Table of Contents

See Appendix IP – Interventions Reference Sheet

"How many valiant men, how many fair ladies, breakfast with their kinfolk and the same night supped with their ancestors in the next world! The condition of the people was pitiable to behold. They sickened by the thousands daily, and died unattended and without help. Many died in the open street, others dying in their houses, made it known by the stench of their rotting bodies. Consecrated churchyards did not suffice for the burial of the vast multitude of bodies, which were heaped by the hundreds in vast trenches, like goods in a ships hold and covered with a little earth." – Giovanni Boccaccio

"Accounts from Europe indicate that the danse macabre took another form, inspired by the Black Death, rather like our children's rhyme 'Ring o' Ring o' Roses,' which refers to the Great Plague. In 1374, a fanatical sect of dancers appeared in the Rhine, convinced that they could put an end to the epidemic by dancing for days and allowing other people to trample on their bodies. It is not recorded whether they recovered but, incredibly, they began to raise money from bystanders. By the time they reached Cologne they were 500 strong, dancing like demons, half-naked with flowers in their hair. Regarded as a menace by the authorities, these dancers macabre were threatened with excommunication."

– Catharine Arnold, <u>Necropolis: London and Its Dead</u> (2006)

The Black Death: This odd occurrence of the Dancers Macabre predates the Ghost Dance by 500 years and 5,000 miles, but both have the same root in world-shattering social upheaval.

The Bubonic Plague's arrival in Europe (the Second Pandemic) provides a profound example of societal collapse fitting the scale and scope of this simulation. The Plague entered Europe from the south in about 1346 and spread over the next ten years north, west and east, reaching Moscow in 1353. From 1348 to 1350, a series of 'spontaneous' but organized anti-Semitic riots, massacres and looting – retroactively called 'pogroms,' a word invented almost 500 years later – swept across the major cities of Europe in response to the Black Death. Two Papal Bulls issued in 1348 could not stop or correct centuries of legitimized, sanctioned, institutionalized, and politically exploited anti-Semitism. In many cases, the authorities agitated the urban rioting against the Ghettos, and the Holy Roman Emperor added incentive by making Jewish property forfeit.[1]

It also spread through the Middle East, Egypt and North Africa with equally devastating consequences, the Black Death inflicted a huge toll on the Mongol Empire hastening its rapid decline.

The Church could not explain or stop the plague, the authorities had no answers, none understood the causes. The pandemic eroded faith in the Church and the secular authorities whose legitimacy was granted by the Church.[2] Since the Church also provided primary medical care and burial, a disproportionate amount of the lower clergy died of the Plague, such that the shortages were made up by admission of less qualified and less desirable people (and people with a different worldview due to the times, see 1 Constructural Elements, *supra*) to the clergy and staff.

1 Disruption – The Black Death

✓ "Realizing what a deadly disaster had come to them, the people quickly drove the Italians from their city. However, the disease remained, and soon death was everywhere. Fathers abandoned their sick sons. Lawyers refused to come and make out wills for the dying. Friars and nuns were left to care for the sick, and monasteries and convents were soon deserted, as they were stricken, too. Bodies were left in empty houses, and there was no one to give them a Christian burial." – author unknown.[3]

▪ Pope Boniface VIII secularized medicine about 1300 A.D. by removing the requirements that medical doctors complete basic clergy training. The long-term importance of this small move – the secular medical science of the West – in the development of Western civilization cannot be understated.

Other factors, such as militarization of the peasantry (starting with the Crusades), the widespread use of gunpowder ('the great equalizer'), dynastic ambitions, Church corruption from top to bottom,[4] religious schisms, rise of wealthy merchant classes and a new middle-class, wealth influx from the New World and population drain from colonization, and the literal and figurative bankruptcy of the feudal system, enabled and accelerated the collapse of European feudal society.[5]

Significant infant and youth mortality rates in Europe is the most probable *practical* reason for the practice of infant baptism by the clergy. Likely, this practice intensified late in the period as a result of the Black Death and the incessant warfare, becoming a target (along with indulgences) of the increasingly radical and fracturing Protestant movement.

✓ "Manz, formerly one of Zwingli's closest allies, held that there was no biblical warrant for infant baptism. Refusing to recant his views, he was tied up and drowned in the River Limmat." – Alister E. McGrath, <u>Christianity's Dangerous Idea: The Protestant Revolution: A History from the Sixteenth Century to the Twenty-First</u> (2008).

▪ The theological arguments for or against infant baptism between Luther and the Anabaptists are both oddly interesting and irrelevant.

Drowning Anabaptists was colloquially referred to as "third baptism." Anabaptists were the radical forefront supporting the German Peasant's Revolt in 1524-1525 and suffered greatly for it.

The Black Death was not the sole cause of the collapse of feudal society or the Reformation and the Wars of Religion between the 15th through 17th Centuries, but it was the initial cause, undermined the existing authority, upended the social order (Danse Macabre, no one was safe from the Plague, *mors omnia aequalia* – all are equal in death), and contributed to an era of widespread paranoia, fear, militant religious fanaticism and persecution of minorities and social outsiders.

✓ The most shocking act of fanaticism I can recall in fantasy-fiction literature was the ending of Katherine Kurtz' novel <u>The Bishop's Heir</u>, when the bride's brother leapt into the wedding ceremony and slashed her throat to prevent the joinder of the Royal Houses of Haldane and Meara in marriage. The Bishop's Heir was published in 1984, twelve years before that gross monstrosity called <u>A Game of Thrones</u> (1996) was published. If I were a clever literary type and had far more education than I do on the subject, I might suggest that from the mid-1980s onward, top fantasy writers embraced fanaticism in epic fantasy, or perhaps it just crept into the fantasy conversation. Fanaticism is an issue that comes up in speculative-fiction tales of all sorts, see Fanatics Not from Phili, 4 Culture, p. 415, *infra*.

1 Disruption – The Black Death

➢ Ante Bacterium: A possible or probable earlier version, the Plague of Justinian, had ravaged Constantinople, Greece, Italy and port cities around the Mediterranean starting in 542 A.D., killing 25 to 50 million people over two centuries. That is about 10-12% of the current U.S. population, but with lower population density, it was much more devastating to them. However, the fatality rate of the Black Death was very high over a much shorter period of time; modern estimates range from 45% to 60% of population in an urban locality may die of the disease over a four year time.

The predecessor bacteria that triggered the Bubonic Plague has been found in human remains from the Bronze Age, 4,800 years ago. However, it was different. It has recently been discovered that a genetic mutation occurred in the bacteria that allowed it to survive inside the flea, blocking the flea's insides so that the flea felt hungry and bit the hosts more frequently. Further mutations allowed the bacteria to survive inside human lungs and spread to other tissues. This is the first time that we have been able to identify specific mutations.[6]

  ✓ Continuing the Sands & Seas discussion from 1 Entropy, p. 231, *supra*, could any scientist on Earth now have thought of a better, simpler – more diabolical – mutation to make the Black Death? Because the results were so perfectly devastating, we have to wonder, it makes us wonder if there was some sort of deliberate agency behind it? In modern terms, we call it 'the perfect storm'; the perfect storm is the term we use for what we insist is a natural coincidence that sure looks like intelligent manipulation, human or otherwise.

  ✓ "The secrets of evolution are time and death. Time for the slow accumulation of favorable mutations and death to make room for new species." – Carl Sagan, Cosmos, Episode 2.

➢ History Lessons: The Plague reappeared regularly and swept through some regions of Europe every 15 to 30 years through the 15th and 16th centuries, and with diminishing intensity into the 17th and 18th centuries. Mortality rates were between 30% and 60% within a few months, especially in urban areas, and those who could, often fled to other places in human waves, spreading the disease farther. As late as 1771, there was a riot in Moscow that began as protests against extreme measures taken in the city to stop one of the last outbreaks of the Bubonic Plague. The archbishop was murdered by a mob and two monasteries were burnt.

The history lesson for the Bubonic Plague and Black Death usually amounts to a page in most public school history books. All memory of it disappears as soon as the chapters advance from the Renaissance to the discovery of the New World. Most school histories fail to discuss the Reformation or the Ottoman threat. Students are left with the impression that the plague was a one-off event, like a big stomach ache that went through Europe.[7] None of this is an accident. The truth of the plague would alarm and the truth of the Reformation would reopen debates that we in the United States want to remain buried. This was collectively decided by our grandparent's civilization. History of the world courses in American public schools are really 'American justification' courses, 'world history' lessons usually end with the New World, which then becomes an 'America in world history' course.

Much of this may have to do with the Cold War. The Black Death scares the bejesus out of us even now (e.g., movies such as Outbreak (1995) and zombie apocalypse movies), it is possible that educators saw already the effects that the threat of global thermonuclear annihila-

1 Disruption – The Black Death

tion had on our culture and decided to skip serious teaching about the Black Death. And during the Cold War, U.S. justification courses were deemed ideological necessity; more important than understanding the late Medieval period or the Reformation.

➢ Post Apocalypse: Effects markedly similar to the Black Death would occur after a nuclear holocaust. While most of the nuclear holocaust movies I watched as a teenager (Damnation Alley (1977), WWIII (TV mini-series 1982), The Day After (1983), By Dawn's Early Light (1990)) were made primarily for shock and horror instead of post-apocalyptic profundity, the movies Threads (1984) and Testament (1983) stand out as stories about normal people caught up in the immediate aftereffects of a nuclear attack.

> *"It is no longer enough to see as a man sees – even to the ends of the universe. It is not enough to hold nuclear energy in one's hand like a spear, as a man would hold it, or to see the lightning, or times past, or time to come, as a man would see it. If we continue to do this, the great brain – the human brain – will be only a new version of the old trap, and nature is full of traps for the beast that cannot learn."* – Loren Eiseley, "The Hidden Teacher" (1969)

Forward Expectations: "Are you better off today than you were four years ago?" – Ronald Reagan, Presidential Debate, October 28, 1979. The underlying expectation of populations is the steady advance of their Native Population and colonization in Galactic Space, harvesting of resources from new planets, industrialization and urbanization of colony planets over time, advance of technology, sufficient food and reproductive activity, continuity of government, institutions and a way of life known to most of the population; rinse and repeat every generation.

It is perhaps serendipitous to say that forward expectation is tied to our experience (and limitations) with respect to time. However, even in a society that does not want to change, forward expectation still exists in the idea of changeless continuity to the next generation. That is, sameness is an expectation also subject to time passages.

Once reliable interstellar travel exists that leads to colonization and the widespread seeding of interstellar space, species survival is no longer strictly a zero-sum game (see 6 Diplomacy, p. 1171, *infra*). But our business and governmental organizations and species instincts will continue as though it is a zero-sum game.

✓ See also The Bargain, 5 Culture, p. 426 and Technosolution, 1 Patents, p. 726, *infra*.

> *"Every account of a higher power that I've seen described, of all religions that I've seen, include many statements with regard to the benevolence of that power. When I look at the universe and all the ways the universe wants to kill us, I find it hard to reconcile that with statements of beneficence."*
>
> – Neil deGrasse Tyson, at the University at Buffalo, Q & A session, April 9, 2010, video is available on YouTube as of September 2018

A Disruption: A disruption is an "unplanned, negative deviation from the expected."[8] Disruption signals a departure from the norm. A disruption can be a continuing act of disorder. A Disruption Event is a game term for events that loosely and generally include:

1. Hostile aliens (oh my goodness!), especially the technologically advanced kind;

1 Disruption – The Black Death

2. Population loss, colony loss or damage, Raids and Ground Combat on Colonies;
3. Voluntary or involuntary removal of colony populations and industry;
4. Loss of colony and trade ships;
5. Sieges;
6. Changes in Government;
7. Loss of institutions, including Colleges, MegaCorporations, Corporations;
8. Diplomatic isolation, economic isolation;
9. Wars and battles.

"The École Libre des Sciences Politiques (ELSP) was founded in 1872 by Émile Boutmy in response to the political and moral crisis in France in the aftermath of the 1870 Franco-Prussian War. It was intended to educate the new elite and generate modern knowledge for a new France."

– from Sciences Po webpage, "History," captured July 2, 2019

Hand Me the Hemlock: Ancient Athens can be said to have undergone what has been called a cultural identity crisis (or "moral crisis"[9] or "religious crisis"[10]) after losing the Peloponnesian War and surrendering to Sparta in 404 B.C. After throwing off the eight-month catastrophic rule of the pro-Spartan oligarchy, the Thirty Tyrants in 403 B.C., Athens was questioning its politico-cultural commitment to democracy, a core element of its cultural identity. This is a Disruption Event for that civilization which led to the famous Trial of Socrates in 399 B.C.:

✓ "Socrates lived during the time of the transition from the height of the Athenian hegemony to its decline with the defeat by Sparta and its allies in the Peloponnesian War. At a time when Athens sought to stabilize and recover from its defeat, the Athenian public may have been entertaining doubts about democracy as an efficient form of government. Socrates appears to have been a critic of democracy, and some scholars interpret his trial as an expression of political infighting. Claiming loyalty to his city, Socrates clashed with the current course of Athenian politics and society. He praised Sparta, archrival to Athens....

One of Socrates' purported offenses to the city was his position as a social and moral critic. Rather than upholding a *status quo* and accepting the development of what he perceived as immorality within his region, Socrates questioned the collective notion of 'might makes right' that he felt was common in Greece during this period. Plato refers to Socrates as the 'gadfly' of the state ... insofar as he irritated some people with considerations of justice and the pursuit of goodness. His attempts to improve the Athenians' sense of justice may have been the cause of his execution." – from Wikipedia article, "Socrates."

✓ "By 399 B.C. the immediate political crisis had passed, but so had public euphoria at surviving the war, at dodging the bullet of endless civil war, and reuniting the polis under a reestablished code of law. The realization sunk in that reunification was only the beginning of a costly and uncertain rebuilding period, and that Athens remained fragile and vulnerable to its enemies. The Athenian willingness to tolerate peculiar behavior and apparently irresponsible public attitudes reached a low point. And so,

for Meletus the time was ripe: he could prosecute Socrates for impiety on relatively novel grounds with little concern of incurring the penalty for failing to gain a fifth of the votes. As it turned out, Socrates' idiosyncratic defense enabled Meletus to gain a guilty verdict. The Socratic tradition holds that [he] could not have give [sic] any other sort of defense and yet remain true to his own convictions, and recognized that it was unlikely to secure his acquittal." – Josiah Ober, "Socrates and democratic Athens: The story of the trial in its historical and legal contexts," Princeton/Stanford Working Papers in Classics, July 2006 (available free online).

Pechenegs: Wars and battles frequently led to loss of cultural identity and political autonomy during the Great Migrations. The Pechenegs invaded the Byzantine Empire and were defeated and their invasion force nearly annihilated in 1091. Then they were attacked by the Turkic Cumans in 1094 and much of the remainder were killed or captured and absorbed. Many of the survivors may have fled to Kiev, but were expelled in 1121. Thereafter, they invaded the Byzantine Empire again, crossing the Danube in 1122. On the second invasion, they were again defeated at the Battle of Beroia with many captured and absorbed into the Byzantine army.

All of these are the epitome of Disruption Events for the Pechneg polity and population. The Pechenegs polity effectively ceased to exist at that time, population pockets remained in Hungary, but generally they lost their cultural or ethnic identity and followed the path of the Samnites, Iberian Alans, Huns, Ostrogoths before them; the Cumans were in turn overrun by the Mongols in 1237, absorbed, or fled to Hungary, and Kiev was massacred.

Unlike their Pecheneg cousins who left little behind, the Cumans continued to have an effect even after they lost their cultural-political power in the Pontic and Russian Steppes; their language survived for some time afterward and was written down, some clans rose eventually to ruling dynasties in Eastern Europe, and they continued to provide powerful warbands that served the Byzantine Empire, the Second Bulgarian Empire, The Holy Roman Empire, the Fourth Crusade, and involved themselves in dozens of other kingdoms and states in Eastern Europe.

"Double, double toil and trouble;
Fire burn and caldron bubble.
Cool it with a baboon's blood,
Then the charm is firm and good."

– William Shakespeare, "Macbeth" (1623)

Axioms of Consequences: There must be consequences, or there will never be change, like Newton's laws of physics. Situations and incidents that are allowed to go without consequences will be repeated.[11] Attacks and advances by adversaries that are unmet and unmatched, will continue.

Wars, battles, tactics, legal trials, business disputes, political fights, public media spats, and generally disputes are contests of consequences. The side that cannot impose consequences loses. Even the stars and galaxies are consequences of the physical laws, stars and galaxies change and produce the stuff that makes us.

The relationships of consequences can sometimes take odd turns or seem strange. For example, axioms by their nature must be irrefutable within their environment. The consequence of saying

1 Disruption – The Black Death

no, of denying the axiom is an insoluble intellectual contradiction. *Thus the axiom is the strongest imposition of consequence among sophants.* In a struggle, the side that can present the most axiomatic-like position (framed in popular terminology if it is a matter of politics, social movements, or a lyrical song, e.g., "The only thing we have to fear is fear itself!") is in the strongest position to impose intellectual consequences (i.e. cognitive dissonance[12]) on the opposition.[13]

➢ Shortest Distance to Dumb: The shortest distance between two points is a straight line. This axiom has been around for millennia, if it is not obvious at first glance that it is true, we can take measurements, create empirical data to prove it. It would be a fool's errand to try to disprove it *on a flat surface*. If the contest occurs on a flat surface, you cannot lose, the consequence of denying this is a falsehood, a contradiction. But the world has many fools, some of them are science-fiction writers (e.g., folding space so that two points are closer than they would be by a straight line, imagine folding a piece of paper and poking a hole through the joined ends) or mathematicians:

  ✓ "The Pythagorean theorem only works on two-dimensional surfaces like football fields; mathematicians refer to such surfaces as Euclidean geometry (named for Euclid, the 3rd-century B.C. Greek mathematician). The theorem fails for non-Euclidean geometries, such as spheres and more complex geometries like saddles. Indeed, all the rules you learned in school, like parallel lines staying parallel, only refer to Euclidean geometry. In the non-Euclidean universe, parallel lines may actually diverge or converge. Although non-Euclidean geometry may seem exotic and unfamiliar, it is actually common in many fields of science – perhaps most notably, in Einstein's general relativity theory, in which gravity can bend the shape of space and time." – The Editors, "When Is a Straight Line Not the Shortest Distance between Two Points?" Scientific American, November 8, 2010 (available free online).

Thus, math demonstrates that axiomatic statements are peculiar to their environment and to defeat the consequence of an axiom or axiomatic-like statement, you have to change the game. *If you don't like the plane, make a globe and you can cheat the axiom.* Imagine then in what environment the axiom of human action of praxeology becomes refutable?

"You know, I used to think it was awful that life was so unfair. Then I thought, wouldn't it be much worse if life were fair, and all the terrible things that happen to us come because we actually deserve them? So, now I take great comfort in the general hostility and unfairness of the universe."

– Marcus Cole, Babylon 5, "Late Deliveries from Avalon" (1996) [14]

Disruptive Nature: Marcus Cole is one of the most unique and tragic characters in Babylon 5 television series; he has been described as the master of funny-not funny and a British Batman.

Disruption is the term used in GGDM to represent the various aspects of societal collapse, systemic and government changes and population movement. "Disruption check" refers to specific game procedures to be followed in situations where disruption is triggered.

➢ Stewed, Brewed, Boiled, Baked or Fried: In specific game terms, a Disruption Event has two effects. First is an immediate 'check' to see if any Constructural Elements have been rendered inactive at the site of the disruption. Additionally, the event generates an Intervention

1 Disruption – The Black Death

Potential Plus attached to the position that suffered the Disruption Event, which the Concierge may use later, hopefully in a creative exploration of the continuing effect of the disruption and its interactions with Fundamental Realities (see discussion 1 Entropy, p. 215, *supra*).

✓ Failed Power Activations cannot by themselves, for game logic reasons, be Disruption Events – that would create a vicious cycle (or negative feedback loop).

➢ Interventions Plus: Normally, one Intervention Potential is generated for each time Regular Turn Actions are processed and the Intervention Potential can be used for one Intervention Action (from the previous list) at a later time.

✓ On any Regular Turn when a position has a Disruption Event (whether voluntary or involuntary), an Intervention Potential Plus (IP+) is generated instead.

The 'plus' means that the Intervention Potential *must be used* for two Intervention Actions at the same time (e.g., perhaps two Pokes, like the Three Stooges) directed to the position that generated it. Additionally, it follows that the Intervention Potential Plus (IP+) is forever tied to that position that generated it, and cannot be used to affect any other position directly.

➢ Double Your Troubles: Where possible, an Intervention Potential Plus (IP+) *should be used to generate two related Interventions* (which may also echo into other events such as Government Title disruption and diplomatic actions). Twenty-five hundred years of history – from the ancient world to living memory – provides plenty of fine examples:

✓ "The Sparta earthquake of 464 BC destroyed much of Sparta, a city-state of ancient Greece. Historical sources suggest that the death toll may have been as high as 20,000, although modern scholars suggest that this figure is likely an exaggeration. The earthquake sparked a revolt of the helots, the slave class of Spartan society. Events surrounding this revolt led to an increase in tension between Sparta and their rival Athens and the cancellation of a treaty between them. After the troops of a relief expedition dispatched by conservative Athenians were sent back with cold thanks, Athenian democracy itself fell into the hands of reformers and moved toward a more populist and anti-Spartan policy. Therefore, this earthquake is cited by historical sources as one of the key events that led up to the First Peloponnesian War." – from Wikipedia article, "464 BC Sparta earthquake," captured July 4, 2019.

✓ "It is nevertheless clear that in any case the revolt of 464 BC represented a major traumatic event for the Spartans. Plutarch indicates that the Crypteia and other poor treatments of the helots were instituted after this revolt. If there is any doubt in these affirmations, they at least underscore the immediate Spartan reaction: allies are gathered and war ensues with the same Athens that would be faced later in the Peloponnesian War." – from Wikipedia article, "Helots," captured July 4, 2019.

This brings together several threads: The helot revolt and the earthquake of 464 B.C. that prompted it, was a 'traumatic event' for Spartan civilization – their home was being rocked, their legs were being kicked out from under them (by the helot revolt, the helots being the source of their food and income) and their world was being tilted – all of these being useful descriptors of local Disruption Events in GGDM. Disruption events are things that make great history and good fiction (especially alien invasion movies), but a really bad day if they happen to you.

1 Disruption – The Black Death

- ✓ The Black Death (the Bubonic Plague's entry into Europe), *ut supra*, is thought to have begun at the Siege of Caffa (now Feodosia) in Crimea in 1346. While the plague had long ravaged central Asia along the Silk Road, the 'modern' introduction (setting aside questions of the Plague of Justinian) into Europe came when Genovese ships fled Caffa and returned to their home ports: The besiegers had catapulted the bodies of their dead over the walls into the city to infect the city.

  - ▪ In Stephen King's 1978 novel <u>The Stand</u>, the U.S. military – once the accidental pandemic had begun – deliberately infected Cold War archrivals China and the Soviet Union to prevent them from 'winning' thus contributing greatly to the death of over 99% of global human population in a few months. In GGDM, such a thing could happen on a Balkanized planet with hostile colonist, without consulting the interstellar government...

  - ▪ In 12 Monkeys (1995), the culprit deliberately spread the plague by flying from major airport to major airport around the globe in 24 hours.

    - • Interventions are inherently local events that happen without permission from the position players (i.e. the interstellar government).

In GGDM terms, while humans certainly did not 'create' the plague (as we might nowadays, and that's another related issue, e.g., <u>The Stand</u> (1978)), it is the occurrence of multiple entropic events that might be reflected in a GGDM Intervention Potential Plus (IP+). It is considered the first case of intentional biological warfare, see Mark Wheelis, "Biological Warfare at the 1346 Siege of Caffa," Emerging Infectious Diseases Journal (of the CDC), Vol. 8, No. 9, September 2002 (https://wwwnc.cdc.gov/eid/article/8/9/01-0536_article).

In living memory, the March 11, 2011 Fukushima Daiichi nuclear power plant disaster which combined an earthquake and tsunami, flooding important parts of the plant, followed by nuclear accidents (melt downs, hydrogen air explosions, high radiation spikes, water discharges), followed by recriminations of mismanagement, political back-patting, and bad engineering, and a spike in anti-nuclear attitudes – *crosses the full range of Intervention Potentials Plus and echo effects in GGDM*. From this incident arose the media portrayal of a more modern, scientifically-informed sort of conscious heroism, the Fukushima Fifty:

- ✓ "The workers and volunteers were assigned the mission of stabilizing the reactors. Their activities included assessing the damage and radiation levels caused by the explosions, cooling stricken reactors with seawater, and preventing any risk of fire. These workers remained on-site despite serious risks of radiation poisoning. Levels of radiation on site are far higher than in the 20 km (12 mi) exclusion zone and media outlets reported that the severity of the situation could have grave implications on their future health, with possibly fatal consequences for the workers. On 18 March, according to Prime Minister Naoto Kan the workers were 'prepared for death'" – from Wikipedia article, "Fukushima 50," captured July 8, 2019.

- ✓ "Referring to the original 50 workers, nuclear researcher Dr. Eric Hall opined that they were likely to be older, and unlikely to have further children, so the long-term effects of exposure to high-levels of ionizing radiation would be less likely to appear

before a natural death. Some younger workers were injured and young Osaka fire-fighters were operating at the site. A group of 250 skilled senior citizens volunteered to work in the radioactive environment, citing reduced harm to them." *Id.*

Science-fiction imagination had early anticipated these types of events, e.g., Robert Heinlein's "The Green Hills of Earth" (1947), requiring humans to consciously sacrifice themselves in an attempt to get a reactor under control (e.g., the famous K-19 Widowmaker accident in 1961). And of course, there was the 'logical' death of Spock in Star Trek II (1982) ... as a result of Kirk's decisions in the "Space Seed" episode (ST:OS 1967) – and a whole lot of bad Earth future history and alien manipulation...

✓ Diligent and clever players probably can keep track of the Intervention Potentials Plus (IP+) tallied against their position and this may affect the play of the game if the players know there is a potential big hammer blow waiting over the Regular Turn horizon. It would require an extraordinary group effort however, to keep a tally of Intervention Potentials held by the Concierge at any point in the game.

Ambassador Kosh: *The avalanche has already started. It is too late for the pebbles to vote.* – Babylon 5, "Believers" (1994)

Too Late for the Pebbles to Vote: GGDM places a heavy burden on the Concierge, which the players can make lighter by keeping the game fun and interesting. Still, it is likely that the Concierge will not always have great freak'n ideas for Interventions (along with News Events, Reformations, Kairotic Moments, Patents, Writs, Special Operations, Special Planets, Fundamental Realities) and a significant number of unused Intervention Potentials may buildup – rather defeating the purpose of Interventions as part of GGDM. One possible solution is to have the computer assistant soak off some of the excess entropy by using automated lists of things that 'happen' and randomly applying them to player positions (with the side benefit that no position can claim they are being unfairly targeted). This will keep it interesting for the Concierge as well, because events – not originating with player actions – may happen beyond even the Concierge's control, but the Concierge must always be able to Intervene and to have first chance to use Intervention Potentials to orderly advance the story and/or just to amuse themselves.

This system may coincidentally create a periodic avalanche of events affecting all positions in the game simultaneously, if built up Intervention Potentials are suddenly cleared – like waves of entropy. Like watching your delicious hot dinner dumping off the plate as gravity accelerates its fall to the floor. "On top of old smoky, all covered in cheese, I lost my poor meatball, when..."

✓ "The May 1968 events in France refers to the volatile period of civil unrest throughout France during May 1968 which was punctuated by demonstrations and major general strikes as well as the occupation of universities and factories across France. At its height, the events brought the economy of France almost to a halt. The protests reached such a point that political leaders feared civil war or revolution; the national government itself briefly ceased to function after President Charles de Gaulle secretly fled France for a few hours. The protests spurred an artistic movement, with songs, imaginative graffiti, posters, and slogans. The unrest began with a series of student occupation protests against capitalism, consumerism, American imperialism and tra-

ditional institutions, values and order. It then spread to factories with strikes involving 11 million workers, more than 22% of the total population of France at the time, for two continuous weeks.

The movement was characterized by its spontaneous and decentralized wildcat disposition; this created contrast and sometimes even conflict between itself and the establishment, trade unions and workers' parties. It was the largest general strike ever attempted in France, and the first nationwide wildcat general strike. The student occupations and wildcat general strikes initiated across France were met with forceful confrontation by university administrators and police. The de Gaulle administration's attempts to quell those strikes by police action only inflamed the situation further, leading to street battles with the police in the Latin Quarter, Paris, followed by the spread of general strikes and occupations throughout France. De Gaulle fled to a French military base in Germany, and after returning dissolved the National Assembly, and called for new parliamentary elections for 23 June 1968. Violence evaporated almost as quickly as it arose. Workers went back to their jobs, and when the elections were held in June, the Gaullist party emerged stronger than before." – from Wikipedia article, "May 1968 events in France."

- ▪ François Mitterrand (a graduate of Sciences Po) was in 1968, the leader of the 'democratic socialist left' and was ready to 'form a new government' without the communist with whom the socialist had allied (to their apparent detriment) in February 1968. *Id.* Monsieur Mitterrand was later President of France from 1981-1995 and died in 1996.[15]

"The idea that there's undetectable ... fraud is, of course, impossible to refute, in the same way that it's impossible to refute the idea that there are aliens who've visited Earth. There's no evidence of those close encounters, but some people believe that it happens. How can you dissuade them?"

– Philip Bump, The Washington Post, October 17, 2016

Endnotes.

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[1] Commentary & Citation: Do you think anything has changed? Fast forward 600 years to Los Angeles, 1943:

- ✓ "During the next few days, thousands of servicemen and civilians joined the attacks, marching abreast down streets, entering bars and movie houses, and assaulting any young Mexican American males they encountered. In one incident, sailors dragged two zoot suiters on-stage as a film was being screened, stripped them in front of the audience, and then urinated on their suits. Although police accompanied the rioting servicemen and civilians, they had orders not to arrest any, and some of them joined in the rioting. After several days, more than 150 people had been injured, and the police had arrested more than 500 Latino civilians on charges ranging from 'rioting' to 'vagrancy.'

A witness to the attacks, journalist Carey McWilliams wrote,

Marching through the streets of downtown Los Angeles, a mob of several thousand soldiers, sailors, and civilians, proceeded to beat up every zoot suiter they could find. Pushing its way into the important motion picture theaters, the mob ordered the management to turn on the house lights and then ran up and down the aisles dragging Mexicans out of their seats. Streetcars were halted while Mexicans, and some Filipinos and Negroes, were jerked from their seats, pushed into the streets and beaten with a sadistic frenzy.

The local press lauded the attacks, describing them as having a 'cleansing effect' to rid Los Angeles of 'miscreants' and 'hoodlums.' As the riots progressed, the media reported the arrest of Amelia Venegas, a female zoot suiter charged with carrying a brass knuckleduster. While the revelation of female pachucos' (pachucas) involvement in the riots led to frequent coverage of the activities of female pachuca gangs, the media suppressed any mention of the white mobs that were also involved.

The Los Angeles City Council approved a resolution criminalizing the wearing of 'zoot suits with reat [sic] pleats within the city limits of LA.' Councilman Norris Nelson had stated, 'The zoot suit has become a badge of hoodlumism.' No ordinance was approved by the City Council or signed into law by the Mayor, but the council encouraged the WPB to take steps 'to curb illegal production of men's clothing in violation of WPB limitation orders.' While the servicemen and civilians had first targeted only pachucos, they also attacked African Americans in zoot suits who lived in the Central Avenue corridor area. The Navy and Marine Corps command staffs intervened on June 8 to reduce the attacks, confining sailors and Marines to barracks and ordering that Los Angeles be declared off-limits to all military personnel; this was enforced by Navy Shore Patrol personnel. Their official position was that their men were acting in self-defense." – from Wikipedia article, "Zoot Suit Riots," captured September 5, 2019.

[2] Commentary & Citation: The short movie Dead Faith (2018), among many possible interpretations, seems to be an allegory of the Black Death and medieval faith vs. renaissance humanism. The movie title is a double entendre, which is also used several times in the dialogue, in that the main character's wife, Faith, is slowly being turned into a zombie. The zombies in the movie don't seem overly dangerous except that they are infectious, while the real danger is the main character, a staunchly religious Bible-quoting end-of-the-world Christian living in an isolated backwoods home. His faith turns morbid, he dies of the results of his sins from smug self-righteousness – he shot the sheriff in the back and a deputy sitting in the vehicle after pretending to surrender. He had apparently come to the belief that the zombies were God's chosen who would be redeemed and resurrected at the end of the world, and he allows his infected, turned zombie wife Faith, to fatally bite him.

[3] Commentary & Citation: This account is found on internet sites without attributing an author. Searching, I found this same quote in three different books on Google Books: Howard B. Radest, Bioethics: Catastrophic Events in a Time of Terror (2009), p. 99, Paul F. Ploutz, Global Warming: Handbook of Ecological Issues (2012), p. 38, and Tom Davis, Red Letters: Living a Faith That Bleeds (2007), pp. 68-69.

- ✓ Howard B. Radnest includes it in three paragraphs quoted from a CDC (Centers for Disease Control) FAQ from 2005 (Note 2). Tom Davis also has a citation, but the notes are not available on Google Books.

- ✓ The CDC issues many FAQs and media releases each year and I was unable to locate the referenced CDC FAQ via Google Search. However, the alleged eyewitness quote does not stand out as anything awry or unexpected in the context of all of the other knowledge and consensus regarding the Black Death's effects.

[4] Citation: "Buried under the froth is the fact, and the fact is that less than one half of one percent of policemen misfit that uniform, and that is a better average than you'd find among clergymen." – Paul Harvey, "What is a Policeman?"

[5] Commentary: The concept of "feudalism" and "feudal society" is a 19th Century invention – the first known use of "feudalism" occurs in 1818 according to Merriam-Webster online dictionary – applied retroactively to describe the society of the Middle Ages – another invented and retroactively applied term from the Renaissance. None of the terms we use now would have been known to or current to the people of the 'Middle Ages.' History is always a retroactive interpretation.

[6] Citation: See, Brian Handwerk, "Plague was infecting humans 3,300 years earlier than thought," Smithsonian.com, October 22, 2015.

[7] Commentary & Citation: Perhaps this is a somewhat similar phenomenon:

- ✓ "But the motives behind and iterations of Nazi symbolism in Asian fashion, where [Laura] Kidd [Southern Illinois University at Carbondale] says Nazi chic is growing much faster than it is in Western markets, are different – there's less cultural baggage attached to Hitler, and wearing a swastika around is less inherently shocking. ... One reason Hitler's reputation might not be fully realized in this corner of the world is simply due to the geographical and emotional distance between South Asia and the atrocities of World War II. These were horrors in a distant land – most people in South Asia had no real connection with the Holocaust and other atrocities, giving it less cultural impact." – Mark Hay, "Nazi Chic: The Asian Fashion Craze That Just Won't Die," Vice, February 12, 2015.

1 Disruption – The Black Death

For example, in Southeast Asia, there is no Imperial Japanese Army chic fashion craze; there it might be found as offensive as we find Nazi chic. Thus, Nazi Germany is a big stomach-ache that Asia never experienced.

✓ "In other words, there's an instinct not to throw baby Hitler out with the bathwater. Evil? Sure, but he lifted Germany into one of the world's most powerful countries in just a decade. And it's easier to narrow the focus onto Hitler's leadership qualities when even school curriculums glaze over his role in World War II. 'In our high schools, we learn about Hitler, but they don't teach us about the Holocaust,' said Pramod Jaiswal, a Nepali university student studying at Jawaharlal Nehru University in New Delhi. 'Teachers only teach how he was a good leader for German development. I had a friend from Belgium and I told her Hitler was good for Germany and she started crying. I was really shocked.'" *Id.*

[8] Citation: Wikipedia page on Disruptions citing Clause 2.13 BS 25999-1 Business continuity management (http://shop.bsigroup.com/en/ProductDetail/? pid=000000000030157563), British Standards Institute

[9] Citation: Juin-Lung Huang, Doctoral Thesis, St. Andrews University, 2008 (available free online at St. Andrews Research Repository).

[10] Citation: Josiah Ober, "Socrates and democratic Athens: The story of the trial in its historical and legal contexts," Princeton/Stanford Working Papers in Classics, July 2006 (available free online).

[11] Commentary: Although this text was written some years ago, in early 2018, I left my employment of over twelve years in part because bad stuff was going on at work and nothing was going to change unless there were consequences. I also didn't feel right about my job and it was affecting me; I needed to go do something else. After I resigned my employment, management was left with a big problem and I know some changes were made shortly.

[12] Commentary: In the spring of 2020, I discovered you YouTube a J-group called Babymetal. Babymetal's performance is a cultural-cognitive dissonance for a Western male viewer. It is a mix of metal guitar with J-Pop Kawaii. It struck me as very strange, metal is not cute, metal music is born of angst and we like our dark angst very much!

[13] Commentary & Citation: Bobby Darin's "Mack the Knife" (1958) inflicts a cognitive dissonance on the attentive listener: It describes in fairly gruesome detail the exploits of a local murderous underworld thug sung in a happy upbeat big band swing style with big band background music. One feels like they are supposed to be cheering for this guy, happy that he is back! Dance everyone!

[14] Commentary: If I ever need to be angry at the universe, I will play a game of Hashira, a most unfair Tetris-like falling tile game; I never end a game without feeling that I have just been 'screwed' by the computer and that it could not have been random chance. There is never a good ending in Hashira, and the program is designed to insure such, no matter what my final score, even if it makes the Hall of Fame, it is not a satisfactory end. Yet I continue to play? But on the other hand, if Hashira was a fair game, it would never end, and I would be stuck to my seat forever eliminating falling tiles. Still, is this a valid reason to make a computer game that blatantly cheats? Games can be made unfair without cheating by the computer; besides, if I play long enough, I will make a mistake, so the game would not go on forever anyway. It is all the more galling when the computer cheats too.

✓ Human video games are designed precisely for this purpose – in the beginning back in my youth, games were unfair to keep players pumping quarters into the machines (and I did much of that! Star Castle, Galaxian, Defender, Space Invaders, Missile Command...) – but they persist in the same design paradigm because it fits both our sense of life and the universe, and our sense of accomplishment. Are we as human players engaging in confirmation bias? Is the secret to immortality then the elimination of all of the unfairness in our lives; is death an unfairness? Would you want to be alive forever eliminating falling tile sets or running repeatedly through the corridors of a first-person shooter?

✓ See further discussion of Hashira in 1 Culture, EN 2, p. 359, and Diagonal Play, 2 Eras, p. 770, *infra*.

[15] Commentary: Wow, this was a strange one. While reading the history page for Sciences Po, I saw a mention of the student strikes in May 1968. Later, while watching television, I was kind of bored and started playing around with the Google lookup on my phone. I decided to see how good it was, so I voiced "Paris student strike May 1968." Google bombed on that one; I think I received a "sorry, something went terribly wrong" response a few minutes later. About two days later, when I had nearly forgotten about it and moved on from the Sciences Po subject, suddenly I received a message on my phone from Google in response, showing the Wikipedia article, "May 1968 events in France." I, of course, do not remember those events, I was less than a year old then, nor have I heard very much about them in my half century in the United States. I am sure that France talks much about it internally – it is considered a crucial moment in French society – but doesn't mention it often to the rest of the world.

1 Disruption – The Black Death