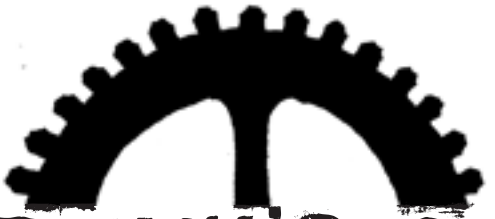

A STEAMPUNK'S GUIDE TO THE APOCALYPSE

SECOND EDITION
REVISED AND EXPANDED

MARGARET KILLJOY
COLIN FORAN
PROFESSOR CALAMITY

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, 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."

It seems as though no Book may be published without a healthy Disclaimer. This is ours: Many of the Activities discussed within this Book would be illegal if practiced within the Borders of a Nation of Law. We have not provided you with a List of which Activities are legal or otherwise. Further, the Author of this Book has never survived the Apocalypse. Further still, much of this Information is second-hand. This Book may be considered a mere Introduction, a philosophical Rant, or an abject waste of Time.

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Paintings by Colin Foran

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Introduction: *Community Disaster Response* 4

Chapter One: *Whither & Weather* 7

Chapter Two: *The Accumulation, Filtration, and Storage of Water* 13

Chapter Three: *Assessing the Bounty of Nature and Ruin* 21

Chapter Four: *Scoundrels, and Defense therefrom* 35

Chapter Five: *A brief Introduction to Contagion* 47

Appendix A: *Survival Scenarios*. 52
Appendix B: *The End is Nigh: Victorians and the First Post-Apocalypse, by Professor Calamity*. *57*
Appendix C: *Further Reading*. 59

Introduction to the Second Edition

Welcome, faithful SteamPunk, to the second Edition of *A SteamPunk's Guide to the Apocalypse*. Four Years have passed since the first Edition was published in 2007, and these intervening Years have done nothing to lessen Society's Fear of impending Disaster. We have seen our Ecosystems suffer greatly and we ourselves have suffered greatly at the Hands of swindling Bankers and the global Elite. We have had Tornados, Earthquakes, nuclear Meltdown, economic Collapse. We have seen a rise in antibiotic Resistant infection and we have weathered what promises to be the Start of climate Chaos.

It's a good Time to be in the Business of selling apocalyptic Literature!

But I would be remiss to tell you that End is indeed upon us. I will not ask you to suffer such Lamentations as I could offer, nor can I, truly, offer you that beautiful Prize of a blank Slate of a Future. A new, brighter, steampunkier Future lies ahead of us only if we make it to be so. The odds of a true Apocalypse—of a lifting of the Veil, of a fresh Start for some Portion of Humanity that you would like to be included in—are slim.

Disaster, however, I promise you. I promise you Floods, I promise you Misery, I promise you that the very Earth will shudder and quake. There will be Epidemics, there will be infrastructural

Failure. You will, for blessed or cursed Moments, step outside of Civilization for seconds or months. I can promise you these Things because they have always been and will always be.

This Book might serve you well through such Periods of your life. The Information contained will guide you as you filter Water, build Structures, communicate with Allies, understand and smite your Foes, and generally prepare yourself for Disaster. After four years, the only Piece in need of update was the woefully inadequate Coverage of sand Filters, which has been corrected with first-hand Knowledge.

To celebrate the second Edition of this Guide, noted SteamPunk Professor Calamity agreed to provide a brief Understanding of the real and fictional Experience of Disaster in the Victorian world, which is now included as Appendix B.

But the most pressing Reason I had to revisit this Collection was a terrible Oversight on my part, an Oversight that, uncorrected, might allow the very World itself to fall out of the Hands of SteamPunks and into the vile Hands of SteamNazis.

If you run and hide, you will die.

I am not alone in having made this Oversight, of course. That the Apocalypse is a Time for self-interest is an Axiom of post-apocalyptic Literature, both of Stories and Manuals. And it is an Axiom that could not be further from correct.

It is in Times of Disaster that we need one another. If you and your immediate Family or Friends run and hide in the Woods, all *might* go well until your Appendix bursts. Then you will realize that your Brother is not a Surgeon, and you will die. Or even if your Brother *is* a Surgeon, and you survive, but you do not interfere with the Plans of fascistic Forces that make a grab for Power in the political Vacuum, you will die. You will die because the Warlords will not grant you Liberty when they find you, and I would hope that you are a Person who knows it is better to die in Conflict with SteamNazis than to bow to their Authority.

It is only by working with your Community (and I mean Community to mean "the People who live near you" and not "the People I like and go to the same Conventions as") that you might find a Way to meet your Needs both physical and political.

But fear not: contrary to the Myths perpetuated by this poisonous Culture around us, Disaster is a Force that brings us together. I can prove this to you quite simply: when you wait at a bus Stop, the pervading social convention is to ignore your Fellows. But as soon as the Bus is five Minutes late, those around you cease being Strangers and instead become your fellow-inconvenienced.

When you consider disaster Survival, the Need for community Response ought to be paramount. Collect Food, Water, and Supplies, yes. But make Connections with your Neighbors and develop a Plan. This does not need to sound scary, either. Perhaps instead of suggesting you and your Neighbors develop a "post-apocalyptic survival Plan," develop Strategies for what to do in case of power Failure: where to meet, how to institute mutual Aid.

Unfortunately, the existing power Structures are not to be relied upon in case of Disaster. On numerous occasions, even "democratic" Governments have proven—and stated—that "continuance of Governance" is more important than human Liberty or even Life. Shooting Looters is a commonplace and despicable Practice.

In Times of Crisis, People tend to cling to what they hope will keep them alive. It is our Role, then, to help show People that it is us, all of us, who will keep one another alive. It is us who will provide ourselves and Others with Food and medical Care. It is us who will rebuild more wisely. And it is us who will root out and destroy the SteamNazis.

Margaret Killjoy
Autumn 2011

Chapter One . whither & 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 of material Resources, availability of Land for food Acquirement, Volume and Quality of nearby Water, social Considerations, and Safety from Scoundrels and Disease.

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 the 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. 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, 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, then 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.

Shelter

A great deal more Ingenuity and Consideration may be taken with the Construction of new Abodes than has traditionally been done in our pre-collapse Culture, and a time of great Diversity in Design may well be upon us.

Existing Structures

Like so many other Facets of our post-apocalyptic Survival, the Question of Shelter can primarily be solved with existing Materials. There are more than enough Houses and other Buildings to provide Homes for every Person alive. There are several considerations:

Defensibility: What threatens you, and how well can a Building provide Defense?

Shelter: How well will the Building stand up to the Elements, be they natural or radioactive?

Efficiency: How much Energy will need to be expended in the Heating and Cooling of the Building?

Comfort: Can the interior of Building be navigated with ease? Is there adequate Privacy for all Inhabitants?

Secrecy: Does your Building blend seamlessly into its Surroundings? Or will it attract many People, with Intentions of Peace and War alike? Do you want to be a Beacon, or be passed over by those who vie for Power?

Some Buildings to consider are: Prisons, with their fierce Walls and defensible Corridors; Warehouses, with their ample Storage facilities and ponderous Heights that would provide Space for a Network of Hammocks and other Beds; High Schools, with their various Resources; Manors, with their existing Fences and Ornaments; Skyscrapers, with their potential for vertical Gardening and population Density; project Housing, with its non-showy Incorporation of vertical Space and large Courtyards; Mines, ideal for hiding; House-boats and cruise Liners, with their watery Advantages; cargo Containers or truck Trailers, an uncomfortable but unpresumptuous approach to living; Castles, with their Walls of Stone; and military Installations, of course, although these might already be fiercely defended by Others.

PASSIVE SOLAR DESIGN [see figure 1-1]

Our methods of Architecture are nearly quaint in how poorly they have been applied. A Domicile can be built, given the proper Location and Design, that does not require much, if any, Heating or Cooling. The Name for this Method is passive Solar.

By maximizing Insulation, both Heat and Cold may be more effectively trapped. In the northern Hemisphere, a large Bank of south-facing, double-paned glass Windows will provide the maximum amount of Heat in Winter—and, properly shaded, will not add overmuch to the Summer's Heat (since the Sun lies higher in the Heavens during the summer Months). The House should therefore be longer on the east-west Axis than the north-south, to maximize its exposure to the Sun.

Thermal Mass is a simple Concept that you ought to familiarize yourself with: Essentially, thermal Mass is a large quantity of material—such as Earth, Masonry, or Water—that absorbs Heat during the Day and radiates Heat when the Sun has set. Even oil Barrels filled with Water—perhaps your rainwater Barrels—can be stored inside to serve as thermal Mass.

To help keep your House cool in the balmy nuclear summer Heat, consider installing wing Walls—that is, short vertical Walls placed between adjacent Windows, forcing the Wind to ventilate through the Room.

.

TIRE WALLS

The Tire of an Automobile makes an excellent Brick with which to construct Houses of a modest Height. Each Tire is packed tight with Dirt and Gravel—an exhausting Process, admittedly—and then stacked in an alternating Fashion, much like traditional Stone or Brick. After the Walls are erected, it is suggested that you cover them most thoroughly with Cob or Adobe to protect them from the Elements.

TREE HOUSES

There are many sound Reasons one may have to build a Home within the Trees. Secrecy, Protection from low-flying Insects—such as Mosquitoes—, a minimal Impact upon Soil and Wildlife, and a pleasant aesthetic Experience unlike any other are four that come to Mind quite readily.

When designing your Manor, be certain to consider the Ramifications of Permaculture (Chapter Three) and Defense (Chapter Four)!

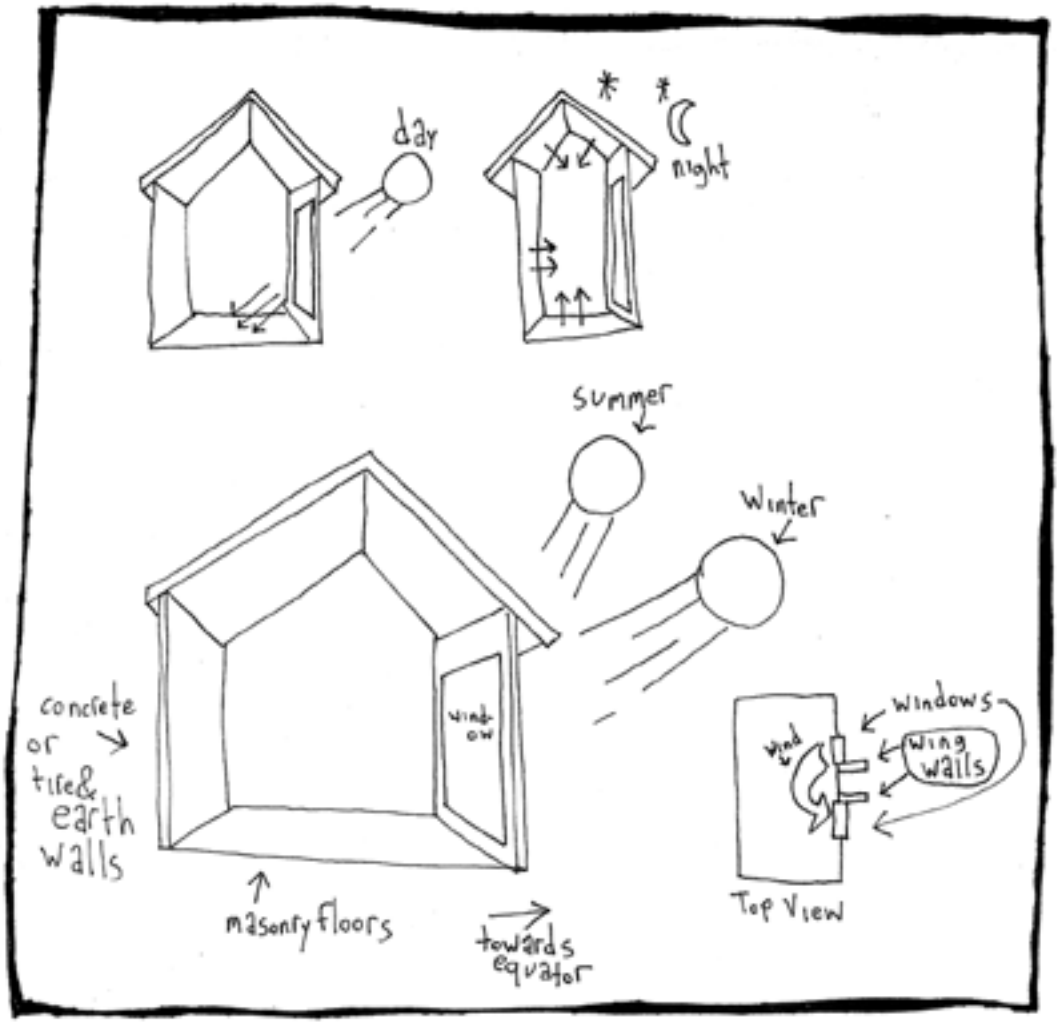


Figure 1-1: basic passive solar Heating and Cooling for the Domicile.

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, white 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 2-2*] 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 are Gutters in the Street 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 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 2-1*]? We fully endorse any Method of Survival that utilizes a Bicycle-driven Auger, as well.

Wells can also be dug by Hand, with Shovels,

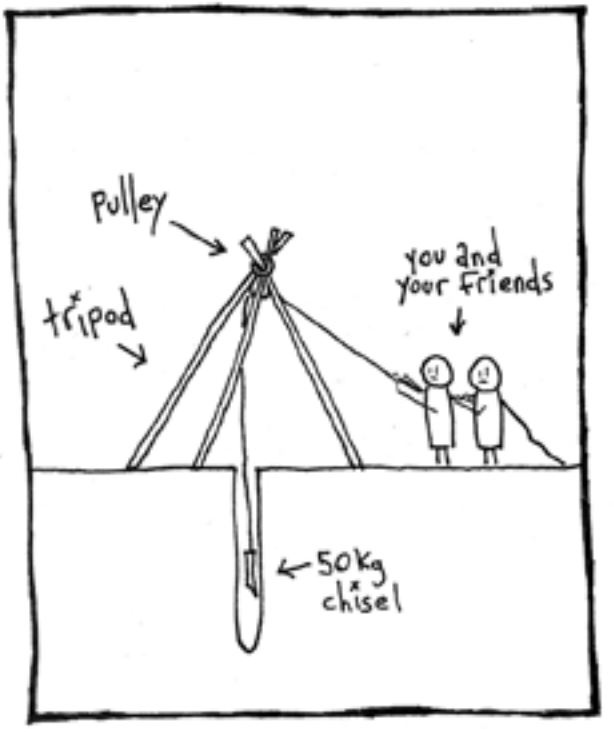


Figure 2-1: percussion drilling a Well.

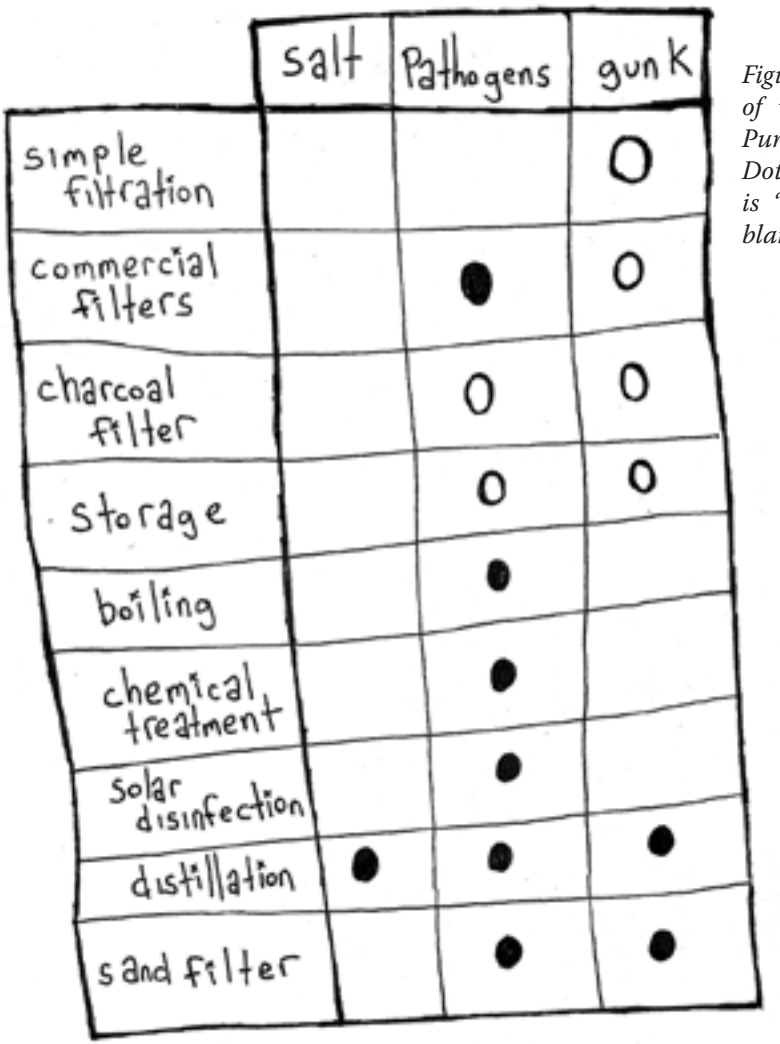
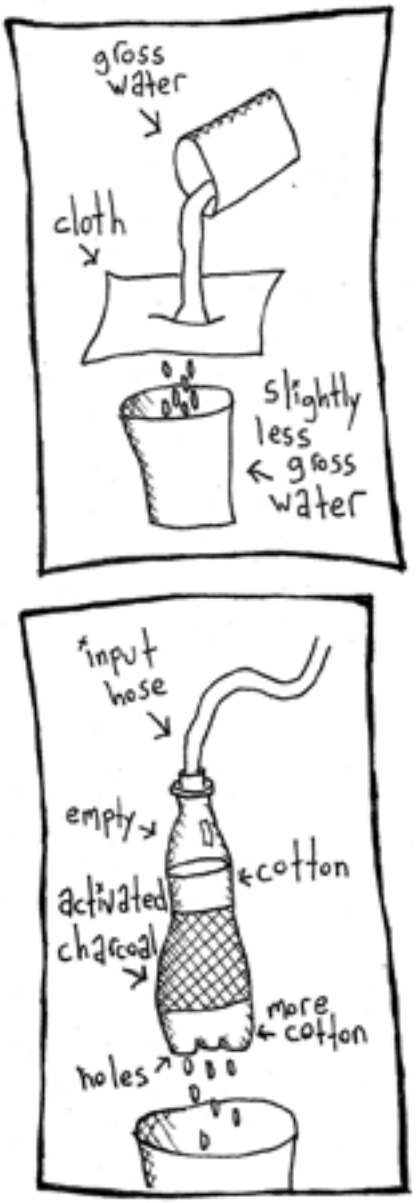


Figure 2-2: a Comparison of various Methods of water Purification: note that a solid Dot is "very effective," a Circle is "somewhat effective", and a blank Space is "not effective".

Figure 2-3: (top) a simple Method of Filtration.

Figure 2-4: (bottom) a gravity-fed home-made water Filter. If the source of Water is above the Filter, then Water will flow.



but we consider this to be a remarkably uninteresting 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. 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 both deep and buried under quite little Earth. 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 CARBON 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 is often accomplished by the burying of 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, unmoving 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 settled Impurities, of course!

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

BOILING

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

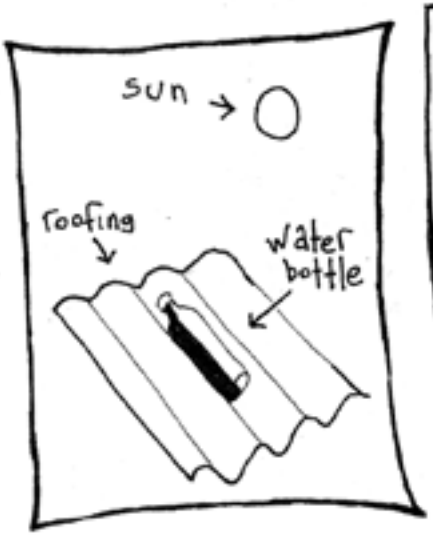
Aspiring Chemists will be excited to attempt a second Method, utilizing Iodine. Iodine Tablets have a poor shelf Life. Iodine Solution is viable, and readily available from first aid Kits. To use the solution, add eight Drops to one Liter of Water and let sit for fifteen Minutes. But to make your own 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.

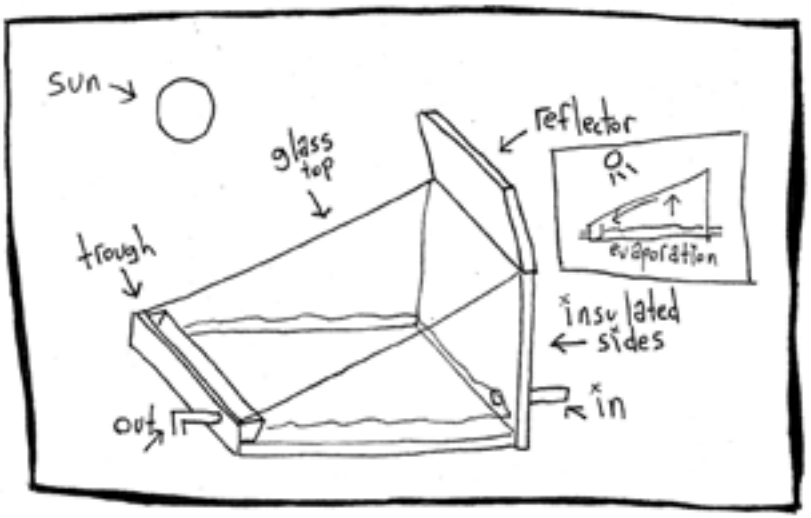
SOLAR DISINFECTION

Close 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

Figure 2-5: (left) solar Disinfection, with half of the water Bottle painted black.

Figure 2-6: (right) solar Distillation.





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 FILTER

Making a sustainable sand Filter is easier than making Lasagne and yet utilizes the very same Principles! It is all about Layers. The larger the Container, the more Water you can filter at a Time. It is quite possible to set up a simple System with two Containers, one for Water of questionable origin and one that serves to filter said Water,

transforming it from a Source of Death into a source of Life. Of course, if you don't have the Time to build an elaborate, self-feeding Contraption, you can always simply pour Buckets of Water directly into your sand Filter.

The sand Filter is perhaps the most natural, and arguably most effective, Method of purification, which is why spring Water is so highly valued. The sand Filter reduces the Concentration of particulate Matter, including suspended Particles (Dirt and Sludge), Parasites, Algae, Viruses, Fungi, Bugs, and a Range of dissolved and particulate Material that might end your life. It cannot, however, save you from the Horrors of Water contaminated by heavy Metals or Radiation.

To begin: find a good solid Container (like a 50-gallon Drum or a 5-gallon Bucket). Attach a Spigot or cut a pencil-width hole approximately one Inch from the Bottom. If you would like, you may put multiple Holes at the same height around the Base in order to filter faster. Put a receiving Container of some sort in order to catch your purified Water. Place a fine Screen, a Piece of Stocking, or some other Material over the Hole (on the Outside, to make replacement a simpler Task) to prevent Sand from escaping the Filter and finding its Way into your drinking Water. Such Sand would not hurt you, but it would look and taste nasty.

Put about an Inch or two of Gravel, Marbles, clay Shards, Pebbles, or what Not into the Bottom of your Filter, covering the Hole entirely. This will reduce the amount of Sand that escapes the Filter to clog your Screen and also provide some Aeration in your System.

Put between an Inch and five Inches of wet Sand on top of this Base of Gravel. Sand may be acquired from Beaches, Deserts, or cement Factories. You may also find Sand in many highway Barricades (the orange or yellow plastic Containers.) Make sure you run this Sand through a Screen (such as a window Screen) to remove Twigs and other Debris. The more Sand you use in each Layer, the slower your Filter will work but the less often you will have to replace it. Each Inch of Sand in a 50-gallon Drum can filter three Gallons of Water. So if you have 30 Inches of Sand in total, your Container can filter 90 Gallons of Water before you must replace or purify the Sand.

After this first Layer of Sand add half an Inch of crushed Charcoal. Make certain this Layer is covered and even. Charcoal from a Store may be used as long as it does not have lighter Fluid already added or if it is "Match-light." You can also use wood Charcoal from a fire Pit. In fact, any organic Matter that is burned will produce some Charcoal. Add a second Layer of Sand, then a second of Charcoal, and finally a third and final Layer of Sand. This final Layer should be 25% thicker than previous Layers. On top of this, you should place a "splash Rock." This could be a flat Rock, a Saucer, a Piece of Tile, or Anything solid that won't wear away from the Water that will flow on it. The splash Rock keeps the contaminated Water from digging a Hole in your Filter as you pour it in.

To clean a Filter you can replace all the Layers (Sand and Charcoal alike) and then either wipe the Container with Soap or leave it in the Sun for a Day. Clean the splash Rock for good Measure. Replace the Screen or clean it well. The Sand (but not the Charcoal) can be conserved by adding a bit of Bleach to some Water and soaking the Sand before letting it dry in the Sun. But if it smells strange or if it begins to grow Algae then it should be discarded.

The sand Filter is not a swift Solution, of course. Some People opt to stack multiple source water Barrels on top of one another to produce high water Pressure, but if you do this you will need a larger splash Rock, one that fills nearly the entire Circumference of the Filter.

Chapter Three
assessing the Bounty of Nature & 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.

CARS

The personal Car, an infernally-combusting Dinosaur that has wrought its own End, may be taken herein as an excellent Example [see *Figure 3-3*]. 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.

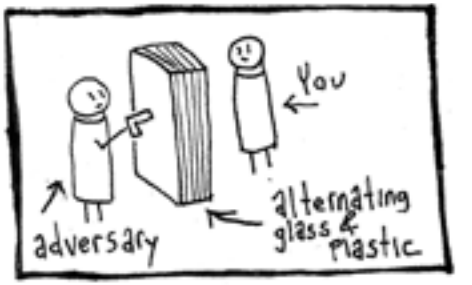
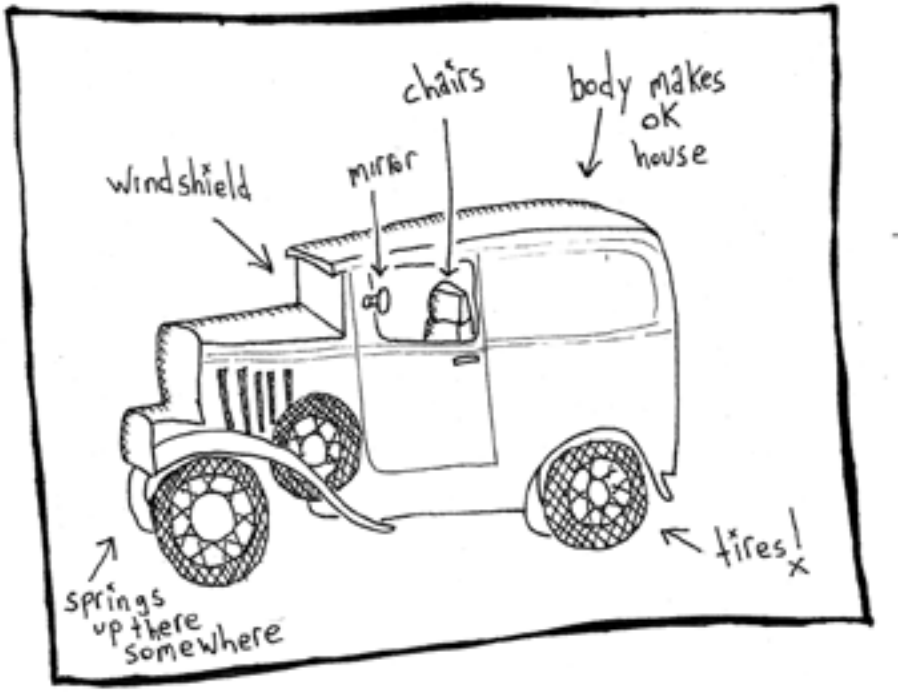


Figure 3-1: (top) the Composition and incorrect Usage of bulletproof Glass.

Figure 3-2: (center) the hardening of Leather.

Figure 3-3: (bottom) a few of the various Resources that you might plunder from an Automobile.



Older Tires, those that are not steel-belted, can be cut apart to make Sandals. Any Tire will make an excellent raised bed Planter, or can be stacked to hold Compost.

A Word of Warning: clipped 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 3-1*].

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.

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.

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 [see *Solar Cooking*, later in this very Chapter!].

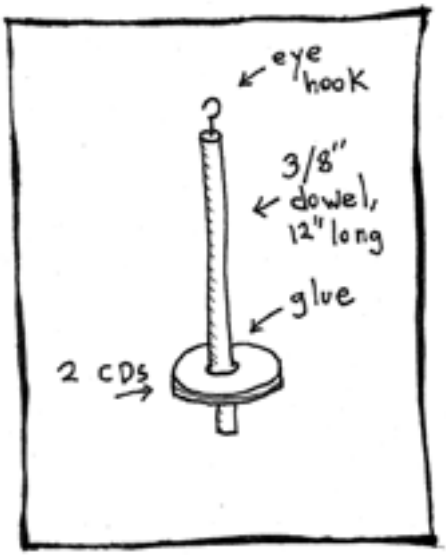
Why, with all of the Metal sitting on the Surface of the Earth, I will be surprised if Humanity needs ever mine again.

FABRIC

Our culture is up to its Neck in T-shirts, but there are other Fabrics more interesting 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 3-2*] 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



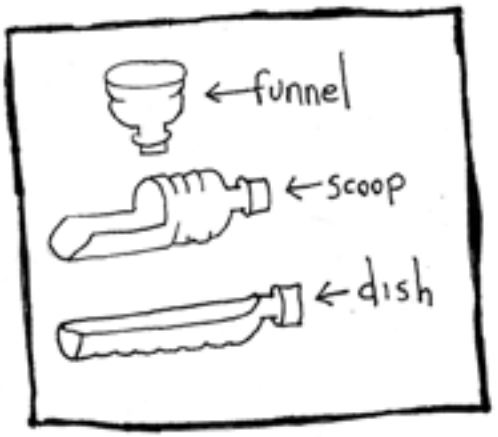


Figure 3-4: (top) a simple Spindle for the spinning of Yarn.

Figure 3-5: (bottom) various Tools that may be carved from plastic water Bottles.

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.

Yarn, to be knit or crocheted with Needle and Hook, may be manufactured quite readily from many different fibers [see *Figure 3-4*]. 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 from welding supply Shops. If you set out 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 3-6*].

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 3-5*]. In fact, the only Drawback of plastic Bottles is that they remind us of a Past we hope to forget!

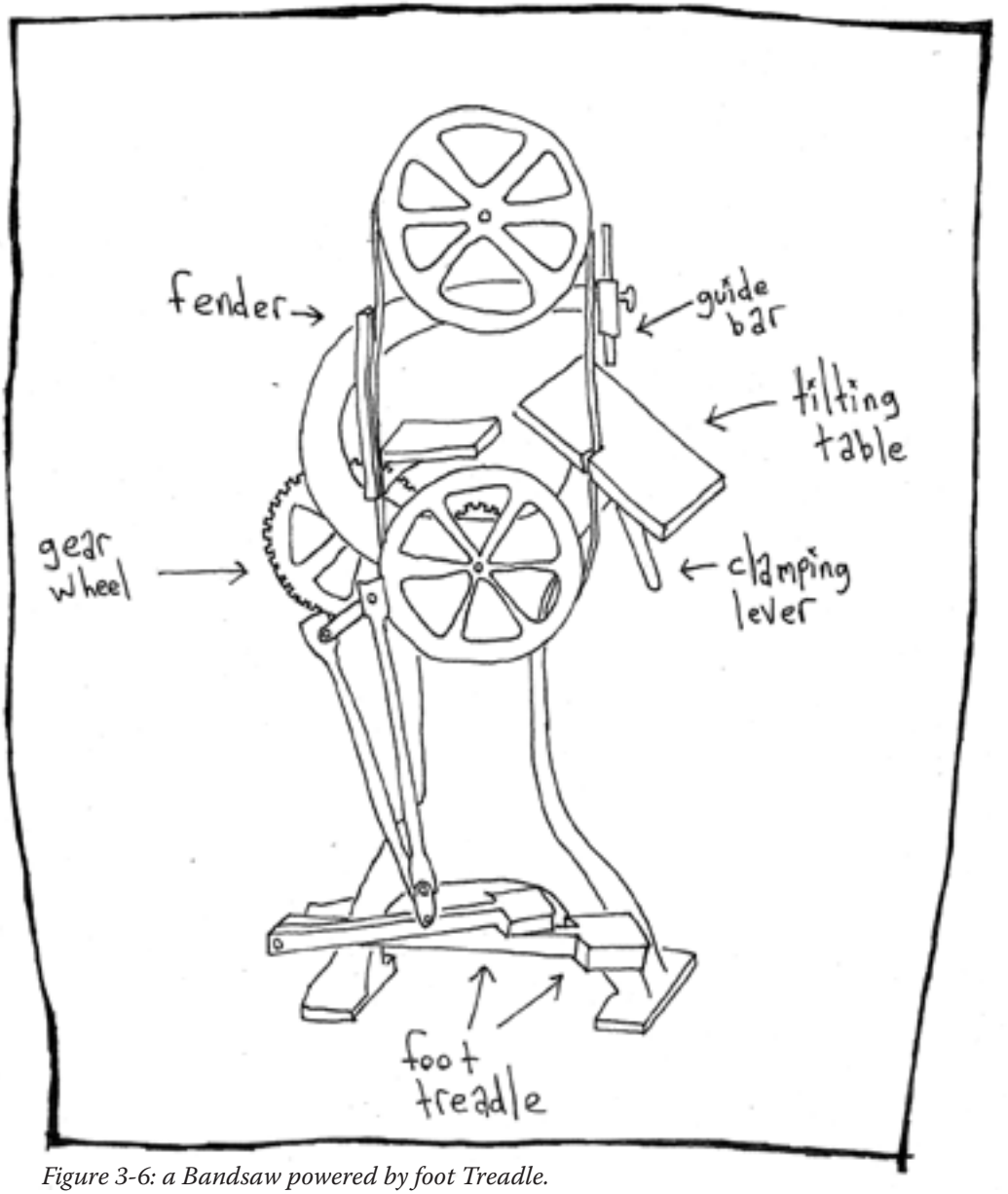


Figure 3-6: a Bandsaw powered by foot Treadle.

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 may be found amidst our Rubbish.

BOOKS

It is an unfortunate Reality 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 an adventurous 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 Barbecues to Refrigerators [see *Root Cellars*, below], from Books to Timber.

On Food

Oh rejoice the future Day when all of your Nutrition will be met by Foods both local and free. In the meantime, however, it will take quite a bit of Work to avoid utter Starvation! Read onward for salient Advice on how best to avoid a Diet based solely upon Twinkies and Slim-Jims.

PERMACULTURE

Our mechanically-minded SteamPunk Brains are quite adept at solving the Dilemmas that are forthcoming, and it is with this heightened mental Awareness that we must tackle the Issue of Agriculture. Traditional Agriculture—as utilized by pre-industrial agrarian Society—is far from perfect: a Lack of Foresight has caused many Farms to deplete the very Soil upon which they were dependent. What's more, the labor-intensive Struggle to raise Crops emphasized unfortunate class and cultural Divisions, as Farmers were left with no leisure Time to further their Education.

This is not a Trap we plan on recreating. With the application of Knowledge to the process of growing Food, the amount of Labor required can be minimized and the hazardous Effects on the Land can be removed altogether. This Process is known as Permaculture.

While this Method is too intricate to describe in full Detail herein, the Fundamentals of it are quite simple. Biomass and Nutrients stay within a closed, waste-less Loop. A Garden is given multiple Tiers, each Tier reinforcing the Other. Houses are incorporated into this Harmony by their very Structure and Foundation.

You are encouraged to conduct independent Research into these Principals, so that you may intertwine the Mechanical and the Organic into a veritable Eden that will feed you and grant you the Time to pursue your Tinkering.

SOIL SAMPLES

In many places—before the Apocalypse—Soil testing is a free service offered by the State. You simply take various Samples of your Soil and mail

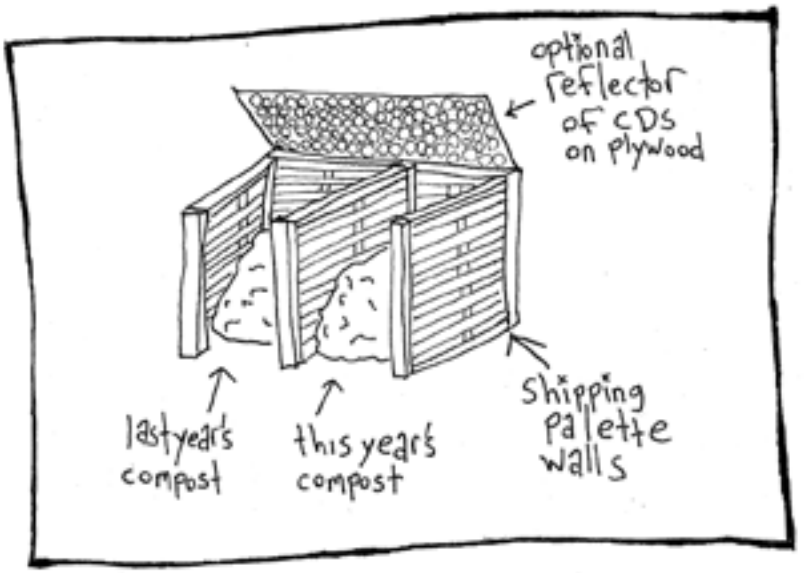


Figure 3-7: a simple compost Bin built of scavenged Materials, complete with optional Reflector.

them to the Office that provides the Service. This will tell you all of the terrible Toxins you are going to ingest. And while Cancer one Day is preferable to Starvation today, there are also Plants one might grow to leech the Toxins from the Earth.

COMPOSTING

One long-term Solution for inadequate soil Quality is to build your own Soil and then plant in raised Beds (one short-term Solution is to raid a garden supply Retailer for Soil). Composting is the controlled Decomposition of organic Matter: it is the transition from food Waste to plant Food. In short, it means heaping all of your food Scraps into a big Pile and letting them Rot.

When composting on a small Scale, non-vegan organic Matter—the Feces of non-herbivorous Species, or the Flesh or Dairy of any Animal—ought be excluded from the Mix, so as to avoid any soil Contamination.

The trick with Composting is to provide a healthy Mixture of Carbon and Nitrogen. Carbon can be found in dried lawn Refuse—straw, sticks, leaves—and Nitrogen in Foodstuffs and fresh-cut Grasses. In addition, the compost Heap should be kept slightly damp.

A well-built compost Heap breaks down aerobically—with Bacteria living happily amidst the Refuse—while a poorly built one does so anaerobically, producing a great deal of Methane and other foul-smelling Gasses. Therefore, it is a simple Matter to use one's Nose to determine how well-composed your Compost is.

Composting requires great Heat to work quickly, and it might be advisable to add some kind of solar Heat collector, whether Lenses, Mirrors, or Glass [see *Figure 3-7*].

When all the Compost has turned a rich Brown, and is crumbly to the Touch, then it is ready to use as Soil.

VERTICAL GARDENING

Those Urban among you would do well to heed the following Advice: grow upwards, not outwards.

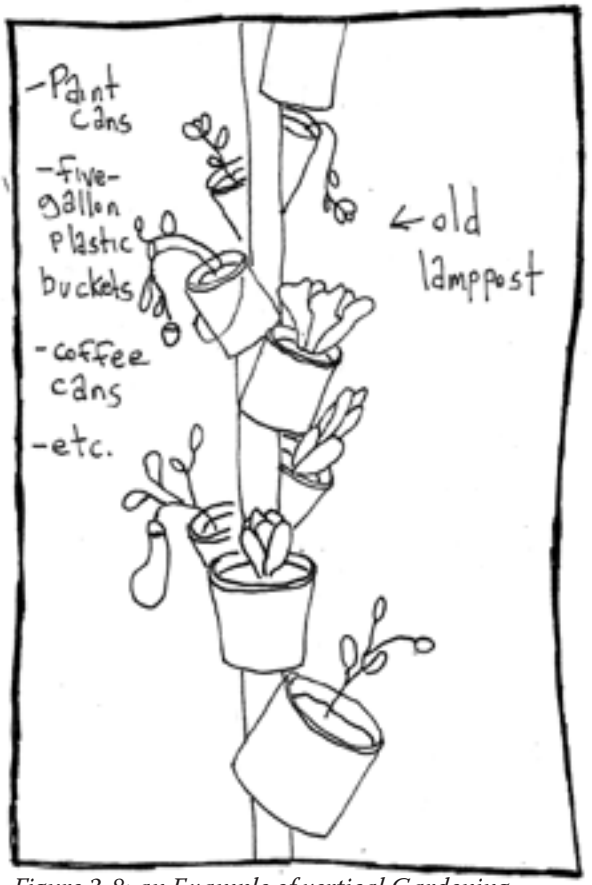


Figure 3-8: an Example of vertical Gardening

One method would be to circle vertical Pole—such as a Signpost—with Planters; these Planters may be carved out of water Jugs, plastic Barrels, or even formed of Ceramic, among other Materials [see *Figure 3-8*].

Cucumbers and Squash may be trained to grow up vertical Trellises—built of re-used pallet Wood, or chain-link Fencing, perhaps!—as well as the more traditional Grapes and Beans. Tomato Plants, caught in a Cage, use more vertical Space as well.

Potatoes may be grown inside of Towers of Tire. Each individual Tire is to be packed with Earth, in the area where the Tube used to be. These can be stacked to unfathomable Heights.

HUNTING

There is a certain amount of Truth to the Idea that one ought to consider the ethical Ramifications of the Consumption of our fellow Animals. But that ethical Conundrum can be solved quite readily: when one takes the life of an Animal, one takes on a Responsibility to ascertain the Future of that Species.

Ergo, one who hunts the great Elk must also ascertain that they do not over-hunt the Beast, and must protect its Habitat from all Intrusion. This is defensible on a logical Level as well as the ethical: you are dependent upon the Elk, and a Threat to its Population is a threat upon your very Life. This is one of the many unfortunate Oversights that our current Culture has made, and it is one that we shall rectify.

That aside, there are many Methods of Hunting to choose between. For Weapons appropriate to the Hunt, refer to Chapter Four.

Those in urban Areas will find themselves relying heavily upon the trapping of Birds [see *Figure 3-9*], Rats, and Squirrels.

If the situation is Dire, you may try leaving out a tray of Honey where Ants are likely to gather. These Ants, thus collected, are an excellent if unappetizing Source of Protein. Try frying them first.

GATHERING

Even within the city Limits, there are a Number of edible Plants available. Care must be taken, however, owing to the Poisons that have settled from the toxic Air and permeated the urban Earth.

Research what wild Edibles are found in your Area, but some Examples follow. Dandelions: eat every bit but the Stem. The Greens are less bitter early in the Season, and can be steamed, or boiled in two Changes of Water. Acorns: break them open to get the "Meat" out. Leach out the Tannins by boiling them for two Hours (or putting them in a Stream for several Days). Red and white Clover: eat the Leaves or the Flowers—great in Salads!

For a rather Brief introduction to medicinal Herbs, refer to Chapter Five.

SCAVENGING

At our pre-disaster population Levels, each major City in the united States of America—this Country being taken as an Example—has approximately three Days of Food. Westernized Economies are not currently localized—although they will be shortly enough!—and we are completely dependant upon Trucks and Trains to feed Ourselves.

It is perhaps needless to say that the Scavenging during an apocalyptic Event *might* be fierce, competitive, and potentially lethal. However, historical Analysis of post-Hurricane New Orleans indicates that it is also possible that a cooperative Spirit may take a hold of the Populace, particularly if the Population is diminished by an Exodus. In this best-case Scenario, it will not behoove you to be the only selfish Person around, and we suggest that you offer your Help and Expertise.

But if a more cutthroat Philosophy prevails, it will not do to procrastinate the Gathering of Foods. We highly recommend that while others loot the Stores, you raid the Warehouses and Distributors of bulk, non-perishable Foods.

Food Preservation

But what good will the summer Fruits do you in the Cold of Winter? None, if you do not adequately Preserve them!

CANNING

Gather together a large Number of mason Jars and canning Lids. These can be acquired from many grocery Stores, farm Centers, department Stores, etc. It is easier to can highly acidic Foods, such as Tomatoes, Fruit, and Pickled Vegetables.

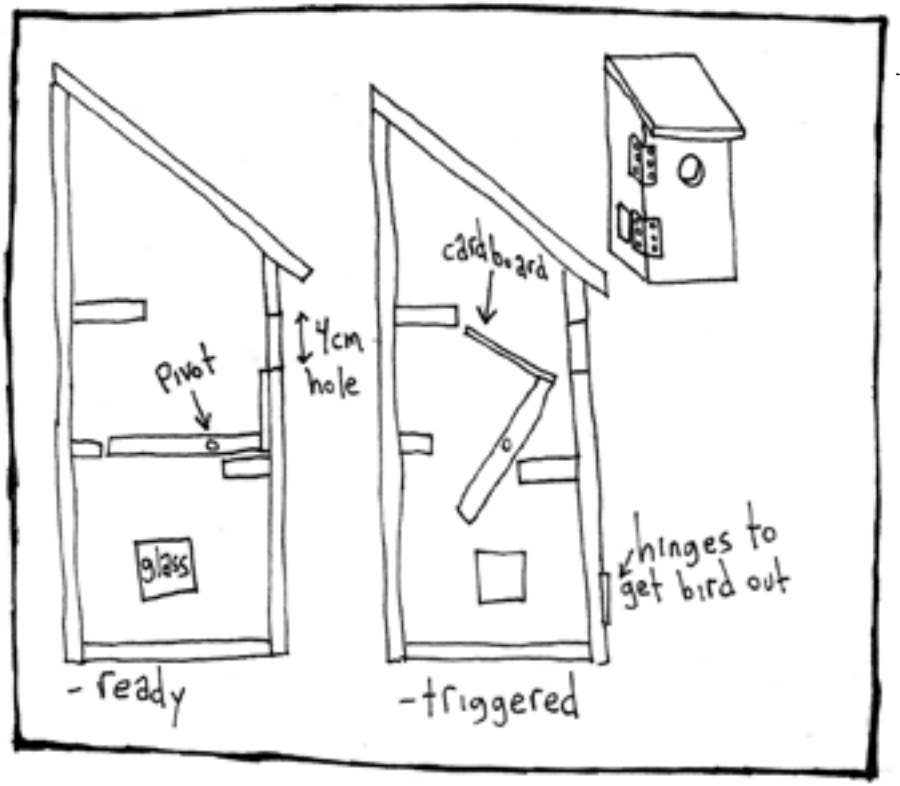


Figure 3-9: a Design for a trap Birdhouse, sized for Sparrows. The Sparrow enters through the Door, triggering a well-balanced Mechanism that traps him or her in the lower Half of the House.

A brief and inadequate Summary of the Process is as follows: simmer the empty canning Jar—and its associated Lid—in a large, covered Pot of Water. Remove the Jar and fill it with your Foods (prepared from Recipe). Run a rubber Spatula between the Food and the inside Edge of the Jar, three Times or so, to force out any Bubbles of Air. Secure the Jars by means of the two-part Lids and then place back into the boiling Water—ascertaining that said Water's depth exceeds the Height of the Jars!—for the prescribed period of time. Remove and store.

Immersion

The Rural among us might do well to place their Foods in watertight Containers and immerse them, well secured, in running Water. This serves as a natural and effective Refrigeration [see *Figure 3-10*].

Root Cellars

Food stores longer at lower Temperatures, and any Person among us who has lived in a Basement knows that the Bowels of the Earth are cold Places indeed. A Basement, if insulated from the rest of the House, can often serve as an effective Refrigerator of its own.

For a small storage Chest, an old Refrigerator (available from every Home!) will serve quite handily, as they are remarkably well insulated. Simply remove the electrical Connections and bury it in the Ground, leaving a few Centimeters and the Door above the Soil [see *Figure 3-11*].

Mechanical Refrigeration

Unfortunately, there is not enough Breadth within this Book to adequately cover mechanical Refrigeration. But we present two basic available Versions: one, the Propane-fueled Refrigerators that may be stripped from RVs and converted to run on other Sources of Heat—such as the Sun; two, the Stirling Engine, when run in reverse, produces a refrigeration Effect. With the Stirling Approach, it is not inconceivable to run a Refrigerator by Bicycle, water-Wheel, or steam Engine!

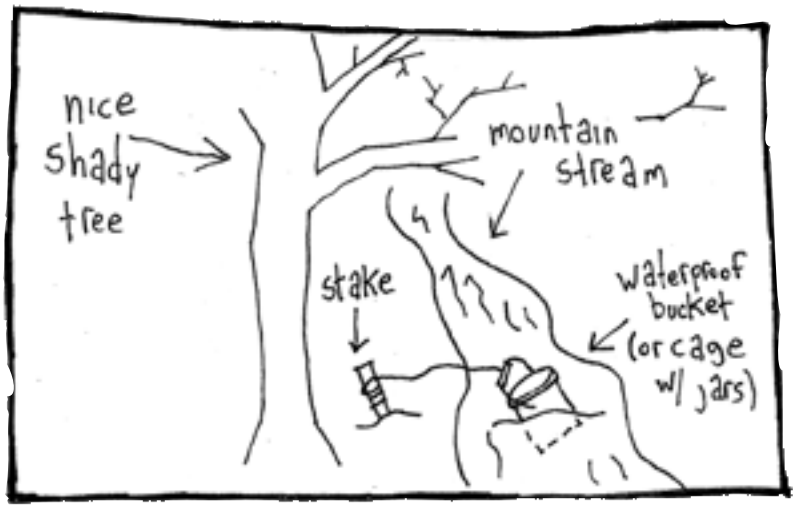


Figure 3-10: the utilization of a running Brook to keep your Perishables cold.

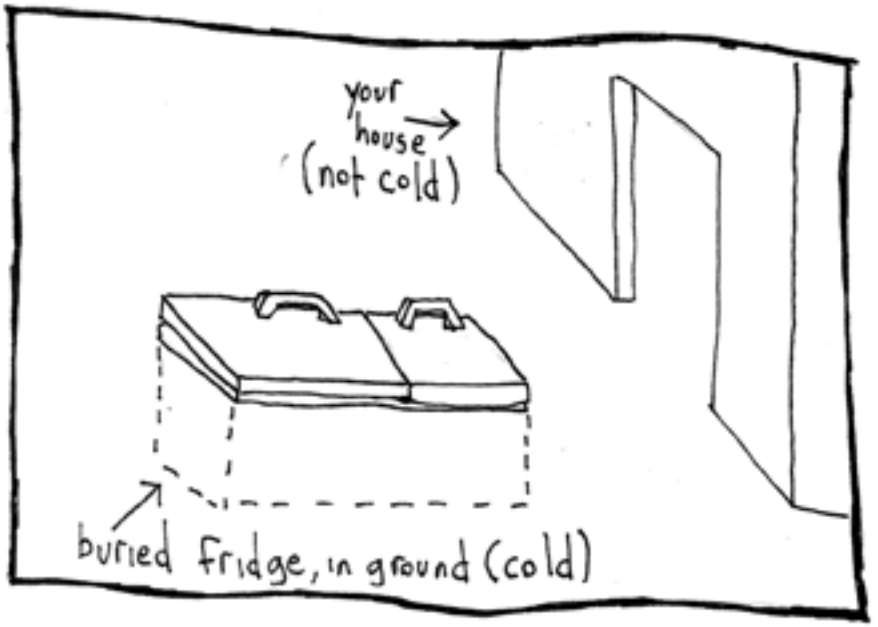


Figure 3-11: a buried Refrigerator here provides an excellent and simple cold Storage.

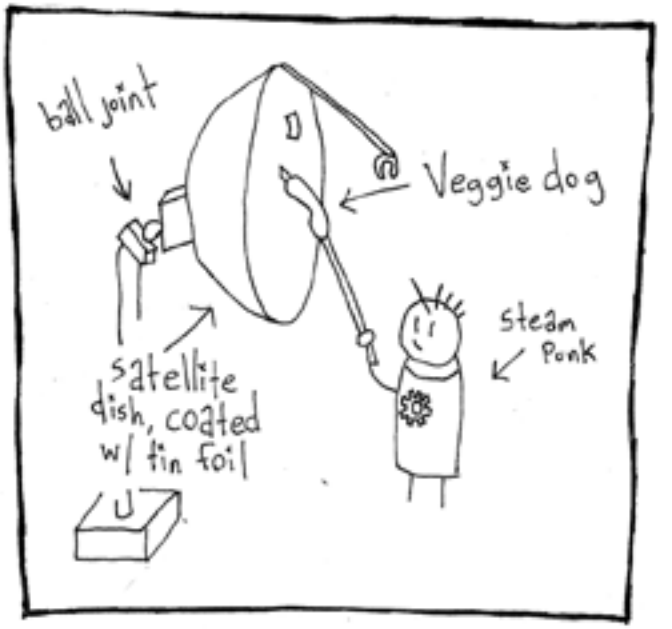


Figure 3-12: a satellite Dish has been covered with smooth, reflective Foil, focusing the Heat of the Sun to a small Point capable of frying.

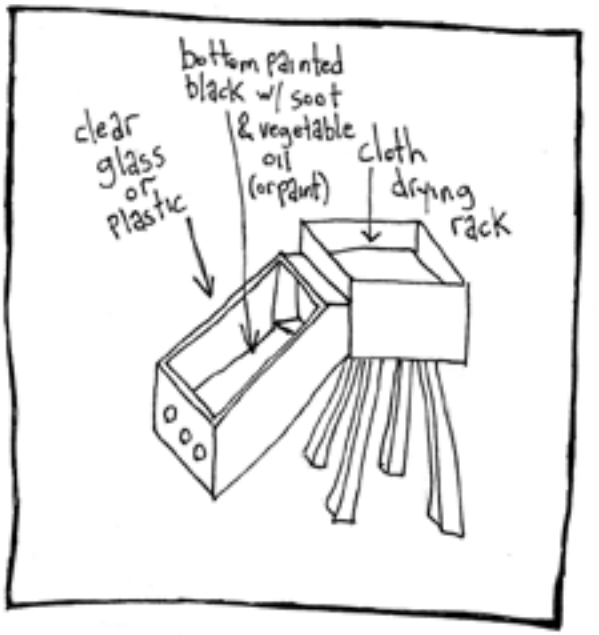


Figure 3-13: a solar Dehydrator built from Wood or Cardboard.

SOLAR COOKING

Your Goal with solar Cooking is to reach high Temperatures. To this end, you should work with a large black Pot with a matching Lid. When cooking via solar Heat, do not remove the Lid to stir, as this will allow heat to escape.

All manner of Devices can be built to direct the searing Heat of the Sun into your Pot. First, the greenhouse Effect: layers of Glass that the Sun can penetrate in only one Direction. This can be as simple as a clear plastic Bag placed around your Pot, or as complex as a metal Oven with an angled glass Lid.

Reflectors are your friends. Mirrors, broken CDs, or even recovered Gold can be mounted to stiff Materials and used to reflect Light and Heat onto your Food.

The parabolic Shape of satellite Dishes makes a remarkably powerful Reflector, and can be used to create intense Heat for cooking [see *Figure 3-12*]. Do not look directly into the reflected Light! Mount your satellite Stove onto two rotating Axes so that it may follow the Sun during the course of the Day. You could even build a System of Clockwork to automate this Task!

OTHER FORMS OF FOOD PRESERVATION

Food may be preserved by means of Salt, Smoke, Dehydration, or Pickling. The salting Process is mostly used for various Meats and consists, essentially, of pounding Salt into the Flesh of whatever Creature you may be cutting.

Smoking is useful for Meat, Cheese, and Tofu, and involves keeping your Foods above a smoky Fire for many Hours.

Dehydration is a nearly universally useful Process, which is used in the Preservation of Vegetables, Meats, Fruits, and Herbs. Solar Dehydration is of particular Interest to the mad Scientist, and can be constructed quite readily from Materials at hand [see *Figure 3-13*]. With solar Dehydration, it is important to not allow the Fruit to become too hot early in the Process, else it will not fully dry. To this end, it is best to avoid direct Sunlight.

Chapter Four: Scoundrels, and Defense therefrom

Those who claim that the end Times are no Time for Heroics are ignoble Cowards. There will be Moments that test your Courage, when you will be given the Opportunity to help your Fellows. And while you need not—ought not—cast your Lot with the gratuitous Whole of Humanity, if you shy from every Conflict then you shall have no Friends to lend *you* Aid. Those who would walk quietly past a Mugging on the Street—or bear mere silent Witness to racist Violence—will find themselves in utter, defenseless Solitude in the new and chaotic World.

COMPOUND BOW

A regular Bow, long or short, is an excellent, time-proven Companion to the Hunter or Warrior. But for our Purposes, a traditional Bow has two specific weak-points: one, its utter Lack of Pulleys or other Errata; two, it lacks the "Let-off" of a compound Bow—for when a compound Bow is drawn, upwards of 80% of the Draw-weight is relieved from the Arm—which allows those of smaller Stature to effectively aim the Bow.

While the Construction of an expertly crafted compound Bow is far too voluminous of a Subject to cover adequately herein, we can offer a small amount of Advice: the central Riser of the bow is constructed of a completely rigid Material, commonly Aluminum. The Limbs of the Bow are constructed of composite Materials, such as Fiberglass or pressed and layered Wood. The String

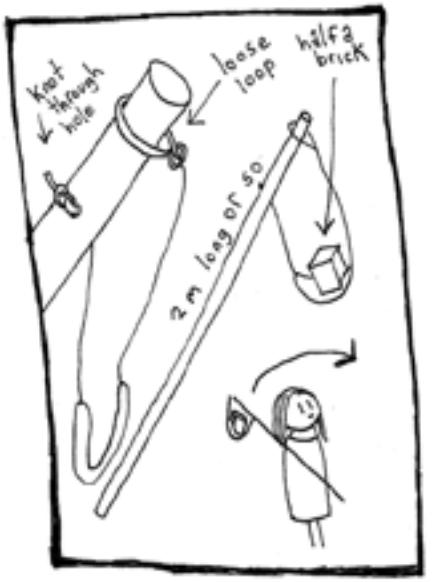


Figure 4-1: Details of the Construction and Use of the Staffsling.

can be made of thin, plastic-coated steel Cable. Potentially, all of these Materials are available in junk Heaps, abandoned Buildings, etc.

Arguably, it is wisest to simply raid a sporting goods Store.

BREAK-DOWN SPEAR [see figure 4-3]

Spears are remarkably versatile and useful Tools and Weapons. Longspears can be quite effective in grouped Combat, or for Hunting. Shortspears are desired for personal Defense. Here we present you with a design for a Spear that may, in a matter of Seconds, be converted from one to the other.

SLING [see figure 4-2]

A Sling is a marvelously simple Application of Force. A well trained Slinger may throw a good-sized Rock farther than the length of a sporting Field!

Slings may be constructed of many Materials. One can build a sling from Cordage and a Scrap of Leather, or a Sling may be braided. Slings may be of various Lengths, but 1.2 Meters ought to serve as a Basis from which to veer.

When your intended Target, be it Squirrel or Building, is farther than approximately fifty Meters distant, than it is suggested that one launch Missiles from the Sling in an underhand Manner, much like a Pitcher in the Game of Softball. Conversely, Foes within fifty Meters might be more accurately pummeled by utilizing an overhand, or Baseball, Approach.

In either case, it is a waste of Energy and Accuracy to allow the Sling more than three hundred and sixty Degrees of Rotation.

STAFFSLING [see figure 4-1]

For those interested in launching a Half of a Brick, then the Staffsling is an appropriate tool. Note that the Staffsling is not inherently more accurate than a traditional Sling, nor does it offer greater Range. No, its single—albeit excellent—selling Point is its Ability to throw a Half of a Brick.

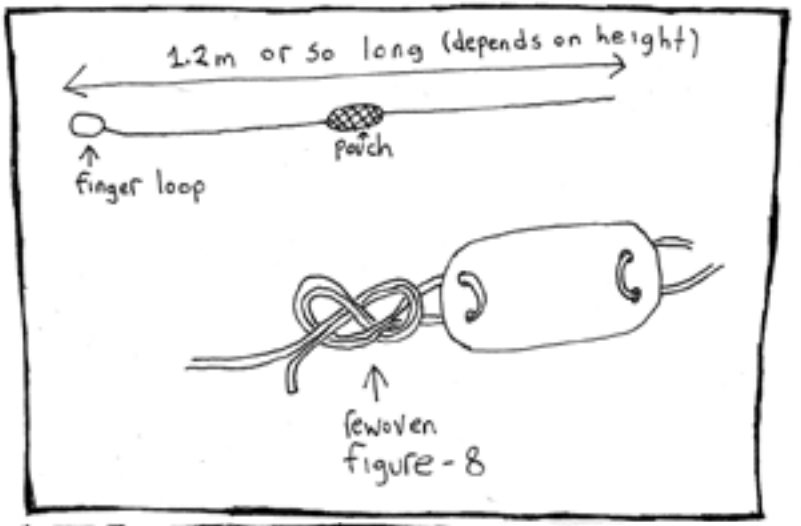


Figure 4-2: a basic Sling.

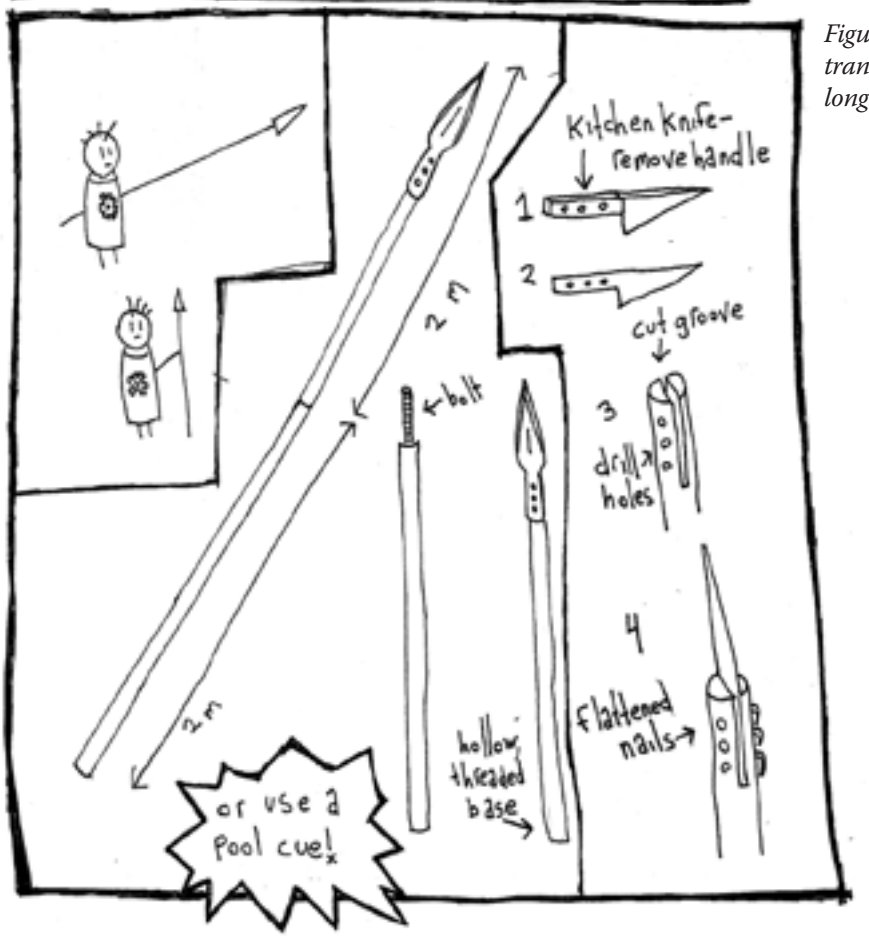


Figure 4-3: a Spear capable of transformation from short to long.

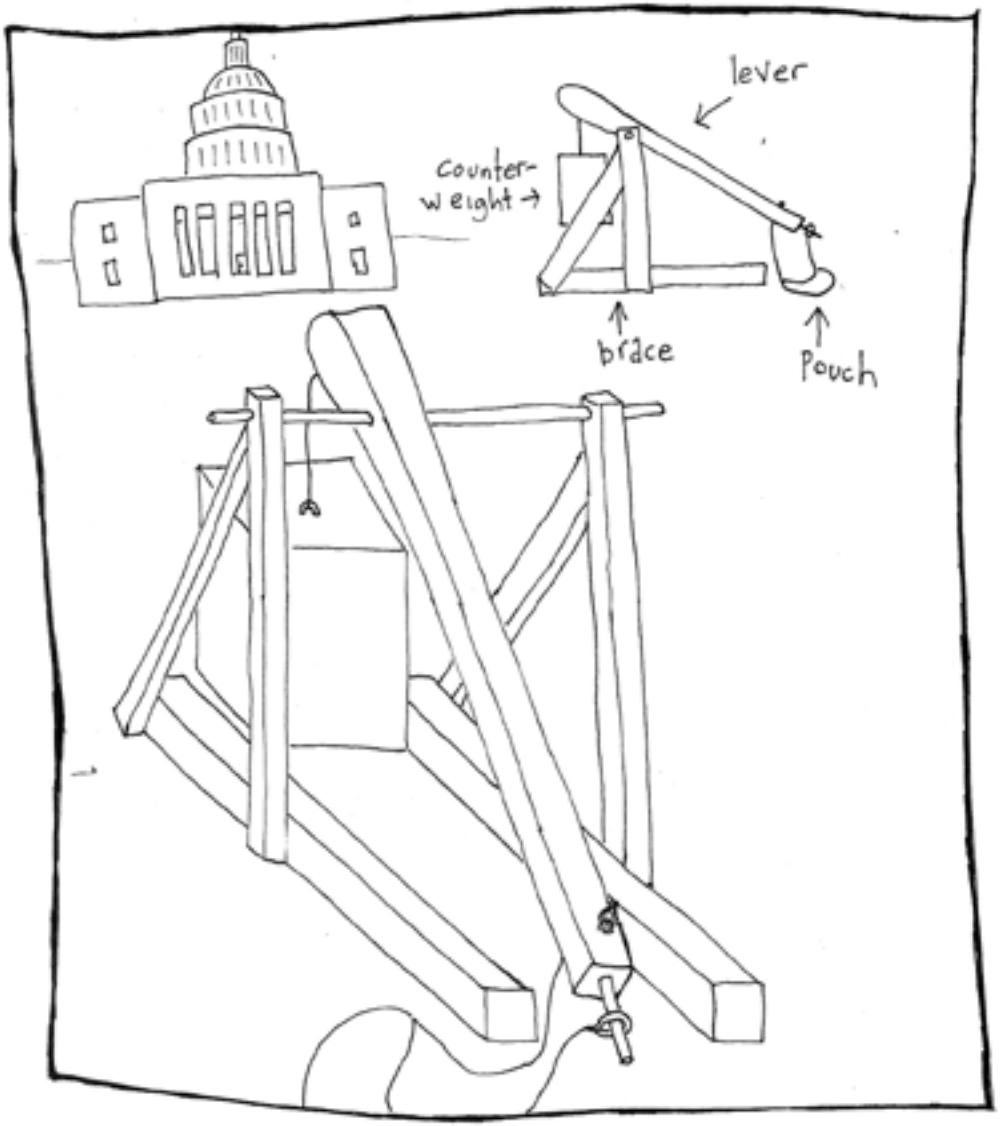


Figure 4-4: a very general Example of the Construction of a Trebuchet.

TREBUCHET [see figure 4-4]

If you wish to throw very heavy Projectiles across rather vast Distances, you would do well to study the siege Engine known to the World as the Trebuchet. Although the Range offered by most Trebuchets—a massive Staffsling—is slightly less than, say, a Longbow, a Longbow is incapable of launching oil Drums filled with Gasoline and wrapped with burning Wicks.

Since the Lever of the Trebuchet must be as light and strong as possible, consider the use of aluminum Lampposts.

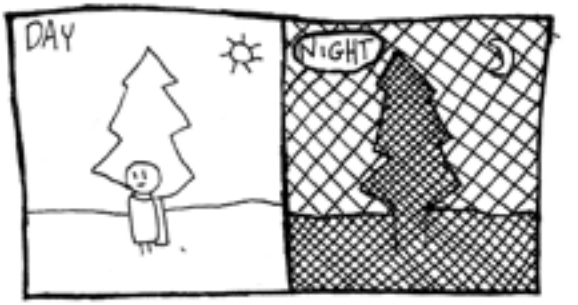


Figure 4-5: an Example of the Use of Silhouetting to disguise yourself at Night.

BLACK POWDER

We do not aim to provide Instruction the creation of Gunpowder, nor any other Explosive, within this Book. Let us merely say that the ability to create black Powder, a relatively simple Form of Gunpowder, is well within the Reach of the well-prepared SteamPunk. And black Powder may be quite useful in the deployment of 19th century Firearms, as well as for any Blasting you may find yourself in Need of accomplishing.

On Strategy

If you are concerned with your Welfare, it is best to not run blindly into Battle. You must act strategically, avoiding more Conflicts than you enter.

THE ART OF WAR

If you read only one Book about the Strategy of Battle, then let it be Sun Tzu's ancient Treatise *The Art of War*. Although it refers specifically to the by-gone Wars of China, it is a Classic that applies to near every Conflict, be it interpersonal or international.

STEALTH

As electric Light dies unmourned, the Art of Invisibility will rise in Prominence once more. Although it is, of course, impossible to become

technically invisible, it is often desirable to be *effectively* invisible—unseen.

It is an important Matter to consider the Silhouette you cast; in dim Light, it can be disguised in many Ways—crouching or standing in front of Objects being an excellent Example [see *Figure 4-5*]. Further, the human Stride is quite as recognizable as the Silhouette and ought to be disguised as well.

Remember that black Clothing is often darker at Night than your non-black Surroundings. If White is 0 and 10 is Black, then aim for Tones around 7.

The Patterns and Colors of Clothing ought to be broken apart as well, as in Camouflage.

But perhaps the best way to become invisible is to hide in plain Sight; simply do not appear to be out of the Ordinary. You can observe the Actions, Manners, and Dress of your Foes from afar—utilizing a Spyglass—and then emulate them to walk unchallenged into their Fortress.

TRAINING & EDUCATION

One of the false Promises that Technology bears is that of Idiot-proofing. Every martial Tool, from the lowly baseball Bat to the mighty Rifle & Scope requires Training to use with Efficiency.

When possible, it is advisable to rely upon Experts to aid you in your Education. But when it is not, you must experiment on your own. Practice! Practice until you know your Weapon, and then Practice longer. Practice until your Sling—taken as an Example—is as natural an Extension of your Arm as a Glove might be.

Educate yourself and educate your Friends. Educate the Novices who join your Camp—and not just in Matters of War; let Knowledge never be a hoarded Commodity, so that no Person is irreplaceable in the Community. Imagine the Frustration if, for example, your only Engineer competently trained in the Repair of your water Catchment system were to die in fierce Battle!

0 -----	A .-	K -.-	U ..-
1 .----	B -...	L .-..	V ...-
2 ..---	C -.-.	M --	W .--
3 ...--	D -..	N -.	X -..-
4 ....-	E .	O ---	Y -.--
5	F ..-.	P .--.	Z --..
6 -....	G --.	Q --.-	Ä .-.-
7 --...	H	R .-.	Ö ---.
8 ---..	I ..	S ...	Ü ..--
9 ----.	J .---	T -	

Figure 4-6: a Chart of morse Code.

Figure 4-7: an Example of Caesar Cipher.

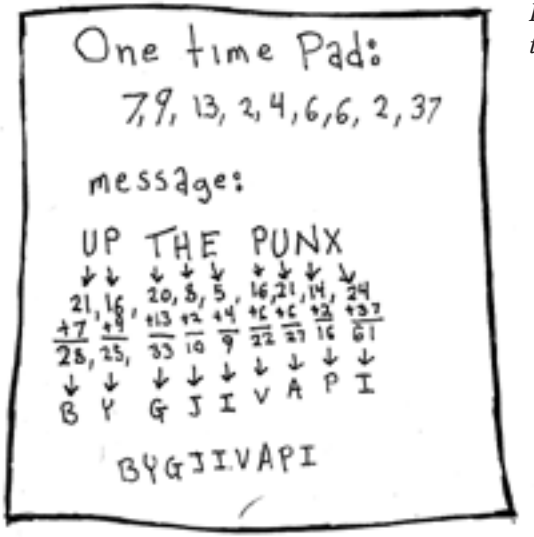


Figure 4-8: an Example of a one-time Pad.

Figure 4-9: a Chart of semaphore flag Signaling.

MORSE CODE [see figure 4-6]

Morse Code has a large Number of Uses. It can be squeezed in a Handshake, rapped onto prison Walls, or used over long Distances by way of Mirrors.

Signaling may be accomplished by use of a Mirror and a light Source—traditionally the Sun, but Lamps or similar Sources may be used in darker Situations. Either the Mirror itself is moved to flash Light, or, more commonly, a Hand or Shutter is used to block the Light momentarily, allowing a finer Control. Simple Codes must be devised ahead of Time, and while morse Code can be used, a basic "Two short Flashes means that our Foes are within the Walls" can be utilized as well.

SEMAPHORE FLAG SIGNALING [see figure 4-9]

Flags make great Signals as well, as evidenced by their common usage to communicate across the Waters between Ships. Although one can plan simple Phrases, such as "Attack," and "Retreat," there is an alphabetical System already prepared called Semaphore. Note that the same Alphabet has historically been communicated between Towers with mechanical Hands, allowing the Range of Communication to be significantly vaster.

CIPHERS

The Creation of Ciphers is an enjoyable Hobby, and it is one that may become crucial to your Defense. As hand-written Notes will likely be a form of Communication that you rely heavily upon, it will suit your Needs to send these Notes in Cipher.

CAESAR CIPHER [see figure 4-7]

The Caesar Cipher is an example of an easily broken Code. However, if your Enemies are moronic—or are simply unlikely to take the Time necessitated to break your Code—then it can be quite effective. Each Letter is simply adjusted up the Alphabet by a certain Number of Places. For Example, a caesar Cipher ten would replace the Letter A with the Letter K, the Letter B with the Letter L, etc.

ONE-TIME PADS [see figure 4-8]

One-time Pads are "perfect" Ciphers that cannot be broken by conventional Means. What's more, they are relatively simple to use. Each person who will receive or send Messages is given an identical Copy of the "one-time Pad"—a String of random Numbers. Each Letter in the Message to be coded is translated into a Number: A become 1, B becomes 2, etc. until Z becomes 26. The first Number of the Message is added to the Number that the first Letter on the one-time Pad corresponds to, and so on until the whole of the Message is thereby encoded. Any Number generated that is larger than 26 has 26 subtracted from it.

Messages thus generated can only be deciphered if your Enemy acquires the one-time Pad, and it is standard Practice to burn said Pad after use.

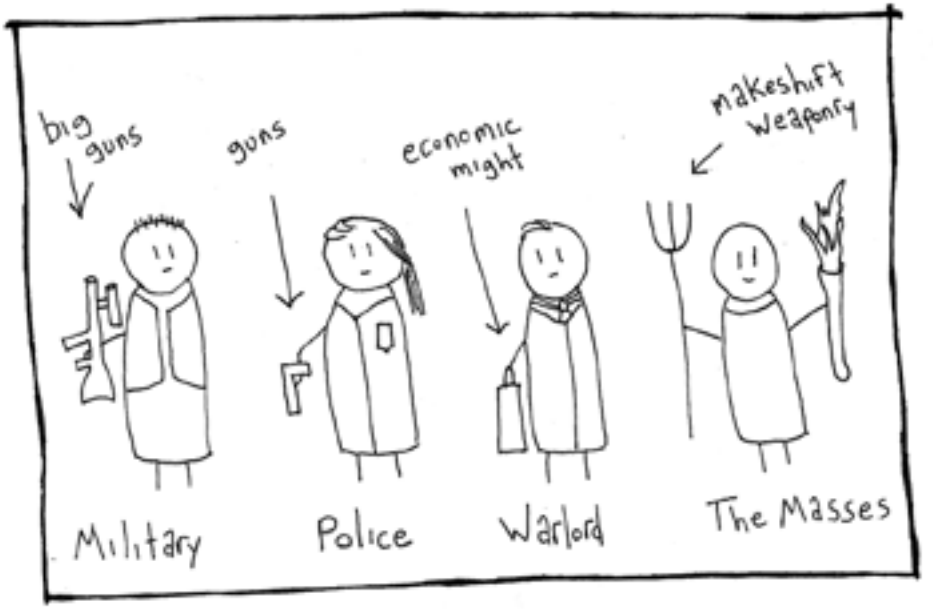


Figure 4-10: the Armament of your various potential Foes.

Beset by many Foes

It is important to gather a thorough Understanding of all the many Antagonists you are likely to find yourself in Contest with. Below are but a few broad Categories that many of your potential Assailants may fall within—take note that not every Individual within these Groups will present a Threat to your Survival, of course!

MILITARY

The People contained within this Category are those who spend a Majority of their Energy preparing for and engaging in Conflict. Owing to this Training and Experience, those within military Ranks present both the greatest Threat and Potential, from a defense-oriented Point of View. Note that this Category may encompass the Para-military, such as militia Members, in addition to the more traditionally uniformed People.

Open engagement with any well-structured Army is ill advised, unless it must transpire out of survival or ideological Necessity. If War is required, then it must be undertaken with an Understanding of guerilla Tactics.

The modern fighting Force grows increasingly dependant upon high Technology, from laser Range-finders to wireless Communications, from Radar to air Strikes. And it is this Reliance that will form the Majority of a SteamPunk's Advantage should any Conflict arise. As their massive Infrastructure begins to fragment and decay, these modern Toys will become increasingly unreliable, and like any hierarchical Institution, it may be slow to adapt. May Chaos be your Ally.

LAW ENFORCEMENT

Our second Category contains those who study the maintenance of Law and the Rule of Property. These People, while acquainted with Violence, are not quite as well suited to open Conflict. Rather, they are more focused on the sociological Effects they may have upon a Population.

The Police are remarkably dangerous in that they are uniquely adapted to enacting Violence

upon the People of their own Nations; it is as certain that many Officers will find themselves at Odds with our Survival as it is that some Officers will use their Training to best serve our Needs.

One time-honored Strategy for dealing with Police is to deflect their Anger onto a third Party, preferably one most vile. It is often useful to let Constables *believe* that you agree with them and respect their Authority.

Most Police are trained in unarmed Combat—focusing on painful Holds—, the use of Handguns, and many disabling Weapons such as Tazers and bean-bag Rifles. They are trained to surreptitiously interrogate, and they are trained to determine Lies. Increasingly in many Countries, Police are being trained in military Maneuvers, group Tactics, and the door-to-door Actions required to maintain a police State. Most Police, however, are *not* trained to act independently of their Superiors, and, like any centralized Force, a breakdown in Communication may paralyze them.

WARLORDS & THEIR MINIONS

While it would be comfortable to predict that the vast Majority of People will open their Arms and Hearts with the coming of the Apocalypse, casting their Differences and authoritarian Ambitions to the Side, it is likely that many People will instead vie for political Power.

Whether benign or vile, there will likely be many such competing Voices. Warlords, and their Minions, may arise from any Number of Fields, particularly those involving Leadership. Expect Politicians, Police, gang Leaders, and business People to step forward, offering many different political Positions.

Their Minions will come from every Sector of Society, and expect those without military Training to be versed in such Matters with all conceivable Haste.

Each individual Faction will need to be considered for their own Merits and Drawbacks, and each Warlord will need to be confronted in a different Manner. What are their Goals? What are their Motivations? Of whom does their Force consist? What manner of Weaponry will they bring to bear? Must they be confronted at all? All of these Questions must be considered.

THE DESPERATE

Representing the least powerful Element—on an individual Basis—of the post-apocalyptic World, the Desperate are those roving Gangs of carnivorous, aimless Needy we see depicted so often in post-apocalyptic Fiction.

The Desperate, while not to be underestimated, need not be so ravenously demonized. It is quite likely that the Majority of People will indeed find themselves formed into new, miniature Societies and will not be roaming the Countryside as some strange, vast, bovine Sea.

The simplest Solution for dealing with the Desperate is Nourishment, if Supplies allow. You never know what Skills a Person may offer to your Survival, and sharing will be a Survivalist's Trait shortly enough.

Unfortunately, it is possible that the underfed Masses might overwhelm a small SteamPunk Compound, and it would become necessary to defend oneself against them. In this Case, try to keep crowd control Tactics firmly in mind: untrained Soldiers act very much as a brainless Herd. Target any apparent Leaders and encourage a Rout—once running, a Crowd is very likely to continue to flee.

As a preventative Measure, avoid flaunting any Valuables, or Resources at all. Never draw attention to your Wealth.

Chapter Five: a brief Introduction to contagion

Long now have we adapted our Bodies to a Life devoid of Contamination, and it is quite possible that we have grown soft therefrom. Dependant upon Antibiotics instead of Antibodies, Sanitation and Health will be of no small Importance in the Decades to come, are we to survive.

This Chapter is remarkably incomplete, and proper Care ought be taken by any concerned SteamPunk—you among them—to seek out further Instruction.

Wellness

A healthy Body is far better Medicine than any Hospital may provide, and it is remarkable from what Maladies you may spring gaily back to your Feet if you take care of yourself well!

COMPOSTING TOILETS

The modern sewage System, Boon it has been, is still an Idea most infantile when brought under the rigorous Gaze of the intelligent Scientist. In short, it is unsustainable to flush Nutrients out into the ocean Waters, even if doing so allows us to flush most Disease as well.

One Solution to this Problem is to compost our Wastes. With the comparatively sterile Urine, this can be accomplished simply by urinating onto Soil. By varying your Location, and by not expelling onto edible Plants, most Complications are avoided.

But solid human Wastes carry many dangerous Pathogens, and it unwise to use such Matter as a direct Fertilizer. The Solution is found in composting, and many physical Constructions may be utilized [see *Figure 5-1*]. The Concept is not as complex as it may seem: at its most basic, you simply need to collect your solid Wastes to compost. Note that it is important to *not* urinate into the compost Toilet, and it is advisable to cover your Waste with Sawdust or Ash to keep Odors and Illnesses at bay.

Further, it is advisable to allow Humanure—as it has been dubbed—to sit for at least the Length of a full Year, allowing ample Time for every Pathogen to die. Any other non-traditionally compostable food Wastes, such as Flesh or Dairy, may also be composted in the humanure Pile.

In many Countries, it is currently illegal to compost using Humanure. Fortunate, then, that all legal Considerations will soon find themselves invalid!

TOOTHPASTE

Particularly considering the likely high-carb Diet of a Scavenger in the post-apocalyptic World, proper dental Care will be quite Important.

Firstly, it is suggested that Toothpastes and fluoride Rinses be Hoarded. But to supplement the use of such non-renewable Resources, a simple Toothpaste may be made from three Parts baking Soda and two parts Water. Mint or Cinnamon may be added for Taste.

When Toothaches or active Cavities are present, use the fluoride Toothpaste, but otherwise, you may depend on your homemade Variety.

DRUGS

Those unfortunate Souls reliant upon Medications will do well to stockpile in advance, and if possible to learn the Chemistry necessary for more complex Distillations. Antibiotics will need to be gathered as well, although their relatively short shelf Life will necessitate our Adaptation to more old-fashioned, herbal Methods.

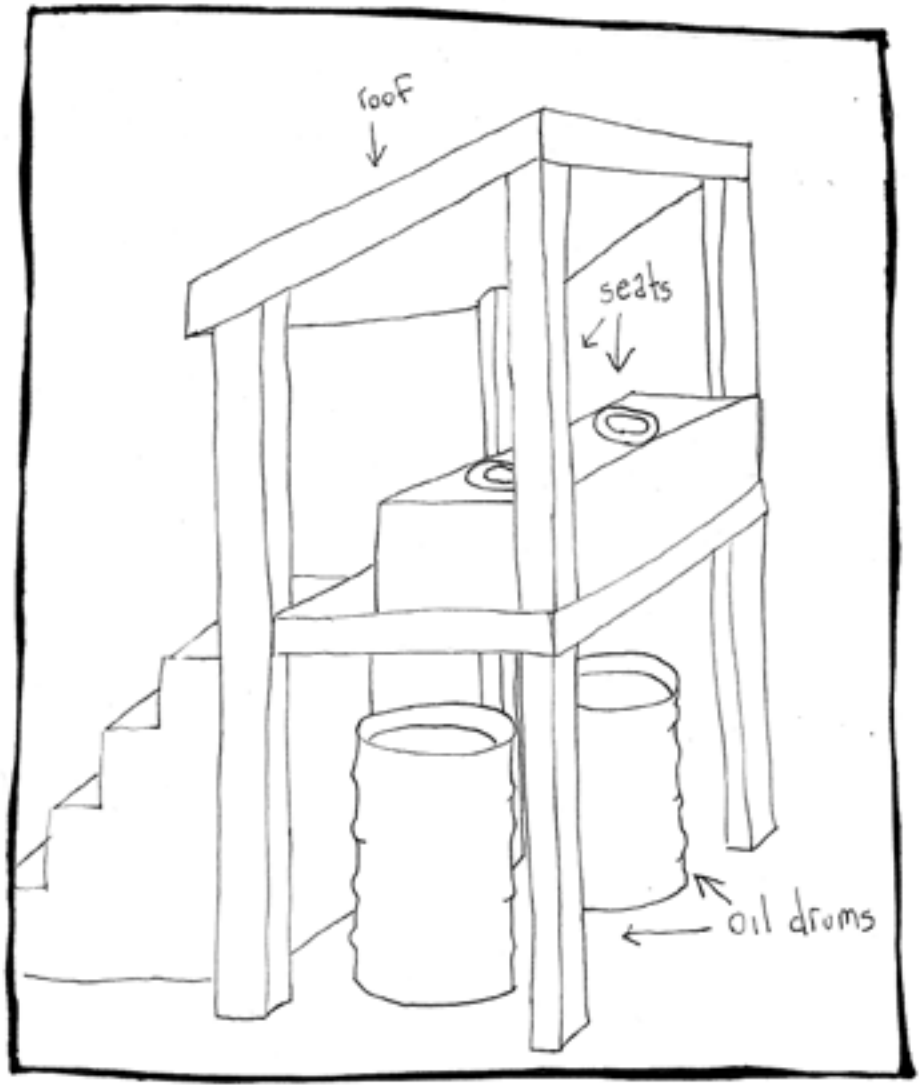


Figure 5-1: a relatively basic composting Toilet.

A rather great Variety of health Concerns may be solved through the application of herbal Remedies. Further Research will yield more complete Results, but be aware that: white willow Bark can be infused into Tea to relieve Aches, Pains, and Fevers; Garlic is a powerful Anti-biotic, Anti-fungal, and Anti-viral; Ginger is useful when your Stomach has been upset; Echinacea helps boost your immune System.

Illness

There are thousands of Contagions in the World, and we make no claims to cover them all herein. Instead, we focus on four of the more socially transmittable and socially awkward Diseases.

STAPH

Staphylococcus, better known as Staph, is an insidious Bacteria that lives upon your Skin, amiably enough, until that Skin is ruptured and the Bacteria enters your Bloodstream. Once inside, it may roam about your Body, bursting forth in the Form of Boils and Sores. Most often, your Body will fight it off with Success. But the Unfortunate will discover the Bacteria infecting their internal Organs, and Death may certainly result. Staph is transferable by Touch, and is therefore quite communicable. It is advised to use aggressive herbal Treatments, if Antibiotics are unavailable.

SCABIES

There is a bastardly little Mite referred to by Scientists as *Sarcoptes Scabiei*. Given the opportunity, it will live and breed on and under the Surface of your Skin. Not only is it a highly-communicable Infestation, but Scabies also takes up to six Weeks to be noticed, and the unfortunate Host is contagious this entire Span.

Untreated, bumpy red Itching will spread over your Body, and it is quite likely that your furious scratching will leave you quite prone to other

Infection. It is best treated via the application of hazardous chemicals such as Permethrin, and it is advised to acquire these controlled Substances immediately after the Apocalypse. Some People have also reported successful Treatment utilizing the Application of tea tree Oil to less developed Infestations.

Once treated, it is important to avoid Re-infection by keeping all Surfaces and Clothes in an immaculate State for two Weeks.

LICE

Another common Infestation found among People living communally is Lice. The Louse lives among the Hair of a Human, feasting on the Host and causing no small Degree of Itching. It looks a bit like a tiny, gray Lobster, and it affixes its Eggs—called Nits—to your Hair with its glue-like Saliva.

Lice must be controlled for Reasons both social and sanitary, and this may be accomplished through a few Methods: shaving your Head, applying poisonous Shampoos, or meticulous combing and Nit-picking.

GIARDIA

The Waters which abound are no longer Potable, you may know quite assuredly. One parasitic Predator that awaits your unfortunate Stomach is Giardia, and woe to those so infected.

You will likely spend your days excreting with great Rapidity from either end, and your Stomach will scream at you in a Tongue most extraordinary and painful. Symptoms begin within a few Weeks of drinking untreated Water and may last a few months or many Years.

Grapeseed Extract (GSE) features prominently in the herbal Treatment of Giardia, but it will take a competent Healer and a several week Regimen to find yourself Cured.

It is best to always filter your Water.

Appendix A: Survival Scenarios

Urban

In the Scenario we describe below, our Protagonists have located themselves—by Intention or Happenstance—within the limits of a minor Metropolis. This hypothetical Situation could unfold, with Variation, perhaps anywhere in the previously-civilized World, but we admit that the knowledge of the Author of this Document is limited primarily to the previously-united States of America.

LOCATION & DEFENSE

Immediately following the final Sigh of high Culture, our well-prepared crew of twenty People moved to occupy the high School of their Area. The Location was chosen for many sound Reasons: the School was built nearly as secure as a Prison, as its previous Role included the intentional Control of large numbers of rowdy Youth; the School was equipped with a Library, scientific Laboratories, a Gymnasium, a Kitchen built for feeding Hundreds, and other Amenities most convenient. The heating Boilers were quickly adapted to run steam Engines, fed with Scrap, that powered a great deal of the mechanical Processes in the School.

Upon seeing this impressive Degree of Infrastructure, many People chose to join them.

The admittedly weak chain-link Fence was reinforced by Walls of packed earth Tire (taken from auto Shops and Junkyards), which were laid like Brick and anchored to the ground with Rebar (gathered from construction Sites). These sturdy, thick Walls served as the first Line of Defense against Ne'er-do-wells.

Just behind these walls were built Trebuchets and Catapult, constructed from hewn wooden electrical

Poles. The electrical Cable itself was used in the construction of these Weapons, but it also found use in the Construction of Ziplines that traversed from the Rooftops to security Posts along the perimeter Walls.

Unable to secure Electricity to power video Cameras, the clever SteamPunks devised elaborate optical Networks of Lenses and Mirrors on moving Tracks that allowed them to view most Corners of their Compound.

Each Individual amongst them—of every Age, Gender, and Level of Ability—trained to Competency in the use of various Weapons. From Spears built from Knives and Poles (many outfitted most cleverly with Shafts that could unscrew to be half the Length), to repeating Crossbows built in the School's Woodshop; from compound Bows (both engineered locally and those scavenged from hunting supply Shops) to basic Slings that allowed their Wielders to stand behind Walls and rain Rocks and Chemicals upon any besieging Force, the SteamPunks were prepared for Conflict.

Firearms and Ammunition were also stored, and their dwindling Supply of Cartridges led them to design Rifles to accept the black Powder that they created in the schools Laboratories. Cannon, constructed of iron Pipe, were also mounted to the Roof but rarely employed.

Utilizing the ceramics Studio present within the School, our Protagonists threw Pots of Clay upon the potter's Wheel. These were then filled with black Powder, wrapped with oil-soaked Wicks, lit, then catapulted into the Midst of any Foes.

The scarce reserves of Petrol were not utilized in the name of Locomotion—Bicycles having won out as a favored Means of Transportation—but instead were combined with Styrofoam to create a Form of Napalm that filled glass Bottles. These molotov Cocktails were lobbed by Hand and by means of Staffsling upon Antagonists.

It was well and fine that they went through such elaborate Measures, because their urban Location led to a great many Conflicts with Police, Warlords, and roving Gangs of Scavengers.

WATER & FOOD

After moving into their new Castle, these SteamPunks set about to catch any Rainwater by means of the Cleaning and Redirecting of the Gutters that lined the Roof. Overtime, they expanded this useful, labor-saving System to include the cement Gutters that lined the nearby Streets, directing Water to Tanks for Filtration and Consumption.

They also installed a Series of water Wheels that utilized the downward Pull of Gravity upon the Rainwater. These water Wheels were used to coil Springs, the stored mechanical Force of which powered the Saws and other Equipment in the Workshops of the School.

Some of the Water was held in a Tower built atop the School, so that water Pressure could be maintained in the Kitchen. The bathroom Plumbing, however, was shut off and both Urine and Feces were utilized in the Fertilization of the Garden. Special Care was taken with the human Feces, and it was devoured and expelled by Worms in a process of Vermaculture before it was allowed upon the Plants.

For Nutrition, the Denizens of the High School were reliant on a diverse Selection of Foods. While the less-informed Hordes converged upon grocery Stores and convenience Stores, the SteamPunks rode bike Carts out to the Distributors that lined the edge of the City and the massive Warehouses in the industrial District. From these Places they accumulated Stores of dry Goods, but these Stores would not last.

Behind tire Walls and out of the Sight of the Ravenous, they planted a Garden that utilized the Principles of Permaculture to provide maximum Yield with a Minimum of Effort. Fruit and nut Trees, rescued from Nurseries, grew to provide a great Wealth of Foods.

They ate the vile Meat of Pigeon and Rat—those most effective Scavengers—after attracting and trapping the poor Beasts.

They harvested many of the edible Wilds of the city—from Dandelion to Clover, Blackberry to

Prickly Pear—although they knew that dangerous levels of Contaminates were to be found in many, particularly along major Motorways. Survival makes many strange Demands.

Parking Lots and minor Roads were broken up to provide more room for permaculture Gardens, and the Asphalt was used as fill in their tire Walls.

SOCIETY, CULTURE, & FASHION

Our SteamPunks were heavily involved in Matters both of Military and food Acquisition, and this influenced their Aesthetic.

Clothing was functional and hardy, much of it composed of patchwork Leathers and Synthetics recovered from Upholstery. Armor was worn as Decoration, and woven Chains of Nuts and Coins were common. There was much variation in Style, however, and many of those who spent more of their Time engaged in Horticultural pursuits favored lightweight Cottons with heavy Belts designed to carry Tools both martial and practical.

Although the expansion of both their Defenses and Gardens were labor-intensive Practices, there was still plenty of time for Recreation. Innovation was viewed as wondrous Hobby, and a great many Tinkerers whiled the Hours contrapting in the Shop and Laboratory. Many of the Day's Meals were communal Affairs, and socializing occupied a great deal of the Day's Time.

Without most recorded musical Media—excepting the record, which was often played by Bicycle—, singing and the playing of Music fell out of the Hands of the Few and into the Hands of most Everyone. Near every Evening concluded with the exhibition of various Musicians, playing a variety of Styles.

Those with less of a Taste for social Endeavors whiled Time in the vast Library—whose Contents had been expanded greatly by means of scavenging—and many a lamplit Night was passed in the company of astounding Volumes.

But Urban life for the Post-Civilized was in no way without Turmoil, and Death—from Enemies or Illness—was quite a common occurrence. The Dead were treated in Accordance with their various Religions.

Wilderness

Our second Scenario follows a similarly small Group—numbering twenty Souls—that chose to relocate to the Mountains immediately upon the Collapse of polite Society. This particular Collection of SteamPunks was located in the fertile temperate Zone of the united States.

LOCATION & DEFENSE

The advance Planning of our bold Crew was to be their saving Grace, as they had chosen a Spot both remote and south-facing upon which to survive. As the Warnings descended, they transported oil Barrels full of Rice, Beans, Medicine, and Equipment up to their chosen Site in the national Forests to bury.

Their Escape from the Cities and Suburbs was immediate, having been coordinated well in advance; they drove their Trucks and other Vehicles up the long, winding logging Roads and parked just as the Cities began to cry out in desperation.

The gathering of Supplies for building was to be the greatest Challenge to face these newly-rural SteamPunks, so remotely located were they. But the Soil itself was their greatest Ally. They gathered Tires from the small Towns nearby and dug an Abode into the Hillside. Building retaining Walls by packing the Tires with excavated Earth, they soon had a small Cabin that, half-buried, was nearly invisible to any who gazed upon it. The exposed edge was paned with windshield Glass, and an Overhang was built to maximize Shade in the Summer and solar Heat in the Winter. This passive solar Heating, combined with the astounding Insulation provided by the earthen Berm on three Sides, kept the Cabin cozy in Winter and Summer alike.

Their Strategy of Defense relied primarily upon their remote Location. Their Vehicles, stripped, were hidden well off of the Road, and they encouraged Wildness to reclaim their original Route of Entry.

But they did build Arms that—constructed primarily for Hunting—served in the Conflicts that arose. A short length of railroad Rail was brought up the Mountain and used as an Anvil. The Springs from Automobiles abandoned nearby provided an excellent Steel from which to forge a variety of bladed Weapons, and many Nails were formed into Arrowheads.

But the Crux of their Defense lay in their carefully laid Traps and Ambushes. Well-camouflaged Treehouses were to be found all throughout their Territory, each a with a Cache of non-perishable Food in five-gallon Buckets. It was from these Platforms that the SteamPunks did a majority of their fighting and hunting.

WATER & FOOD

The procurement of Water was an easy Task. During the strenuous first Months, they relied quite heavily upon the commercial water Filters and iodine Tablets they had acquired in advance, but soon they had rigged a Set of sand Filters into an embankment. Fed by a Diversion from the Creek, they never lacked for potable—and delicious!—mountain Water.

Being a small Band situated on a great deal of Land, the SteamPunks met most of their nutritionary Needs through gathering and a small Amount of hunting. Acorns were collected into large burlap Sacks that were tied shut and placed in swift-running Brooks. Days later, the Acorns were collected and ground into Flour by the water-wheel Mill they had constructed.

Wild Greens were foraged, Berries were picked and jellied, and Fruits were gathered and dried.

Once a week or so, a Deer or Elk was brought down by Bowshot, and as much of the Meat was smoked and salted as was eaten fresh-cooked.

Small Gardens were constructed and cared for, to supply many of the annual Vegetables that the SteamPunks were accustomed to and were willing to work for: Tomatoes, Lettuces, Eggplant, and the like.

Although a great Deal of Effort was put into the gathering of food Stores, the SteamPunks of the Wild rarely felt that they might go hungry.

The interpersonal Relations between such a small and isolated Group were quite challenging at Times. In the Beginning, a huge amount of Energy was exerted on the quelling of Alpha tendencies, so that no single Person held Power over another. Sometimes, romantic Couples would break into a fierce Feuding that cast a dark Spell over the entire Encampment for Days.

But when there was Work to be done, most social Problems dissipated quickly, and over Time everyone grew comfortable with their Fellows. Near every Night brought the Majority together for Discussion and Entertainment; the Day's Matters were spoken of, the Morrow's concerns were addressed, and one or another of the Company would pick up Fiddle or Saw and strike up a Dance. Some told Stories, others told Jokes.

New People filtered slowly in from nearby Towns, although only upon an Invitation offered by the Whole of the existing Community. Children were born, and within a Decade their Numbers had doubled.

Clothing was markedly utilitarian, and much of it was designed for camouflage and comfort. Aprons, tough Gloves, pocketed Belts, and Hoods were all common. Many wore no Shoes, even in the Winter. Still, a touch of Fancy was to be found, in the Bowlers, Necklaces, Pocket-watches, and Lace that seemed common among all Genders.

The Boredom of Isolation was their fiercest Enemy, and many took up Self-education to pass the mountain Hours. Soon, a wonderful variety of Contraptions were growing up all around, although none were intended to alleviate Labor!

There was a water-wheel Refrigerator, a hand-crank Lathe, wooden Bicycles, and Hand-gliders. Competitions between Inventors sprung up and were taken quite as seriously as one might take other Sports.

Appendix B: The End is Nigh
Victorians and the First Post-Apocalypse

by Professor Calamity

The Victorians are most known for their loving and almost maniacal belief in Progress, but not all 19th century citizens held such a rosy view of the future. There were those like Mary Shelly, Jack London, Conan Doyle, H.G. Wells and many others who believed that storm clouds were gathering and the end was nigh (a term that first found its way on wingnuts' placards in the 19th century). It not be surprising that this dark thread wove through the Primrosian tapestry of the Reign of Victoria and Rule Britannia. After all, it is no secret that, from the Queen to the lowliest scullery maid, the Victorians were obsessed with the Grim Reaper.

Certainly apocalyptic literature has a long a history, dating back to pre-biblical times, but it was the Victorians who first began to write and think about surviving the apocalypse. Literary scholars credit Mary Shelly with writing the first post-apocalypse novel, The Last Man, in 1826 (technically a decade before the Victorian Age), incidentally her favorite of her publications. Modern readers would recognize the familiar themes and situations: a society-destroying event, in this case an unnamed plague; a lone survivor who finds others; and the small troupe traveling to find a more hospitable location to start again. Of course the resourceful and noble band of survivors encounters bandits, religious cults, and deranged lone murderers. There were no less than a hundred full-length post-apocalyptic novels written between Mary Shelly's and the end of the century among many more novellas, short stories, and other pennings. It seems the Victorians were obsessed with disaster. But why?

The Victorian Age of Progress allowed a convergence of both cultural and technological

changes that deeply affected the psyche of Victorian thinkers and writers, allowing the idea of the post-apocalypse to lay its dark roots. The reign of Queen Victoria saw the expansion of the British Empire across the globe, and increased communications technology (e.g. telegraph) allowed Victorians to get timely news from around the world. This news was often presented in the flood of daily papers (because of the invention of steam-powered newspaper presses) that were eager to fill their columns and sell as many broadhseets as possible. Disaster sold, whether it was a volcano in Siam or a cholera epidemic in Vladivostok. Every morning British citizens were deluged with a litany of disasters from around the globe. This constant "parade of unthinkables" combined with a unprecedented population growth in England, especially in urban areas, especially among immigrants, undoubtedly created a sense of dread. One small example is that the best-selling scientific book of 1880-1884 was a hundred-year-old apocalyptic vision by Thomas Robert Malthus entitled Essay on the Principle of Population. Malthus laid out a horrifying future where over-population would lead to super-diseases, wars, and a mass die off the species due to starvation.

The Victorians didn't need scientists like Malthus or novelists like H.G. Wells to get them to think the end was coming, though, because they had experienced some rather shocking disasters themselves. There was 1816, the infamous "Year without a Summer," which saw the Thames freeze over and saw snow in July. It was the summer that Mary Shelly wrote Frankenstein. The sun was blotted out of the sky due to the largest series of volcanic explosions the world had experienced in over 10,000 years. 1883 saw the explosion of Krakatoa, the largest single volcanic explosion experienced and the largest sound ever heard by humans on the earth. It killed over 40,000 people on the islands of Sumatra and Java in less than 3 hours.

And it wasn't just volcanoes keeping the Victorians up at night. Nature itself seemed to have turned against mankind. The Irish Famine killed tens of thousands with its bewildering blight that ravished not only Ireland but most of northern Europe. Epidemics like typhoid and cholera swept into large urban areas killing tens of thousands of people in a city in a single summer. No one knew what caused it or how to stop it. Malaria killed more British subjects than all the colonial wars put together. Science and faith seemed powerless to stop these mysterious diseases. Even the crown jewel of progress, Technology, was the source of anxiety. Giant steam explosions in factories, aboard ships, and on railroads killed and maimed countless with the disturbing regularity of a well-oiled machine. And at the same time, machines were eliminating many people's livelihoods, creating a growing and restless army of unemployed. Political radicals of all stripes were murdering crown heads and blowing up cafes with new technologies like dynamite and nitro-glycerin. Despite the Victorian emphasis on propriety, vices both old and new from opium to pornography were gripping more and more of the population. It is little wonder than many Victorians saw the beginning of the end.

What separates Victorian thinking from the previous generations who had also weathered shocking trials of disasters is that they maintained their belief in Progress. It is not surprising that so many of the heroes of Victorian post-apocalypse writings are men (yes, they are without fail proper English gentlemen) of science and quite modern. They use their intelligence and understanding of science to not only survive but to hold out a promise for a new (if not better) future. Today's post-apocalyptic stories are a bit darker and more nihilistic perhaps, but they remain projects of the Victorians. The heroes are not the strongest or most "savage," but the ones who use their intelligence and ethics as their compass in the wastelands. In many ways, like steampunk itself, the post-apocalypse is both a critique of the world of technology and a celebration of our own innate ingenuity.

Appendix C: Further Reading

Overall

In The Wake Excerpt Booklet 1, Aric McBay. Freely downloadble from http://www.inthewake.org/excerpt1hi.pdf

Peak Oil Survival, Eric McBay. (An expanded Version of the Excerpt!)

The New Complete Book of Self-sufficiency, John Seymour.

Strategy & Defense

The Art of War, Sun Tzu. Freely downloadable from http://www.tangledwilderness.org

36 Strategies. Freely downloadable from http://www.tangledwilderness.org

Ecodefense: a field guide to monkey-wrenching, Dave Foreman.

Slinging.org, website: http://www.slinging.org/

Making Black Powder, website: http://www.wfvisser.dds.nl/EN/bp_making_EN.html

Trebuchet Mechanics, Donald Siano. Freely downloadable from http://www.algobeautytreb.com/trebmath35.pdf

Water:

W.E.L.L. Technical Briefs, Freely downloadable from http://www.lboro.ac.uk/well/resources/technical-briefs/technical-briefs.htm

Food:

Gaia's Garden, Toby Hemenway.

Food Not Lawns, Heather C. Flores

Feral Forager, Wild Roots Collective. Freely downloadable from http://anti-politics.net/distro/download/feralforager-olympiascan.pdf

The Humanure Handbook, Joseph Jenkins.

How to Grow More Vegetables Than You Ever Thought Possible On Less Land Than You Can Imagine, John Jeavons.

Ghetto Gardening, Anon. Freely downloadable from http://www.zinelibrary.net

Materials:

The Joy of Hand Spinning, website: http://www.joyofhandspinning.com/

Architecture:

Earth-Sheltered Houses, Rob Roy.
Comfort in any Climate, Michael Reynolds.

Health:

Where There is No Doctor, David Werner.
Where There is No Dentist, Murray Dickson.
Beyond Antibiotics, Michael Schmidt.
Our Bodies, Ourselves, Boston Women's Health Book Collective.
US Army Special Forces Medical Handbook, US Army.
The Herbalist's Way, Nancy & Michael Phillips.

Social/Political Interactions:

Days of War, Nights of Love, CrimethInc.
Consensus Decision Making, website: http://en.wikipedia.org/wiki/Consensus_decision-making

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