

Fireplay

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Abstract: *“Fireplay” is a generalist overview of pyrotechnics. It is indebted (and acknowledges its debt) to seminal works such as Brock’s “History of Pyrotechnics” (1949), yet develops an aesthetic – even metaphysical – discussion of the key question for our profession: ‘Why do fireworks move people?’*

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Taciturn, considered, with the rueful grin of a condemned man. He (in literature it is typically ‘he’) is tense across the shoulders, as if lifting every effect with his back. The launching charge is labour, the spreading charge pleasure. When the starshell explodes so does the pyrotechnician’s heart, again and again.

Naturally he enacts the masculine principle. This is true of rigging as much as it is of ignition. According to Chao Hsueh-min’s *Outline of Pyrotechnics* (circa 1753),¹ ‘If the powder is packed by women, the crackers will change into fountains and vice versa.’ More credibly, he observes that ‘rockets are the eyes of fireworks, and are fired before the main display to quieten the audience.’ Unlike a woman, a man must remain invisible; his work not his person must be admired. The rockets direct attention and that attention, in turn, directs the pyrotechnician. ‘The heavens were all on fire, the earth did tremble...’² A display marries sulfurous earth with electrified sky: Rangi reaches up for Papa, then pulls her down. She drops upon him with the waterfall shell, her shoulders drooping.

Aesthetic feeling is not what is being aroused in us. It is more like a sense of wonderment in the presence of what we behold; a sense of being overwhelmed in the presence of a phenomenon that is non-conceptual while at the same time being determinate.

[Adorno,^{3a} 1970]

Before fireworks language is an inert gas; either helium or neon, it will not combust. Yet poetry informs my vocation as a pyrotechnician. It’s possible to plot a whimsical parallel between the silence that underwrites a poem and the space that is articulated by fireworks. I use explosives to ‘write’ on the night so that an audience can say they’ve ‘seen the light’. As a poet I want the same response from my readers; the sense that something wonderful has announced itself, however briefly, and in doing so has removed the cataracts of habit such that they can see anew. There is an optimum order for the parts of speech in a sentence. And there is also one for the not-so-various effects in a pyrotechnics display. If a poem operates within the context of locale and tradition, then a display operates within the constraints of site and client brief. In both professions it is necessary to connect apparently disparate elements in order to make things whole.

But there are differences. Whereas a poem tries to outstay its welcome with lines that resound inside the skull, a fireworks display delights precisely because it is fleeting. Vanuzzio Biringuccio in *Pirotechnia* (1540)⁴ regretted that fireworks ‘endure no longer than the kiss of a lover for his lady, if as long.’ Pyrotechnic effects don’t accrete like metaphors into a conceit; instead they disappear into either darkness or the more intense light of their successors in the firing sequence. Poetry can brand the mind for as long as forever is, but fireworks turn into smoke that clears with the crowd. And this is the secret of their

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power: 'Fireworks are the greatest artists, as they withdraw themselves from the spectator's view at the moment of the height of their completion.'³

Like all manufactured things, a fireworks display has the optimism of commitment. It is not indifferent like nature. However the purpose of every firework is to confound industry by destroying itself, by valorizing no-thing. And nothing has the indifference of Nature. The narrative of the firing sequence is clear—although delay fuses can result in visual ellipses, where the audience waits in the dark. Whereas a writer can choose to break the laws of grammar, a pyrotechnician must observe the laws of physics and chemistry.

In literature there are direct sources, however the urtext of fireworks will never be discovered. No glowing shell called *Stephen Hero* will shed light over an explosive *Portrait of the Artist as a Young Man*. Always and only *the* original recitation, each pyrotechnic display displaces the familiar in order to bring the viewer home, assuming 'home' denotes the total potential of the individual. But literature and fireworks share a capacity to sear the layers of preconception that prevent people from 'feeling themselves' and more than themselves. As modes of transport, they bring us into being even as they shift us from our default position at the centre of existence. Then the search for origins becomes nostalgia for the future. The word for this is *wonder*.

The world, an entity out of everything, was created by neither gods nor men, but was, is and will be eternally living fire, regularly becoming ignited and regularly becoming extinguished.

[Heraclitus,⁵ c.535–c.475 BC]

If Man possesses fire when other animals are possessed by it, then the spontaneous forest conflagration and volcanic eruption must have stimulated his inventiveness. Every recorded society has maintained itself through the management of fire to warm shelters, cook the day's prey, and to celebrate the divine with burnt sacrifice or, more gently, altar candle.

How did we move from fire to fireworks, from saltpeter through tinder to gunpowder? Common

knowledge has it that fireworks are nearly antediluvian. Common knowledge (Earth is the centre of the universe, created for man by a loving God) is wrong. The mythology of ancient origins says more about our need for the antique than it does about the progenitors of gunpowder, the propulsive force behind fireworks. The speculative consensus is that a not so ancient Chinese cook, being far from the sea, substituted saltpeter crystals (potassium nitrate) for those of common salt (sodium chloride) and then dropped some on the embers, which grew fiercer. Eventually the dinner guests turned chemists. Taoist alchemists, seeking the elixir of life for their emperor, inadvertently created fire effects that were used in celebrations for centuries before being developed for that most enduring ceremony, war.

By 1044 AD the Chinese had recorded recipes for gunpowder, whereas the earliest European formula dates from the late thirteenth century. There were fiery precursors, most notably that resinous napalm which the Syrian exile Kallinikos invented in Byzantium around 675 AD. It crisped besieging enemies generations before those scions of gunpowder, artillery and the handgun, completed the common soldier's misery.

However pyrotechnics proper post-date the fall of the Roman Empire and the rise of Arab science. In 1280 the Syrian Hasan al-Ramma compiled a treatise detailing 'machines of fire to be used for amusement or useful purposes'.^{6a} Hasan's contemporary, the Franciscan friar Roger Bacon, alerted Pope Clement IV to:

a child's toy of sound and fire made in various parts of the world with powder of saltpeter, sulphur and charcoal of hazelwood... By the flash and combustion of fires and by the horror of the sounds, wonders can be wrought and at any distance that we wish – so that a man can hardly protect himself or endure it...if an instrument were made of solid material, the violence of the explosion would be greater.

[Kelly,^{6b} 2005]

Another four hundred years saw the refinement of modern scientific method, the Reformation's predestined innovations, and the discovery of

the 'light-bearer' phosphorus by the latter-day alchemist Hennig Brand (1669) – yet little change to either black powder's unforgiving nature or the way it was manufactured. Roger Bacon would have recognized the Surrey powder works that John Aubrey visited in 1673. Master *Brief Lives* reported 'a nursery of earth for the making of saltpeter'.⁷ Despite the false messiahs of the market, nuclear fission, cybernetics and carbon credits, today we still mill gunpowder from saltpeter (75%), sulphur (10%) and charcoal (15%). While water sprays over them, this nefarious trinity is crushed under metal rollers, compressed into cakes and then into grains that are sieved, graded, dried like the souls of heretics in a lost painting by Hieronymus Bosch.

Black powder burns at 2138 degrees centigrade, rivaling the inner circles of a medieval Hell. Ben Jonson posited a magician 'who from the Divil's-Arse did guns beget'.⁸ Perhaps he intended the legendary Berthold Schwartz, a Franciscan from Freiburg, who has the dubious distinction of designing the first gun in the western world. Not peace but pieces on earth. Yet fireworks are Utopian, 'for triumph as well as for war'.⁹ They reach for the sky

*As swift as pellet out of gone
When fire is in the poudre ronne.*

[Chaucer,¹⁰ 1384]

And we reach with them, believing momentarily in the prospect of a better world. Perhaps. In sixteenth century Sienna and Florence, on the Feasts of St John and the Assumption, theatrical figures of wood and plaster spouted fire from their mouths while fireballs were projected from a pedestal.⁴ These days, as the pop star Bono confers with a less than celestial Pope, fireplayers combine the carnival figures that Biringuccio's contemporaries admired with electronic images that speak to the crowd on an epic scale. We still engage with viewers in intimate acts of trust that transcend the barriers of speech, juggling fire for a smile. We are the descendents of the green men who led a procession to Chester Races, England, on St George's Day, 1610:

*Two men in green ivy, set with work upon
their outer habit, with black hair and black
beards, very ugly to behold, and garlands
upon their heads, with great clubs in their
hands, with fireworks to scatter abroad to
maintain the way for the rest of the show.*

[Brock,^{11a} 1949]

As they set off the Catherine Wheels that recall a third-century Christian saint who was tortured on a circular rack, fireplayers learn from religious ritual and secular theatre. We impose symbolic significance on a site by establishing a storyboard that is enacted by costumed performers; a city street becomes a native forest with giant moas, a hotel lobby becomes Chinatown complete with street-stall vendors, a harbour view incorporates a fifty metre long anaconda sweeping along the foreshore. Such wonders were anticipated when Anne Boleyn was escorted from Greenwich to Westminster for her coronation in 1553:

*wafter full of ordnance, in which foyste was
a great red dragon continually moving and
casting fiorth wild fire and round about were
terrible monstrous wild men casting fire and
making a hideous noise*

[Brock,^{11a} 1949]

Ten years earlier, Anne's gluttonous husband had employed two Dutch pyrotechnicians, Peter Brand and Peter van Cullen, who:

*caused to be made certain mortar pieces
being at the mouth eleven inches unto
nineteen inches wide, for the use whereof
to be made certain hollow shot of cast-iron,
to be stuffed with fire-work or wild-fire,
whereof the bigger sort for the same had
screws of iron to receive a match to carry
fire kindled, that the fire-work might be
set on fire for to break in pieces the same
hollow shot, whereof the smallest piece
hitting any man would kill or spoil him.*

[Stow, quoted Brock,^{11a} 1949]

The luminous daughter of Henry VIII and Anne Boleyn, Elizabeth I lent her status to the promotion of set displays rather than the improvisatory and anarchistic character of the green man. With an eye to munitions, in 1561 she had commissioned a 'statement of the true and perfect art of making saltpeter grow' from the German Gerrard Honrick. But in August 1572 she was baptized by ceremonial fire while visiting Ambrose Dudley, Earl of Warwick and Master-General of the Ordnance. *The Black Book*,¹² from Warwick Castle's archives, records:

The wyld fire falling into the river Avon would for a time lye still and then again rise and fly abroad, casting forth many flashes and flames, whereat the Queen's Majesty took great pleasure till by mischance a poor man or two were much troubled, for at the last when it was appointed that the overthrowing of the fort should be, a dragon flying casting out huge flames and squibs, lighted upon the fort and so set fire, but whether by negligence or otherwise it happened that a ball fell on a house at the end of the bridge, wherein Henry Cooper dwelled and set fire to the same house, the man and wife being both in bed and asleep which burned so before they could rescued be, the house and all in it utterly perished with so much ado to save the man and woman and beside that house another house or two adjoining were also fired – and no small marvail was it that so little harm was done for the fire balls and squibs cast up did fly quite over the Castle and into the midst of the town to the great peril and fear of the inhabitants of the Borough.

In July 1575 Elizabeth I visited Kenilworth and was treated to a display that threatened death only to bring deliverance. Her guest, Mr Laneham, reported:

After a warning shot or two, was a blaze of burning darts flying to and fro, beams of stars coruscant, streams and hail of fire sparks, lightnings of wildfire on the water; and on the land, flight and shot of thunderbolts, all with such continuance, terror and vehemence, the heavens thundered,

the waters surged and the earth shook; and for my part, hardy as I am, it made me vengeably afraid.

[Nichols,¹³ 1575]

Raised from the quasi-fool role of green men to be either military engineers or independent contractors, pyrotechnicians have regularly consummated the Ozymandian glory of the warlord, the emperor, the monarch, the president and, latterly, the chairman of the board:

They take pleasure to see some pageant or sight go by as at a coronation, wedding or such like solemn niceties to see an ambassador or prince received and entertained with masks, shows and fireworks.

[Burton,¹⁴ 1621]

During 1613, for a display to celebrate the wedding of King James I's daughter, the Thames was closed to traffic. Doubtless rebellious water rats came and went as if by the divine right they defied. Barges held charges controlled by Thomas Butler, William Fishenden, John Nodes and John Tindale. They were supported from the shore by William Hammond, the Master-Gunner of England, who let fly:

First, for a welcome to the beholders a peale of Ordnance like unto a terrible thunder rattled in the ayre... Secondly, followed a number more of the same fashion, spreading so strangely with sparkling blazes, that the sky seemed to be filled with fire... After this, in a most curious manner, an artificiall fire-worke with great wonder was seen flying in the ayre, like unto a fiery Dragon, against which another fiery vision appeared flaming like to St George on Horsebacke, brought in by a burning Inchanter, between which was then fought a most strange battell continuing a quarter of an howre or more; the dragon being vanquished, seemed to roar like thunder, and withal burst in pieces, and so vanished; but the champion, with his flaming horse,

for a little time made a shew of a triumphant conquest, and so ceased.

After this was heard another ratling sound of Cannons, almost covering the ayre with fire and smoke, and forthwith appeared, out of a hill of earth made upon the water, a very strange fire, flaming upright like a blazing starre. After which flew forth a number of rockets so high in the ayre, that we could not chose but approve by all reasons that Arte hath exceeded Nature, so artificially were they performed. And still as the Chambers or Culverines plaide upon the earth, the fire-workes danced in the ayre, to the great delight of his Highnes and the Princes.

Out of the same mount or hill of earth flew another strange piece of artificiall fire-worke, which was in the likenes of a hunted Harte, running upon the water so swiftly, as it had been chased by many huntsmen.

After the same, issued out of the mount a number of hunting-hounds made of fire burning, pursuing the aforesaid Harte up and downe the waters, making many rebounds and turnes with much strangnes; skipping in the ayre as it had been a usual hunting upon land.

These were the noble delights of Princes, and prompt were the wits of men to contrive such princely pleasures. Where Kings commands be, Art is stretcht to the true depth; as the performance of these Engineers have been approved.

[Brock,^{11b} 1949]

If the monarch rules by divine right then an all-seeing God does not always honour the spirit of that contract. King James I thanked the Father for thwarting every pyrotechnician's hapless benefactor, Guy Fawkes, on 5 November 1605. His Royal Decree compelled citizens to celebrate the deliverance of the King. It was not lifted until 1859, which accounts for the former colonies

New Zealand and Australia marking the day with community displays and, incidentally, explains the Anglophile character of this essay. Even if God is Christian rather than Taoist or Confucian it seems He intervenes sporadically and, according to this Jacobean doggerel, never on behalf of Catholics:

*Guy Fawkes, Guy Fawkes, t'was his intent
To blow up King and Parli'ment.
Three-score barrels of powder below
To prove old England's overthrow;
By God's providence he was catch'd
With a dark lantern and burning match.
Holloa boys, holloa boys, let the bells ring.
Holloa boys, holloa boys, God save the
King!*

[Anonymous¹⁵]

When it is 'stretcht to the true depth', art can have consequences that are unforeseen by even God's favourites. In 1613 the King's Players performed Shakespeare's *Henry VIII*. They fired gunpowder to mimic battle and the illusion was made real when sparks caught roof-thatch, reducing the Globe Theatre to ashes. If all the world's a stage then perhaps a capital city is a proscenium arch? On 23 July 1699 the diarist John Evelyn, whose family wealth derived from gunpowder production, records: 'The city of Moscow burnt by the throwing of squibs'.¹⁶

In 1748 the War of the Austrian Succession ended, although the peace brought more deaths. The treaty signed at Aix-la-Chapelle was marked and marred by a fireworks display in which it is reported that 'there were forty killed and nearly three hundred wounded by a dispute between the French and the Italians, who, quarrelling for precedence in lighting the fires, both lighted at once and blew up the whole'.^{11c} National ambition meant the fate of the military was visited upon the civilian with a bang *and* a whimper.

The same inglorious treaty also favoured Georg Handel with a commission from George II of the United Kingdom. His wonderfully bumptious *Music for the Royal Fireworks* honoured 14500 pounds sterling of pyrotechnic errors at Green Park on 27 April 1749. The English and Italian supervisors argued over the effectiveness and safety of gunpowder trains, which the Italian experts

Ruggieri and Sarti preferred as an alternative to quickmatch for igniting effects. When the north pavilion erupted into flames, the English pressed their point. An outraged Cavaliere Servandoni, designer of the 'machine' (the stage and set), tried to press his; he drew his sword upon the English Comptroller Charles Frederick. On 3 May Horace Walpole reported to Horace Mann:¹⁷

The fireworks by no means answered the expense, the length of preparation, and the expectation that had been raised... The machine itself was very beautiful and was all that was worth seeing. The rockets and whatever was thrown into the air succeeded mighty well, but the wheels and all that was to compose the principal part, were pitiful and ill conducted with no change of coloured fires and shapes...and lighted so slowly that scarce anybody had patience to wait for the finishing.

Fireplayers are paid to keep the audience's patience. Fireworks are popular because they are anticipated, celebratory, a memorial to the unpredictable. In 1814 a display was staged in the London Parks to honour the Centenary of the House of Brunswick on the British Throne, the General Peace, and the sixteenth anniversary of the Battle of the Nile. It might as well have marked the passing of Everyman's indigestion. On 9 August 1814, in a letter to William Wordsworth, Charles Lamb admitted:

After all the fireworks were splendid – the Rockets in clusters, in trees and in all shapes, spreading about like young stars in the making, floundering about in Space (like unbroken horses) till some of Newton's calculations should fix them, but then they went out. Anyone who could see 'em and the still finer showers of gloomy rain fire that fell sulkily and angrily from 'em, and could go to bed without dreaming of the Last Day, must be as hardened an Atheist as...

[Talfourd,¹⁸ 1837]

Whilst professing Mormonism in later life, perhaps the Maori King Tawhiao I was a hardened atheist when he visited England in 1884? Understandably

unimpressed by Queen Victoria's reluctance to meet him (she fobbed him off with Lord Derby, Secretary of State for the Colonies), Tawhiao's mood darkened further when a fireworks display in his honour was staged at Sydenham. With black sparks an impossibility, the despairing pyrotechnician rendered his subject's *moko* in glowing white:

...dissatisfaction was due to the colour in which the lines of his intricate facial tattoo-marks were rendered. In addition, he was perhaps not in the best possible frame of mind to appreciate fireworks. Decked out in unaccustomed frock-coat and top-hat, and with a pair of patent leather boots on his feet, he had been taken for an exhaustive tour of the building, when at last he decided he had had enough of it. Plumping himself down on a convenient bench, he had ripped off the torturing footwear, and, casting them from him, announced his intention of calling it a day. Deaf to all arguments, there he remained until a gouty member of the staff who was in the habit of wearing felt slippers in his office fetched them. Under their soothing influence the king allowed himself to be persuaded to continue his itinerary.

A pathetic note was struck by his remark, no doubt with the thought of the dwindling number of his subjects in mind, as he looked down from the royal box on the assembled crowd lit up by the fireworks: "I did not know that there were so many people in the world." His comment on the display, repeated again and again, was, "I don't believe it! Such things cannot be!"

[Brock,^{11d} 1949]

But such things can and must be. If this is the best of all possible worlds, then pyrotechnicians try for an impossible world where dragons are more common than cars. They are 'profound necromancers, who by their art caused things to appear which are not, as follows: fowls flying in the air spouting fire on others...'¹⁹

Everybody dreams of beautiful things they have never seen and never expect to see: it is the task of

fireplayers to show people those things. After all, the Latin root of explosion means ‘to drive out by clapping’.

To recap: for a drum-roll of centuries black powder was our only explosive. While essential to ceremonies, it was also put to military use during the Sung Dynasty. From 960 AD the Chinese emperors understood that magic and mortality are partners. During the late eighteenth century other propellants were synthesized for war and industry, however the devil’s distillate retains its primacy for pyrotechnics. Such longevity is unusual because the production of industrial and cultural commodities is inherently innovative in character, with the expectation that every product should (claim to) be better than its predecessors, even unique. That such claims are usually specious only adds to their regularity. But gunpowder does have a unique status, one that bridges the military and the pacific, the commercial and the spiritual. It inaugurates presidencies and it ends battle campaigns; it blesses royal babies and it marks the passing of kings.

States, multinational companies, and patrons of the arts all commission pyrotechnicians. Our ancient craft no longer exclusively serves the warlord; rather it serves the tyranny of the new: the new team, the new sponsor, the new competition. When families attend the fireworks display at Everyman Stadium they hear, punctuated by titanium salutes, the good news of the marketer rather than the evangelist. If anniversary extravaganzas have the majesty of religious ritual, then they are not so much the opiate as the chlorate of the masses:

*To set the rabble on a flame,
And keep their governors from blame,
Disperse the news the pulpit tells,
Confirmed with fireworks and with bells.*

[Butler,²⁰ 1678]

But few human activities are circumscribed by intention. While an economic trajectory is clear and measurable, the arc of our hearts is arguably more mysterious than God’s movements. Patronized for their ability to glorify and so maintain the status quo, fireworks also shift the known; the pursuit of happiness ends unexpectedly in discovery. Let there be light.

*“What are fireworks like?” she had asked
the Prince, one morning, as she was walking
on the terrace.*

*“They are like the Aurora Borealis,” said
the King, “...only much more natural.”*

[Wilde,²¹ 1888]

A fifteen-minute display traverses centuries; it contains the journey of each viewer’s ancestors. Those ancestors twist and turn within every viewer as he flinches with delight when the shock of the launching charge hits the perimeter of the pyrotechnic exclusion zone.

Up close and personal, fireplayers try to return to physical capability, to the eroticism of sweat, as the defining element of spectacle. He swings a flaming staff, outlining a globe that is itself yet a symbol. With fire-pois she knits a filigree bodice for her breasts, which glisten in the red light shed by exploding peonies. What unites pyrotechnician, fireplayer and viewer is not the false promise of technical innovation but the opportunity to experience the theatre of the senses afresh, to make things (and no-thing) cohere – although pyrotechnics posit unity without a fixed centre; they are the artistic corollary of a community without the State.

*Something goes its own path, follows its
own law. But I don’t want that, I think,
and once again want to jump up, but then
remain seated and want to replace the
thought that there might be something going
along inexorably, and rolling over me, with
a different thought, one more appropriate.*

[Hofmann,²² 1979]

Do fireworks promote in people an expansive, even pantheistic, openness that momentarily banishes the ego’s demands? Fireworks try to burn through the ties that hold definitions of self in place (and place in self) until the viewer glimpses, through the sheet of aerial effects, the sleeping self-to-be. A barrage of chrysanthemum shells is a wake-up call that rolls over the ego. Yet it also reassures the audience: ‘You need never squint through a keyhole until your neck hurts; no more staring out

windows in the hope that your lover will come; for one evening everything will be complete. You need never desire again.’ Priceless?

“What do you think of a brilliant display of fireworks?” said Mr Crummles.

“That it would be rather expensive,” replied Nicholas drily.

“Eighteenpence would do it,” said Mr Crummles. “You on the top of a pair of steps... Farewell as a transparency behind; and nine people in the wings with a squib in each hand – all the dozen and a half going off at once – it would be very grand – awful from the front, quite awful.”

[Dickens,²³ 1839]

Fireplayers admire, even aspire to, the useless. Yet our ability to deliver quality displays cost-effectively comes from analysis of the assumptions guiding the site architect, the set designer, the celebrity speaker, the star fullback, the fire safety officer, the insurer, the client and the client’s client. We appreciate that sports, the arts and commerce have a common interest in audience response and the technical means of achieving it. But we also know that fire can hold everything and everyone to account.

We represent also ordinance and new mixtures of gun-powder, wild fires burning in the water and unquenchable, and also fire-workes of all variety

[Bacon,²⁴ 1627]

Whereas aesthetic contemplation involves ‘pure’ observation of an event, commerce uses contemplation of an event to direct audience response towards brand awareness and product consumption. Often fireworks focus attention on specific areas of the site; they act as preludes to prize-giving ceremonies or concerts, and as codas that allow the safe exit of dignitaries by taking the audience’s attention. However ‘the event is what it is by reason of the unification within itself of a multiplicity of relationships’.²⁵

These relationships may be economic in origin but their nature is greater than the purview of commerce, otherwise fireworks would not survive the next marketing fad. At its best pyrotechnics is revelatory and lights what Walter Benjamin dramatically termed, in *World and Time* [circa 1919], ‘the theatre of history’.²⁶ The fact of the act is that fireplayers describe a tension between the known past (what the audience remembers about a familiar site) and the unknown future (what the audience comes to experience through our work on the site). We do this by generating a spectacle that returns the audience to a world where transfiguration and wonder are the twin poles.

How she cried O, O, O, as the rocket soared into the air, and showered them in azure, and emerald, and vermilion! As these wonders blazed and disappeared before her, the little girl thrilled and trembled with delight...

[Thackeray,²⁷ 1848]

We attempt nothing less than to bring up the archetypal child inside everyone, a child who embraces the world in all its variety. The desire to resurrect, to perfect, is behind every explosion. And every fizzer.

At the centre of contemporary antinomies is that art must be and wants to be utopia, and the more utopia is blocked by the real functioning order, the more this is true; yet at the same time art may not be utopia in order not to betray it by providing semblance and consolation.

[Adorno,^{3b} 1970]

By reducing expensive products to smoke pyrotechnicians turn Adam Smith on his head and mimic the second law of thermodynamics, which insists that systems move over time from order to disorder. Yet displays are held to celebrate a material ideal. The culture industries and the spendthrift audience are one in their hunger for the new, the inclusive ‘exclusive’ experience that is beauty.

Is it all smoke and mirrors? Beneath coloured

smoke the primary – perhaps the only – mirroring is of the human spirit. To do their job properly pyrotechnicians have to value intensity, which is often (questionably) viewed as an indicator of authenticity. But what can be more authentic than to provoke recognition of the inexorable? Jorge Luis Borges asserted, ‘The Inferno of God is not in need of the splendour of fire.’²⁸ However the Inferno of Earth is. Jeffery Baker, who makes flamethrowers and fireballs, recalls:²⁹

I grew up in Texas, which is the most boring place ever. To cure my boredom my friends and I would amuse ourselves building small bombs, making our own napalm and burning whatever we could find that would burn. We made our own flash powder, using potassium nitrate, sulfur and charcoal. Somehow I made it through that era with all my fingers intact.

In 1999 my wife talked me into attending the Burning Man Festival. At first I was more interested in the naked women. After three hours that passed. I saw the most spectacular fire effects. While these huge explosions and fireballs lacked the ‘sophistication’ of your average fireworks display, there was a primal affection to the experience. The next morning, after I had sobered up, it became clear that my childhood adventures with fire were totally natural as a human. Watching the huge fires was not only ecstatic but deeply comforting. It was a religious experience.

With fire seeing is believing. No one can make meaning without context. If site provides context then fireworks don’t so much map as transcend it because they take the viewer into an apprehension of the eternal through the momentary. The report of a launching charge is more than a deafening report on experience.

Exposed by the exploding shell, perhaps site is akin to the light-sensitive paper that photographs are printed on – but a paper that has not been treated with fixative. When the spreading charge transforms common chemicals into uncommon effects, then the audience participates more than the pyrotechnician. No exposure matches that of

the spirit – it cannot be captured.

After all, is this so different from what happens with language? Words turn around the world, searching the pockets of discarded jackets for secrets. See, here is a piece of crumpled paper. It is the charred casing of a star shell.

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