OPUNTIA

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WE'LL ALL GO TOGETHER WHEN WE GO

by Dale Speirs

Meteorites are always a good choice for end-of-the-world movies and stories since they have a basis in reality. We humans indirectly owe our existence to the big one that punched into southern Mexico just as the dinosaurs were getting their second wind. The planet-killers were mopped up in the early days of the Solar System, but there are still some rocks floating out there that could put the human race permanently back into the Stone Age.

Rifle Versus Shotgun.

An early end-of-the-world scenario was the 1956 Japanese movie WARNING FROM SPACE. It begins with flying saucers buzzing about Japan, sowing alarm and disquiet. They also buzz the rest of the planet as a sideshow, in the same way that American sci-fi movies centre around Washington,, D.C., and southern California while ignoring the rest of the world. The aliens are giant starfish who walk vertically and have a single cyclopean eye in the centre of their arms. Despite the absence of opposable thumbs and stereoscopic vision, they've done well enough to achieve interplanetary space flight. After frightening the bejesus out of assorted geisha girls, merchant sailors, and passing pedestrians, the aliens finally make contact. They have a transmutation device that converts one of them into a simulacra of a famous Tokyo

nightclub singer, a tapdancer yet. She doesn't fit in, of course, and people get suspicious. Not that it matters, since she reveals her identity to a group of astronomers. She tells them her species is from a planet in the same orbit as Earth but always on the far side of the Sun so it can't be seen. This is an astronomical impossibility because the Earth does not orbit the Sun in a perfectly circular orbit, but that argument is for another day. See also the 1969 movie JOURNEY TO THE FAR SIDE OF THE SUN.

About two-thirds of the movie is used setting up the plot, but finally the aliens get to the point. They warn that a loose planet is headed this way and will destroy Earth unless we co-operate and use all our nukes to deflect its course. The reaction of the Earth's population to the news of impending doom is about what you might expect, and everyone does their headless chicken routine. With good reason as it turns out, for the nukes don't work. As the rogue planet approaches, for some reason this heats up Earth and causes real global warming. Just as all seems lost, a professor tells everyone about this superexplosive he invented, so the aliens synthesize it and load it into one of their missiles. It works, and blows the planet to smithereens as it is about to impact Earth. At such close range, the effect is like a shotgun at point-blank range instead of a rifle at point-blank range, so Earth gets its hair mussed anyway. It is saved, nonetheless, and all ends well, or at least until the next time Godzilla climbs out of Tokyo Bay.

"How To Blow Up An Asteroid" by Duncan Lunan (1973 November, WORLDS OF IF) is a novella that makes the point more strongly about a rifle shot versus a close-in shotgun blast. A planet-killer asteroid is spotted heading to Earth, and the heroes are despatched in their spaceship to blow it apart. After the expected adventures along the way, they finally succeed in shattering the asteroid. Instead of a giant ball of rock hitting the planet, the astronauts watch as a giant ball of shot hits the planet.

Cinemascope Catastrophes.

METEOR (1979, letterboxed DVD) begins with a voiceover ominously lecturing us on Grade 3 astronomy about comets and asteroids. We see comets zooming about, criss-crossing the solar system in impossible orbits, and an asteroid belt of incredible density. Granted that the general public are not as well versed about astronomy as the average SF fan, this segment was totally useless even for the public.

But finally the movie gets going. As is traditional with disaster movies, there is only one maverick scientist who can save us all, in this particular case Dr. Paul Bradley. Like all such maverick saviors, he quit the organization in a huff a few years prior and has to be tracked down by the Men In Black and dragged off to headquarters for a briefing.

Bradley is played by Sean Connery, who spends the first part of the movie making snide remarks about NASA bureaucrats. He looks visibly annoyed, although it is difficult to tell if he is angry at the bureaucrats or the screenwriters who saddled him with his dialogue.

It seems that a manned Mars ship had been diverted from the red planet to the asteroid belt, making the trip in two days. Setting aside the question of how a conventional rocket ship could travel that fast, the ship parks within range of a predicted collision between a comet and the asteroid Orpheus. Not surprisingly, the ship is destroyed by the debris field from the collision. The actual impact is a powerful gasoline explosion whose booming thunder reverberates endlessly from the mission control speakers due to the well-known Hollywood phenomenon of sound traveling through a vacuum without attenuation. A big chunk of Orpheus is inbound to Earth after the collision, not to mention the smaller faster pieces, called harbingers by astronomers but splinters in this movie, that will produce collateral damage and special effects. Estimated time of arrival is six days from the asteroid belt, pretty good for cross-system travel.

Bradley had designed the Hercules orbiting weapons station, equipped with 14 nuclear missiles aimed at the Soviet Union. Job #1 is to re-align the missiles to face outwards. A non-technical problem is that the USA has never admitted to putting nukes in space. USAF Space Command General Aldon, in charge of Hercules, isn't too thrilled about having to divulge the existence of it, because the American public would be shocked, shocked!, to learn that their government had lied to them. There is also the fact that a 5-mile-diameter asteroid headed to Earth cannot be kept secret, and astronomers from other countries have noticed it. Matters go from bad to worse when it is realized that the Hercules missiles are not enough, and the Russians will be needed to add their undeclared space nukes to the total.

Next we visit the American command-and-control centre, located in an abandoned subway tunnel under the Hudson River in Manhattan. "*We saved millions in building it*", a bureaucrat exults. The tunnel was, of course, built by the lowest bidder, as was the c-and-c, which will become important later on. Bradley and company arrive in the centre and are met by Aldon, who is indignant that his Russian counterparts will be allowed into the centre to co-ordinate the meteor defense. They are Dr. Alexei Dubov and his interpreter Tatiana Donskaya, who were played by Brian Keith and Natalie Wood. Both Keith and Wood spoke Russian, he from his military service before becoming an actor and she by being an ethnic Russian, so they were naturals for their parts. There is an hilarious sequence where, in a conversation between Dubov and Aldon, their rival interpreters keep tripping over each other's translations.

The first splinter hits Siberia, disturbing a family of nomads and blowing down their tent. The special effects start to kick in, the technical quality of which is reasonable for their time. Since no SF movie can spend their entire budget on SFX, a couple of romantic subplots also kick in. Another swarm of splinters burn up harmlessly over Italy, creating a spectacular fireworks display. This encourages General Aldon into a shouting match with Bradley, screaming that the whole thing is hysteria. Bradley can't convince him that the main event, the 5-mile-diameter chunk of Orpheus still inbound, isn't going to burn up harmlessly like the splinters. Aldon is sidelined shortly thereafter when the Soviets admit that they too have an orbiting nuclear missile platform. It is called Peter The Great, and was built strictly for defense, you understand, in the best interests of the peace-loving peoples.

The missile platforms are then synchronized and aligned to point toward the incoming Orpheus. This is a very lengthy procedure, with endless SFX shots of the missile platforms slowly rotating, and endless reaction shots of the c-and-c staff staring up in awe at the warboard screens. There is enough orchestral music to deafen everyone.

It may be cheaper to film people staring in awe but that doesn't keep the audience's attention, so cue the next splinter, this time hitting a mountain top in the Swiss Alps and triggering a massive avalanche onto a ski resort. You can tell this is an old movie because not one of the skiers is wearing a helmet, and their ski suits do not have advertising on them.
What is peculiar is that the meteorite is clearly shown hitting a mountain in the far distance on the centre of the horizon, but the avalanche roars down on the ski resort from left of screen. Skiers on the slope are seen trying to outrun the avalanche downhill instead of turning off to the side. They all fall down just <u>before</u> the avalanche overwhelms them, and the styrofoam boulders are clearly seen bouncing off them intact. Two snowmobilers on a wide open slope collide with each other for no apparent reason. Just to make certain that the other characters will have something to watch on the television news, there was a cross-country ski marathon with 12,000 entrants just starting out when they were overrun by the avalanche. I assume this was stock footage from a sportscast rather than hiring that many crowd extras.

After a pause for another romantic interlude, the scene shifts to Hong Kong. A big splinter has splashed into the ocean and triggered a 30-metre tsunami traveling at 960 km/hr. A wave that height moving just below the speed of sound can't help but trash Hong Kong, but nonetheless the streets are filled with panicky Chinese who think they can outrun a subsonic wave on foot. There is a jump cut to the American President, addressing the nation and advising the audience that Peter The Great and Hercules will launch their missiles to deflect the course of Orpheus.

The President assures the viewers that "*We will let you know when the danger has passed.*" This seems to be a redundancy. Either the deadline passes and everyone is alive or else they are struggling for survival in the aftermath of an impact.

The first salvo of missiles are sent off, just as the c-and-c centre receives word that a splinter has been tracked inbound for the eastern seaboard of the USA. Make that Manhattan. The bolide takes off the top of the Twin Towers, then somehow jigs sideways, backs up a bit, and ploughs a giant furrow down the length of Central Park. Lots of stock footage of building implosions follow, which was a shame because the SFX of the meteorite taking out the other skyscrapers were very well done and quite believable. Unfortunately the implosion shots of the St. Louis and Philadelphia housing projects have been re-used so many times in so many movies that they are instantly recognizable as old friends. There are lots of gasoline explosions as well, including one on an empty steel-girder bridge for no apparent reason. The c-and-c centre is collapsed by the impact, and Central Park now has a new scenic feature, its very own meteorite crater. The rest of Manhattan has been buzz-sawed down to foundations and rubble.

The movie then begins alternating between the missiles slowly trundling along towards Orpheus and the c-and-c survivors fighting their way out of the rubble. The survivors take a subway tunnel to safety but the walls burst and flood the tube with lots and lots of mud. The principal cast manage to make it up to a station near the surface, but most of the supporting characters are sent on to the next life by various methods, all of them involving mud. As the survivors sit exhausted, Dubov tells Bradley "*Come to Moscow and I will show you a much cleaner subway*". The missiles finally arrive at their target, and the orchestra goes into paroxysms as gasoline explosions and pyrotechnics fill the screen. All's well that ends well, other than for the dead.

There Is No Cause For Alarm.

DEEP IMPACT (1998) begins with a young stargazer Leo Biederman discovering a new comet. He sent his report to a professional astronomer to verify it, and Dr. Marcus Wolf not only does so but determines that it is on an Earth-orbit crossing path. He does his calculations using a Hollywood-built computer, the kind with keyboards that go clickity-clack like a manual typewriter. The rest of the planet uses silent keys on their computers but in Hollywood they have only keyboards that sound like a train passing over a switching point.

The movie then jumps ahead a year, as ace televison reporter Jenny Lerner tracks down a scandal in the White House involving the Secretary of the Treasury dallying with a woman not his wife named Ellie.

While Lerner is still trying to puzzle that one out, the Men In Black come and take her away to meet the President in the basement of the White House. He inadvertently refers to Ellie as E.L.E., and after promising Lerner a scoop if she sits on the story for 48 hours, sends her on her way. Naturally she immediately does an Internet search back at the office and finds that E.L.E. stands for Extinction Level Event. One nice touch is that unlike most movies where the hero does an Internet search and finds the answer at the top of the first page, Jenny has to sort through pages of irrelevant results.

Cutting to a subplot (there are always subplots) Jenny has an awkward meeting with her father and his new bride, a young woman her age. After that interlude, the President holds a press conference and announces that comet Wolf-Biederman is on a confirmed collision course with the Earth. Since Biederman discovered the comet with a backyard telescope, it is remarkable that in the intervening year no other astronomer has noticed the doomsday comet. There are no harbingers, which is fair enough for a comet in ordinary orbit with no collisions spewing debris ahead of it. It does, however, deprive us of nifty SFX shots of the Twin Towers being decapitated, the Eiffel Tower being decapitated, Big Ben being decapitated, etcetera.

The USA and Russia have been secretly building a spaceship called Messiah to alleviate the problem and no one should worry their pretty little heads. The President says he expects life to go on with no panic or hoarding, and to ensure that it does, he is imposing wage and price controls. Everyone obeys. You can tell this is a fantasy movie. Elsewhere, the Messiah astronauts have their backyard barbeque. Standard pre-flight procedure, of course. Sizzle them steaks, and have some touching family moments before going off to die.

Lerner is promoted to the anchor desk where she can provide a blow-by-blow account of the End Times. Out in space, the Messiah comes alongside the comet. The astronauts stare in awe and describe it in technical language such as "*Jesus, that's big*", "*Sweet Mother of God*", and "*Gospahdee*" (the token Russian). Evidently a very religious group of astronauts. The nukes are prepared for emplacement into the comet. Messiah lands on the surface to drill the holes and lower the nukes into place. There are the usual alarums and excursions, one of the astronauts gets wasted, and another is blinded. The initial detonations fail to break up the comet. Instead of one big comet heading to Earth, there are two medium-sized pieces traveling side by side. It will be the difference between a point-blank rifle shot and a point-blank shotgun blast.

The President goes on television to make another speech, and will do so again a couple more times. That's one way to fill up the movie.

Plan B is to use ICBM missiles for short-range interception but this again raises the problem of dying from a shotgun instead of a rifle. The President also announces that the government had secretly constructed an underground shelter in Missouri that will hold a million people, plus seeds and animals. The public react as you might expect. Martial law is declared and the pushing and shoving begins.

Back at the Messiah, the astronauts decide on a suicide mission, diving into a vent that just opened up on the comet and using their last four nukes to obliterate it. At least they have a rationale for their behaviour; they want to save the Earth even if it means sacrificing their lives. On Earth, however, various characters provide the idiot in the idiot plot. Lerner, who had a chance to go to high ground, instead goes to her father's beachfront home, the better for the both of them to be wiped away by the impact tsunami. (His trophy wife disappeared from the plot a little earlier. Probably went to visit her mother.) Large crowds of extras behave like a bunch of spring calves who just spotted a coyote. All the usual cliches are trotted out. Truck drivers jack-knife their rigs for no apparent reason. People on foot try to outrun a subsonic tsunami.

The Messiah suicide mission takes out the main chunk of Wolf-Biederman but a secondary piece gets through and splashes into the Atlantic Ocean. The impact and tsunami SFX were very well done, from the hypersonic shock wave to the giant tsunami standing up in New York City harbour and burying the Twin Towers. The tsunami washes inland overtop the Appalachian hills and into Missouri, where the cave dwellers get their feet wet. In the aftermath, the President gets in one more speech about a brighter tomorrow, before someone cues the orchestra and the end credits start rolling.

Drill, Baby, Drill.

ARMAGEDDON (1998) begins with a voiceover ominously lecturing us on Grade 5 astronomy about comets and asteroids. We get to see some nifty SFX of the asteroid that hit Yucatan 65 megayears ago and wiped out the dinosaurs. Jump cut to the present day, where NASA mission control supervisor Dan Truman is talking to shuttle astronauts doing a satellite repair. The harbingers show up early while the opening credits are still rolling, and shred the shuttle into scrap metal, as well as sending NORAD into a panic when hundreds of bogies suddenly appear on their radar screens. The harbingers unerringly aim for Manhattan (why would anyone want to live there?) and start punching through skyscrapers. The SFX are very well done. The Chrysler building is decapitated, and flaming Yellow Cabs thrown into the air by shocks do aerial ballets from the Battery to Yonkers.

There is a rather ominous establishing shot of the Twin Towers in the aftermath. The South Tower is decapitated and smoke is billowing out. The North Tower has chunks taken out of its middle, all the way around the outside load-bearing walls, but is still standing. Little did we know.

The movie gets off to a fast start, and there are no tedious scenes of scientists slowly piecing together the data. Jump cut follows jump cut and we quickly learn that the harbingers will be followed in eighteen days by a rock the size of Texas. Definitely an E.L.E.. The scene shifts to an offshore oil rig owned and operated by Harry Stamper, the roughest, toughest roughneck there is. Unlike DEEP IMPACT where the astronauts learn how to drill in a day or two, this universe knows enough to send oil drillers as mission specialists. The Men In Black do their regular routine and round up Stamper and his men, plus his daughter, who looks after the romantic subplot. Truman tells Stamper the government has been able to keep a lid on the news by quietly taking control of the astronomers. Differing from DEEP IMPACT, this government knows what would happen if news about the asteroid leaked out. As Truman explains, "*Basically, the worst parts of the Bible.*"

Plan A is put into effect: land on the asteroid, drill some holes, and drop in some nukes. The usual culture clashes

take place between the roughnecks and the scientists, but with less than eighteen days to impact, everyone has to learn to work together. The roughnecks flunk the psychological tests but pass the physicals, if one overlooks some of what's circulating in their blood streams. When the physicians object, Truman tells them it doesn't matter; the roughnecks are going up anyway. Then the NASA astronauts have to train the roughnecks as mission specialists. For some reason, the sessions are held in a USAF hanger with two Blackbird SR-71s parked inside.

The movie alternates training sessions with harbingers. If Manhattan is trashed, can Hong Kong be far behind? Obviously not, and the SFX soon take care of it. By now the secret is out. As they say in the army, once is random chance, twice is coincidence, and three times is enemy action. The mass media breathlessly report that "*NASA is on a full-scale military alert*", which is baffling because it is a civilian agency.

The day of decision is at hand. All the cliches are trotted out, such as the line-abreast slow-motion walk of the heroes to the spacecraft, the newscaster overdubs about how the end is nigh, and the government leaders assuring the sheeple that everything will be taken care of, not to worry. There are jump cuts of people around the world gathering around television sets in cafes, in a storefront window, or out on the street. No one seems to have their own personal set in their house. Nor is anyone rioting. After all, didn't their leaders assure them that everything will be taken care of?

NASA launches two shuttles, Freedom and Independence, each with a mix of astronauts and roughnecks, each to separately land on the asteroid and drill to ensure that at least one team succeeds. They rendezvous with the Russian space station to top up their fuel. Something goes wrong and there is an explosion during the refueling operations. Lots of shouting, jump cuts, fireballs, and flying debris. The space station is destroyed but fortunately both shuttles get away.

They arrive at the asteroid but discover it is surrounded by a cloud of debris through which they must fly. The shuttles are battered and bruised, with lots of screaming "*Houston, Houston, we are going down!*" There are enough explosions, electrical flashes, and jump cuts to induce seizures in half the viewing audience, but finally the shuttles crash land. They're in the wrong spot though. They get to work drilling, with endless troubles designed to count the clock down to the last second. One of the drilling machines is trapped inside a shuttle, so a roughneck perforates the hull with a Gatling gun and smashes his way out. Granted that it came in handy, but it begs the question as to why anyone thought it was essential to carry a Gatling gun to a lifeless asteroid.

Alarums and excursions too numerous to mention follow, both on the asteroid and on Earth, where more harbingers are falling. Paris is now a giant crater. With three hours to doom, the rioting finally breaks out. On the asteroid, the jump cuts and electrical flashes come so fast that any viewer with the slightest tendency towards epilepsy will by now be lying on the floor twitching helplessly. But the nukes work, some of the astronauts make it home (but not the hero), the crowds cheer, and the banners fly.

Waiting For Kassandra.

METEOR (2008) is an extended television movie which begins with a comet nosily sliding around in a retro-orbit in the asteroid belt. As the opening credits roll, it sheds fragments with the sound of a rockslide, relying on the well-known Hollywood principle that sound travels through a vacuum. It collides with an asteroid known as 114 Kassandra, knocking it and its cloud of debris into an Earth-crossing orbit. No gasoline explosions at least, just a blaze of white light on impact.

As the credits finish rolling, American astronomer Dr. Dan Lehman, working in a Mexican observatory where he was exiled for being a maverick, spots something while watching through the telescope, jots down some numbers, and rushes to his computer for some clickity-clacking. He brings up a photo of a globular galaxy and scrutinizes it intensely. Since a galaxy in the distant reaches of the universe would have nothing to do with comets or asteroids in the Solar System, one can only conclude that Lehman is not driving with a full tank of gas. He then scrolls a screen with numerous integral and differential equations. Using freeze-framing, it can be seen that some of the equations have no operators. Others use Planck's constant, an important part of quantum mechanics but nothing to do with the orbital dynamics of an asteroid. Nonetheless, Lehman identifies Kassandra as an incoming bolide. His pretty young graduate student Imogene calls it an E.L.E., and the movie gets underway.

But first the subplots, and since the SFX budget was obviously tight, there are a lot of them. I won't devote any time to them other than to list a few, such as the teenagers in love, the psychotic killer on the loose, and the grizzled old police chief trying to keep the mobs under control. There is a 30ish-hospital nurse married to a rancher by whom a teenaged son. She really suffers; first a harbinger craters on the ranch and blasts their house, then after she is at work, another harbinger takes out the school bus her kid is riding on. She finds him in the triage at her emergency ward, but doesn't have long to relax before other harbingers collapse the hospital on them.

No chance of keeping this one a secret, because the harbingers start peppering California, while Manhattan breathes a sigh of relief.

The first impact is actually on the Moon at the Sea of Tranquility, where the Apollo 11 lander is buried by a dust flow triggered by a tangential strike. Since the landing site was on the side facing the Earth, and the bolides are clearly shown coming from behind the Moon and passing it in a straight line, the orbital dynamics of this are puzzling.

The U.S. Meteor Response Task Force is activated and its base goes to red alert. It is nice to know that tax dollars were spent wisely for contingencies such as this. General Brasser is in command of the Task Force. He introduces himself to the staff and tells them he is from the U.S. Army Space Command (ta! to the U.S. Air Force). The only catch is that they are relying on Dr. Chetwyn from JPL to calculate the orbits and tell them when to pull the trigger. He is a quivering mass of insecurity, way in over his head. Lehman tries to get his data on Kassandra's orbit to the Task Force. He is killed in a traffic accident, and Imogene begins an odyssey from Mexico to JPL in California to hand-deliver the data. The cellphone towers are out of commission because the communications satellites of the world were knocked out by harbingers. In this universe, there are no landlines.

Kassandra will arrive in two days at most. The movie explains that only Lehman's data can provide the correct orbit with which to calculate the launch of nuclear missiles. This doesn't wash, for by now every astronomer in the world would be watching the asteroid and there would be plenty of data points to calculate an orbit. Especially if it is coming in a straight line. That flaw sticks out, but to his credit Chetwyn tells General Brasser that the Army can't wait until Kassandra gets in close before firing the nukes, because that would bring up the problem of shotgun blast versus rifle shot. Nonetheless, the Army gets ready to launch its ICBMs (this is an alternative universe, with no annoying USAF generals strutting about). They initiate launch without waiting for orbital data, what engineers refer to as the "Ready, Fire, Aim" fallacy. Chetwyn wibbles so much that Brasser can't be blamed. He sarcastically remarks to Chetwyn: "*Your confidence is overwhelming.*" The launch is aborted when harbingers take out the control satellites.

Manhattan still hasn't made an appearance but Los Angeles is being riddled with harbingers punching holes through skyscrapers. The U.S. Army has one good idea though. They deploy nation-wide with shoulder-fired missiles to take out harbingers already in the atmosphere and break them up. Better to be sprayed by gravel and golf balls than rocks the size of breadboxes or desks.

Finally Imogene phones in with the priceless data. The clickity-clackers get to work and every screen scrolls the same set of equations. The missiles are launched and the nukes shatter the big rock, apparently far enough away that the debris all burns up on re-entry.

There is jubilation over the destruction of the asteroid. That's not to say we didn't get our hair mussed. Tens of thousands of people were killed by harbingers because there were only so many shoulder-fired missiles. It doesn't matter if the Earth was saved but your name was on a Honda Civic-sized bolide traveling at hypersonic speed. The Kremlin was battered, the Egyptian pyramids got a shave, and the mobs were rioting when not ducking for cover. Manhattan finally got what it deserved, although the film makers were hobbled by the fact that the Twin Towers had been gone for seven years and none of the other skyscrapers are quite as iconic.

The American president assures the people that the worst is over, the cleanup has begun and "*We will live to fight another day.*" Truer words were never spoken, as the next SFX bring another E.L.E.-class rock on stage. It turns out that Kassandra Secunda is on its way, bigger than the first. The explanation is that Earth radars missed it because it was shadowed by the first big rock. Notwithstanding all that, the subplots keep grinding on at great length, meaning that you will have to keep your finger on the fast-forward button. The next round of harbingers arrive, scoring direct hits on a nuclear power plant in southern California, then the Task Force bunker. You can run but you can't hide. The International Space Station, which somehow survived all the previous swarms of harbingers, meets its destiny with the next batch.

Kassandra enters the Earth's atmosphere and begins to heat up. It suddenly slows down to a crawl. Having traveled from outside the Moon's orbit in a few hours, it now putters along through the upper atmosphere. I've seen cows ambling across a stubble field move faster. The harbingers hit Earth at hypersonic speed, and Kassandra should have done so as well. There is plenty of time for people to stare in awe, the Task Force to recover from its damage, and a new plan hatched to use nukes. Not to destroy it, because that of course would be death from a shotgun instead of a rifle, but to deflect it back out of the atmosphere with a giant shock wave.

The plan works, cheers all around, and the subplots wrap up. We see a final view of Kassandra slowly climbing out of the atmosphere. It is shedding debris which should be falling now that the shock wave has dissipated but instead follows the mother rock like calves. An alternative timeline, where the laws of Newtonian physics are different.

Once In A Blue Moon.

IMPACT (2008) begins with the people of this planet, or at least the North Americans and Europeans who are the only ones shown, oohing and aahing over a massive meteor shower. The shower is so intense that the launch of the European lunar expedition has been delayed. There are no lectures on Grade 3 or 5 astronomy,

but as the opening credits roll, two astronomers bring the audience up to speed with "As you know, Professor" chit-chat.

The plot starts at a New Mexico observatory when Dr. Maddie Rhodes and her faithful Oriental companion, pardon me, graduate student, notice a big rock coming in behind the meteor swarm. Unlike the U.S. Meteor Response Task Force, they don't have to rely on vital data from Dr. Lehman but get it themselves in seconds from their radar screens. The 19-kilometre-diameter rock is visible to the naked eye. Those watching the meteor shower see it is on a collision course, not with the Earth, but for the Moon.

The asteroid smashes into the Moon and a cloud of debris envelopes it. A lot of the ejecta is headed to Earth and will be here in an hour. Five minutes after the lunar impact the first harbingers arrive. Pretty good travel time to say the least. The bolides start punching holes in cities. Not Manhattan just yet, but one of them just misses the CN Tower in Toronto and takes out somebody's condo on the lakefront. No sign of any trouble in Etobicoke though.

Some of the subplots are: Roland, a German astronomer, and his fiancé Martina, he hoping to find some meteorites from the smash and she busy planning their wedding. There is Alex Kittner, American astronomer and recent widower who was hosting a backyard stargazing party with his kids and neighbours. After the impact, Renee Ferguson, a grumpy White House aide, has the problem thrown in her lap. Rhodes's ex-husband David, a sleazy freelance journalist, sees an opportunity to score a big story at her expense.

Jodrell Observatory in England advises Rhodes that a 100-metre-diameter chunk of the Moon is on its way and will arrive in fourteen hours. The SFX of the chunk's atmospheric entry and splash into the Pacific Ocean are well done, from the column of superheated steam to the giant tsunami. It came down near Australia, we are told, but no more reference to the subject or SFX occurs. Well that's all right then, nothing there anyway but painted deserts and vegemite eaters. I was hoping to see Sydney Harbour Bridge and the opera house take the hit instead of the usual Golden Gate Bridge or Statue of Liberty, but never mind.

More worrisome things are happening. The Moon's orbit is now only 96% of normal velocity and 30,000 km closer. Don't objects in smaller orbits move faster? Shouldn't that be something like 106% of normal velocity? Maddie assures the American President that the new orbit is stable. How come we don't believe her? Probably because there's still 180 minutes to go in the movie, so it is to early to say that all's well that ends well and cue the orchestra.

Anomalous tidal surges start occurring in random places around the planet. Cellphone service fades out occasionally, which would never happen in the real world. Chain link fences become electrified at random, and service stations explode when massive static charges set off their underground fuel tanks. The one that had me puzzled was when Alex can't start his car, supposedly because of the lunar anomalies, but gets a battery boost from a car parked next to his without a problem.

Maddie and Alex meet up again (they had a past) to research the situation. They get a cellphone call from Roland, who checked out an impact site in Germany and recovered a meteorite. It was fist-sized and weighed so much that a heavy-duty crane was needed to lift it out. Roland thinks it is a fragment of a brown dwarf star. We'll let them have that one, implausible though it may be, because it motivates the plot. He thinks that more of the material has penetrated into the Moon and is the reason for the gravitational and electromagnetic anomalies. That chunk of brown dwarf is stressing the Moon further and cracking it. Estimated mass of the brown dwarf inside the Moon is 12 sextillion tonnes, about twice Earth's mass. That explains that. The Moon shifts orbit again and moves in closer, intensifying the anomalies. It is now in an elongated elliptical orbit, passing close in to Earth at some points and moving away at the far end of the orbit. This explains why the anomalies come and go.

A war room is set up in Washington, D.C., with Maddie and Alex supervising a crowd of space agency staff and military personnel. They know the lunar orbits are getting narrower, with eventual impact in 39 days. Anything electronic that isn't shielded against EMP will be fried, whether computers, aircraft, or telecom networks. Alex, wanting to do his part for the idiot part of the plot, asks that his kids be flown to Washington from his father-in-law's house. Putting your kids at risk will be good for some more plot coupons.

The next band of anomalies sweeps across Europe, heading to the Americas. This time, they make people and things weightless. A kid goes looking for his dog and ends up clinging for life to playground swings to stop from floating away. Martina is on a high-speed train, heading to Munich to visit her mother, when the train becomes airborne like a Titan missile leaving its silo. There is a lot of handwaving and double-talk about electromagnetism, left vague enough to cover any continuity errors made by the screenwriters or SFX men.

The helicopter Washington sent out to get Alex's kids crashes en route. Grandpa decides to take the kids by car cross-country to Washington during the electromagnetic/gravitational anomalies, thereby contributing his part to the idiot plot. An anomaly overruns them from behind and the car goes flying. As the anomalies travel along, another nice SFX gives us the spectacle of

a container ship floating up into the sky (and all the individual containers) before dropping back down into the water when the anomaly passes on. An urban traffic jam clears itself when the cars start traveling vertically, although the pain and tears come a moment later when the anomaly leaves the scene and the cars come crashing back down from the sky.

Over at the White House, Maddie brings out the tried-and-true method of dealing with big ugly objects about to hit the Earth. She proposes to the President to use nukes to deflect the Moon out of its decaying orbit into the Earth's L4 and L5 points with the Sun, where gravity would stabilize it into a new safe orbit. The Lagrange 4 and 5 positions are two points between two large astronomical bodies where their gravities cancel each other out and anything placed there will tend to stay in that place. This is not absolute though, and some objects will drift out again. I have my doubts that the Moon would stay in an Earth/Sun L4 or L5 position. Probably it would become a giant Trojan asteroid returning to haunt Earth in the sequel.

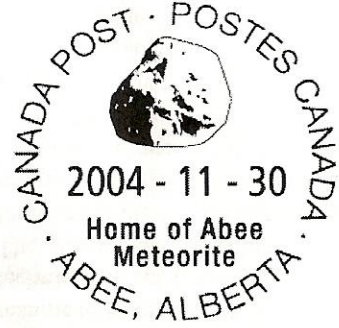
Maddie brings in Professor Blankenship (I'll bet the screenwriters were having fun when they wrote that part of the script) who is in a wheelchair, but unlike Dr. Strangelove is not wearing a glove. He is, however, supportive of Maddie's plan to launch 1,100 nuclear missiles at 20 megatonnes each. They would be exploded while trailing the Moon as it approached the apogee and the shock wave would push it into the L4/L5 orbit. USAF General Vaughn begs to differ. He proposes to dump 87 nukes into the fissure where the brown dwarf is hiding and fragment the Moon into harmless pieces. Maddie objects on the grounds that his plan is unrealistic. Look who's calling the kettle black.

Maddie quickly has other problems though. Her sleazy ex-husband has gone public with the news that the Earth is doomed. This forces the President's hand and he chooses General Vaughn's plan to destroy the Moon. The Titan V's launch but they only cause the Moon to start tumbling and speed up the impact time by five days. Roland comes up with Plan C. A superscience machine will be designed and built in the next few days and then dropped into the lunar fissure to reverse the polarity of the Moon's core and expel the brown dwarf. This would allow the Moon to resume its normal orbit. Reversing the polarity is a time-honoured technique in sci-fi movies and I greeted it like a long-lost friend. The superscience machine will be emplaced by the European lunar expedition. Remember them from the beginning of the movie? They've been patiently waiting off-stage for their moment of glory. While they're tuning up for launch, the subplots fill in the time. Grandpa and the kids are having all kinds of trouble, and eventually the old geezer keels over. Marina and the train wreck survivors are trudging to safety down a country road, not as exciting as it sounds. The mobs are rioting in the streets.

The European space team lands on the Moon, a couple of astronauts don't make it back, and the superscience machine expels the brown dwarf. The machine also cracks the Moon completely in half, such that two separate hemispheres are now floating in the same orbit. The heroes come back to Earth and everyone celebrates. No one seems to care about what the Moon is doing, despite the iffy orbital dynamics of the two halves. Perhaps a sequel was planned.

Not With A Bang But A Whimper.

I collect old-time radio shows of SF, mystery, and comedy. One SF series was LIGHTS OUT, which did bizarre fiction. An episode first broadcast 1937-06-16 was "The Meteor Man", written by Arch Obler. Russell Adams, conveniently a professor of astronomy, and his wife Diane are enjoying a romantic night at home when a shower of meteors occurs. A small meteorite lands near the house, so he goes out and collects it. Like any good scientist, he cracks it in half to see what's inside. What it is, is some grey living flesh with telepathic powers. It feeds on human brains only, but fortunately Russell manages to destroy it before it gets to him and his wife. All's not well, however, as he realizes there are countless meteorites falling over the Earth, and the invasion is underway and probably going to succeed. In this case, the world will end with a spray from a shotgun instead of a rifle blast.



WORLD WIDE PARTY #19

2012 will be the 19th annual World Wide Party on June 21st at 21h00 your local time. Invented by Benoit Girard (Québec) and Franz Miklis (Austria), the idea is to get a wave circulating the world of zinesters, mail artists, and SF fans toasting the Papernet. At 21h00, you are requested to raise a glass to your fellow denizens of zinedom. Face to the east and toast those who have already celebrated the WWP. Then toast to the north and south for those in your time zone. Finally, face to the west and toast those yet to celebrate. Write it up for a zine or do some mail art. Have a party, or devise your own method of celebrating.