

Harnessing the Natural Laws

Technology in Your Game by Monte Cook

Chaositech is the result of harnessing raw chaos to accomplish seemingly impossible deed, or at least impossible without magic. Chaositech has an opposite, however—and it's not magic.

hether you call it "steamtech" or "science," or even something like "ordertech," chaositech's opposite involves accomplishing impressive deeds using the natural order of things. Science is far more reliable than chaositech but less powerful, bound as it is by the laws of physics.

mechanically assisted armor becomes possible in such a setting. It would be embraced by the followers of order and law, thus becoming the perfect foil for chaositech-wielding cultists.

Steam-powered constructs, dangerous weapons, and even

INCORPORATING TECHNOLOGY INTO A FANTASY SETTING

Obviously, the most common sources of inspiration for fantasy gaming—Tolkien, Moorcock, Burroughs, and so on—don't have their heroes using much in the way of technology. Generally, fantasy connotes an early Medieval Europe level of technology. If you want to incorporate a higher tech level, you can first look at real-world Europe a few hundred years later. The late Medieval and early Renaissance had firearms, spyglasses, magnetic compasses, and so on.

Taking this a step further, you can wonder what would have happened if the steam engine had been discovered at that time. What sorts of devices would people have created? And, since this is a fantasy setting, we can extrapolate all sorts of interesting fantastic applications, some perhaps created with the assistance of magic (or at least a magically assisted or divinely inspired insight).

FIREARMS

The most dramatic application of science in such a setting would be the use of firearms. There are many kinds, and how you adopt them into a fantasy setting depends on their prevalence. If they are new, rare, and strange things in most people's eyes, treat them as exotic weapons. However, if they are common in your setting and have been around for a while, you could classify them as simple weapons—for the truth of it is, that was the real benefit of firearms (as with crossbows). You point and pull the trigger. So simple, even a peasant could use them (which is why they were so feared in the real world). In your campaign world, some kingdoms may require a special permit to use and carry such weapons, in order to regulate them.

A compromise variant is to create a single general feat, Use Firearm, that allows use of all firearms.

See the table below for firearms weapon stats. Descriptions follow in alphabetical order.

FIREARMS							
	Cost	Size	Туре	Damage	Critical	Range	Weight
Dragon Pistol	250 gp	1h	P	1d12	X3	50	2 lbs.
Sting (Pistol)	120 gp	light	P	1d8	×3	30	1 lb.
Double Pistol	300 gp	ıh	P	1d10	×3	40	3 lbs.
Dragon Rifle	500 gp	2h	P	2d8	X3	150	5 lbs.
Hydra Rifle	1,200 gp	2h	P	1 d 12	×3	120	7 lbs.
Chimera Rifle	1,200 gp	2h	varies	varies	varies	varies	10 lbs.
Spyglass Rifle	700 gp	2h	P	2d8	X3	150	6 lbs.
Hellsbreath Gun	1,000 gp	2h	fire	2d6**	N/A	*	7 lbs.
Hand Cannon	900 gp	2h	P	3d6	×3	60	5 lbs.
Repeater Rifle	2,000 gp	2h	P	1 d 12	X3	100	6 lbs.
Powder Bomb	150 gp	ıh	*	3d6***	N/A	10	1 lb.
Smokebomb	30 gp	ıh	*	N/A	N/A	10	1 lb.

*Special

Ammunition	Cost
Shot and Powder (1 load)	15 sp
Powder Horn (10 shots)	10 gp
Ammunition Pouch (10 shots)	5 gp

^{**}Damage inflicted in a line 20 feet long

^{***}Damage inflicted in a 5-foot radius

Chimera Rifle: This strange deviation of the hydra rifle also has three barrels. One is a standard rifle barrel, one launches a small dart (usually drugged or poisoned), and

The Armor Piercing Nature of Firearms

You might have read that one of the most devastating aspects of the firearm as it developed was that it could pierce armor. However, this is true of the longbow as well. Yet the d2o rules don't give the longbow any special "armor piercing" qualities other than a deadly $\times 3$ critical. The same, then, should apply to firearms in the abstract combat system of the game.

However, if this truly bothers your sensibilities for some reason, try this variant: have firearm attack rolls ignore 3 points of armor or natural armor bonuses. If you do this, you should certainly make firearms exotic weapons OR reduce the damage they inflict by a die type (so dragon pistols inflict 1d10, dragon rifles 2d6, and so on).

one emits a very shortrange blast of alchemist's fire. The dart inflicts only 1d4 points of damage and has only a moderate range (it is purposely not very powerful, so as not to unduly harm a target to be drugged and captured). The blast of alchemist's fire has a range of only 10 feet, but, as with a hellsbreath gun, it fires in a line that damages all within the affected area with alchemist's fire unless they succeed at a Reflex saving throw

(DC 15). Those who succeed still suffer 1 point of fire damage. (Unlike the hellsbreath gun, the smaller amount of alchemist's fire stored within the weapon and the smaller powder charge—and thus the shorter range—mean that there is relatively no danger in using it.)

A chimera rifle, unlike a hydra rifle, cannot be fitted with a master trigger. It takes a full round to load the standard rifle and the dart launcher and two full rounds to load the flame blaster.

Double Pistol: This pistol has two barrels, so one can fire it twice before needing to reload (one move action for each barrel).

Dragon Pistol: The most common firearm, this weapon features an iron dragon's head around the muzzle, so its shot comes from the dragon's mouth. Reloading the pistol requires a move action.

Dragon Rifle: This firearm is a larger, longer-barreled version of the dragon pistol with better range and inflicting greater damage. The rifle requires one move action to reload.

Hand Cannon: This short, wide pistol is a large weapon, so despite its shape, using it requires both hands, unless the user is an ogre or similar creature. It has a very short range but packs an amazing punch. This weapon is often used for blasting down doors and even through wooden walls. This weapon requires one move action to reload.

Hellsbreath Gun: This device consists of a powerful pump activated by a blast of powder that sprays a reservoir of alchemist's fire in a line up to 20 feet long. Anyone in the line must make a reflex saving throw (DC 15) or suffer damage as if struck by a flask of alchemist's fire. A successful save indicates that the attack still inflicts 1 point of fire damage.

This weapon is favored by those with no skill at firearms. However, it is dangerous to use. Each time the user fires the weapon, roll a d20. On a roll of a 1, the reservoir ignites within the weapon and explodes, destroying the gun and inflicting 2d6 points of fire damage on the user (Reflex save, DC 20, for half damage).

A hellsbreath gun requires two full rounds to reload.

Hydra Rifle: This variant dragon rifle gets its name from the fact that it has three barrels. Each barrel has a separate trigger; thus, one can fire the weapon three times without loading—it's like carrying three loaded rifles at once.

However, for an extra 250 gp, one can fit it with a master trigger that allows the user to fire all three at once. All three attacks are rolled independently, and all must be fired at the same target. It is not possible to fire only two barrels.

Each barrel must be loaded separately, each taking a full

Repeater Rifle: This weapon can fire six rounds before requiring a reload. Reloading is a full-round action.

Powder Bomb: This gunpowder explosive has a blast radius of 5 feet.

Smokebomb: This nondamaging explosive creates a cloud of smoke in a 20-foot radius that persists in still conditions for 1d3+6 rounds and in windy conditions for 1d3+1 rounds. Visibility within the smoke is limited to 2 feet. Everything within has 90 percent concealment.

Spyglass Rifle: This weapon resembles the dragon rifle, except with a spyglass mounted atop it to help at range. The weapon ignores its first range increment. (So penalties for range begin at 300 feet.)

Sting: This pistol is small and concealable. It requires a move action to reload.

CANNONS

Cannons are very large firearms. All cannons must be mounted on a solid surface or small platform (often with wheels for transport). See the next page for their stats.

Small Cannon: This weapon is 4 feet long and made of iron. It takes four full rounds to load and fire (having multiple characters work at it can shorten this to two full rounds).

Large Cannon: This weapon is up to 7 feet long and made of iron. It takes six full rounds to load and fire (having multiple characters work at it can shorten this to three full rounds).

Pipe Organ Cannon: This weapon gets its name from the fact that it consists of six barrels, all lined up—it is basically six small cannons in one. The six barrels can be fired at once

CANNON							
	Cost	Size	Туре	Damage	Critical	Range	Weight
Small Cannon	1,000 gp	*	P	4d6	X3	150	500 lbs.
Large Cannon	2,500 gp	*	P	6d6	X ₃	200	1,500 lbs.
Pipe Organ Cannon	1,800 gp	*	P	3d6×6	×3	100	1,000 lbs.

*Special

or one at a time, each targeting a different adjacent square (a creature six squares long could be struck by all six, or the weapon could strike six adjacent Medium creatures or three adjacent Large creatures each taking up 2 squares on a side).

Notes About Cannon Ammo: The damages listed above are for a cannonball. Grapeshot is a mass of tiny pellets that covers a radius of 10 feet but inflicts only half damage. Grapeshot reduces the effective range of the cannon by half. Explosive charges also reduce the effective range of the cannon by half and explode on impact, inflicting the listed damage in a 10-foot radius. A reflex saving throw (DC 20) reduces the damage by half for both grapeshot and explosive charges.

Ammunition	Cost	
Cannonball and Powder (1 load)	5 gp	
Grapeshot and Powder	15 gp	
Explosive Charge and Powder (1 load)	50 gp	

OTHER WEAPONS AND ARMOR

For the technologist warrior, there are more options than just firearms. Consider these unusual ranged weapons and armor types as well.

Powered Bows: Powered longbows are engine-assisted mighty bows that do not require high strength to use. As with mighty bows, the bonus applies only to damage. The bonus does not stack with the archer's normal Strength bonus.

Powered Mighty Longbow	Cost
(+1 Strength bonus)	400 gp
(+2 Strength bonus)	600 gp
(+3 Strength bonus)	1,200 gp
(+4 Strength bonus)	1,000 gp

Articulated Armor: The DM may wish to make articulated armor from *Monte Cook's Arcana Unearthed* available in a setting with a higher level of fantasy technology.

Pistol Shield: This large shield has a dragon pistol built into it, with the barrel facing straight out. This allows the wielder to fire the pistol, then draw a melee weapon and charge into a fight. This weapon/shield costs 300 gp.

Blast Axe (Pistol

Axe): This strange weapon is a long-barreled dragon pistol. Its reinforced barrel has an axeblade on the end. The weapon can be fired like a regular pistol, then used as a handaxe. This weapon costs 300 gp.

Steam Armor: This steam-powered armor protects as plate armor and adds a +4 enhancement bonus to Strength due to its built-in Unrealistic Science

Some of the weapons and gear described here are unlike anything that ever worked in the real world. Steam powered constructs, strengthenhancing armor, and battle carts are all the stuff of fantasy. Some merely push the limits of what one could realistically expect in a nonmodern setting, such as a repeating rifle. One has to imagine magically-assisted intelligence was behind such invention, as well as fantastic alchemical aids such as flamestones to produce the heat needed for the steam engines. The DM will need to figure out where to draw the line, if anywhere. Of course, the fantastic elements of such devices could be taken even further than the things present here. For example, you could add a static gun into the weapons list that fires a line of electricity up to 50 feet that inflicts 4d6 damage. (Such a weapon could only be used every 5th round as it builds up a charge.) Or, a technologist might even perfect a mechanized brain of some kind—a clockwork artificial intelligence!

strength-augmenting mechanisms. It costs 18,000 gp.

TRANSPORT

This section contains just some of the options characters have for using technology to help them get around.

Battle Cart: This massive vehicle appears to be a wagon without horses. It measures 10 feet long and about 6 feet wide (size Large). Its sides are armor-plated, with small slits for archers or riflemen to use. The cart has a hardness of 10 and 200 hit points.

The steam-powered vehicles can travel up to 20 miles per hour over flat, smooth terrain. They are usually outfitted with a ram or a spiked plate on the front for running down foes on foot (inflicting 3d6 points of damage if at full speed; a Reflex save, DC 15, negates the damage). One character must drive the cart. While it is moving, controlling the cart is a full-round action. A Dexterity check (DC 15) is required to avoid obstacles when moving at full speed. The battle cart costs 15,000 gp.

Glider Wings: These aerodynamic wings can be strapped onto a Medium creature, allowing it to glide through the air. A character can take ranks in Ride (glider wings) to use them properly. On a still or relatively calm day, the glider travels in a straight line for twice as far as it drops. (So a character

with the wings atop a 40-foot tower can travel 80 feet laterally before landing.) On a very windy day, a character can travel much farther—almost indefinitely—if he makes a Ride check (DC 15) every 10 minutes. Landing safely requires a DC 12 check. Failure results in 1d6 points of damage to both the character and the wings, if they dropped at least 10 feet. The wings, made of light wood and canvas, have a hardness of 3 and 10 hit points. Their wingspan measures 15 feet. The wings cost 1,400 gp.

Hot Air Balloon: With a powerful furnace underneath it, a large balloon can carry aloft up to 2,000 lbs. A single character can operate the balloon, controlling its direction and altitude. Navigation, of course, depends greatly on the wind's direction and speed. The balloon itself measures about 40 feet across and 60 feet high. The basket hanging below it is about 8 feet in diameter. The balloon has a hardness of 1 and 5 hit points. The basket has a hardness of 3 and 30 hit points. A hot air balloon (with furnace) costs 3,500 gp.

MISCELLANEOUS GEAR

Below are just some of the most basic devices you might find in a fantasy setting with a technological edge.

Item	Price	Weight
Barometer	300 gp	2 lbs
Bell Alarm	50 gp	3 lbs
Magnetic Compass	450 gp	1 lb
Mercury Thermometer	350 gp	ı lb
Pill	varies	_
Pocketwatch	30 gp	1 lb
Pressurized Launcher	420 gp	5 lbs
Spyglass	500 gp	ı lb
Syringe	50 gp	1/2 lb

Barometer: A hand weather-predicting device.

Bell Alarm: This alarm can be set to go off at a specified time.

Magnetic Compass: This device is extremely valuable in determining direction and keeping a traveler on the right path, whether she is making her way through the woods or across the sea on a ship.

Mercury Thermometer: This handy device indicates the temperature.

Pill: Potions can be distilled into tablet form for easy storage. The effects and cost remain the same, but the weight is negligible.

Pocketwatch: This small timepiece weighs about a pound. Pressurized Launcher: This device can project something with great force. Although it could be used as a weapon, this is not the standard use—firearms are far more efficient. Instead, people most often use it to fire grapnels with attached ropes up to 100 feet with great force and accuracy, even anchoring them into a stone wall. If it does not need to embed itself, the grapnel can travel up to 200 feet. If used as a weapon, it inflicts 2d6 points of damage to a single foe up to 100 feet away (apply a -2 penalty to attack rolls made with it).

Spyglass: Objects viewed through a spyglass appear twice their normal size.

Syringe: This is an easy way to inject a potion directly into a creature. If the syringe is in hand and full, it requires only a move action to inject.

CONSTRUCTS AND SPECIAL MACHINES

Putting steam-powered constructs into a fantasy setting is easy. Simply use already-existing constructs, such as a shield guardian (without the spell storing or shield other abilities), and describe the plume of steam or smoke that comes out of the smokestack built into its back. The means of construction becomes almost entirely a flavor issue in this case, except for the skills needed to create or possibly disable the construct. (See the next section for more on skills.)

The four main types of golems in the MM make poor steam or science constructs, unless you take away their immunity to spells (which make no sense if they are technological). If you do this, reduce the Challenge Rating by 1 for the flesh golem and by 2 for the others.

Note that the chaosomaton creatures described in *Chaositech* could be technologically created, steam-powered clockwork creatures as well. These would not have built-in chaositech, obviously, but could have built-in firearms or other devices. Because the clockwork creature would be so much more reliable, the cost doubles.

But steam and clockwork machinery can be put to other uses as well. A castle could have a mechanized, automatic winch for raising and lowering the portcullis or to power and enable complex traps to keep out thieves. A technologically savvy wizard would put machines in his lab to help him move and work with heavy or delicate experiments. In a fantasy setting with technology, the PCs should encounter all sorts of strange mechanisms and devices.

SKILLS

Technology changes the skills in your game a bit.

Knowledge (machines) or Knowledge (science) make good additions to a setting with technology. Such skills could be used to identify an unknown device or understand how to make it work.

SKILL CHECK DIFFICULTY CLASSES			
Item	Craft	DC	
Simple tech item (compass, thermometer)	Machines	15	
Complex, small tech item (pocketwatch)	Machines	20	
Firearm (single-shot)	Firearms	20	
Firearm (repeating, double, or multi-use)	Firearms	24	
Large machine (drawbridge mechanism)	Machines	25 × 2	
Large complex machine (construct)	Machines	25 × 4	
Extremely complex device (steam armor)	Machines	30×4	

Craft (machines), however, is needed to actually create something like a clock, a steam-powered construct, or a mechanically controlled door. For complex devices, a character must make multiple checks. For example, creating a mechanized shield guardian as described earlier might require four separate Craft checks, each with a DC 25. The cost would be 75,000 gp, because it does not have magical abilities. For other types of checks, see the table above.

Firearms are created with Craft (firearms).

Disable device takes on a new meaning in a setting with technology. Characters with this skill could make a dragon rifle inoperable or set a magnetic compass to point in the wrong direction.

MAINTENANCE AND FUEL

To keep a technological item functioning, whether it is a firearm or a steam-powered mechanical elevator, a character must make a maintenance check once per month. The check can be made with either the appropriate Craft or Knowledge skill. The Difficulty Class is 10, unless the overall price of the device is higher than 1,000 gp. In such a case, the DC is the price divided by 100. Without this check, the machine breaks down and Craft (machines) must be used to repair it, using the standard repair rules.

Steam-powered items burn wood or coal to produce steam, or they use a special alchemical substance called flamestone. Wood is cheap but requires a very large burner. Coal is more expensive, usually costing about 5 gp to power a device for only one day. Flamestone requires the least

amount of space (and thus is essential for steam armor and other fantastic tech items,) but each stone costs 10 gp and lasts about one day.

Some clockwork items, like pocketwatches, are springdriven and require no fuel but must be wound or cranked manually.

TECHNOLOGY AND MAGIC

Bringing technology into your campaign also allows you to introduce new magic—specifically, this new clerical domain and its associated new spells.

TECHNOLOGY DOMAIN

Deities: Teun, the Mother of All Machines, the Iron God **Granted Power:** You gain a +2 competence bonus to Knowledge or Craft checks that apply to technological devices. You also gain automatic proficiency with one type of firearm (if they are exotic in your campaign).

See the table below for this domain's spell list.

NEW SPELLS

CANNONS OF HEAVEN

Conjuration (Summoning)

Level: Technology 9

Components: V, S, DF

Casting Time: Standard action

Range: Long (400 feet + 40 feet/level)

Area: 30-foot spread

TECHNOLOGY DOMAIN SPELLS			
Level	Spell	Description	
1	Identify device (from Chaositech)	Reveals nonmagical device's most basic function.	
2	Lock and load	Caster loads a firearm with a move action.	
3	Repair device	Restores one broken or disabled device.	
4	Conjure device	Summons a device for 1 round/level.	
5	Explosive shot	Firearm inflicts damage in a 10-foot spread.	
6	Heartseeking shot	Firearm ignores armor and inflicts criticals.	
7	Create device	Creates a device permanently.	
8	Conveyance	Creates a technological flying vehicle.	
9	Cannons of heaven	Summons cannons that bombard an area for 10d6 points of damage for 1 round/level.	

Duration: 1 round/two levels Saving Throw: Reflex half Spell Resistance: No

At your command, a cloud appears in the sky, bristling with cannons. It hovers no more than 100 feet in the air and bombards any area within range (changing areas is a free action), inflicting 10d6 points of damage per round. The cannons and the cloud cannot be attacked, but they can be dispelled.

CONJURE DEVICE

Conjuration (Summoning)

Level: Brd 4, Sor/Wiz 4, Technology 4

Components: V, S, M

Casting Time: Standard action

Range: Close (25 feet + 5

feet/two levels)

Effect: A single techno-

logical device

worth up to

200 gp/level

Duration: One

minute/level

Saving Throw:

None

Spell Resistance:

No

You summon

into being a

mechanical device that you are familiar with. It

appears within the range,

as you decide. The device is in

perfect working order and is fully fueled or loaded (as the case might be).

Material Component: A jewel worth at least as half as much as the device.

CONVEYANCE

Transmutation

Level: Sor/Wiz 8, Technology 8

Components: V, S, DF, M

Casting Time: Full round

Range: Touch

Effect: One flat platform up to 20 feet to a side

Duration: One hour/level **Saving Throw:** None **Spell Resistance:** No

You touch a piece of metal or a metal device weighing at least 100 lbs. and transform it into a technological flying

platform up to 20 feet square. You understand the controls and can control the device using a standard action each round (unless the platform is only hovering). You can teach another character to control the craft with only 10 minutes of instruction. The platform moves at a speed of up to 50 miles per hour with Perfect maneuverability. It has a hardness of 10 and 250 hit points.

Material Component: 100 lbs. of metal.

CREATE DEVICE

Conjuration (Creation)

Level: Sor/Wiz 7, Technology 7

Components: V, S, M

Casting Time: Standard action

Range: Close (25 feet + 5 feet/two

levels)

Effect: A single technological device worth up to 200

gp/level

Duration: Instantaneous **Saving Throw:** None

Spell Resistance: No

You call into being a mechanical device that you are familiar with. It appears within the range, as you decide.

The device is in perfect working order and is fully fueled or loaded (as the case might be).

Material Component: A jewel worth at least as much as the device.

EXPLOSIVE SHOT

Transmutation

Level: Sor/Wiz 5, Technology 5

Components: V, S

Casting Time: Standard action

Range: Touch
Effect: One firearm
Duration: 1 round/level
Saving Throw: Reflex half

Spell Resistance: No

You temporarily transmute a firearm so that the shots it fires are explosive and inflict their listed damage within a 10-foot spread. Those in the area can make a Reflex save for half damage as if resisting a spell you cast. This spell cannot be used on a weapon already affected by heart-seeking shot.

WEB ENHANCEMENT

HEARTSEEKING SHOT

Transmutation

Level: Sor/Wiz 6, Technology 6

Components: V, S

Casting Time: Standard action

Range: Touch
Effect: One firearm
Duration: 1 round/level
Saving Throw: Reflex half
Spell Resistance: No

You temporarily transmute a firearm so that it ignores armor, shield, and natural armor bonuses due to its piercing quality. The weapon also automatically inflicts critical hits each time it hits. This spell cannot be used on a weapon already affected by *explosive shot*.

LOCK AND LOAD

Transmutation

Level: Sor/Wiz 2, Technology 2

Components: V, S

Casting Time: Standard action

Range: Touch
Effect: One firearm
Duration: 1 round/level
Saving Throw: None
Spell Resistance: No

For the duration, all firearms that you touch are loaded and ready to fire. This spell conjures the ammunition and powder needed. Touching a firearm is a move action. This spell proves particularly useful with cannons.

REPAIR DEVICE

Transmutation

Level: Sor/Wiz 3, Technology 3

Components: V, S

Casting Time: Standard action

Range: Touch

Effect: One broken or disabled device

Duration: Instantaneous Saving Throw: None Spell Resistance: No

One broken device is automatically repaired and restored to full working condition, assuming that at least 80 percent of the original device is still on hand. The device may still need fuel or ammunition.

Credits and Legal

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