [fears also associated with *genetic engineering* and *mono-culture*, not covered in this article].

Such a dastardly creature could only be the work of a mad scoundrel, of course, if it were created intentionally. And there is doubt as to whether such a scenario is even physically possible, owing to limitations in energy sources, competition with organic species, and other factors.

But Grey Goo is not the only threat that nanotech brings to bear: consider the ramifications of robots aimed to destroy only one (or all but one) race of people. And the economic and ecological ramifications of molecular manufacturing remain unknown and unknowable.





**LIKELIHOOD:** Unlikely.

**SURVIVAL:** One can only hope to defend oneself from the encroachment of self-replicating invisible monsters by utilizing the same method of defense that the Pope used during the Black Death: surround oneself with flames at all times.

#### THE END OF THE MAYAN CALENDAR :

THE MAYAN CALENDAR IS CYCLICAL, BEST UNDERSTOOD AS A series of wheels within one another. And the largest wheel, the Long Count, which is 5125.36 years long, is set to come full circle on winter solstice, 2012.

A vast diversity of doom-preachers and new-age welcomers have put a remarkable amount of faith into December 21<sup>st</sup>, 2012. A major cataclysm will strike. Magic will reenter the world. The magnetic fields of the sun will swap. The sun will enter the dark rift of the milky way, "the road to the underworld". That world-snake, Ourboros, will eat itself. The world will be reborn, whether by fire, revolution, or magic.

Supposedly.

One person I spoke to, reporting back from his extensive travels, said that it will not be a sudden shift, but rather the far end of the pendulum's swing. December 21<sup>st</sup>, 2012 will represent humanity at its worst, and will mark the swing back towards a saner world, more connected with its landbase. We hope he's right.

**LIKELIHOOD:** Prophecies are best fulfilled by people, not fate. We consider it likely that any upheaval on or around the end of the Mayan calendar will be the result of humanity and not the universe itself.

**SURVIVAL:** Well, if magic is coming back, survival will be most adequately met with the summoning of three-headed hunting dogs. But if the sun's poles swap, we have to recommend the old "hide underground for several thousand years" contingency.

#### STATUS QUO :

WHAT IF METEORS DON'T STRIKE THE EARTH? WHAT IF THE Christians *aren't* summoned up in the Rapture? What if 2012 comes and goes without any change? What if we effortlessly, and voluntarily, shift to cold fusion power, reducing our carbon emissions, and prevent further global warming?

Then the farmers in India will continue to be born in debt to Monsanto, the producer of the terminator-seed genetically engineered crops that undermine the harvest's health and the farmer's autonomy. Then mandatory minimum sentencing will continue to affect the urban poor disproportionately, and one third of black males in the United States will continue to be in some stage of judicial process. Then laws will continue to pass that allow the extraction of wealth and resources from developing countries while banning the movement of people.

Ecosystems will continue to disappear, species will continue to go extinct. Languages will continue to go extinct. McDonalds will still exist, and it will continue to feed remarkably unhealthy food to a widening global consumer base.

Biodiversity will continue to decline, and fewer and fewer varieties of apples will be grown. Women will continue to be afraid of men on the street—and one third of them will continue

YENA OF ANGELINE IN "SANDSTORMS BY GASLIGHT"  
*In which is explored the Creation of the World, among other Subjects*  
serial fiction by Margaret Killjoy  
illustration by Laura Pelick

YOU HAD A LOVER, BACK IN SOUTHLAKESIDE?" YENA ASKED her new friend, perched on the highest platform above The Cally Bird.

Icar nodded his boyish nod, his unkempt red hair bobbing in the still air. "I did."

"What was her name?"

"His name. His name was Carin."

Embarrassed, Yena turned to look out over the wasteland that surrounded her adopted city. A lesbian herself, she was surprised by her own assumptions. "I'm sorry—" she began to mumble.

"Don't worry about it," he cut her off.

Out near the horizon, storm clouds loomed. On the Wasteland—where the dust and sand could strip a person's flesh—the rain never fell and dark clouds meant only winds.

"What was he like?"

Icar smiled sadly, bringing crow's-feet to his bright eyes, and joined Yena in staring out toward the darkened horizon. "He was older than me. Six years. Age differences are a bit strange for my people, but nothing exceptional. He played music, bowing the glass tines, and he hunted.... His muscles would tense and relax as he held a spear. It was hypnotizing. He loved me, I think."

"What happened?"

"He was content with what our tradition offered him, us. The *izet*, the sterile. He trained and he played music and he never touched a woman," Icar said then paused, tugging absent-mindedly at his soft leather boots. "I knew that I would leave, as soon as I was ready."

"How old are you, anyway?"

"17. You?"

"22."

The ominous clouds were closer now, and the wind picked up. A few kilometers out, Yena saw the blurry haze that could mark a sandstorm. She pulled on her leather skullcap, wrapped her scarf once more around her neck, and began to stand.

"You know what's not fair?" she asked while she rose to her feet.

"What's that?"

"I'm 22, and I've got less than half my life ahead of me. You're going to live to be eighty." Those Of the Gear died young of cancers and ills that seemed to ignore most everyone else.

Icar stood as well. "You're right. It's not fair."

"The world's never been fair though, has it?"

"No, I suppose it hasn't."

"That sandstorm going to hit, do you know?" Yena asked Icar.

"Not yet. Not until pretty late tonight."

As the winds tossed Yena's scarf about, the two of them walked back to the ladder that descended into the building.



to be sexually assaulted. Politicians will continue to lie, and factory farms will continue de-beaking caged chickens. People will continue to sell their time and their lives to companies they don't respect, working factory lines or serving coffee or shuffling electronic paper.

Religious zealots will continue to smite in the name of monotheism and imperialist nations will continue to pummel the world with bombs.

Is it really any wonder that our society turns more and more of its attentions to the potentials for a disaster to save us from the disaster we're in? ☸

#### **SOURCES:**

##### PEAK OIL

<http://energybulletin.net/primer.php>  
[http://en.wikipedia.org/wiki/Peak\\_oil](http://en.wikipedia.org/wiki/Peak_oil)

##### SUPER-STAPH

[http://en.wikipedia.org/wiki/Staphylococcus\\_aureus](http://en.wikipedia.org/wiki/Staphylococcus_aureus)  
<http://en.wikipedia.org/wiki/Antibiotic>  
[http://en.wikipedia.org/wiki/Antibiotic\\_resistance](http://en.wikipedia.org/wiki/Antibiotic_resistance)

##### THE SINGULARITY

[http://en.wikipedia.org/wiki/Technological\\_singularity](http://en.wikipedia.org/wiki/Technological_singularity)  
<http://www.aleph.se/Trans/Global/Singularity/>

##### NUCLEAR ARMAGEDDON

[http://en.wikipedia.org/wiki/List\\_of\\_states\\_with\\_nuclear\\_weapons](http://en.wikipedia.org/wiki/List_of_states_with_nuclear_weapons)  
[http://en.wikipedia.org/wiki/Nuclear\\_holocaust](http://en.wikipedia.org/wiki/Nuclear_holocaust)  
[http://en.wikipedia.org/wiki/Nuclear\\_fallout](http://en.wikipedia.org/wiki/Nuclear_fallout)  
[http://en.wikipedia.org/wiki/Nuclear\\_summer](http://en.wikipedia.org/wiki/Nuclear_summer)  
[http://en.wikipedia.org/wiki/Nuclear\\_winter](http://en.wikipedia.org/wiki/Nuclear_winter)

##### LARGE HADRON COLLIDER

[http://www.newyorker.com/reporting/2007/05/14/070514fa\\_fact\\_kolbert](http://www.newyorker.com/reporting/2007/05/14/070514fa_fact_kolbert)  
<http://www.exitmundi.nl/vacuum.htm>  
[http://en.wikipedia.org/wiki/Large\\_Hadron\\_Collider](http://en.wikipedia.org/wiki/Large_Hadron_Collider)

##### RUNAWAY GLOBAL WARMING

<http://www.guardian.co.uk/climatechange/story/0,12374,1546824,00.html>  
<http://www.corrosion-doctors.org/Global-Warming/Methane.htm>

##### OCEAN ACIDIFICATION

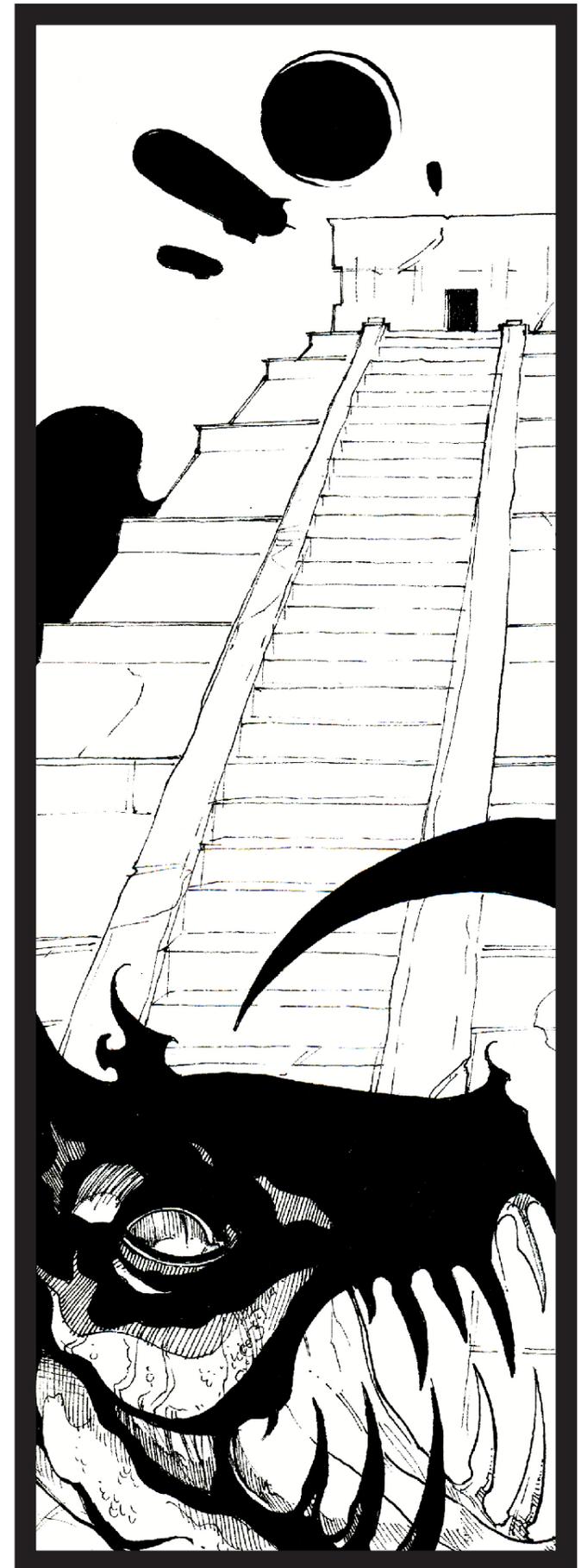
<http://www.royalsoc.ac.uk/displaypagedoc.asp?id=13539>  
[http://en.wikipedia.org/wiki/Ocean\\_acidification](http://en.wikipedia.org/wiki/Ocean_acidification)  
<http://iodeweb3.vliz.be/oanet/FAQeco.html>

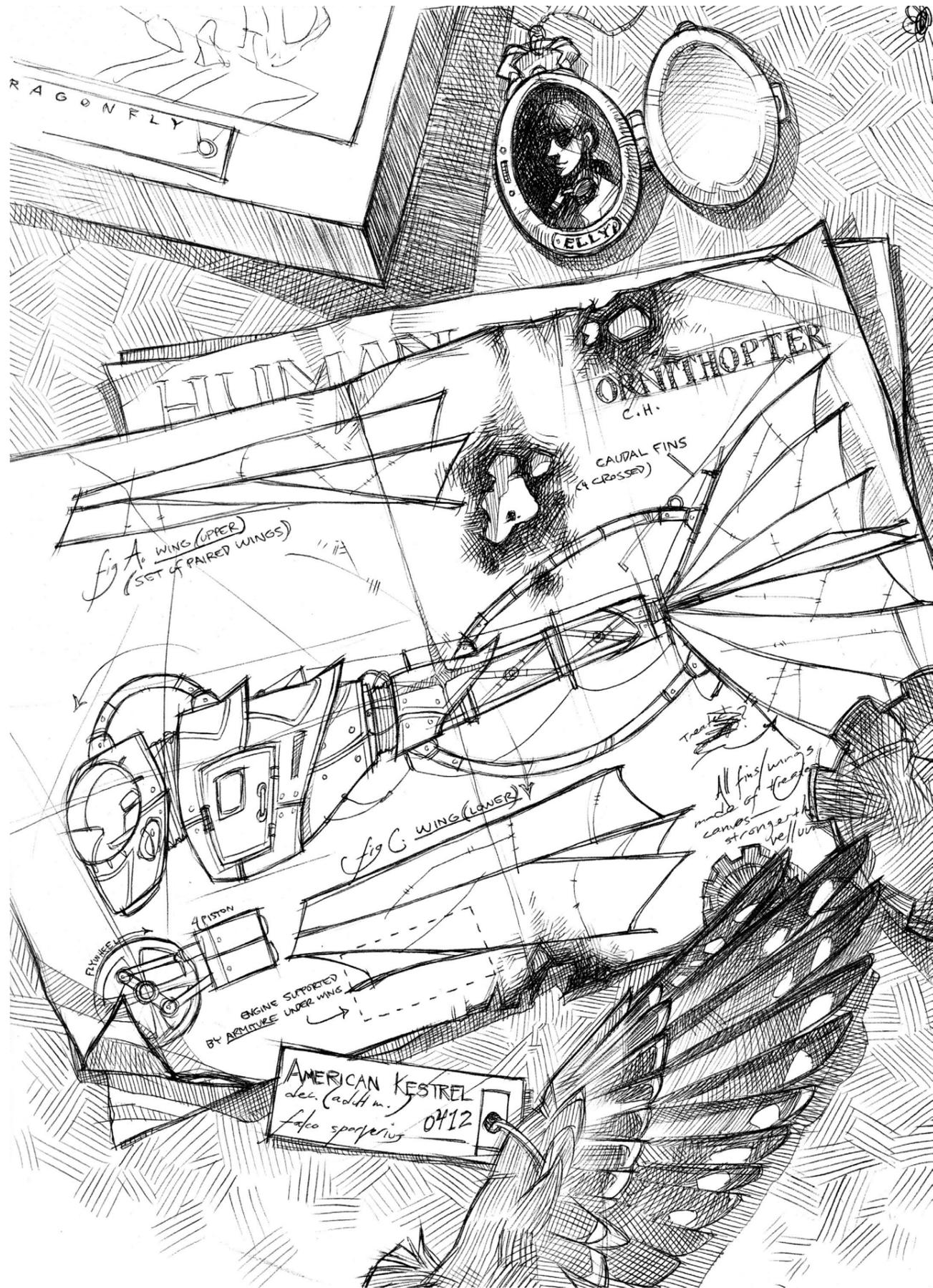
##### NANOTECH GRAY GOO:

<http://www.crnano.org/dangers.htm>  
<http://en.wikipedia.org/wiki/Scophagy>  
[http://en.wikipedia.org/wiki/Grey\\_goo](http://en.wikipedia.org/wiki/Grey_goo)

##### THE END OF THE MAYAN CALENDAR

<http://www.greatdreams.com/2012.htm>  
<http://www.levity.com/eschaton/Why2012.html>  
<http://survive2012.com/>





blend of confusion and indignation. “What? What? What is it?” he demanded shortly.

Behind me, Bruno, traveling far more sedately, stepped in through the doorway, lit cigarette in hand. “Nothing, old man,” he said, dismissing Francis’ abrupt consciousness with a wave. “Go back to sleep: you’re simply having an abnormally pleasant dream.”

Whether in his confused state Francis truly believed Bruno’s words, or whether he simply chose to advantage himself upon the excuse, I to this day do not know. With a deep and unashamed yawn, the most brilliant man of my generation closed his eyes tightly. As he drifted back to the world of immeasurable dreaming, Francis could be heard to murmur, “It can’t be that pleasant a dream, Bruno: you’re in it.”

*I know that this must shock you, dear reader, to learn of respectable English travelers being accosted by strange Frenchmen, but you must not think that the Continent’s railways are any more dangerous than they ought to be. I feel certain that, had not larger forces been at work in Europe, our journey would have been far more sedate and pleasant. Nevertheless, our situation was quite different from that of the ordinary traveler, and I dreaded what unknown events lay before us. My unwanted encounter with the strange ruffian had been enough to shake my normally reliable nerve, but it was the mysterious Angelika who troubled me most. I have no doubt that you, dear reader, dread and anticipate—as I did then—what monstrous Continental conspiracy could have intruded upon our peaceful and law-abiding lives. As the train continued along to Paris, my mind raced with thoughts of what terrible schemes and dangers awaited us. The truth of the matter was far more sinister and treacherous than I could possibly have imagined, as you shall learn if you dare to read when next my tale resumes.*

Sincerely yours,  
A. Westminster, London 19\_\_

least bit a subject of doubt or speculation.

"Why thank you, dearie," she murmured into my ear, sounding like nothing so much as an approving governess. Fixing Bruno with a commanding look, she addressed him in an equally commanding tone. "Now, now, dear Bruno... throw that pistol away before you cause any more mischief."

Bruno growled in frustration, but he complied. "If you dare harm—" he began.

The Bavarian woman tossed her head and laughed. "You sentimental old fool.... Just do as you're told and I won't have to attract undue attention from the other passengers." With a neat little curtsy, she retrieved her hat and placed it—still elegantly, I must confess—upon her head. Drawing me along with her, she retreated to the door. "*Auf wiedershene, lieblich*," she said, her attention directed specifically at Bruno. Then, with a flourish, she thrust me quite uncharitably at Bruno and vanished into the corridor.

I am pleased to say that I righted myself before both Bruno and I were knocked to the ground, but I do confess that I was forced to lean somewhat heavily upon my companion in the effort to regain my balance. Without a moment to lose, I rushed to the door to give chase, but found no sign of the woman. I looked back at Bruno, surprised that he had not dashed off himself.

"Leave her," he advised. "She'll be gone by now... possibly even off the train, if I know her."

My face clouded with regret. "Bruno, I'm sorry—"

"Don't trouble yourself, Alex," the man intercepted. "You saw me pointing a gun at an apparently unarmed woman: what were you supposed to think?" He drew a black paper cigarette from the case in his breast pocket and set about filling the compartment with a curious aroma of Indian spices. "I expect she'll make herself known to me again, far sooner than I would like to contemplate."

I sighed and collapsed onto one of the seats, still furious with myself for the mistake. "You obviously know each other," I remarked. "Who is she?"

Bruno retrieved his pistol and sat across from me. "Her name is Angelika. She's a spy for the Bavarian Crown. We have been... 'at odds,' shall we say, for the past several years. I was unusually fortunate to catch her by surprise."

I nodded. "Bruno, I think your encountering her here is no simple coincidence."

"Oh?" He was sincerely curious, arching one eyebrow charmingly as he leaned forward over one knee.

"Yes. Just before I came upon the two of you, some unpleasant individual I have never before laid eyes upon had the audacity to lay hands upon me. I was very much suspicious of his intentions, until he began shouting at me—with a distinct lack of eloquence, I might add—for the details of your whereabouts."

"Hmmm.... Bavarian, you think?"

"I'm somewhat doubtful. He took to shouting at me in French, and his English sounded much the same."

Bruno pondered this for a short while, tapping his cigarette thoughtfully. "How very odd. I can't recall doing anything to upset the French." He paused. "Recently." Shifting position, he gazed out of the window with the proud stature of a well-bred hound. "I wonder what they're after."

"You, obviously," I noted with a certain degree of polite humor. "The ruffian recognized me, so the parties responsible must know who I am and how we are associated. Whoever stole your airship plans must have sent him after us to kidnap you."

My companion nodded, yet his expression was grave. "If Angelika is involved, it would explain the coincidence of finding her here, but why would the Bavarians employ a Frenchman?"

At that moment, an erratic sequence of realizations aligned in a great conspiracy within my brain. "Francis!" I cried, leaping to my feet in a manner most reminiscent of madness.

"Francis?" Bruno repeated, staring at me in wonder.

Rushing for the door, I offered a breathless explanation. "If they know of me, they'll know of Francis. He's alone and helpless!"

Bruno pursued me into the corridor, imploring me to wait, but my great fear for Francis' safety spurred me onward. I rushed back to our compartment, frantic and quite undignified, and flung open the door, already fearing the worst. Within, I saw the still form of my dear friend laying, eyes closed, upon his seat. I rushed to him, heart in my throat, and grabbed for his hand to feel a pulse.

To my immense relief, Francis' eyes fluttered open and he stared at me in a most charming

## THE ORNITHOPTER

by Will Strop

illustration by Claire Hummel

CYRUS WIPED A DROP OF SWEAT FROM HIS BROW. AFTER twenty years of saving up and five years of work, and he had only one last bolt to tighten to finish the prototype. The villagers had called him mad for this project, but soon he would prove them wrong. With a final, steady pull, the meter-long wrench slowly came to a stop. He grinned for the first time since he had finished the machine's blueprints, slowly climbed down the ladder, and eased it away from the contraption. He had sunk too much money and effort into the thing to risk denting the hull with a falling ladder.

Cyrus was a tall, gangly man of fifty-five years. He had kept his head clean-shaven ever since an incident involving a rogue cherry from his welder and an unfortunate choice of pomade. His face and hands were blackened with soot, his brass goggles smeared with half-hearted attempts to wipe them clean. He sighed, removed the goggles, and rubbed his green eyes, smearing filth onto his formerly be-goggled skin. His shirt had once been white, but it was now splotched gray with grease and soot around his forearms and sepia from sweat around the armpits, back, and neck. His ruddy brown waistcoat was spattered with engine grease, his grey slacks showing the wear of age and long hours of labor.

It was in this state of apathetic dishevelment that he stepped back to look at the complete device for the first time. It was coppery all over, with a truss protruding from the back of the device tapering from about a meter square at its base to a fine point which terminated in a pair of fins, fanned out like a fish's tail—but at the horizontal as well as the vertical, and covered. Two brass rods connected to the main support of each fin and a pair of cables ran back to the bulbous front end of the machine.

At the junction of the truss and what could only be called the thorax of the machine was the engine that drove the rest of the machine; its driveshaft connecting to a flywheel that was, in turn, attached to a quartet of carefully timed pistons. These were affixed one each to a wing. The wings, like the fins, were covered in laminated canvas, but were about six meters long each and reminiscent of a dragonfly's.

The "head" of the machine was pear-shaped, with the truss sticking out where the stem should. At the front of the mass was a pair of domes arrayed similar to the eyes of an insect and fashioned of copper supports and glass panels. Brass rods not unlike those found on many musical wind instruments seemed to spring from the bottom of

the front end of the machine and wind their way to various protruding bits of machinery, their purpose indecipherable at a glance. Inside the cockpit was a brown leather seat set snugly behind a console festooned with pressure gauges, levers, knobs, buttons, and ill-hidden warning klaxons. A pair of skids held the machine one meter aloft, their supports centered underneath the bulk of the engine at the back of the bulb. A pair of large pipes thrust thirty centimeters upwards and forwards from the engine, only to tilt towards the back of the vessel at an acute angle for a meter.

The ornithopter was done, and soon Cyrus would fly it. Nothing could bring him down now except, perhaps, the snores emanating from a rumpled mass of clothing, hair, and flesh huddled in a chair by the workbench. He looked over to his young assistant, with no small amount of disdain, and walked over to her. She had helped, true, but her work ethic was terrible, and now it was threatening to ruin his good mood.

"Get up!" he said, nudging her side with the wrench. "It's done!"

"Can't it wait 'till morning, dad?" she whined groggily, pointing at the clock on the back wall of the workshop. "It's two in the bloody morning!"

"No, no I don't think it can," He said. "Mankind has waited since time immemorial to fly, and I'd rather not risk the world ending before we finally get around to it! Now get up and help me open the hangar doors!"

She groaned as she got up, but when her father got like this there was no use arguing. She had protested when he first proposed this crazy idea, but that had proved useless. He had kept quiet about the ornithopter for two decades while saving up "for a rainy day", but five years ago he had finally started work on it. Within a month everyone in town had known he was a madman, and from there the strange looks from the townsfolk had grown more pronounced, but had spread to Elly by association, as if some manner of contagion was at work in the family. It had been a natural turn of events to relocate the research to the mountaintop, and ultimately, Elly had been kind of pleased when the move came to pass. The isolation had meant she didn't have to put up with people's pity, and there was always the possibility that the bloody machine might work. In the meantime, she enjoyed the comforts of her semi-forced hermitage.

Her clothing those days, for example, was not so greatly different from her father's. Truthfully, some of her clothing *was* her father's, a fact that would likely further scandalize the family in town, if anyone actually visited.

On that grand occasion, a black waistcoat with one of her blouses and a pair of grey slacks had to do. And while she used to wear delicate necklaces in her youth, she had long ago replaced them with a pair of goggles, around her neck for easy access. Her hair, once perpetually in intricate braids that ran to her knees, was now a frizzy mess, most

I forced the ruffian to release his hold upon my shoulders. For a few moments he stood hunched over, grasping his bruised body. I took the opening to quickly stand, adjusting my garments as I did so, but evidently the stranger had not had his fill of English dignity. With the sort of howl one expects from rampant Frenchmen, the ruffian lunged at me, fingers wide, no doubt, to choke the life from my throat.

The subsequent collision of his face with my hand seemed more than adequate to calm the situation. The man fell backward into the seat opposite me, and I took advantage of the moment to catch my breath and adjust my collar. "And that," I said, "is quite enough of that. Kindly do not inconvenience me in such a manner again, or I shall be forced to contact the railroad authorities." With a curt nod of my head, I quickly made good my escape.

I searched the remainder of the first car thoroughly, but with a greater haste invoked by my recent encounter. I was terribly afraid that some mischief had befallen Bruno, or that he had perhaps offended an unusually large contingent of Frenchmen who were now busy scouring the train in search of him. Finding no sign of him in the first carriage, and eager to avoid a repeat of the past few moments, I quickly moved to the second. I received a number of unpleasant looks from the inhabitants of each compartment I peered into, but I answered each with a pleasant and apologetic smile, and I would like to think that doing so earned my forgiveness.

It was not long before I found Bruno, but the curious circumstances of our reunion were far from what I had anticipated. As I first approached the compartment, I caught sight of Bruno standing with his back to the door, one arm stretched out as if pointing toward something unseen. I pushed open the door with a very relieved smile, which promptly faded from my face as I realized that the room held a second occupant.

In the seat facing Bruno, reclining with a very particular brand of restrained dignity, was a woman whose refinement and beauty I cannot begin to describe with any justice. Her proud face could easily have been sculpted from solid marble by the great classical artists in homage to Pallas or Diana, while her slender body wore a dress of pale blue with the elegance of an English lady. Her small hat had been laid aside, revealing a delicate

pile of hazel curls. A single lock had impetuously fallen from its place and now rested against one temple with a devilish defiance of order that I found both charming and enviable. In summary, she seemed to me the perfect personification of the Americans' "Gibson girl," embodying that Yankee ideal of beauty and independence to a greater degree than anyone has yet seen in Mr. Charles G—'s drawings. It is no exaggeration to say that I was utterly overcome with admiration.

Therefore, I found myself very distressed to realize that this paragon of modern womanhood was in a position of grave distress, for I could now see that Bruno had drawn his beloved Mauser pistol and had directed his aim as if to shoot the helpless stranger. I could only think that some fit of insanity had taken my German friend, for I had never before seen him treat any woman with such a degree of hostility.

"Bruno!" I cried, rushing to put myself between his weapon and the woman in the seat. "Bruno, have you gone mad? What are you doing?"

Both of the compartment's occupants were shocked by my sudden and unheralded arrival, but Bruno recovered his wits with characteristic rapidity. "Alex!" he shouted, his voice tinged less with anger than with an unexplained fear. "Alex, come away from her at once!"

"Not until you stop pointing your pistol at this poor lady!" I retorted, hoping to bring him to his senses. It was obvious that Bruno's Continental passions had gotten the better of his adopted English reason.

"That woman is no lady," Bruno answered with a particular sort of harshness in his tone. "She's a *Bavarian*."

At this, the situation suddenly came into light. I could not understand how so elegant and well-dressed a woman could be involved in anything untoward, but it was now certain that she was dangerous enough to legitimately raise Bruno's ire. This realization was helped along by the sensation of cold metal being pressed into my flesh. The woman, with a speed and agility I have yet to see repeated even among English sport enthusiasts, had risen to her feet, using myself as an effective shield against Bruno's Mauser, and had proceeded to place the barrel of a small, ivory-handled pocket pistol against my cheek. Where she had hidden the thing upon her person was left to the imagination, but her capacity to use it effectively was not in the

as it was with all manner of barns, rustic warehouses and other charming farm buildings—remained as pleasant as ever. At my side, my companions continued their debate about the sanctity of birds and angels, and I was quite at a loss for what had disturbed my rest.

Suddenly, Francis, in the lively spirit of the moment, announced that Bruno's madcap fantasies about trans-Atlantic dirigibles would only ever be taken seriously by the likes of the Americans, and promptly declared that the floating passenger ships should henceforth be referred to as "air liners." In a fit of rage, Bruno leapt to his feet and accused Francis, in most ungentlemanly tones, of being "ignorant, simple-minded and wholly without the daring imagination upon which the advancement of science depends!" With that, he was gone, storming off down the corridor without another word.

I was speechless for several moments, and could do little but stare at Francis for want of an explanation. The dear man met my gaze with a dismissive shrug, but evidently Bruno's outburst had struck him dumb as well. Looking back to the window, I distracted myself from worry by observing a nearby circus, the massive tents of which could be seen some distance from the rail line. Nevertheless, I could not ignore the germ of apprehension that lurked within my breast. It was not safe for Bruno, already a man of great passion, to wander about a train of foreigners and holiday-makers while in a state of anger. I had visions of accidental disputes boiling over into heated confrontations, and while they may have been unfair to Bruno, I was not about to take unnecessary risks so early in our journey.

Rising to my feet I politely excused myself from Francis' company, and made my way down the passage in the direction Bruno had taken. Midway along, the way was blocked by another passenger: a man of impressive stature dressed in an ill-fitting traveling suit and hat. The man pressed himself up against the windows as if to allow me passage, but as I carefully stepped past him he grabbed me most improperly and flung me into the empty compartment opposite him. Taken quite by surprise, I stumbled off my feet and landed soundly upon one of the seats. Before I could rise again, the stranger was upon me with such vigor that I feared for my honor and, more importantly, my dignity.

I ought not to have worried. The ruffian grasped me firmly by the shoulders and shook me hard. "*Ou est l'Allemand?*" he demanded in French. "Where is the German?"

There were several unpleasant moments while my breath struggled to return to me, but at last I gasped, "The German? Heavens, Sir, what are you talking about? Do you mean Bruno?"

At the mention of my friend's name, the stranger's eyes lit up in glee. I had hoped this to be the first sign of a reprieve, but the man proceeded to shout more strange nonsense at me. "Yes! Yes! Where is the Bruno? Where is he?"

By this point, I had had quite had enough. "Dear Sir, please unhand me." I posed the request politely but forcefully, fixing the stranger with a firm, English look. When his compliance was not forthcoming, I repeated myself. "Sir, I will thank you kindly to release me."

When the man failed accede to my sensible request, I took immediate steps. After a liberal application of my lower extremities,

of it kept in a ponytail. She had no idea if she would be ever get used to corsets again when she moved back to town. Indeed, aside from her lean physique and her modest assets, the last bastion of her outward femininity was the white ribbon she used to keep her hair up.

She thought of this as she pushed open a ten-meter-high hangar door along its curved track, opening the workshop to a five hundred meter sheer cliff. The town's gas lanterns were only barely visible from the vantage point of the hangar, but she could still trace the outline of the streets from memory and squinting. Her father the madman had decided a cliff would be the best place to launch from, figuring that the fall would help the machine pick up speed for lift. The argument that if the thing wouldn't fly then he's as good as potted meat at the bottom of the cliff seemed to carry no weight with him.

The hangar door locked into place easily enough, as the machinery was fairly well used and maintained. Elly had managed to convince her father that it would be irresponsible to not rehearse the launch every now and then, so every month for the last two years they had gone through the motions. She broke from the plan for the first time in eighteen months by pausing with her hand on one lever of three at a console by the turntable in the center of the room on which the ornithopter was perched.

"Are you ready?" she called to her father. "Are you sure you don't want to at least get a witness or three from town, first?"

"Quite," he said, checking up on the pressure regulators on the ornithopter. "I have nothing to prove to those rumor-mongering doubters... We're doing this for science, not fame!"

Elly sighed and pulled the lever, engaging a pair of engines meant for locomotives. One rotated the turntable to line the machine up with the launch track while the other raised the thirty-meter long launch ramp from the cliff face. Both engines vented surplus steam into a reservoir tank, building pressure that would eventually be released all at once via steam catapult, sending the ornithopter into the air with a running start against gravity. Cyrus, having finished checking the pressure regulators, had moved on to loading

the ornithopter's coal hopper and stoking its furnace. Lazily, the wings began to oscillate up and down as the engine built up heat and pressure. The combined chugging of the engines eliminated any possibility of vocal communication, so the rest of the procedure was coordinated with hand signals.

Cyrus opened up the cockpit of the device and climbed in, letting the hatch close behind him with a dull thump. After a couple minutes the turntable and ramp were settled into position, so Elly pulled the second lever, which both lowered the machine onto the track and redirected the full steam pressure from the shop engines away from their pistons and directly towards the reservoir.

She then moved her focus onto the central dial on her console, the pressure indicator for the steam catapult. The dial itself was divided in three parts. The bottom left quarter of the dial was pure white. Releasing the steam at this point wouldn't even drive the ornithopter's mass off the launch ramp. Running clockwise from the white sector, a field of yellow dominated the following five eighths of the dial. This sector marked the launch window of the vessel, the sweet spot that the needle would enter in roughly thirty seconds and exit in one hundred twenty seconds. After that, the remaining eighth of the dial was red. At some indeterminate point after the needle entered the red zone, the reserve tank would likely explode.

That is what Elly thought about as she looked back at her father in the cockpit, waiting for the thumbs up for launch, a signal that arrived with the needle pointing roughly at the three o'clock position. A quick pull of the third lever, and with a rush of steam the ornithopter hurtled into the sky... and promptly dropped. The locomotive engines shut themselves down automatically with the release of the steam tank, and as her ears adjusted once again to reasonable noise levels, Elly became aware of the chugging of the 'thopter, growing quieter with every second. She knew that if they had failed, she would hear the rhythmic swishing of the machine's flapping be replaced by a crash and silence in the next ten seconds or so. She began counting quietly to herself.

"One," Elly whispered. As the pattering of the machine faded from hearing she wondered if she even wanted the thing to work.

“Two.” After all, however self-centered or single-minded her father had become while working on this project, she had no frame of reference for what success might do to his psyche.

“Three.” She thought it most likely that the proof of his own experience would catapult his already shaky mind into a sort of evangelistic obsession that would not stop until every man, woman, and child alive accepted his achievement as the greatest in human history.

“Four.” If they failed, she could at least go back to living a normal life.

“Five.” A life without her father, a life in which she could be herself without people judging her by her father’s madness—

“Six.” But then, that wasn’t entirely true.

“Seven.” If her father died, she’d have the pity of his tragic death and the legacy of his fantastically complex suicide hanging over her for the rest of her life.

“Eight.” If the thing flew, then at least she could take pride in her own non-negligible handiwork on the machine—

“Nine.” And yet, she still couldn’t decide what to hope for when she mouthed the next word.

CYRUS HAD SURPRISED himself. He had expected himself to let out a yell, some sort of whoop and holler, when the machine lurched forward. He did not. Instead he looked coldly at all the dials and took hold of the levers at either side. On his left was the throttle. On his right, the control stick. He was clear of the launch ramp within a second of the ornithopter’s jarring start, putting him exactly five hundred meters above the base of the cliff. It was only after he felt himself free of external movement that he pulled the throttle as far as it would go and pushed the control stick straight away from him, angling the horizontal tail fin’s leading edge down.

What followed was his second surprise: the machine didn’t immediately gain altitude. He closed his eyes, looking over the schematic of the craft with his mind’s eye, tracing every cog and cam, every pipe and pressure valve on board, and eventually he snapped himself out of the resulting reverie. He opened his eyes and thrust the throttle away from him. Instantly, the engine-stoker began

feeding more coal to the furnace, pumping more heat into the boiler and building steam faster.

The fall slowed, but he knew he didn’t have long to start gaining altitude before gravity would punish him for his offense against it. Steadily, the vessel slowed its fall, picking up more forward movement as well.

“That’s good,” he thought. “That ought to buy me a couple more seconds...”

He could feel the craft building lateral speed, and that speed gave it the lift it needed to stop falling. No... The device was not merely “not falling,” the machine was *flying*. This marked the first time in mankind’s history that one of its own had broken free of the tyranny of the earth, and he had done it with his daughter. His daughter... She had to get a close-up look of the machine in action. *After all*, he thought, *it’s not every day Sisyphus manages to get the boulder all the way up the hill.*

With a clumsy fumble of the control stick he guided the machine upwards in a spiraling pattern. He made mental notes on the performance of the ornithopter, on how to improve its maneuvering, its speed, and even its lift as he looked to either side of the device, at the wings as they flexed in-flight. When he was high enough, he looked back at the workshop to see Elly standing at the edge of the ramp. He angled the control stick into a wider spiral at an angle he estimated would allow him to swoop right over her.

SUDDENLY, A KLAXON sounded. Cyrus blinked, eyes checking all of the cockpit’s indicators and resting on a gauge to the left of the central dial, the boiler temperature indicator. The furnace was cooling rapidly, and as a result the ‘thopter was losing steam pressure. More klaxons sounded as the pressure reached dangerously low levels. The ornithopter lurched, and Cyrus could hear the sudden clank from a wing. The coal hopper chugged as the vibration loosened the clog. Slowly, one by one, the klaxons silenced themselves, and Cyrus snapped himself to awareness of the world around him again. He hoped the “clank” was just the wing tapping the ramp... A cam sticking could damage the machine’s gears.

“TEN.” THE PUTTERING was still there, but still

delight at being asked, rather than any entertainment at my expense. “The first good question I’ve been asked today!” he stated rather bluntly. “Two things, my dear: capacity,” he indicated this by opening one palm, “and scale,” this was signified by both arms outstretched to encompass a tremendous conceptual size. “Anyone can make a balloon fly, perhaps even direct one decently enough. What I am speaking of is a real, full-size airship.”

I was not quite ready to accept this, thinking back to a recent ballooning exhibition I had been privileged enough to witness. “Haven’t people already invented ‘airships,’ Bruno? I mean, dirigibles—”

He quickly cut me off with a resounding, “Oh! What rubbish! ‘Airships?’ None of those under-sized, glorified children’s toys deserves the title! If one’s dirigible can hold but one, or two, or five, or even ten people and still take to the sky—”

“—then it’s hardly an *airship!*” I anticipated, with a satisfied nod of both head and forefinger. “That would be more like an—”

“*Air boat!*” we both finished together, the very coordination of which set us laughing like schoolchildren. Francis, intent upon more serious contemplations, was far from amused. The very tone of his perturbed stare made his inner sentiments clear to the both of us, and was—presently—sufficient to quell our amusement.

Clearing his throat, Bruno finished his explanation. “You see, Ferdie and I are competing in an entirely new field of battle: rigid-framed, fast, long-distance air vessels; hundreds of feet long and capable of transporting dozens, perhaps one day *hundreds* of people, not to mention cargo and other assorted whatnot.”

Francis was dubious of such claims. “Hundreds of feet long? What do you mean, ‘hundreds of feet long?’ You build the damnedable thing in my barn!”

“Well, it was a scale model...” Bruno was only paused for a moment before he replied with equal measure, “but the designs are solid and, given enough manpower, my plans could guide the building of something larger than Ferdie has yet dreamt of!”

And so, the debate resumed anew. As the train rumbled off out into the countryside, I found myself gazing out of the window at the pleasant French landscapes. While no part of the Continent could ever compare in majesty to England’s mountains green—as the hymn rightly describes—I was forced to concede the innate visual pleasure of rural France. Beside me, Francis and Bruno argued without pause the various ethical considerations of building flying passenger liners, but their conversation soon faded away into the distance as a dreaming state overtook me. I fantasized, perhaps foolishly, of taking to the air in one of Bruno’s vast airships, and traveling direct to Paris, Berlin or even far-off New York, all without once leaving the sky. I must confess that I was even seized with an amateurish urge to determine the most economic system for developing a worldwide airship fleet, completed with imaginary timetables.

After some time, the constant pattern of the countryside, which had previously lulled me into a state of placid passivity, now stuck me as true as if an elephant had appeared in the window. I could not say for certain what had upset me, for the lush countryside—cluttered

Francis. We're going to Paris to find Monsieur D—, or at least one of his sons, and there's no point disputing it. We can't leave Bruno to go chasing after some nameless Bavarians all on his own! He could be killed!"

"Hmph," Francis replied, arms folded and head tilted away firmly. "I, for one, shall not be going *anywhere* outside the bounds of this estate in pursuit of Bavarians, and that is final!"

Sighing deeply in acquiescence, I slowly stood and folded my hands like a dutiful child. "If that is your final word, Francis." There was a soft tear in my eye at the prospect of our parting.

"It is."

"Then Bruno and I shall depart for Paris ourselves. I hope to God we shall return to you alive and well, with many tales to tell."

For reasons I have yet to understand, Francis' jaw dropped, quite literally, and he stared in shock at my brave face. Upon latter reflection, I expect his shock had nothing to do with my defiance—which should cause no sensible man of intellect any dismay—and rather was the coincidental product of a sudden burst of genius which had struck him in passing.

Returning to his senses, Francis wagged a finger at me, somewhat brusquely but in the most gentlemanly manner possible. "Alex, that is preposterous! It's not safe for you to travel by yourself, least of all in the company of a hot-blooded Continental!" He gingerly looked toward Bruno. "No offense intended to Bruno, of course."

Bruno dismissed any such apologies with a flick of his hand and looked away with a deep inhalation of breath. "Whatever you say, Francis," he agreed.

Now firm again in my somewhat impertinent resolve, I took a step toward the most brilliant man of my generation. "Francis, I am going to Paris with Bruno to sort this matter out and to see to it that he isn't killed. Now, if you are remaining behind that is entirely your concern, but do not presume to tell me whether or not I am permitted to travel outside of your company. If you do not wish me to leave your side, then I suggest that you join us. Otherwise..." I had hoped for a somewhat more triumphant finish, but all I could conceive of at that moment was a curt, "Hmph!"

"Alex," Francis roared, displaying a fury which I had never before seen in him—no doubt the product of his impressive male virility, "I forbid

you to go to Paris with Bruno! If he wants to charge off to the Continent and have himself killed, that is entirely his business; but you and I are remaining here, and that is final!"

THE WEEK'S END naturally found the three of us on our way to Paris. Francis had held firm to his, no doubt reasonable, demands that I remain behind with him, even presuming to chastise me while I was in the midst of having particular traveling garments packed for the journey. Bruno was not exempted from this repeated chastisement. I recall one pointed conversation—which, I must confess, I surreptitiously observed from behind a curtain—in which dear Francis, beside himself for want of my safety and good sense, berated Bruno for daring to bring an "addle-headed fool," such as myself, on so dangerous an expedition. However, as the days wore on, Bruno and I, through a joint application of charm and reason, convinced the stubborn genius to join us—in the interest of preserving my good health, of course.

Perhaps foolishly, we traveled without servants—a point which Francis never failed to note during the ensuing complications. This was entirely at Bruno's insistence, who made it quite clear that he had no intention of attracting unwanted attention by bringing "unnecessary baggage." The Channel was calm enough for our crossing, and Francis consoled himself by observing the antics of several sea birds, using them as a point of comparison to rebut Bruno's plans for flight. I was duly impressed by the argument—which, to my foolish ears, seemed so complicated as to be redundant or even blatantly flawed—although Bruno rejected our friend's words outright with a single, frank appraisal: "Rubbish."

From Calais, we took a train to Paris and were soon settled into a particularly comfortable compartment, alone save for our baggage. While we waited for the train to finish loading, I felt the need to pose to Bruno a question that had bothered me since we had set sail across the Channel.

"Bruno... tell me: we all know people have been flying about in balloons for the past hundred or so years."

"Well, yes," he conceded.

"In that case, what makes your designs so peculiar? Or even Ferdinand's, for that matter?"

The Rhenish gentleman laughed charmingly, but his amusement seemed to stem from a genuine

growing quieter. Elly walked slowly towards the edge of the hangar, not quite sure what to expect or hope for when she reached it. She wasn't quite ready to believe what she saw when she did.

The ornithopter was moving forward at a terrific pace, but it was getting dangerously close to the ground. Steadily, it leveled off, and then began to rise. It was flying under its own power, she realized. It took a couple tentative turns, and then started to spiral up parallel to the cliff. She found her feet moving her to the end of the launch ramp as she watched that impossible machine exult in the glory of the loophole Cyrus had found in the laws of physics.

The ornithopter reached the level of the workshop in short order and curved gracefully towards it. *No... not the workshop*, Elly realized. The machine was swerving towards the ramp. She could swear she could hear klaxons going off in her head, but as much as she resented the thing she found she *had* to see it closer and this would give her the perfect opportunity.

Inexorably, the machine approached and as it did, the klaxons grew louder. Intellectually she knew that the 'thopter was too high to hit her or the ramp, but she still thought it prudent to get out of the way. She backed slowly towards the workshop, her eyes tracking the device's approach. Her heart leapt when she saw the vessel begin to lurch. Too late, she began to duck away from the wing.

The clank peeled a chunk of her scalp away from her skull, but it did not knock her unconscious. Staggered, she was wholly unready for the draft in the wake of the wing's upstroke. Woozy and off balance, the air pressure was enough to lift her off the platform. Her thoughts came to her slowly and muddled as she fell, like she was trying to read them through a series of fish-eye lenses off waterlogged newsprint. She had just come to the conclusion she would not survive the fall and was about to tackle the conundrum of how much time she had left, but gravity cut her train of thought short. ❁



an interview with *Alan Moore*  
 illustration by Juan Navarro

Your *League of Extraordinary Gentlemen* has done more to popularize the steampunk aesthetic than perhaps any other book. How did the book come to be?

Oddly enough, it didn't really grow out of a steampunk aesthetic—it perhaps grew *into* one. I'd read some interesting exponents of the steampunk genre, people like Tim Powers, K.W. Jetter, and some of the later exponents—I don't know whether Neil Stephenson's *The Diamond Age* would qualify, or if that's nanopunk—I'd been interested in a lot of those stories, and I'd enjoyed them. But as for *League of Extraordinary Gentlemen* and where it came from, it grew out of *Lost Girls*. We were having such fun, myself and Melinda Gebbie, doing a pornography upon three established literary characters,

that it suddenly struck me delightedly: "hey you could do the same thing with an adventure book." You'd have the invisible man, and you'd have Mr. Hyde, and you'd have Captain Nemo, and eventually, after much thought, arriving at Mina Murray [from *Dracula*] as the principal female character. Then we sat down to do the book, and we started out with this very simple, even simplistic, idea of a kind of a Justice League of Victorian England. But when Kevin [O'Neill] started to approach the artwork—and started to do things like designing a more faithful and exotic version of the nautilus—he started to feel as if this story was set in a world where various Victorian fantasies and fictions had actually happened. That tended to color the kind of architecture that Kevin showed, the kind of technology, in terms of motorcars or other vehicles of the period.

The fervor of my curiosity was appropriately rewarded. The central gear that served as the device's metal heart was marked with an elaborate and flowing script that circled around the keyhole. Invisible from a distance, the maker's mark was nevertheless clear upon closer inspection. Written in French were the words: *Monsieur D—and Sons, Quality and Fine Clockworks, Paris*.

"I say... Bruno!" I exclaimed. "Bruno, look at this!"

The Rhenish gentleman followed my pointing finger and, with darting eyes, took in the circle of delicate letters. "My god!" he exclaimed. "Alex, you've done it!" He clapped his hands upon my shoulders and gave me a comradely shake which set my head a-bobbing. "My dear, if Francis weren't here watching I could kiss you." At the mention of such impropriety I flushed deeply, but it was to Francis that Bruno offered his apologies: "Sorry, old man, but I'm a hot-blooded sort of fellow, and I speak when the moment takes me."

Across the way, Francis blinked in confusion, startled as he was from his philosophical reverie. "I beg your pardon?"

I thought it best to return us all to the matter at hand. Detaching myself from Bruno, I brushed myself off and readjusted my collar. "Francis, we've discovered the identity of the bomb-maker!"

My voice was, perhaps, somewhat too breathless and excited for such a topic, and dear Francis continued to regard me with a confused expression. "So we can contact the authorities and let them make the rogues pay for my barn?" he asked with slow and measured words.

Ignorant of finance, I huffed slightly and shook my head. "No, Francis, it means we now know where to start looking for Bruno's Bavarians!" At my side, Bruno muttered something untranscribable, and I gave him a furious look. "Bruno! Bruno, shame on you! That is vulgar, uncharitable, thoroughly un-English, and highly difficult to accomplish without the aid of a professional practitioner of medicine!" I caught my words as both my companions looked at me with most unnecessary interest. "Or so I should assume!" I clarified with a decisive gaze into the distance.

After a significant pause, Bruno, quite without warning or apparent cause, bounded to his feet. "Well, with that last eye-raising revelation, I must be off!"

As the man bounded for the nearest sizable opening in the wall—which may ironically have

been the remains of a doorway—I fumbled somewhat clumsily to stand and, with arm outstretched, called after him. "Bruno! Bruno! Where are you going?"

The man halted in the doorway, one hand resting upon the broken stonework. Turning to face me, with the sunlight setting his hair and mustache aglow in a torrent of bright auburn that was almost crimson, the proud Rhinelander uttered a statement which at any other time would have seemed ludicrous, but which at that moment amounted to prophecy.

"Why Alex... I'm going to save the world from Bavarians, of course."

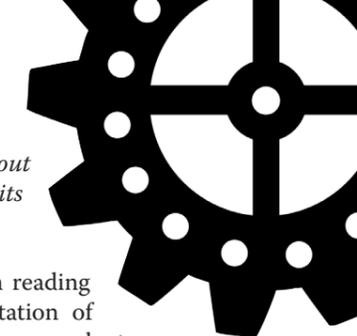
AT THIS POINT, I feel it necessary to pause in my narrative for a brief moment to help emphasize the very strangeness of the whole matter. For my part, I was dumbfounded, left to stare in both admiration and astonishment at Bruno. The gentleman was infamous in academic circles for his bold commitment to haphazard undertakings and daring success; while among the leisure set he was often held suspect for his charming vigor and perpetual state of action. I cannot with sufficient clarity convey to you, dear reader, the degree to which Bruno embodied the pioneering spirit of scientific endeavor, just as surely as Francis served as the paragon of its reflective and immutable side. I have often regarded Bruno as the laboratory and forge to Francis' smoking room and gentleman's club.

While you may well think Bruno temporarily mad for his wish to rush headlong into danger, let me assure you that his disregard for personal safety was as much a part of his nature as his very soul. While one might have been tempted to take Bruno aside and reason with him, such would have been an expedition to the furthest bounds of futility. I could see in the burning violet of Bruno's eyes that he was set without doubt upon this course. There was nothing to be done save ensure his continued survival.

"VERY WELL, BRUNO," I agreed with some quiet resignation. "You can count on our support."

At my side, Francis, who I expect had misheard part of the conversation, immediately and forthrightly condemned any such statements. "He most certainly can *not*!"

I fixed Francis with a firm stare. "Yes he *can*,



Bruno ignored him and began to pace back and forth in short, circular arcs, one hand tugging at his chin while the other rested somewhat ominously on the grip of his Mauser automatic pistol.

“Don’t you dare ignore me, you Rhenish lout—” Francis continued, enraged at our comrade’s insolent attitude.

Sensing the restless energy within Bruno’s movements, I quickly moved to counteract any outbreak of violence between the two gentlemen. “Francis, do be quiet!” More calmly, I addressed our companion. “Bruno...” Rising slowly, I intercepted the angry Continental with a gentle hand on the arm.

At first the man jerked away from me and reached for his pistol. Then, as he remembered my identity, he sighed and folded his arms. “Yes, my dear, to answer your concerns, I am quite all right.”

“You aren’t acting it,” I noted.

“Yes, well...” Bruno’s face fell into an even deeper scowl that twisted his handsome features into a frightening countenance. “Well, I mean to say, something about this whole thing sits poorly with me.”

From his position on the ground, Francis could be heard to grumble, “It was *my* barn that was blown up. That sits poorly with *me*.”

“Not now, Francis,” I sighed, “Bruno and I are speaking.” I turned back to Bruno and carefully led him to the clockwork device. “I understand that you’re angry, Bruno, and I don’t like this any more than you do. As you said yourself, some lunatic out there is running around with plans to the most advanced aerial technology ever made.” I gripped his arm fiercely to emphasize my concern. “The very thought of it chills me to the bone, I assure you.”

“It was *my* barn to blow up, not *yours*,” Francis repeated, no doubt focusing on the financial concerns of having private property destroyed.

“Francis, please be quiet,” I said, my voice somewhat harsher than the situation demanded. In my ignorance, I took his attitude to be sullen, when in fact I am certain he must have been concerned by considerations far too complex for us to understand. For my part, a certain issue was busy tickling the back of my thoughts. “Bruno... there’s something odd about that bomb, don’t you think?”

“Well, quite—”

“I mean, it’s very complex, isn’t it?”

“Rather, yes,” Bruno agreed.

I lifted the now-impotent explosive and studied it with great intensity. “Why is it so complex? It must have cost a fortune.”

“Four fortunes to be exact,” my German companion noted, tipping his head to indicate the remains of the three successful bombs.

Perhaps irritated that our mundane conversation about bombs and fortunes was interrupting his intellectual musings, Francis inserted his own explanation. “Someone wanted to kill Bruno, and was willing to pay a fortune for it. Sounds perfectly sensible to me!”

I fear that the insightfulness of Francis’ statement had passed me by, and rather than confess my ignorance as to why such a thing was in any meaning of the word “sensible,” I continued speaking to Bruno without hesitation or pause. “That strikes me as rather excessive. I wouldn’t spend a fortune to kill you, Bruno—”

“You wouldn’t?” the Rhenish gentleman asked, eyes glimmering with rhetorical sorrow. “Oh, Alex... I thought I meant more to you than that...”

My reassurance was swift and sincere. “Bruno, I would gladly spend an unending array of fortunes on you, you know that. But why would I spend good money on a fantastically complicated clockwork bomb when a stick of dynamite and a simple fuse would do the trick?”

Bruno rubbed his chin. “My thoughts exactly.”

At that moment another thought occurred to me, and I buried my nose in the mess of gears with the ferocity of a pig seeking a truffle. The care and craftsmanship of the machine was far too devoted for any casual bomb-maker, and the pride I saw in the cut of each delicate gear and precision-wound spring brought tears of admiration to my eyes. The fragrances of the box’s exotic hardwoods drifted past my nose, and I cannot describe, dear reader, the manner in which whole ensemble made my head spin with bewilderment. This was not a tool of destruction, whatever its function had proven itself to be: this was the product of loving hands and generations of practice. It seemed inconceivable that such a device might have been made for any form of self-destruction, or that the maker had not left some mark to immortalize this mechanical *magnum opus*.

I think that it was probably halfway through the first issue where I suddenly realized that I’d got Stephenson’s Mr. Hyde murdering Emile Zola’s Nana on Edgar Allan Poe’s Rue Morgue, that I suddenly realized that there was a fantastic possibility to actually make this book into something pretty unprecedented; if we made every character in the book a character that was taken from previously existing fiction, then the book would suddenly become this mad amalgam of almost every fiction world that ever existed.

With the second volume it occurred to us that we could perhaps extend and undermine that by having this almanac of fictional places in which we tried to tie up and tie together every place in the fictional world. In the next League of Extraordinary Gentlemen (which will be the last one from the hated DC/Wildstorm axis), *The Black Dossier*, we provide a timeline, reaching from before the origins of mankind right up to the present day, in which we give a timeline for the entirety of the fictional planet. Most of it is in the form of the life of Orlando, an immortal character who we date back to the 12<sup>th</sup> century BC in ancient Thebes. What this does is it builds up this incredible world, very 3 dimensional, in which every fantastic story or non-fantastic story that you may have read about probably co-exists. And this is not a new idea to me; ever since the story of Jason and the Argonauts, people have wanted to think: “what would happen if my favorite fictional heroes all got together?” Certainly in the 19<sup>th</sup> century, that was very prevalent, with Jules Verne writing the sequel to Edgar Allan Poe’s *The Narrative of A. Gordon Pym*. You’ve got a huge amount of crossovers; all we’ve done with the league is take that to its ultimate extreme where everything is potentially crossed-over somewhere in the pages of the League. And that’s where the idea came from and what it developed into.

Those first two volumes are probably the two that steampunk enthusiasts will most respond to, because with *The Black Dossier*, and with the subsequent volume 3 that me and Kevin are working on at the moment, we move out of the Victorian era. *The Black Dossier*—even though its got material in it which starts in the dawn of time and comes up to the present day—the narrative sections of it are mostly set in 1958, which we found to be a time every bit as distant and peculiar as the Victorian era when we sat down and had a look at it. *Volume 3* on the other hand is comprised of three parts: three 72-page standalone chapters that are each set in a different time period. The first part is set in 1910, and has got various events that revolve around the opera, so we’ve got Mack the Knife and Pirate Jenny showing up, along with a few other late Victorian, early Edwardian characters. In the second issue its all set in 1958, and in the third one its set in the present day, in 2008 as it will probably be then. So we didn’t want to make a fetish of the Victorian era. We may well have other stories set at some point in the Victorian era, and certainly we’re going to be setting some stories before the Victorian era, in the past. Although it’s an incredibly rich period to indulge yourself in, I think that after *From Hell*, *The League of Extraordinary Gentleman*, and *Lost Girls*, which I suppose is Edwardian, I felt that I was in danger—as much as I love that period—of being pigeonholed as a sort of Victorian Edwardian freak. In fact I’m equally interested in almost every period, they all have something to recommend.

*Do you have any thoughts about steampunk as an aesthetic or its potential as a culture?*

Well I think that steampunk, if I’m reading it rightly, is a kind of a manifestation of an ethos that is becoming more prevalent in culture today. It seems to me that at this juncture of the 21<sup>st</sup> century we are more aware of ourselves—we are more aware of our past—than culture has ever been before. Because of the internet, because of our tremendous archives that we’ve accrued, the culture of the past is open to us. And as we look at it, we can see that it’s a fabulous junkyard of ideas that may have been incredibly beautiful—and may have had an awful lot of life left in them—that have been discarded by the relentless forward rolling of culture and our insistence upon new things every day. I think that we’re now in a position where we can look back at the wonderful, glorious remains of our previous cultures—our previous mindsets—and we can use elements from that treasure trove to actually craft things that are appropriate to our future.

I think that in many respects that is the definition of “decadence” as it was given by the decadent writer Théophile Gautier who said that the decadent writer should feel free to borrow from the most gorgeous and sumptuous of ancient legends, and at the same time should borrow from technical vocabularies—from the most up-to-date pieces of writing—to be able to bring the past and the future and the present all into a kind of glorious stew. And I think that at its best, that is perhaps what steampunk is attempting. It is taking these abandoned elements that probably got nothing wrong with them at all and were perfectly functional but had simply been left by the wayside, from our previous culture, and putting them together in a new way in order to create ideas that will help us to extend ourselves into the future. I mean that seems to me to be what steampunk, whether consciously or not, is doing.

I think that that art, technology, media, this is all changing the basic way in which we see time. I think that until fairly recently we’ve seen the progress of time as a kind of conveyor belt where we are dragged through it from the past into the future; there’s nothing we can do about it, and the landscape of our past—once the conveyor belt has left it behind—is gone forever. Whereas that’s not true at all: all of the ideas of the past, which are the most precious commodities of the past, are all still entirely within reach. And I think that some people, like perhaps the steampunk writers, are realizing that it’s possible to embrace the past as a means of progressing into the future. It is not simple nostalgia. That would get tired really quickly. It’s essential that there be some progressive, forward-looking aspect to the way that we utilize these bright fragments of previous culture. Looked at from my perspective, where I’m not consciously a steampunk, I would think that that is probably what it’s about. ⚙️

# MY MACHINE, MY COMRADE

illustration by Juan Navarro

*My Dear Friends,*

I'M WRITING YOU FROM NEW YORK. THE PARTY GUESTS all retired hours ago, leaving a mountain of dirty dishes and half-digested conversations. A winter fog resists the first rays of yet another morn. Despite the deep and oft written-about silence and solitude of this unique hour, I assure you that I'm not without fine company. Below my sofa, the choir of radiators sings praises to the living gods among them. The tidal ticks of the grandfather clock continue unabated, calling out to me. In fact, this entire chamber bristles with the activity and purpose of my mechanical comrades.

I pen this to you, my friends, to share with you the idea of universal brotherhood (and sisterhood) we need to extend to the world mechanical. It is not only for them—but for our own salvation and sanity—that I implore you to indulge me further.

I can already hear the easy dismissals of this sincere call. Many may think that the poor Professor has spent too much time in the company of the needle. Still others, even those I regard fondly as friends, will misunderstand this as a sly joke manifesting from a bored mind and a malingering nature. While I do not deny that I have an appetite for excess and have been rightfully accused of shirking what passes as work, I assure you there is a truth buried in this missive. A new relationship to machines is not as absurd as you might first imagine, nor is it even a new concept. If it were not for the violent uprisings of communist totalitarianism and national fascism, I am convinced that these first imagines may have been allowed to develop to maturity.

I shall keep you in suspense no longer, and throw my imperfect proposal to your discrete judgments while making good on a promise to those without tongues to speak. In short, I propose that humanity must reconsider its view of machines. It must make league with them, and accept them, limited as they may be, on fraternal terms. Equality is not what I suggest we offer, but instead the dignity and pluralism of co-inhabitants of this material reality. This is not a call for altruism, but for actual salvation. I do not think it too melodramatic to say that we, as the inheritors of humanity, are at a perilous crossroads where annihilation dangles off the tines of this historic fork.

It is an ancient idea that, to remake humanity, we must readjust our relationships with the material world. Not all of us are at liberty to jettison this mortal field for the divine and delusional delights of heavenly assurances. I propose that we, as rational animals, seek to draw on our reason to determine our relationships to this maddeningly real world and leave speculation of the spectral to others. I shall not over-tax your indulgence by tracing my ideas to Heraclitus, but start with the birth of the bloody quest to re-make humanity on an immense, even global, scale—the Russian Revolution.

In the bloody nights that followed those shaking days that stunned the world, Russia took the pursuit of re-imagining humanity further than any others since the French drew up that Doctor's gleaming blade. Rodchenko, the artist and philosopher, is today the best remembered of the Constructivists. The Constructivists were a motley collection of artists, engineers, and political-philosophers all stoked by revolutionary fervor. They sought to create a material life that was consistent with Marxism and that would bring art and engineering together, a dream similar to that of Gustave Eiffel (the maker of the famous Parisian tower). They believed that workers needed to approach the means of production in a different way, one infused with art that would inspire as well as ease their labors for the new red dawn. They understood that material things shared a bond with all materiality (which includes you and me). They understood that this relationship was malleable and not predetermined. It could range from the crass commercialism of disposable culture we see today—in the so-called civilized societies—to



G. D. FALKSEN'S AN UNFORTUNATE ENGAGEMENT: A LITERARY SERIAL IN SEVERAL PARTS  
Part Three: In which Airships are Debated, Ruffians are Encountered, and a Journey Begins  
illustration by Evelyn Kriete

*There are moments in one's life upon which all future opportunities and outcomes depend. These incidents are the stuff of which character is made, and, while few choices can be said to be truly correct or in error, we are defined by our conduct at these critical times. The events I have recently relayed to you—the time spent with my dear comrades Francis Edgar B— and Bruno von H— in the summer of 19—, our countless explorations into the furthest reaches of scientific endeavor, and that final, climactic destruction of an utterly innocent bystanding English barn at the hands of persons unknown—were merely the precursors to that great and terrible event which has made me the person I am today. In the space of fifteen minutes, Francis' peaceful country estate had witnessed the quite unexpected detonation of the aforementioned barn, the resulting destruction of Bruno's prototype "air ship," an exchange of violent gunfire with the perpetrators, and finally the terrible discovery of their dark purpose: the theft of Bruno's advanced luftschiff diagrams.*

YOU MUST IMAGINE HOW THE THREE OF US FELT ON THAT formerly blissful afternoon as we crouched in the remains of the barn, amidst heaps of broken brick, scorched metal and smoldering ash. Four of the bombs had been placed by the unknown saboteurs, yet only three had found it proper to detonate. The last had presented itself to us for our intellectual examination, and I now puzzled through it with the vigor and single-minded glee of a young schoolchild. At my side, Bruno stared with a healthy blend of dejection and fury into the empty recesses of his leather portfolio, while Francis, distracted by the winds of genius, stared rather dully at the passing clouds and hummed a song about goblins. As the most brilliant mind among the three of us, he had no doubt become bored with the trivialities of the situation, and had turned to more philosophical contemplations.

Constrained by my more limited intelligence, I found it necessary to study the complexities of the device before me. Housed within a beautifully polished wooden box, the bomb was largely a mass of delicately interlocking clockworks of such perfection and intricacy that they made my head swim just to look at them. The packets of explosive tucked away into the four corners were rather anomalous, obviously intruders into the beautiful maze of gears which surrounded them. With gentle hands, I carefully removed the dynamites from the box and set them aside. In their absence, the spring-loaded flint-wheels that were intended to detonate the bomb would be relatively harmless.

At length, Bruno rose to his feet and threw the empty portfolio to the ground in a fit of rage. The German was a man of great passion, and I expect his fury was more a sign of helpless frustration than any mere outbreak of temper. As the leather satchel flopped into the blasted earth, Francis jumped in shock, no doubt roused from a deep and intellectual reverie.

"I say!" he shouted. "What the Devil do you think you're playing at?!"



the absurd animism of the “savage” past. These Russian artists cum engineers rejected both the commodification and divinity of tools and technology. Seeking a relationship of merit built on work, a rising of labor both human and mechanical. I—an infamous and unrepentant shirker (or Lumpen as they would have it)—can only travel part of the way with these red avant-gardists.

A decade earlier, F. T. Marinetti was penning his famous Futurist Manifesto, where—under his insatiable bloodlust and hatred towards all political progress (e.g. feminism)—he sings the praises of machines. The futurists would go on to suggest that the machine, not the human, is the ultimate creation, superior to flesh, morality and the “uncountable and pathetic weaknesses of man.” Futurists take animism to a new and brutal extreme, suggesting that all biological creatures (humans and even dear Fluffy) are inferior to the beauty, speed, and power of the machine. At best, we can seek to vicariously experience true perfection through an obsessional devotion to the mechanical. Marinetti and his ilk believed war to be the ultimate manifestation of the mechanical over the biological, speaking of how easily the “heroes of Roman” could be turned into so much “meat” by the machines of war. I bring the mad impolite ravings of the Futurists to you, not just because they made some lovely art, but because they underline the need to understand and possibly develop relationships with technology.

Both groups tried to invoke their ideals into existence through art. Both were ultimately eclipsed by dictatorial politics of their day (communism and fascism). Both groups despised museums, yet ironically museums are the only places their ideas (or the shadow of their ideas) still reside.

Both groups made the mistake of hierarchical thinking (among other faults). The constructivists sought to make the machine subservient to the noble worker and the Futurists sought the opposite. They both dared to envision a new relationship between machine and *homo-sapiens*, based at their core on inequality and subservience. I sincerely believe, and it is my hope, that steampunk can go some way in addressing this error. That we, as more than a genre of eccentricity, can help remap this primary relationship.

I do indeed believe steampunk seeks to liberate the machine from simply existing as an instrument of work, while at the same time not elevating mechanical forms above all else. From these ideas a synthesis is born. Steampunk seeks to find a relationship with the world of gears, steel, and steam that allows machines to not only co-inhabit our world but to be partners in our journey. To be born, age, and die like we all must, that is not only true of humans, plants, rivers, animals but also of machines. This may be a crucial realignment of our relationship to the world, man-made and natural.

Humans are confronted with a plague of crises, ranging from climate change to the demise of capitalism. We currently inhabit a planet fraught with mass extinction of biological species and the beginning of colonial resource wars. The problem is not with technology, but with our relationship to it. We sit in our cities as tsunamis of mass-produced commodities rise around us, threatening to drown all of us as it suffocates the planet. Mass production, war, and the factory farming of animals all suggest a worldview positing that everything is disposable. This barbaric callousness even extends to our

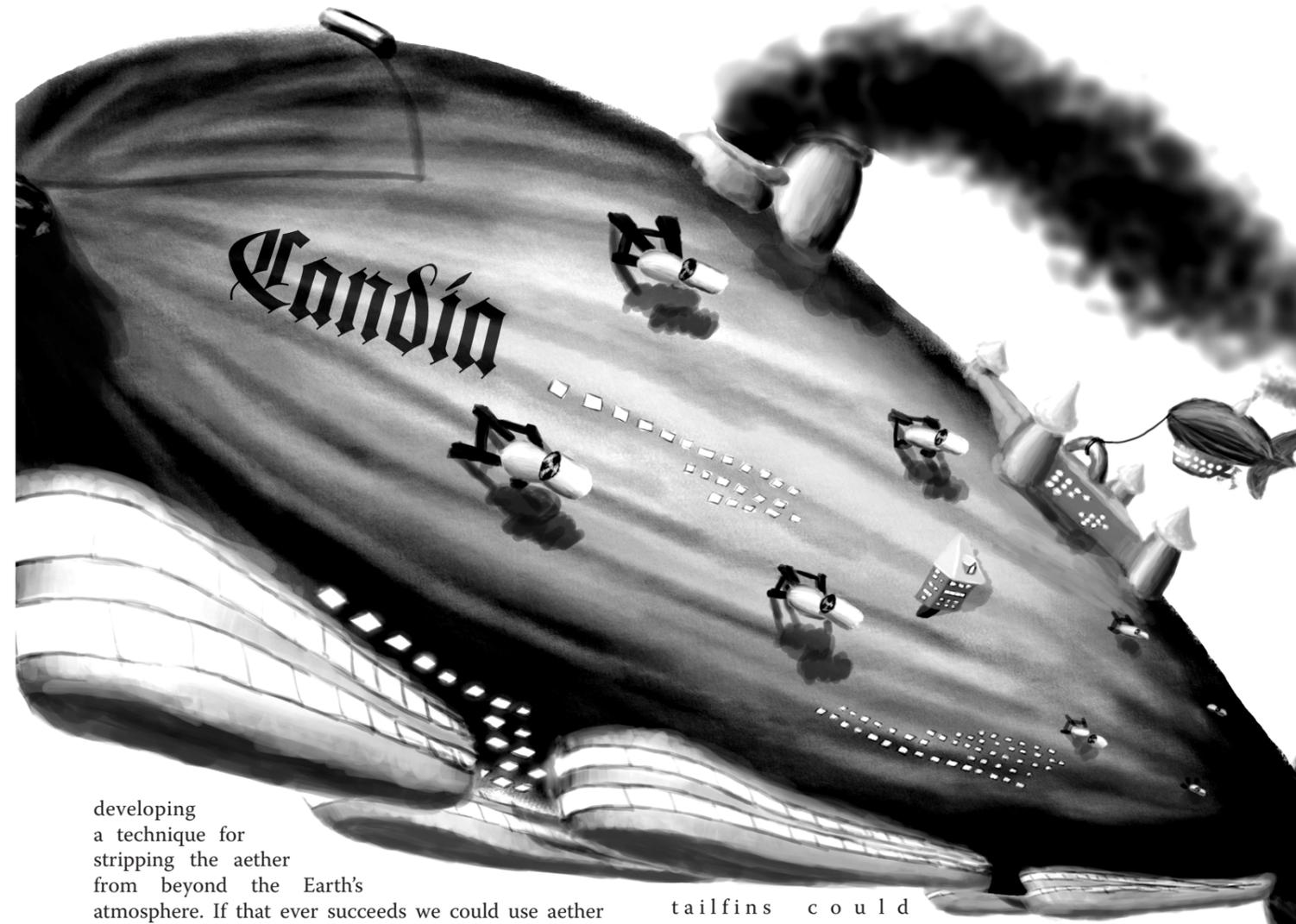
fellow humans on the other side of the globe. Steampunk seeks, like the constructivists, to rediscover the inherent dignity of created objects. All machines, mechanical or otherwise, come most originally from the physical world—as do all of us—and thus are imbued with inherent profound existence that requires respect, be it a river, a child, or a steam-powered thrasher. There is a price for each of the world’s creations, and each existence is responsible for that inherent debt. Without that debt being paid, this planet cannot hope to survive and it will attempt to expel the free-loaders before self-destructing. How could we expect anything less of such a complex entity?

There is a beauty that can be found in the idiosyncratic nature of the lumbering, clanging machines of the past that we now get but a glimpse of in the high-tech gadgetry of today. The difference between the machines of then and now is the same as the difference between an old-growth forest and a soulless tree farm. While it is true both are made up of trees, one strikes us as missing something: a spirit, or will, which speaks to us of intention. Intention that demands to be respected and understood, not for what it can be (or do) but for its simple existence. This intuition should enlarge our humanity, not reduce it. We should feel free to promote it in unlikely domains, including the mechanical.

I can already hear the complaints of my friends, leveling the charge of anthropomorphizing machines. Dear friends, this could not be further from the truth. We should not seek to recreate our humanity in our machines any more than we do in a gently swaying glade or a spiraling hawk. They can be respected on their own, in terms outside the limited cage of humanness. The technology that sits by our side is too complicated, too swift to serve, too abstract to engage our senses. There is a nauseating sameness found in most of today’s technologies (like the tree farm). Replication has replaced revelation. To know one is to know all, thus the value of one is none. We treasure uniqueness in ourselves and others; why would be satisfied with the numbing and pointless replication of other material inhabitants? High-tech mass production has sought to erase all identity from our machines just as the captains of commerce attempt to erase animalness from our meat nuggets. The so-called machines of this era seek the cleanliness and sleekness of thought, platonic forms unsullied by the earth from which they come. Floating beyond us in mathematical ether far above us and the golems of iron. These abstract replicated technologies ultimately seek in their purity a Nirvana of emptiness. If I were to choose comrades, fellow-travelers in the truest sense, I’ll seek those machines with clay feet, and that breathe the air I do. Whose actions are as unpredictable as the mouse that feeds upon my neglected dishes or my dear Mathilda’s moods. Even if I do not comprehend my boiler’s song, I know it sings for its own purpose in its own time. It has been with me for years, and as I gray, it rusts. We age together, besieged by the forces of the world. It is my comrade on this long road of existence.

Even if my feeble wit and uninspired prose has failed to convince you of the truth of my proposal, I trust you shall seek out a new understanding, if not friendship, with the machines that populate your life. ⚙️

*Your loyal servant,  
Prof. Calamity*



developing a technique for stripping the aether from beyond the Earth's atmosphere. If that ever succeeds we could use aether instead of helium and that would enable the ship to lift five times the payload it could with helium.

Payload would be, in part, stored in the five gondolas attached to the bottom side of the dirigible. They would be configured in a geese flock configuration and would each be 250ft long by 50ft wide. The reason for having five of these and not one very large one is segregation of crew, passengers and, possibly, weaponry.

The whole thing would be wrapped in a sheet of aluminium instead of canvas so that different cabins and towers could be attached all over the hull wherever needed. Crow's nests, for example, or Gatling gun turrets for war versions of the ship.

The interior of the hull would contain at least one hangar for a smaller dirigible or a few war fixed wingers, once they become enhanced enough for use as quick agile escorts for the ship at war. The hangar could be accessed through a large chute in the front and could be used to transfer crew, passengers, or anything else to the air ship without landing, thus enabling her to stay in the air forever.

It would of course be much easier to land a dirigible in an air ship if it was moving away from you instead of towards you, but the hind side would be taken up by the two large tail fins, each 400 ft tall and 100 ft long, which would in fact make her about 1273ft long, rather than the previously stated 1200ft. The

tailfins could swivel left and right in whole to provide most of the steering of the ship and the horizontal flap that would be positioned between the fins would provide up and down steering.

Civilian versions of the ship would provide a great deal of luxury for its 1500 passengers, who would mostly be bedded in the hull between the storage tanks, gas bags, fuel tanks, and other important things. The higher classes would be put in larger suits in gondolas, with the crew having the front gondola completely to themselves. This is also where the bridge would be positioned.

All cabins would enjoy magnificently bright electrical lighting powered by the Siemens dynamo that would also power Mr. Siemens' electric engines for turning propeller cylinders, change gears in the gearboxes and everything else that needs moving and isn't a steam powered propeller.

I believe that every nation would be proud to father such a project and I am simply giving it away to the London Gazette in hopes of somebody worthy noticing it. Hopefully my earlier prediction of it laying forgotten for a century or two will not come true, and the skies of our tomorrow will not be filled with aero dynamical flying. ⚙️

September 1875, London  
Your Dr. von Tropp

# THE AIR SHIP OF TOMORROW!

*An essay on the improvements needed to keep the mighty air ship queen of the skies before the ensuing threat of flimsy paper and wood aircraft*

by Lord Dr. Richard von Tropp  
illustration by Swizec

DEAR READER, IF YOU, LIKE ME, FEEL THAT THE HUMBLE AIR ship has not spoken her final word in spite of recent events, then please read on. But if you feel yourself to be situated amongst the fixed wing aero craft slime then please feel free to put this writing back whence you took it, help yourself to a fine cup of tea, and let the true visionaries to their business.

If you are still with me, you will, please, have to excuse me for the above paragraph, but I feel such introductions are sadly needed in today's state of affairs; I have been driven from my home country of Germania for propagating that the air ship age must continue. You will also excuse me that I make this writing in British for, unfortunately, such is the only way of making it publishable.

First, I feel obliged to tell you a bit about the state of affairs aviation has found itself in for the unfortunate occurrence that my prediction be correct and this writing lay forgotten in some dusty archive for a century before anyone cares giving it a read. Even if that be the case I hope, dear reader, that you take the advice contained herein to heart and revive the air ship for all its advantages and glory.

A year ago the great Burghindia suffered a terrible case of crashing during a landing after a successful transatlantic voyage, resulting in the unfortunate deaths of five and twenty people. The crash being immortalised on celluloid tape and relived via projectors all over the world fuelled the death of the air ship age and sparked the revolution that resulted in what many feel is the future of aviation—the paper skinned, wood framed, fixed wing aero craft.

There are a handful of engineers trying to open the world's eyes and make it see the truth, but the fact of the matter is they have lost not only the battle, but the war already, if they don't make some improvements in their designs. Right now, though, they are proving too stubborn to change anything.

The fixed wing monsters, even though quite useless, do have some advantages over air ships, especially once the petrol engine reaches a stage of life advanced enough to power steel-made vehicles. The air ship must be refreshed, improved and bettered until that point in time, by which it will be too late.

I believe that in endless experimentations with scale models I have come upon the solution to all the issues at hand and more. So peruse on if you too would like to change the world for the better.

THE BIGGEST ADVANTAGE dirigibles have over fixed wing aero craft is their size and stability in the air. Air ships follow similar size rules as regular water ships in that the bigger they are, the more efficient and completely better they become. It is because of this I suggest we build a 1200ft long dirigible with a 270ft diameter, which would make her a bit fat in appearance, but wouldn't affect streamlineness.

Her belly would be filled with helium so as to provide buoyancy while preventing a catastrophe like the one that destroyed poor Burghindia. The gas could even be used to put out fires were they to occur. Gas bags would be positioned around the ten large boilers for heating up water.

There would be ten boilers because that way it takes less time to get the engines running from a stationary position and also prevents running out of steam if a boiler was to malfunction. Fires would be fuelled by coal gas instead of coal itself because coal burns too inefficiently and is in general too heavy for use in flying ships, even though it was used extensively in the past.

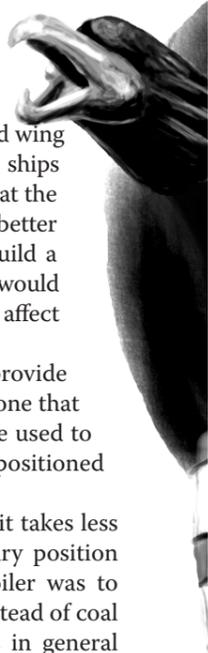
Because of this the ship could carry a lot more fuel and thus having a much longer range; she could probably fly right around the world without even having to stop for provisions. Now, dear reader, you might be wondering why on earth wouldn't she have to stop for water? Let me tell you.

She would not need to ever refuel water, especially if there were no unfortunate leaks, because once the boilers were filled the steam would always pass through highly efficient engines, condensers, and then right back into the boilers to be reheated again. The two triple-expansion reciprocating double-acting high-pressure steam engines would drive a large crankshaft to which several canvas drive belts would be connected.

The belts would transfer rotary motion to sixteen propeller systems by means of turning a shaft connected to a gearbox that would in turn run two propellers in a cylinder. Each system would have its own gearbox so that different systems could turn at different speeds and aid in the manoeuvrability of the craft. The reason why the propellers would be in a cylinder is that the first one would accelerate the column of air a little and the hind one would accelerate it even more, producing great thrust.

These cylinders would be positioned in two rows of four on each side of the body, each on a simple system of two large cogs each positioned at 90 degrees to each other with their shaft containing the drive shaft for the propellers. This would enable the cylinder to turn into any position, making the air ship very manoeuvrable, perhaps even more so than the evil fixed wingers.

To produce even more power and have greater efficiency steamturbines could be used—if Dr. von Battenbug ever manages to develop them into a usable state. I reckon we will just have to wait for that one. Also, my friend Lord Matternich has been



*Faced with the gnawing Fear of our impending Doom, the stalwart Staff of SteamPunk Magazine have begun to compile a Handbook—a Handbook to arm you for the tragic and beautiful Times which most certainly lie ahead. Here, we present Excerpts from this Work in progress, so as to Educate as widely as possible. Look for the completed Volume in the near Future, and pray that it comes before the End.*

## THE STEAMPUNK'S GUIDE TO THE APOCALYPSE (EXCERPTS)

illustration by Colin Foran  
diagrams by Strangers In A Tangled Wilderness

SO YOU'VE DECIDED TO SURVIVE THE APOCALYPSE. Congratulations! Your fierce, unyielding Determination has already put you Head and Shoulders above your Competition.

And your Appreciation of the less subtle Technologies of Yesteryear shall put you even farther above. Hundreds of Meters above, in fact, if you manage to get yourself a Dirigible!

Consider this Book to be your boon Companion during the trying Times that lie ahead. No single Tome—no matter how voluminous—could be complete, of course, but this little Handbook should aid in keeping you fed, watered, clothed, entertained, and protected from the myriad hazards of Weather, Human, and Beast.

A courageous Future lies ahead of us. We wave goodbye, on no uncertain Terms, to the invisible Workings of the Cyberian World. Our Future lies in an honest Technology, a Technology that is within our Reach, a Technology that will not abandon us, a Technology that requires not the dark Oils of subterranean Caverns.

But if you make it no farther into this Book than page one, leave with this Motto: "One who clings to Modernity will fall with Modernity. But one who builds water-powered Refrigerators will eat summer Fruits in Autumn."



## CHAPTER ONE : WHITHER AND WEATHER

*Perhaps the most important and complex Decision that a Survivor will need to make is where to stay; indeed, there are so many Factors to take into consideration that the Mind may be boggled. In which case, it is a fine Coincidence that you have this Guide!*

*Some factors include: proximity to material Resources, availability of Land for food acquisition, Volume and Quality of nearby Water, social Considerations, and Safety from Scoundrels and Disease.*

## A SPARK FROM THE RAILS

by Olga Izakson

illustration by Rob Powell

WHERE'D YOU SAY THE BREAK WAS?"

"Out a mile that way—" The shorter man pointed to the left of the glimmer of sun on the horizon. "Maybe a mile and a half. Isn't much, just some old rail needs fixing up."

"Let's go, then." The taller man's voice floated out unnaturally loud into the early morning mist. He hoisted one of the knapsacks onto his shoulder and tossed the other to his companion. They set off through the slick grass, each lost in the thoughts that always come in the hush before dawn.

The only sound for three-quarters of a mile was the rhythmic thump of their boots, tough and stained with engine oil and grease, much like the men themselves. The taller one began to whistle half-heartedly, but hesitated and stopped. It didn't feel right to wake the woods. Times like those seemed to him the true reason for the world's existence—just him and one or two of the others walking in silence, with nothing around but the mute trees and sleeping birds, with nothing weighing him down but the tools and sandwiches, and the pleasurable feeling of one foot after the other in unending sequence.

"We should be coming up on it soon," said the other man.

"Mm."

A rustle in the undergrowth beside them made them stop. It was too loud and clumsy to be an animal, and a shoe was clearly visible under a bush.

"Who's there?" demanded the shorter man. "Show yourself! You're trespassing on Company land!"

There was an irritated sigh and the sound of someone smashing through the tangle of low branches towards them. The shorter man tensed his shoulders, ready to fight, but relaxed when he saw the intruder.

She was skinny and ragged, about sixteen or so, with smooth dark skin under the grime covering her face and a pair of goggles perched atop a wild curly mass of hair. She carried a cloth bag in her hand and an odd-looking metal object strapped to her back. Her scuffed leather boots made soft squelching noises on the wet grass as she limped toward them.

"You're trespassing on Company land," the shorter man repeated. "You're not supposed to be here."

The girl stared at him, then at the taller man, then back at him again.

"The railroad company?" she asked at last.

"Yes," said the shorter man. "It owns the railroad. You're not supposed to be here."

The girl looked thoroughly bewildered for a moment, and then her expression cleared and she smiled at the taller man,

ignoring the other man completely. "The Company doesn't own the railroad. The railroad owns the railroad."

Privately, he agreed with her, but before he could work out what to say to her statement, the shorter man spluttered, "Of course the Company owns the railroad! Look, who are you, anyway?"

"Who am I?" repeated the girl softly, lost in thought. "I am the singing of the rails... I am the beam of the lantern passing in the night, and the trail of smoke behind the train. I am the clatter and the joy of the rushing wheels. I am the soul of the railroad. I am the train's whistle. I am the gleaming iron and the engine's heat. I am the cogs and the wheels that keep the engineers awake at night and the source of the oil on your faces and I am the place you are going and I am the place you have left and I am a spark from the rails..."

She trailed off absentmindedly and rooted around in her pocket. At last, with a triumphant look on her face, she discovered a pocketwatch, and flipped it open.

"Ten to six," she told the two men. "I have to go now. Can't be late." With a small grin, she added, "Never Late—Passengers or Freight"—the Company's motto—and went limping off into the underbrush again.

There was a long, shocked silence.

"Come on," said the taller man finally, "We need to go fix the break. Looked like her foot was hurt."

"You can't possibly believe all of that crap!" the shorter man said furiously as they walked on. "Singing of the rails? 'Gleaming iron'? Iron doesn't gleam! She's not the soul of the railroad, because the fucking railroad isn't fucking alive!"

The taller man shrugged.

"She was just some kid!" the shorter man raged. "She had apples or something in that bag—didn't you see? What the hell does a railroad need apples for, huh? Railroads don't fucking eat! And that brass leg—"

"The—what?"

"The brass leg! That thing on her back was somebody's brass leg, I swear it was! You could see all the machinery inside the knee—it was a *mechanical* leg—what the hell does a railroad want with a fucking brass leg?"

"I'm sure she could find some use for it," said the taller man calmly.

The shorter man threw him a disgusted look. "The break is right up that way, anyway. We're going to have to—what in fucking Hades are you doing? That's a perfectly good apple, you can't just throw it on the tracks like that—"



## THE METROPOLIS

THE CHOICE TO STAY WITHIN CITY LIMITS is a bold One. It is an irrefutable Statement of Purpose. It says to the World: "You cannot move us. We are unafraid. We shall rebuild." Alternatively, it may be making the Statement: "I got stuck here and my Car is out of Petrol."

**RESOURCES:** The City is richest of all possible Locations, filled to overflowing with Metals and Tools of all Varieties.

**FOOD:** There is comparatively little Nutrition to be had within the City, and even less Room in which to grow it. Although these are Hurdles that may be leapt by the Ingenious, your Competition might indeed prove Fierce.

**WATER:** There is no Guarantee that the existing water Systems will remain viable, and a great deal of Energy will need to be spent acquiring Water from Rain and River. Wells might prove hard to drill in industrialized Cities, as the Land is dense with Layers of Pipes and Tunnels.

**SOCIAL CONSIDERATIONS:** For better or worse, there will be plenty of People around to converse with.

**CONFLICT:** It is certain that the urban Survivalist will need to be quite prepared for armed Conflict. Battle might become a daily Occurrence; it is likely that no one power Structure will thrive in any given City, and the Struggle for Power between Warlords might bear heavily on any who remain.

**DISEASE:** Unless a great deal of Education takes place in a very short period of Time, a failure in the sewage Systems in a City will bring a great Risk of Plague. The population Density will make the Issue of Sanitation one of paramount importance.

## THE SMALL TOWN

IN CERTAIN WAYS, A SMALL TOWN IS THE ideal Location from which to survive the Apocalypse. Unless, of course, it is overrun by Refugees from the Cities.

**RESOURCES:** Many small Towns are fully self-sufficient, having Supplies of near every human-made Resource on hand. However, these Supplies may be low in Number, and if competing Factions vie for Control then they may be spread quite thin.

**FOOD:** A small Town offers a large Amount of Land on which to grow Crops. And although the farming Infrastructure will need to transition to non-chemical Methods, Food should not be a concern to overshadow all Others.

**WATER:** It is possible that a small Town's water Supply, if local, will continue uninterrupted. If that is not the Case, however, new Wells may be dug immediately, and Windmills may be constructed to maintain water Pressure by pumping Water into Towers.

**SOCIAL CONSIDERATIONS:** Small Towns are the most likely of Places to form a cohesive Group—a new Government if you will. This, of course, may be an Event most fortuitous or disastrous.

**CONFLICT:** If a small Town divides into two or more Factions, a War may transpire. Even if this does not occur, a thriving Town would likely become the Target of any Refugees or Looters.

**DISEASE:** Small Populations are at less risk of Disease, but if a Plague were to come it would be far more destructive to such a small Group.

## WILDERNESS

THOSE WHO VALUE THEIR LIVES MOST dearly will be tempted to return to Nature, and either live the lonely Life of the SteamPunk Hermit or be part of a small Grouping.

**RESOURCES:** Any Human-made resources will need to be carried in over many Kilometers, if you are far enough removed to be safe.

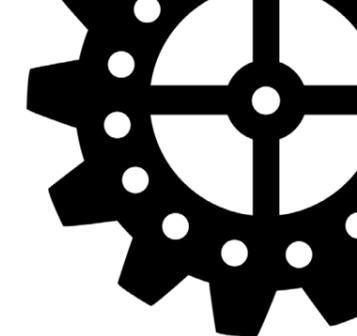
**FOOD:** In fertile Areas, staying fed will not be a problem. In Deserts or perched on dry Plateaus, a lot more Time must be devoted to Hunting, Gathering, and Growing.

**WATER:** A well-chosen Spot in the Wilderness will have plenty of Access to Water.

**SOCIAL CONSIDERATIONS:** It is here that the SteamPunk of the Wild may suffer the most, and if you are a Person prone to the Enjoyment of social Interactions than you may not do well. Alone or in small Groups, your Company will remain mostly unchanged for many Years.

**CONFLICT:** Woe shall befall any well-stocked Group that is discovered, and the Art of Invisibility will be of paramount use to any martial Strategy.

**DISEASE:** If care is taken in Sanitation, herbal Remedies are researched, and Nutrition is properly balanced, than Disease should not be too great a Fear. However, if a generalized Plague is upon the whole of Humanity, a small Group might suffer such Attrition as to leave too few People to survive.



## CHAPTER TWO: THE ACCUMULATION, FILTRATION, AND STORAGE OF WATER

*Water is available to our Needs in Three primary Forms. There is surface Water, rain Water, and ground Water.*

### SURFACE WATER

SURFACE WATER IS OBVIOUS, EASY TO COLLECT, AND, OFTEN, the most dangerous of the Three. Surface Water includes Rivers, Lakes, Ponds, Oceans, and all the assorted standing and running Waters of the World.

Surface Water is easily contaminated. In the Mountains—where you might logically have determined to stay—the Runoff from Logging, Mining, and other industrial Processes are likely to have poisoned any Creek, River, or Lake. In areas more densely Inhabited, it is the Feces of Human and Beast that cause the most worry to a potential Survivor. Indeed, there is nary a Brook in our over-inhabited World that would be safe to put your Mouth to.

Such dire Speech aside, surface Water can be treated and serve as an excellent Source of potable Water. Search out rapid, bubbling Water that moves over Rocks as a method of Aeration. Better still, search out the Springs from which Water bubbles forth from Underground. If you have no method of filtration, this is perhaps the only surface Water you can hope to drink from without referring to Chapter Five (*A Brief Introduction to Contagion*). Be wary, however. There

are false Springs abounding, from which contaminated Water emerges after having traversed only a short Distance through the Earth.

With surface Water, consult the Charts, Graphs, and Methods [see *Figure 2-1*] with the utmost Care, for here they apply most strongly.

Those who live near the Sea need not despair. Although salted Water is poison to the Thirsty, it can be desalinated with the simple process of solar Distillation!

### RAINWATER

RAINWATER IS A MARVELOUS SOURCE OF POTABLE WATER, and its acquisition will require a splendid Array of Apparatus that may range from simple to complex. A single Millimeter of Rainfall, caught over one square Meter, will yield you nearly a full Liter of Water.

Consider, if you will, occupying an abandoned Suburb with a Plethora of your fine Companions. The Systems are already in place to expedite the Rainwater collection Process: there are Rainspouts that beg to be fed into Barrels and there

**DOCTOR PHINEAS WALDOLF STEEL** IS KNOWN PRIMARILY FOR HIS MUSIC, BUT TO ANYONE WHO IS A FAN, HE IS SO MUCH MORE. ARTIST, FASHION PLATE, MAD SCIENTIST, HISTORIAN, ASPIRING WORLD EMPEROR; HE REALLY DOES IT ALL. AT FIRST GLANCE, IN HIS GOGGLES AND WHITE LAB COAT, HE IS IMMEDIATELY WRITTEN OFF AS A CRAZY PERSON, AND THAT SUITS HIM JUST FINE.

*the nostalgia associated with the eras? Or do you just think they're pretty?*

In all that is ever created, in all that we experience, the most important and powerful element is the element of contrast. Without contrast, things are stagnant and dull no matter the subject. To this I enjoy experimenting with contrasting elements from visual to aural creations. Likewise, my interests range from the distance past to the recent present and I enjoy pulling inspiration from various sources.

*What are your favorite apocalypse scenarios, both societal and planetary?*

I don't know that I have a favorite Apocalyptic scenario, other than perhaps turning the White House into a miniature golf course. I would, however, be delighted to renovate many major metropolis cities with the use of giant robots with large crushing arms and laser eye cannons... all for the greater good of course.

*Would it be the best-case scenario for the Utopian Playland society to flourish in a post-apocalyptic setting, or are you more prepared to use the resources and failings in the current day?*

I term my plans for world domination as less of a world take-over and more of a world "make-over." With that, I do believe that there are many elements in place currently which could certainly be retrofitted with a new agenda. 'Tis the element of fear and control which must be

bled from the veins of the System. To this end, it is a state of mind which shall first take place... the giant robots and flying saucers come second.

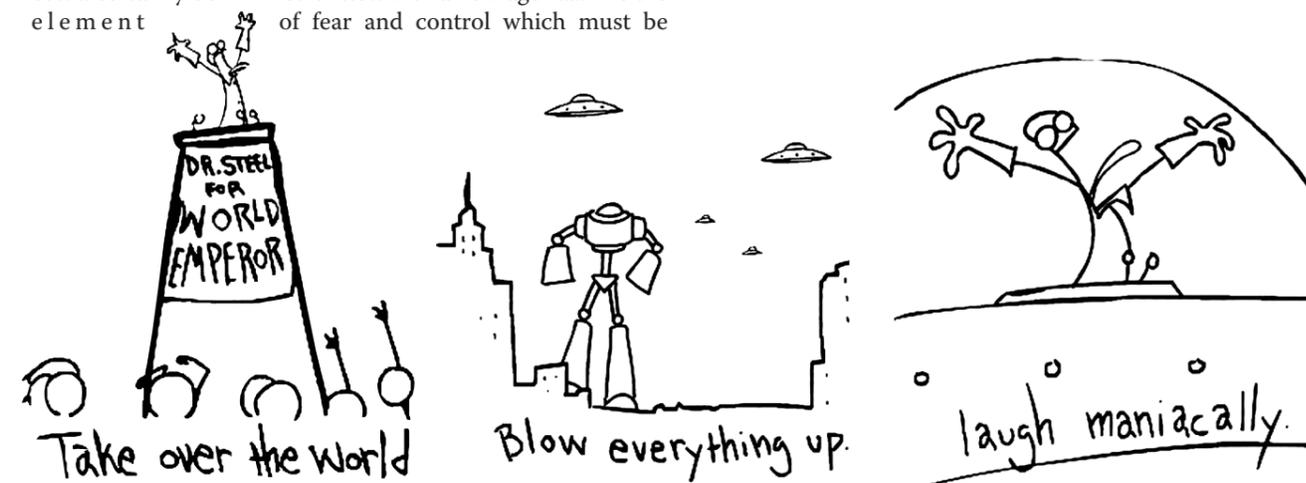
*Society in general considers it's aberrant members to be crazy, and steampunkers are often regarded as aberrations. As a madman, do you have any advice for those who have recently found that they're completely insane?*

Enjoy it. Embrace the madness and continue to look at the world in a completely different way. The perspective we have been conditioned to experience is only a widely accepted opinion based on misinformation created by the reality engineers whose aim it is to keep us under control.

*Thank you so very much, Doctor. And, so far, your famous last words have been "penguin" and "carnauba wax". Any others that you'd like to share with your now adoring masses?*

Ah yes, indeed. I would suggest spending at least five minutes each day hopping about like a chimpanzee if at all possible. 🦍

*Doctor Steel's work and aspirations can be found at <http://www.doctorsteel.com>*



# THE UTOPIAN PLAYGROUND OF *Dr. Steel*

interview by Cheshire S. Grin  
illustration by Dr. Steel

Your music has been described as "Hip Hop Industrial Opera" and "If Danny Elfman and Trent Reznor's music had a baby and it was raised by Ella Fitzgerald, you'd get Doctor Steel". An accurate description?

Ah, delightful. Indeed I am flattered by both descriptions. I rather enjoy demanding such eloquent and creative categorization, as I would never wish to fall into an existing genre of music.

If one were attempting to understand your influences, what works would you recommend, be they literary, musical, artistic, theatrical, or otherwise?

My influences are greatly varied as I find inspiration from many sources. Though might I suggest beginning to understand my madness by reading a biography on P.T. Barnum while peering over a model of Walt Disney's initial EPCOT design, listening to Pink Floyd's The Wall and running vintage cartoons in the background. You may also want to be wearing spaceman pajamas and a top hat while doing so.

The reason for your music and all your creative endeavors is to generate funds and recruit Toy Soldiers to help you to take over the world. Why quest for the title of World Emperor?

My vision for a world make-over would certainly be most easily attained with such a status. However, my true interest in becoming World Emperor hinges on the realization that

one creates their own reality. Once I became privy to this information—through a rather mystical experience involving a floating shape shifter from a parallel universe—I realized that one's power is great. From this I have set my sights above and beyond what the average human generally considers to be a "reality" and I continue to encourage others to do the same.

Fan art and flash movies among other things have sprung up in your honor. One of your more notable fans has even dedicated his wrestling career to you. Having been such a loner in your younger days, how has it been to suddenly get these accolades?

I do not consider these grand initiatives so much as accolades as a brilliant representation of what many of us are capable of when we are encouraged to do what we enjoy. Building a Utopian Playland begins with the vision to make fun the top priority. To see these creative minds bubbling with such vision brings me great pleasure. I have lived in this world, a world where our interests and creativity are smashed by a stifling System. To this I turn my back on such lack of vision and open my arms to those looking to create. I maniacally throw gasoline on the creative flames of my dedicated Toy Soldiers and I am honored to have been a catalyst to spark such smashing talent.

One of your calling cards is the delightful marriage of past and present. It's evident in your Victorian wardrobe constructed in modern materials to the jazz age style samples in your music and the wartime propaganda influence in your posters. Are you trying to usher history to repeat itself? Or is it more of a play on



are Gutters that, once cleaned, will lead fresh Water to your waiting water System.

If you are constructing a Dwelling of your own, far from the remnants of civilized Society, then consider building your Roof with Materials smooth, dense and non-toxic. Reclaimed aluminum Panels would serve your Purpose, as would soda Cans cut into Squares and nailed into place. Mud will also serve, but Thatch might attract Pests and Nuisances that may contaminate your drinking Water.

Your storage Containers, be they Barrels of Wood, Plastic, or Metal, ought to be covered at all Times to eliminate any Fear of Contamination. Every Pipe and possible Point of Entry for the dreaded Mosquito must be kept screened. Excepting, of course, the Faucet.

Snow is also a Form of Rainwater, albeit frozen, and can be gathered as well. Ten parts of Snow will yield one part Water. It is best melted in places other than your Mouth.

## GROUNDWATER

THERE ARE TWO PRIMARY ADVANTAGES TO GROUNDWATER. Firstly, there are the beautiful mechanical Pumps that may be gathered or constructed to suit your Purposes. Secondly, Groundwater is consistent and most often free of Contamination, having filtered through the very Earth itself.

There is, however, a major Flaw that Groundwater carries for our Purposes: it is notoriously, damnably hard to collect.

But can a Thing truly be considered a Flaw if it requires a percussion Drill to overcome? [see Figure 2-2] We fully endorse any Method of Survival that utilizes a Bicycle-driven Auger, as well.

Wells can also be dug by Hand, with Shovels, but we consider this to be a remarkably un-interesting method, and will merely suggest that the Sides of the Well be reinforced (perhaps with such recycled Materials as aluminum Roofing or metal Culverts!) and that Gravel is placed at the Bottom.

|                    | salt | Pathogens | gunk |
|--------------------|------|-----------|------|
| simple filtration  |      |           | ○    |
| commercial filters |      | ●         | ○    |
| charcoal filter    |      | ○         | ○    |
| storage            |      | ○         | ○    |
| boiling            |      | ●         |      |
| chemical treatment |      | ●         |      |
| solar disinfection |      | ●         |      |
| distillation       | ●    | ●         | ●    |
| rapid sand filter  |      |           | ○    |
| slow sand filter   |      | ●         | ●    |

Figure 2-1: a Comparison of various Methods of water Purification: note that a solid Dot is "very effective," a Circle is "somewhat effective", and a blank Space is not effective

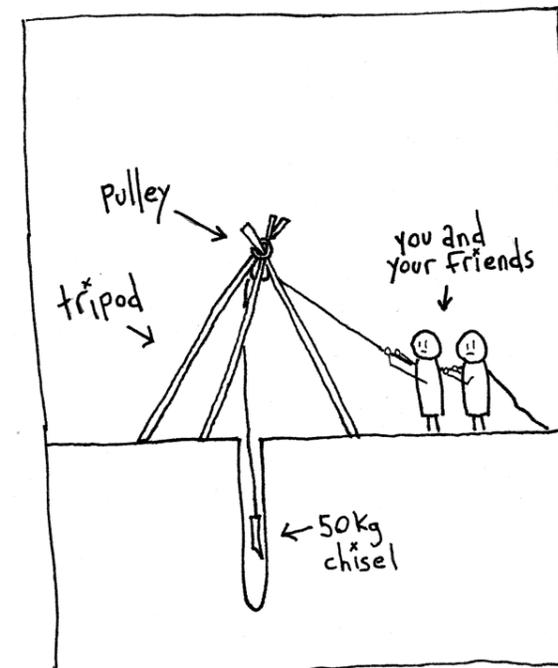


Figure 2-2: percussion drilling a Well

Great Care must be taken to avoid Death, as well.

Choosing where to locate a Well is an important Decision. The Trick is to dig or drill where the water Table is buried under quite little Earth, but where the water Table is deep. With these Considerations, your Well will not be unfathomably difficult to build, nor will it dry when the Rains and Snowmelt abandon the Land. It is best to consult hydrological Maps (and topographical Maps as well!). We suggest stockpiling Maps of your Area before the Inevitable occurs—purchasable in the United States as the "Ground Water Atlas of the United States" directly from the United States Geological Survey (USGS). If you procrastinate then said Maps might be recovered from government Libraries after the less informed and more violent Looters have made their way through.

## PURIFICATION

WHILE MOST CONCEPTS OF PURIFICATION ARE REMARKABLY negative and frightening—bringing to Mind such Monstrosities as cultural Purification!—the Purification of Water is an absolute Necessity.

**SIMPLE FILTRATION**

POUR YOUR WATER through your Handkerchief, and you will filter out most of the Dirt. This is a good first Step, and it will keep your other water Filters in good Spirits. [see Figure 2-3]

**COMMERCIAL PRODUCTS**

DUE TO THE drastic price Reduction that is ascertained to occur when the End comes, we highly recommend acquiring various commercial water Filters of the hand-pump Variety, and multiple replacement Cartridges. These Filters are lightweight, convenient, and safe.

**HOME-MADE CHARCOAL FILTER**

A SIMPLE GRAVITY water Filter can be constructed from an empty plastic Bottle, Cotton, and activated Charcoal [see Figure 2-4]. Activated Charcoal can be acquired from pet Shops for use in Aquariums or from Pharmacies, as it useful in counteracting many Poisons and Illnesses. It can also be created, although not with Ease. Charcoal is created by baking plant Matter in an Atmosphere devoid of Oxygen. In non-industrialized Countries, like what your Area will become, this was accomplished by burying the smoldering Wood. Activated Charcoal, however, is Charcoal that has been blasted by Steam or another source of Oxygen. Experimentation might find that it can be readily available as a Byproduct of the steam engine Process.

**STORAGE**

AS THE SUN rises and falls, still Water shall settle out Impurities. And Bacteria, deprived of their Host, shall die—four and twenty Hours ought kill about half their Number. A System of three or four storage Tanks may be utilized: keep Water in the First for one Day, the Second the next, following in this Pattern. Ascertain that the movement from one Container to the next does not disturb the Water.

We do not recommend that you store Water in any Receptacle that was previously inhabited by toxic Chemicals.

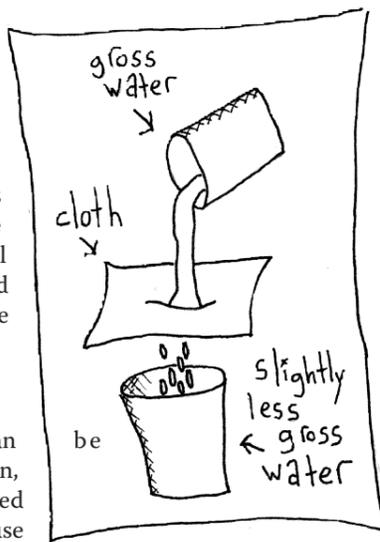


Figure 2-3: a simple Process of Filtration

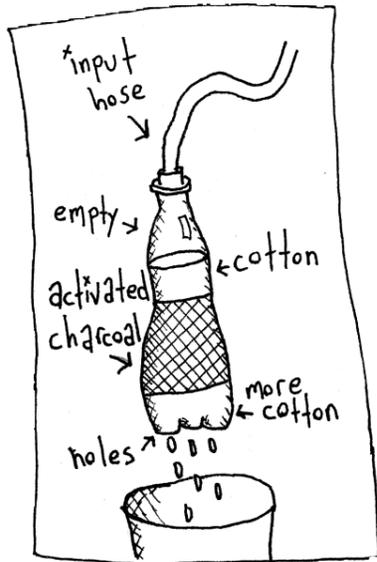


Figure 2-4: the Construction of a simple water Filter

**BOILING**

THE DREADED PATHOGENS that we fear can be brought to Death rather instantaneously by bringing water to a Boil, excepting high Altitudes, where a longer Boil may prove necessary; add one Minute's Time for every thousand Meters in Altitude. Strain the Water beforehand. While the Water is boiling, consider adding Herbs or the Needles of Pine to make an excellent Tea!

**CHEMICAL TREATMENT**

CHLORINE BLEACH HAS proved its Effectiveness in the Disinfection of Water. It has also been proven to poison the Body if used absentmindedly. Furthermore, even powdered Bleach has a shelf Life of only ten Years, so it is a stopgap Measure at best. To apply Bleach, determine the Composition of your Solution: if it is 1% chlorine, then apply ten Drops per Liter. 2-6%, use 2 drops. 7-10%, a single Drop might suffice. If your Water is cloudy, double your Dose. Let the Water sit for

Figure 2-5: solar Disinfection

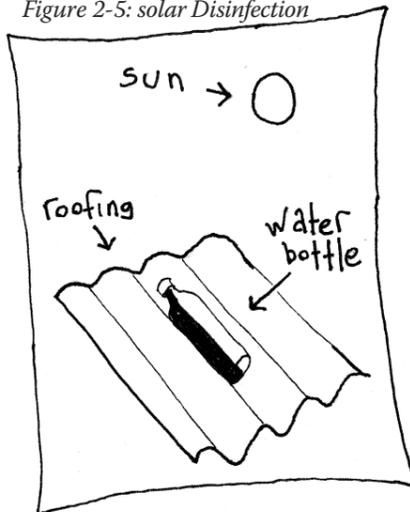
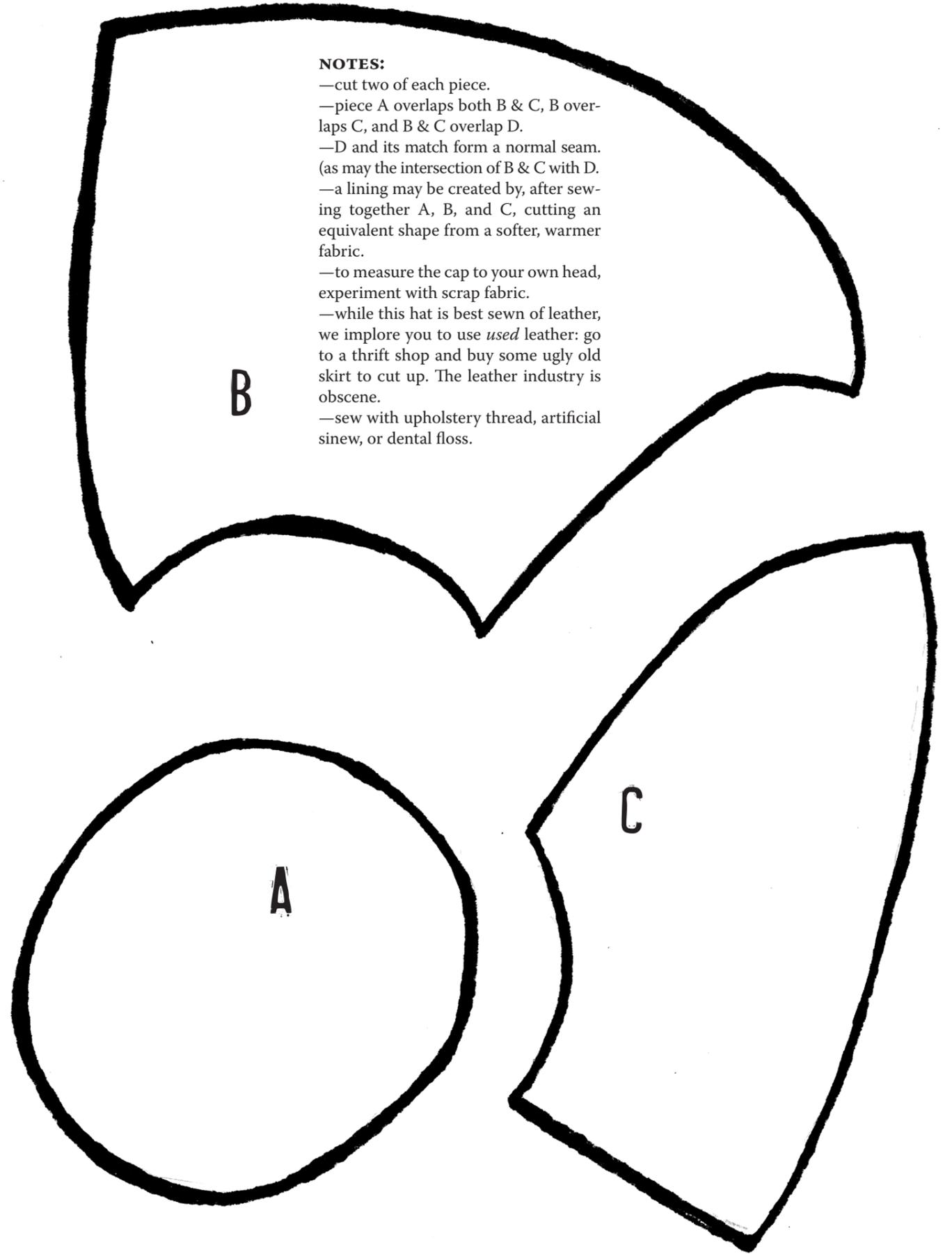
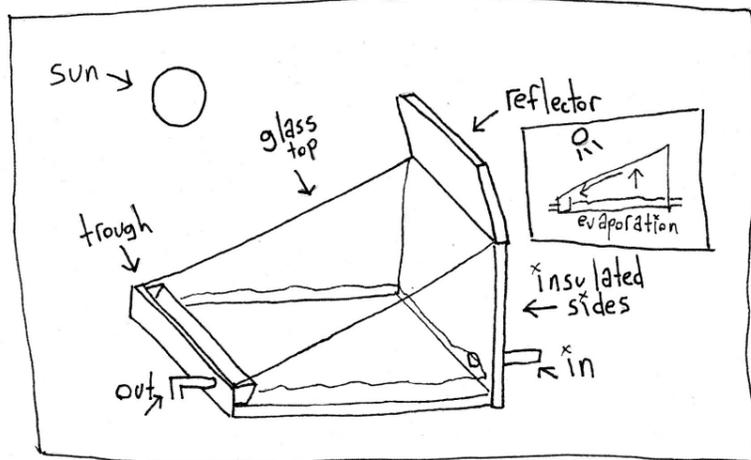


Figure 2-6: solar Distillation



**NOTES:**

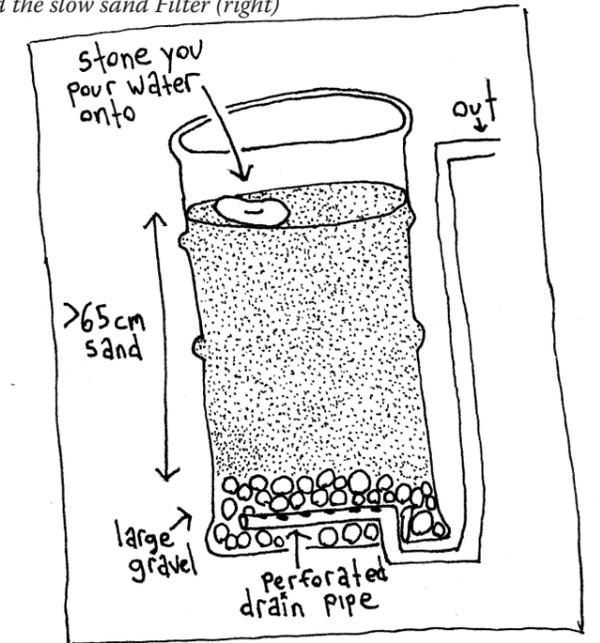
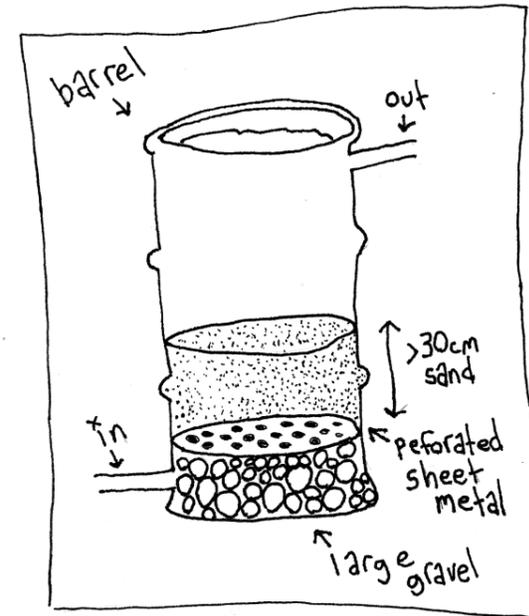
- cut two of each piece.
- piece A overlaps both B & C, B overlaps C, and B & C overlap D.
- D and its match form a normal seam. (as may the intersection of B & C with D.
- a lining may be created by, after sewing together A, B, and C, cutting an equivalent shape from a softer, warmer fabric.
- to measure the cap to your own head, experiment with scrap fabric.
- while this hat is best sewn of leather, we implore you to use used leather: go to a thrift shop and buy some ugly old skirt to cut up. The leather industry is obscure.
- sew with upholstery thread, artificial sinew, or dental floss.

# SEW AN AVIATOR'S CAP

by Juli(A)



Figures 2-7 & 2-8: the rapid sand Filter (left) and the slow sand Filter (right)



a half Hour and then smell it. If it smells of Chlorine, then you may drink it. Otherwise, repeat.

Aspiring Chemists will be excited to attempt a second Method, that of Iodine. Iodine Tablets have a poor shelf Life. Iodine Solution is viable, and readily available from first aid Kits. To use the solution, add eight Drops to one Liter of Water and let sit for fifteen Minutes. But to make your own iodine Solution, one need only obtain USP grade resublimed iodine Crystals, available from chemical Distributors or school Laboratories. Take a Pinch of the Crystals—up to eight Grams or so—and place them in a vial of approximately one hundred milliliters Volume, with clean Water. Never allow the Crystals to be exposed to Air for more than a single Moment, or they shall sublime to Gas. Allow this Solution to infuse more fully by warming it against your Body or in the Sun. Then use this Solution, but not the Crystals, to disinfect your drinking Water. The Crystals can be reused through hundreds of Cycles.

## SOLAR DISINFECTION

CLOSER TO THE Equator, where the Sun shines most fierce, Water can be cleansed by a Combination of solar Radiation and Heat. Fill PET plastic bottles—identifiable by a number one on their Recycling Code—or glass bottles with water. Paint one half black, and place them so they lie on their Sides on a reflecting Surface, such as Aluminum Roofing—available from scaffolds in most Cities. Leave the Bottles in the Sun for six Hours on a sunny Day, or for two consecutive cloudy Days. [see Figure 2-5]

## DISTILLATION

DISTILLATION—THE EVAPORATION and re-condensing of Water—is a very effective Method to use. In fact, it is the only Method that will remove Salt from Water. It is also a most beautiful Process, one that can involve much Ingenuity and

Contraption [see Figure 2-6]. Its great Flaw, however, is its own Perfection: essential Minerals are removed from the Water, the absence of which may have many detrimental Effects on the Body.

## SAND FILTERS, RAPID AND SLOW

DEAR READER, WE offer you the best overall Method, which we have saved for last: a two-pronged Attack, the sand Filter.

In rapid Sand filtering, Water is fed Upwards by the Marvels of Gravity, forcing its Way through Gravel (or ceramic Shards) and Sand [see Figure 2-7]. This rapid Sand filtering clarifies, but does not purify, the Water. Your rapid sand Filter needs to be backwashed near-daily if used often; which is to say that one must allow Water to flow through it in the opposite direction. This will clean your Filter.

To purify the Water, it is then run through a slow sand Filter [see Figure 2-8]. This marvelous Device utilizes a "Schmutzdecke"—a strange biofilm Matrix composed of Bacteria, Fungi, Protozoa, Rotifera, and Larvae that eat the dangerous Organisms that might infect you—to make Water potable. This Film can take about two Weeks to form, and the Filter should not be utilized before this Time has elapsed.

As the Seasons change, the Schmutzdecke will thicken excessively. This poses no Threat, despite the Snails, but it does slow the filtration Process. To clean your Filter, drain a few Centimeters of Water and then scrape off the top Layer of Sand. Wait another two Weeks to get your Schmutzdecke back.



### CHAPTER THREE: ASSESSING THE BOUNTY OF NATURE AND RUIN

*While those of the upper Classes might lift their Noses at the Thought of disturbing the precious Laws of Property, those of us in the working and middle Classes understand what Times most dire may necessitate.*

*I mean not to mince Words. The greatest source of Resources available after a societal Collapse will not be our dear, over-taxed Earth. It will be our existing and immediately antiquated Institutions. Everything will be available. The Following are simply some Examples of where to look.*

#### **TIMBER**

THE MOST IMMEDIATE SOURCE OF TIMBER FOR CONSTRUCTION IS waiting outside your Doorstep. No, it is not the Tree in your front Yard. A Motto to remember: “not one Tree until every Lamppost is down!”

The dismantling of unused Buildings is also encouraged, for the myriad Supplies and for the increased land Area within which to construct Gardens.

For thick Columns, might we suggest ambulating down to the railroad Tracks and removing several of their numerous Ties. However, owing to their treatment with Creosote, railroad Ties are best left unburned, and are not suggested for use in the walling of Gardens.

a knotsmith. I found her easy enough—Spondee is tall and mannish-built—but spent a long while loitering, looking for my courage. I am so poor at conversing! Not so Spondee, for she shot me a narrow glance and stalked right over, demanding my business on the docks. Certain I seemed a halfwit for I feared to speak her name aloud, but [section lost: *flaw in wax surface*] managed to convey with gesture and lipshaping that I worked in Della’s smithy. Spondee’s eyes flew wide at that. She hissed me silent, grabbed my hand and stalked the length of the nearest pier, pulling me stumbling behind her.

At pier’s end, with only ships’ timber and hull-iron and a few wheeling sea-birds to eavesdrop, a fire-eyed Spondee favored me with crypticism:

“You’ll find [section lost: *flaw in wax surface*] railyard at night, in the broken glass among the cinders.”

Her eyes went flat and cold, and then she stalked away, leaving me shivering in the rank, oily spray of the sea. I thought, I could dance I was so full of joy! Della must be hiding in the railyard somewhere, and I count the days until I shall go and find her.

As soon as Lundy and I have repaired the clockwork hand, I shall take her a lamp, beckon her forth from the dark cavern of madness, if mad she be, with the crook of a shining brass finger. ⚙️

*Archivist’s note: The cylinder diary ends here. It is well-documented fact that Fardelle “Della” Dicely possessed only nine fingers, having lost one to an accident in her youth, but she was never known to wear any type of prosthetic. Though multiple sources recount “Della” Dicely’s return to the Hollowland and her subsequent coup to overthrow Nonnahee domination and emancipate the Four Peoples, the fate of Vick Flinders beyond the scope of these recordings is unknown.*

around with the odd little thing until he coaxed it back to life.

I'll never forget the night he brought it to me, showed me the means by which it worked. There was the machine, hunkered on our rustic table, and there was Lundy, grinning like a new father as he produced a brownish waxy tube, held on the spindle of his own two fingers. He cranked the handle, placed the cylinder on the mandrel, positioned the reproducer, and set it a-running. I couldn't believe my ears when, out of the mouth of the machine, came Lundy's voice:

"Please know this, love: I taught these gears to speak that they might convey the contents of my heart. You have all of it, always." Then the machine laughed in Lundy's peculiar arpeggio.

I stood there, my jaw hanging open, catching flies. Lundy's laugh came echoing out of his own mouth and I, too, couldn't stifle my... oh dear, I've digressed a whole cylinder away.

Trifles aside and I must rush to the point: today Lundy brought home a mechanical hand.

*Archivist's note: Though this diary entry at first may seem spontaneous, the voice that speaks the dialogue of Lundy Flinders "through" the machine is in fact that of Flinders himself, leading this scholar to believe that Vick Flinders planned the entry in advance and coordinated its recording with her husband. An alternative possibility is that Flinders replicated the wax cylinder recorder in toto, and Goodwife Flinders utilized a second phonograph to play Flinders' original recording on cue. The clarity and volume of the dialogue however leads this scholar to discount that hypothesis,*

#### Cylinder 4

IT IS NOW several days since, as Lundy and I like to say, the Advent of the Palm, and oh! More to relate!

The poor hand, as the ticket-press and phonograph before it, arrived a wretched mangled thing. As per usual, Garl is the means of its shady deliverance; but I don't care if he stole it off a one-armed Nonnahee while he slept. Looking upon it fills every twitching corner of my mind with soft light and cool salve. Lundy has been tinkering with it each night since, well into the wee hours, and I, though I have no head for contraption, help him with what tasks I may—matching cogs from his collection to the broken ones he extracts and cleaning those he salvages intact. I do not shirk from elbow-grease, no, not I, diligent Vick.

Lundy's prognosis is grim for the sad twisted mitt, but he is often a raincloud to my sun. He claims preference of the shadow's view, but truth-told he is buoyed by my brightsiding. I knew the moment I clapped eyes upon the little wreck, if any tale of the world is written by any people's gods, Garl was meant to give that hand to Lundy, and Lundy is meant to make it work again.

Oh, but I cannot keep it to myself: I have news of Della Dicely!

Hap I may have been too bold, but yesterday after half-shift I went to the dockyard, where Della's sister Spondee works as a braider and

For raised Beds, the Sort on which you might opt to sleep, it will be quite easy to accumulate the packing Pallets that litter our Society in Numbers most unfathomable.

## METALS

WITH THE SEVERE and unfortunate population Decrease that will follow any apocalyptic Disaster, Metal will no longer be a scarce Commodity. Aluminum, lightweight and durable, can be gathered readily from the various Signposts and Lampposts around town. Steel I-Beams, for construction, are found in most every Building.

Ugly public Sculptures are often built of useful and beautiful Materials such as Copper or Bronze, and it is highly recommended that the Cityscape be improved by their immediate Removal and re-use.

Scaffolds are often composed of remarkably useful support Poles and equally useful corrugated Aluminum. Chain link Fencing may be cut and shaped into a lightweight Armor effective against many slashing Weapons.

For the rural SteamPunk, the crash Barriers that line curved Roadways are most often built of Steel.

Gold, suddenly near-useless, can be acquired in the form of Bullion from Vaults—although there will most likely be Fools still enamored by its past Value—and can be hammered thin to plate the insides of satellite Dishes for the purpose of intensifying the Heat of the Sun.

Why, with all of the Metal sitting on the Surface of the Earth, I will be surprised if Humanity needs ever mine again!

## FABRICS

OUR CULTURE IS up to its Neck in T-Shirts, but there are other Fabrics more interesting that abound if you know where to look.

Huge Swathes of Leather are available as close to you as the nearest furniture Store, and Leather makes an excellent, hardy addition to any Wardrobe. What's more, some thicker Leathers can be stiffened by means of hot water Immersion [see Figure 3-1] and constructed into Clothing more protective. Leather is also available from Outlets and Manufacturers, of course.

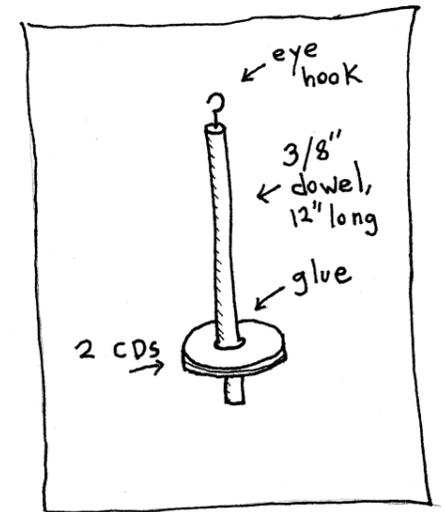
Synthetic fabrics are an excellent alternative to Cotton in that they, like Wool, retain their insulating Properties while wet. Their most serious Drawback is their Tendency to melt into the Skin when exposed to Flame.

Fire-resistant Clothing, however, is available in so many different Forms. Firefighters, racecar Drivers, and Welders all have specialized Clothing that you might want to tailor to suit your Needs.



Figure 3-1: the hardening of Leather

Figure 3-2: a simple Spindle for the spinning of Yarn



Yarn, to be knit and crocheted with Needle and Hook, may be manufactured quite readily from many different fibers [see Figure 3-2]. Everything from human Hair to the wool Stuffing that fills futon Mattresses may be transformed into the warmest of Clothing.

Bicycle Tubes, removed from their Tires, may be cut up for thousands of different Applications. They are remarkably useful for tying various Objects together and for strapping Objects to Carts.

## TOOLS

EVERY STEAMPUNK KNOWS that access to Tools and raw Materials is worth far more than a finished Product. We can manufacture Things ourselves to suit our immediate Needs, and engineer Devices most fitting to the Situation at hand.

Welding Supplies will become quite valuable rather quickly, and it will be best to stockpile as much Fuel as possible. Welding supply shops abound. If you are to attempt to scavenge resources from retail Stores, then let the Hardware store be your first Stop.

Power Tools can be retrofitted to be powered by steam Engine, Bicycle, water Wheel, foot Treadle, or Windmill [see Figure 3-3].

## CARS

THE PERSONAL CAR, that infernally-combusting Dinosaur that has wrought its own End, may be taken herein as an excellent Example [see Figure 3-4]. An Automobile may be stripped of the following Resources, at the very least: the Seats, to serve as Furniture; the Springs from the Shocks, which are an excellent steel Alloy that will feed your Forge indefinitely; there are Mirrors, of use for Grooming, Signaling, and optical Contraption; the Windshield, of tempered Glass, that may be used in the Home or Elsewhere; the Body of the Car can be converted into Shelters either makeshift or permanent. The Seatbelts are comprised of Webbing most versatile and durable.

And then there are the Tires. Tires are an industrialized Nation's greatest unnatural Resource. Older Tires, those that are not steel-belted, can be cut apart to make Sandals. Any

Figure 3-3: a Bandsaw powered by foot Treadle

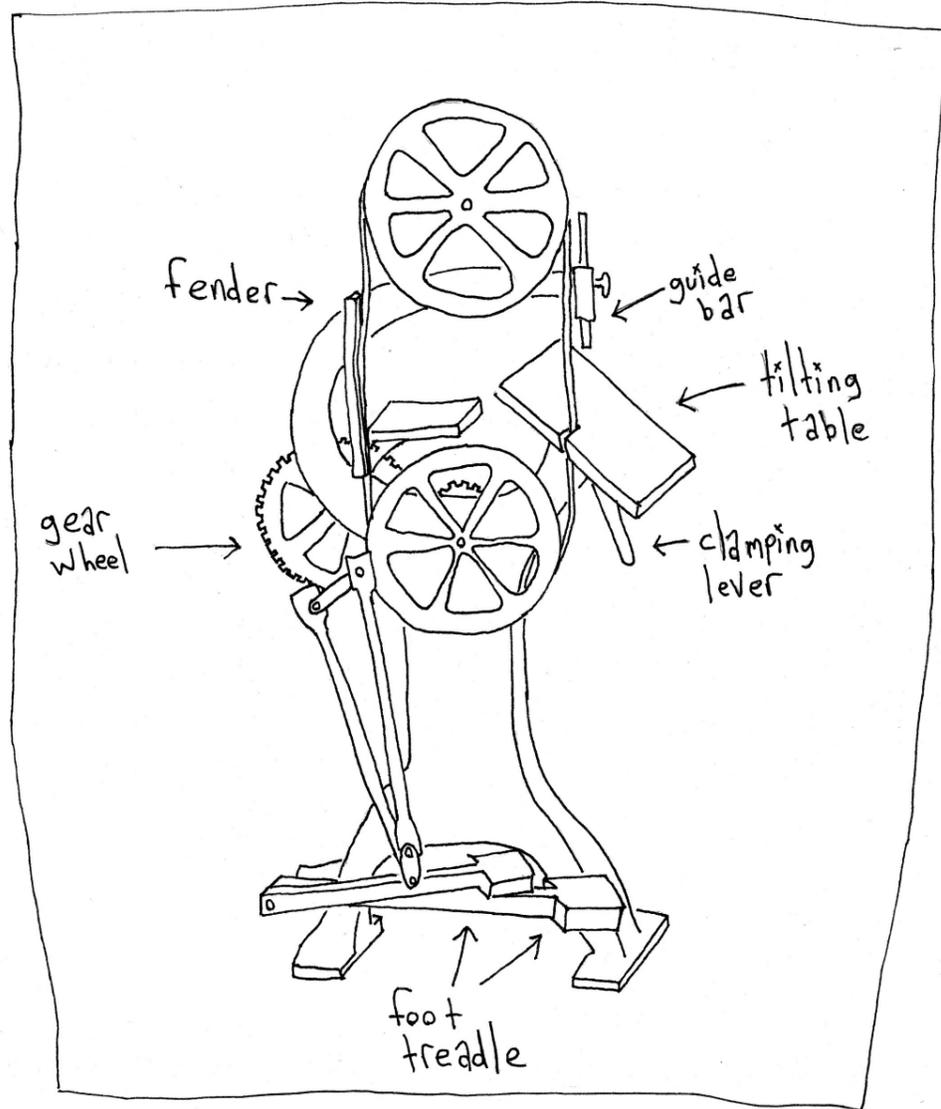
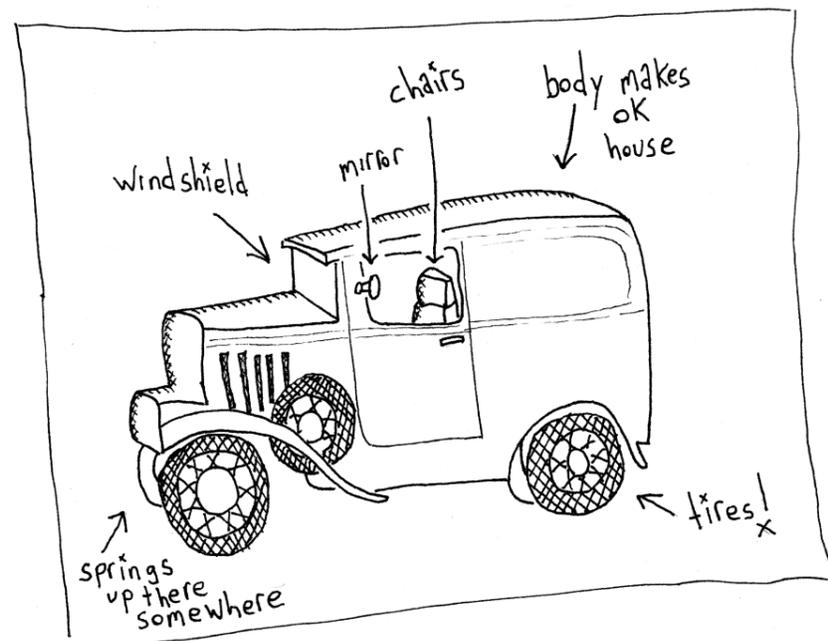


Figure 3-4: a few of the various Resources that one might plunder from an Automobile



though made neither sound nor weepage until the foreman cauterized the tiny nub with a fire-iron; then she screamed but good, and then the tears came, big and trembly.

"No, Vick, no guilt," she said. "It was not your fault."

That Della could say a hundred-thousand times, but it would always be a lie.

*[three-second pause in the recording]*

Two weeks in the shop without Della have seemed two years at least, mayhap two lifetimes, as we've not only lost her skill and turnout toward the workload, but we've lost her stories as well. Me, I haven't a head for spinning of yarns and no matter—that lies in the province of talekeepers. Della, she's talekeeper for Dicely Clan.

Della knows more tales than hairs on a hide fresh-skinned, and not just Dicely Clan stories neither, nor just those of our people, the Nicquossee. She even knows Sallagee legends and Geriyan epics and oh! Great Builders, but I love the tales she tells of the Lunjinfolk. (She learned those from Dantsy Clan, some first-hand from Jack-a-Ron himself!) I never thought about how swiftly passed our days when the work sped through the machines in the nimble hands of Della's stories, but now she's gone, the melody and rhythm of her tale-telling has been replaced with naught but the steady repetition of chunking machines, their whirring flywheels and laboring treadles punctuated only by the occasional startling arrhythmia of an explosive burst of let-off steam. Our minds are left to occupy themselves, and mine seems only able to caper and slog an ever-tightening spiral around the central figure of lost, mad Della.

I miss her.

In her presence, I, dull Vick, shone with reflected light.

### Cylinder 3

TODAY THE WORLD has changed.

My world has changed, at least, for today, my goodman Lundy brought home a piece of godwork, a contraption that has sparked in me a fire, for it flings wide a door that leads to my salvation!

My Lundy's a manufactory—he assembles small machines that do breadbasket-sized tasks

in a shop equal-scale of our smithy. He doesn't design the machines, only puts them together according to schematics drawn by the Nonnahee engineers. (The Nonnahee would never allow us to create abstractly, not in any official capacity.) But Lundy, he's a bit of a secret contraptor, bringing home broken parts of things salvaged from the refuse, which is of course forbidden, trashpicking is, but he's friendly with some of the rustmen and slagworkers at the manufactory, *[section lost: flaw in wax surface]* other way when he pockets a broken flywheel or a crushed oilcan. He's a good fellow, Lundy is, and careful about keeping his bricolages hidden from Nonnahee eyes, so I don't begrudge him his devotion to tinkering; it trumps a fleshly mistress certain.

Twice before Lundy's brought home nigh-fully-functioning machines gifted to him by Garl Spitshine, his particular slagman friend. In what repugnant rotting heap or chemic sludge Garl finds them, I don't know and do not wish to; I fear perhaps he steals them, and I prefer to remain ignorant of that for true. I only know the glee they bring my dearheart Lundy, and, admittedly, a-times myself as well.

The first such contraption was an odd thing with a crank and a stamper-plate and a drawer of tiny lead shapes, neatly arranged. Lundy replaced the bent crankshaft and showed me its true purpose: printing small paper tickets with words in the Nonnahee language. What use this is to Lundy is a mystery to me—he cannot parse the symbols, but he does love cranking out reams upon reams of those gibberish-tickets and I must admit, there is some satisfaction in building up a rhythm turning its crank, watching the little papers move through and emerge with their rows of neat marks. We burn them—often before their ink's dry—for fear of their discovery.

The second such requisition ran off with my heart, however—the device upon which I set down these thoughts: the wax cylinder recorder. It was housed in a splintered wood case (replaced by Lundy), the gears inside missing teeth like oldsters. Its horn was crushed, its mandrel bent, the stylus crumpled like a stomped reed. As with the ticket-printer, Lundy scavenged and repaired and fiddled

Not me though, I'm as dull as the dishwasher. I just keep my head down and my shoulder to the wheel. Jack-a-Ron Dantsy aside, I'm not much for the high geometry of custom work, even for [section lost: *flaw in wax surface*] sit with a stack of stock patterns, bags and pouches and spannermen's toolbelts, and crank them on out. Leathersmithing, it's hard work, but we're grateful for it. Beats other work, that's for true; at least at the end of the day I've got a pile of things I've made, me with my own hands. What can the railman say, or the stoker? He's moved cars around the yard, shoveled how many piles of fuel? Necessary jobs, honest work to be sure, but I wonder: for the railman, for the stoker, where's the satisfaction in it? Or perhaps they need no sense of accomplishment in their work, care for none. It's possible; but me? Give me leathersmithy any day.

*Cylinder 2*

THEY TELL US we're at the bottom of the chain of progress, leathersmiths, working with hide instead of metal, but Della, she figured out that was a lie. That's something she told me before she ran off to wherever: *We ain't the bottom at all. We're an integral part of the cycle.* We make the leathers that protect the welders that build the machines that form the basis of the world of the Hollowland. And what do we use to make those leathers? Machines. And what must the welders have in order to build machines? Our leathers, to protect them from the flying slag and swarf. We may be small cogs, but remove even one tooth of one gear and the machine won't run properly. We, Della told me, are *important*.

I've been a leathersmith all my life, ever since I was tall enough to reach the foot-pedals of the stitching machines. Even before that, [section lost: *flaw in wax surface*] belting through a strap-cutter, finished ornamental edges with the crank-pinker, and traced out patterns to be cut upon hides with bits of colored wax.

It was as a youngling learning the trade from Della that it happened, that which I can never myself forgive, the horrible happenstance that rendered me forever in her debt, [section lost: *flaw in wax surface*] chasing the smoke of atonement.

Hap you ever to see a strap-cutter? It takes two working in tandem to operate, and I worked it that day partoned to Della, both of us green young things but I far the greener stripling. She was showing me how it worked, what my business was and what was hers, when the accident happened. She had the blade and I the hide, and as she pulled the cutter-handle toward her, slicing through the leather so swift and smooth, I got excited and gave the hide a quick little tug, a fillip that sent the cutter through the end and oh! Her hand was caught and the world swung round and I tasted the bile of horror at what I'd done.

At first I cried far more than she—so much blood on the floor and the sight of Della's finger lying there like some cave worm grubbed up from the depths. It shook my teeth a-rattle and no mistake. Della

Tire will make an excellent raised bed Planter, or can be stacked for Compost.

A Word of Warning: clipped on to most Tires are small Weights composed of Lead. It is best to wash your Hands thoroughly after handling Lead.

**BULLETPROOF GLASS**

BULLETPROOF GLASS—WHICH ought to be referred to as bullet-resistant Glass—is a remarkably useful Material for use in the construction of Defenses, as it can resist most small arms Fire. It is still unadvised to stand directly behind the Glass when it is being fired upon [see Figure 3-5].

Bulletproof Glass can be acquired wherever the threat of Robbery is considered eminent. Specifically, it can be found in Banks, Police Stations, and many Restaurants and convenience Stores in derelict Neighborhoods.

**PLASTIC BOTTLES**

EMPTY PLASTIC BOTTLES can be applied to Thousands of Ends. Boats and Rafts have been built. The Plastic can be used as Water Proofing. Partially filled, you have a Lens with which to collect the Rays of the Sun and create Fire. Keep Water in them. Plastic Bottles can be cut to form Scoops, Dishes, and Funnels [see Figure 3-6]. In fact, the only Drawback of Plastic is their ugly Reminder of a Past we hope to forget!

**STYROFOAM**

STYROFOAM—THAT UGLIEST of modern Wastes—can be utilized both as insulation and in the construction of Napalm, and can be gathered most readily from the many Packages that shall abound amidst our rubbish.

**BOOKS**

IT IS AN unfortunate Truth that there might be very little Time for leisurely reading in the immediate Aftermath of Collapse. But regardless, there is a near infinite Wealth of Knowledge captured for us in the written Word, and it is quite advisable to gather a vast Library of instructional Materials. Furthermore, when the Scoundrels die back and the permacultured Gardens bear Fruit, there will be ample Time for the perusal of the fantastical Voyages you may find between the cloth Covers of a good Book.

Books are, of course, available most readily and in vast Numbers at the Libraries of our existing Society, and it would be well advised to save them from the starving Person's torch. Do not forget the collegiate Libraries, which may well be stocked with rare and important Volumes.

The major chain Bookstores, unfortunately, will continue to disappoint, even after the drastic reduction in Price.

**MANUFACTURERS**

IT IS CONSIDERED sage Advice to know what sorts of Goods are manufactured locally, because manufacturing Plants will be the ideal Location from which to gather Supplies.

**FROM THE HOME**

LEST US NOT forget that our Neighbors, in their Haste to escape the City, will leave behind everything from propane-fuelled Barbeques to Refrigerators, from Books to Timber. ⚙️

Figure 3-5: the Composition and incorrect Usage of bulletproof Glass

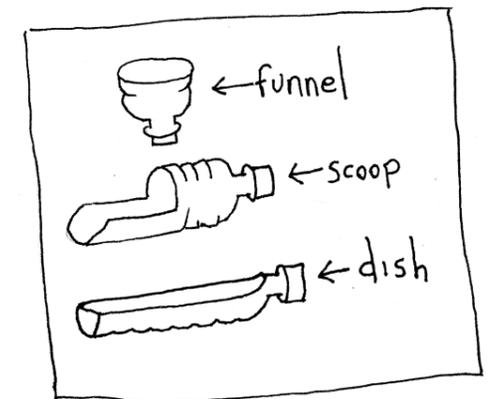
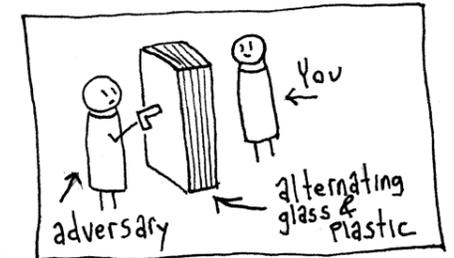


Figure 3-6: various Tools that may be carved from plastic water Bottles

# FIVE BUTTON SPATS

written and illustrated by Rachel E. Pollock



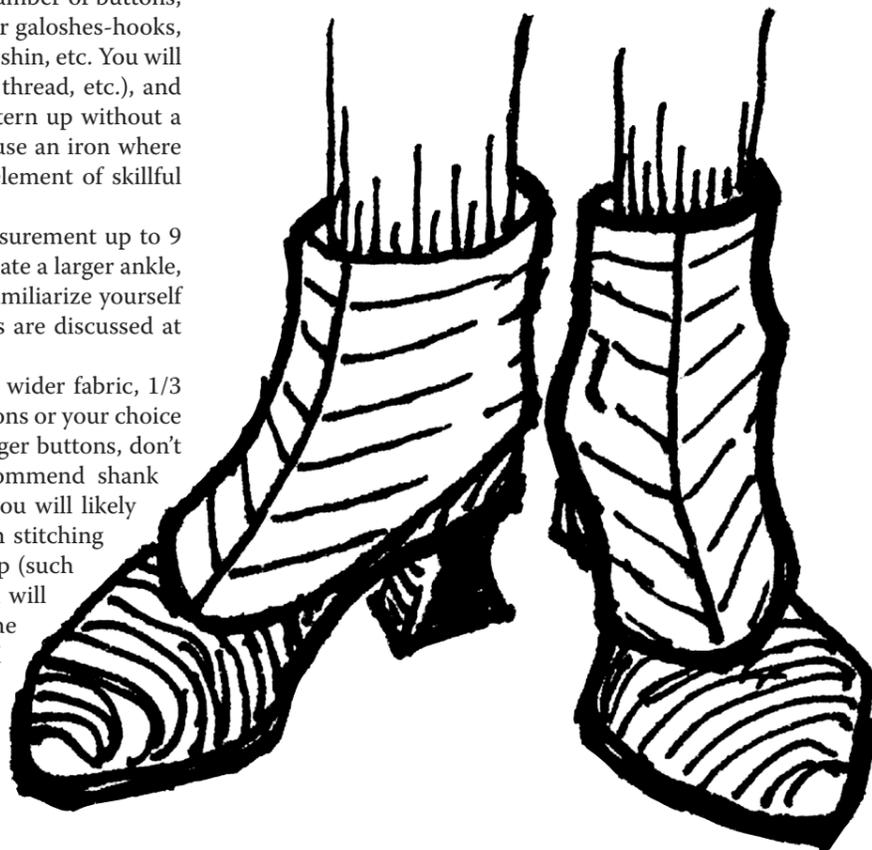
A QUICK AND FAIRLY EASY PATTERN FOR A COMMON accessory suitable for both ladies and gentlemen: spats!

“Spats” is a shortened form of the term “spatterdashes,” which alludes to their original function: to protect the wearer’s shoes and shins from spattered street muck. I developed this pattern with reference to two resources: the *Tailor and Cutter System* published in April of 1890, and the *Cutter’s Research Journal*, Summer, 1989. Unfortunately these resources came from unattributed photocopies which I found in a drawer of old patterns in a house in rural Utah, so the original authors of the articles are unknown to me. Whomever they were, I am grateful for their contributions.

This pattern presumes a basic familiarity with sewing conventions, though it shouldn’t be too hard for the careful and diligent beginner. It is for a fully-lined pair of above-ankle spats with a five-button closure, though the skilled stitcher may alter it according to her/his wishes: double the number of buttons, replace them with a zipper or laces, snaps, or galoshes-hooks, lengthen it at the top to reach further up the shin, etc. You will need standard sewing equipment (scissors, thread, etc.), and while it is entirely possible to make the pattern up without a sewing machine, I do strongly suggest you use an iron where directed. Proper pressing is an invaluable element of skillful sewing.

The finished spats will fit an ankle measurement up to 9 1/2”. If you wish to make them to accommodate a larger ankle, read through the directions completely to familiarize yourself with the means of construction—alterations are discussed at the end.

The pattern requires 1/3 yard of 45” or wider fabric, 1/3 yard of 45” or wider lining, and ten 3/8” buttons or your choice of alternate closure. If you choose to use larger buttons, don’t forget to lengthen the buttonholes. I recommend shank buttons; if you choose to use flat buttons you will likely need to make thread-shanks for them when stitching them on. If you are using a fabric with a nap (such as velvet) or with a directional pattern, you will need twice as much fabric: 2/3 yard. The pattern is drafted for woven fabrics, though I reckon they could just as easily be made up in a stretchy knit and the closures foregone entirely.



REFLECTED LIGHT  
by Rachel E. Pollock  
illustration by the Author

*Nicquossee Artifact Collection: Vick Flinders record diary, wax cylinders 1-4  
Reference subject: Fardelle “Della” Dicely*

*Archivist’s note: Cylinder condition is denoted “fair,” as some minor scratches have obliterated short sections (3 seconds or less) of playback quality. Cylinders will be demoted to “degraded/discard” status after 10 known playback instances. Please confine perusal to attached transcript unless granted playback permission by sanctioned government agency. Current number of known playback instances: 7.*

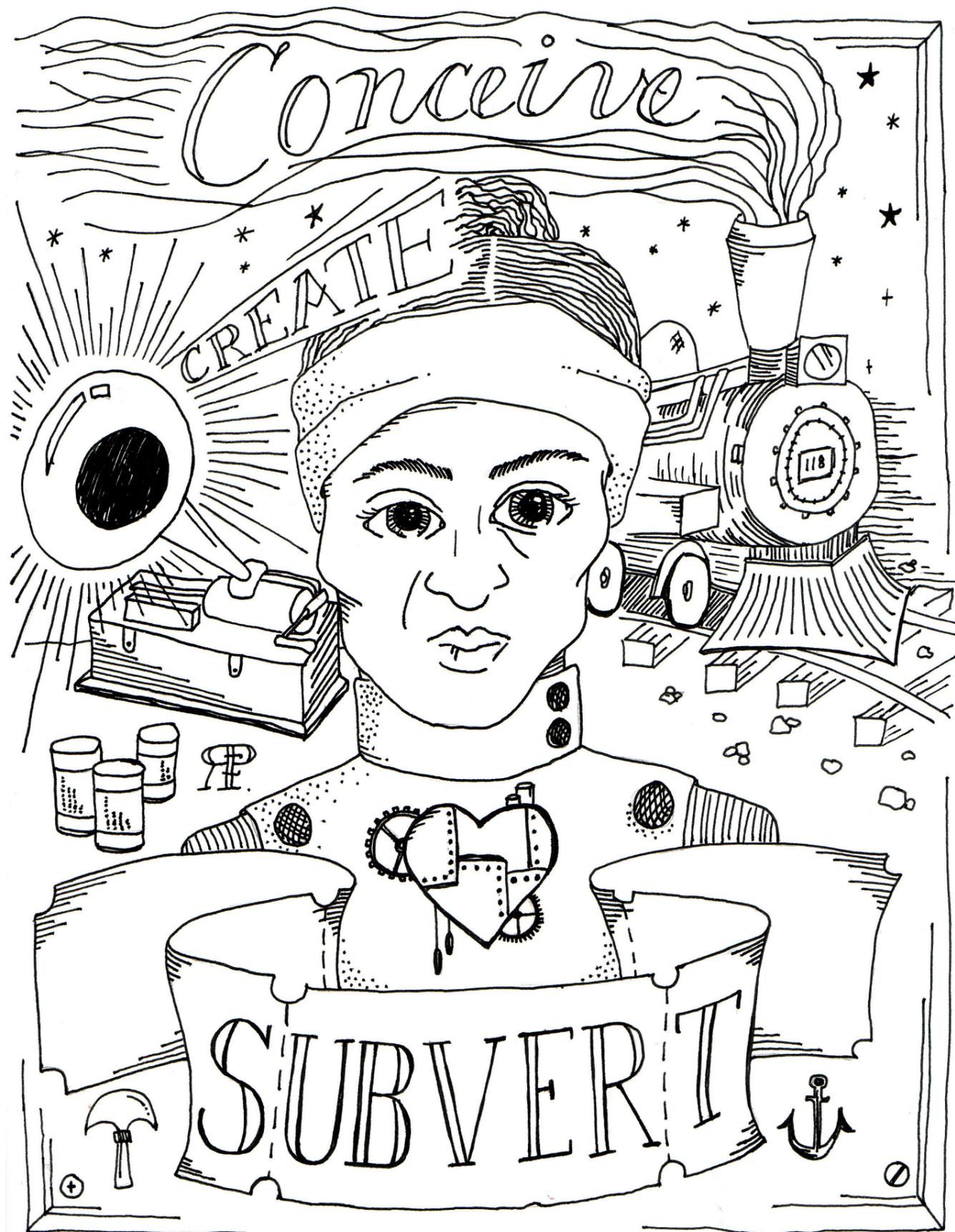
*Cylinder 1*

THEY SAY DELLA DICELY’S RUN MAD. UP AND WALKED OFF the job two weeks past and none know whence she’s gone. Nobody’s ever walked off the job, not in our shop, not that I’ve ever heard. They say when she returns, if she returns, Nonnahee’s set to kill her slow. Puts my mind at unrest, that prospect.

Me and Della, we worked side-by-side in this smithy since we was wee younglings, she a piece longer than I. I don’t know as I’d call her friend; don’t know if Della rightly has friends. Don’t know as any of us do. Perhaps she’d be my comrade, my collaborant or fellow or helpmate... something indicating the closeness grown by common labor, the community of the machines.

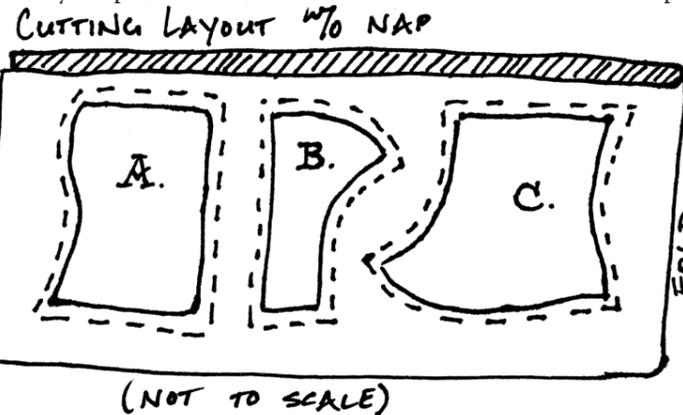
See, me and Della... But now I reckon I ought to say only “me.” I’m a leatherworker; not a carcass-skinner nor a hide-scraper nor an oil-tanner, but a leathersmith proper. I assemble the hides into whatever is requested each morning by the Nonnahee jobman—mostly working-gear. I make toolbelts and knife-sheaths, heavy gloves and cartage pouches.

Della’s favorite thing to make was the welders’ leathers—long-sleeved backless shirts and the front-sides of trousers, customized exact to fit the bodily shapes of the men and women they protected. Some say she was the best in the business, and I believe it. Would you feature? Jack-a-Ron Dantsy himself brought his entire gang of welders in, had Della kit them all out, even he himself! Jack-a-Ron Dantsy! I like to have died just to cower in the corner of the same room as the man, but Della? No sir. Walked right up to him, shook his hand just as cool as you please—*shook his blamed hand!*—then whipped out the twine and began to measure him off. She’s got brass, Della does.

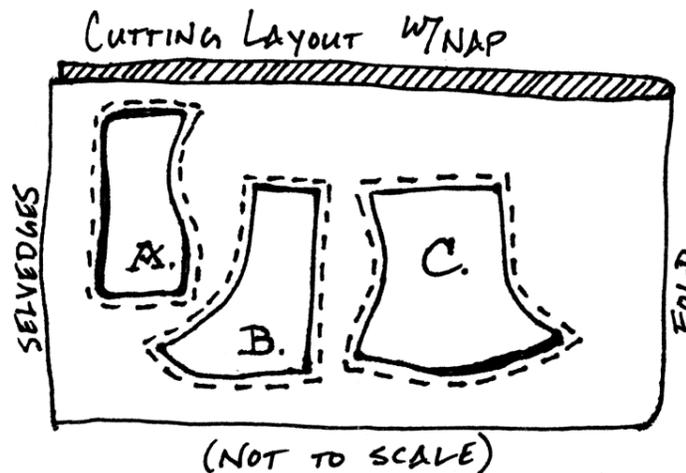


Remove the page containing the pattern from the magazine and cut out pieces A, B, and C. These are your three pattern pieces and have *no included seam allowances*. You will need to *add seam allowance around the edge of the pattern when you trace them onto fabric and cut them out*. Commercial patterns often have a 5/8" seam allowance included, so if you are used to sewing with commercial patterns, you may wish to add 5/8" to all sides. When working on a small garment like this, I prefer a smaller seam allowance: 1/4" or 3/8".

Lay the pattern out on the fabric thus:



If you are using a fabric with a nap or directional pattern, you will need to lay it out thus:



Cut out your pattern pieces, making certain to note the position of the notches and closure placements and paying attention to the grainline arrows. There is a single notch on the center front (CF) seam, and a double notch on the center back (CB) seam, as well as two single notches on the button edge of pattern piece A. The grainline arrows indicate which direction your straight of grain should go—this means, they run parallel to the selvedge edge of the fabric. (If you are confused about this, google or wiki it—grain orientation is important to the construction of a garment and if your spats are cut off-grain they may turn out woody and fugly-looking.)

Stitch your CF and CB seams for both your fabric pieces and your lining pieces. Clip the curves—slits for concave curves and pie-slices for convex ones—and press the seam allowances open. You will then have four vaguely-spat-shaped things.

Now is a good time to put on a pair of shoes and check for fit; you can pin one on along the button markings and get a rough idea of how it will look when finished. If it's too big or small, don't worry! Alteration suggestions follow at the end.

Pin each lining to each fabric spat, right sides together, matching seams. Stitch them together around the outside edge, beginning at one end of your notched-opening on the button edge of pattern piece A and continuing all the way around to the other. You will now have two inside-out lined spats, each with an opening of around 4" along the button-end. Again, clip and notch your curves, then turn the two spats right-side-out and press them flat. Sew the openings closed using the stitch of your choice: slip-stitch by hand, or run a narrow top-stitch by machine, or whichever other means you desire.

Put in your buttonholes, sew on your buttons, and voila! You have a natty new pair of spatterdashes!

*Alterations suggestions:*

—You may wish to topstitch around all edges for stability or aesthetic reasons.

—If you wish to make unlined spats, I recommend French seams at CF and CB for a nice interior finish.

—Should you desire a stirrup-strap to hold the spats down firmly to your shoe, you may wish to stitch it in the appropriate place before attaching the linings to the fabrics.

—To accommodate a larger ankle, you will need to add circumference to the ankle opening. To take the pattern in for a smaller ankle, you will need to subtract it. The easiest way to do this is to slash pattern pieces A & C from top to bottom down the axis of the grainline arrows. For larger-ankle spats, add equally to both sides (i.e., if you need to add two inches to the circumference of the ankle, add an inch to the slash in pattern piece A and an inch to the slash in pattern piece C). Or, if you really want to get fancy, slash piece B as well and add 25% to piece A, 25% to piece B, and 50% to piece C. For smaller-ankle spats, subtract from the slashed pieces in the same manner.

If you intend to alter the pattern, I recommend first making a "mock-up" of it in some crappy fabric to test your alterations before cutting into your fashion fabric or lining.

TURN THE PAGE FOR THE PATTERN!  
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