

### **Location, location, location**

The idea for a volcanic home for a villain came to the 007 producers when they were scouting locations in Japan. Fleming's original plot for *You Only Live Twice* has Blofeld ensconced in a Japanese castle, surrounded by a poison garden designed to entice people in to kill themselves. It's a weird, sadistic start-up enterprise that he hopes to expand to locations all over the globe.<sup>4</sup> The filmmakers scrapped the idea completely and instead have Blofeld contracted by a mysterious foreign power to antagonise the US and USSR in the hope of starting a nuclear war. This third nation, heavily suggested to be China, can then emerge from the fallout as the dominant nation on earth. Filmed during the height of the space race, the plan is to kidnap orbiting US and Soviet spacecraft so that each side will blame the other.

To accommodate this new scheme, Blofeld's lair needed an upgrade from a castle with a big garden to something with space to launch rockets and store the ones that have been stolen. Flying over various potential Japanese palaces and castles, the producers could find nothing that fitted the bill, until they spotted the peaks of a chain of extinct volcanoes. Ken Adam sketched an idea for a lair located inside one of the craters. Cubby Broccoli asked if he could build the set for a million dollars. Adam said yes.

The set was so big a special stage had to be constructed in the grounds of Pinewood Studios. This temporary structure needed more steel to hold it up than the London Hilton Hotel and came complete with a retractable roof over an opening big enough to allow a helicopter to land inside. At 45m (148ft) high, it could be seen from nearly 5km (3 miles) away, and the interior was so cavernous it took nearly every light, lamp and torch the studio had to light scenes that spanned 137m (450ft). The monorail actually worked, but the rocket landings were filmed in miniature and expertly blended into the final film.

Building a pretend volcano lair was challenging enough, but a piece of cake compared to doing it for real. As locations go, volcanoes have a lot in their favour, at least from a villain's point of view. A solid, imposing structure, a readily available source of power and an inbuilt self-destruct mechanism. But there are also one or two downsides.

The surface of the planet we inhabit is just the cooled, hardened outer crust of the hot, flowing magma underneath. This hard, rocky layer is cracked into vast tectonic plates that are slowly shifted by the convection currents moving the magma underneath. Volcanoes are like vents along the cracks in this crust. These geological pressure valves allow magma to escape to the surface, sometimes slowly, sometimes spectacularly.

An erupting, or very active, volcano is an obvious non-starter for even the most villainous of villain's lairs. One very good reason for avoiding very active volcanoes, and their craters in particular, is lava. At an average temperature of 1,000°C (1,800°F), lava makes the crater inhospitably hot. At the other extreme is an extinct volcano, one that has never erupted in recorded human history. This might seem like a safer option, but volcanoes are unpredictable things. Fourpeaked Mountain in Alaska was classified as extinct as it had not erupted in at least 10,000 years, but then it decided to resume activity in 1995. There are also volcanoes that operate at activity levels between these two extremes. Many people around the world live in very close proximity to active volcanoes, though usually on the fertile outer slopes rather than the interior of the crater.

Blofeld must have carefully chosen a volcano with just the right balance of activity to take advantage of the geothermal energy but not risk an eruption through a rocket launch. But having found the perfect, mostly inactive volcano, he wouldn't be able to move in straight away. Volcanic craters are

usually filled with debris from the last eruption that would have to be painstakingly removed to make way for the high-tech control room, monorail etc. On the positive side, heat transferred to the rocks above from the hot lava deep below could be used to generate electricity and Blofeld would never have to suffer a cold shower in his unusual home.

Excess heat and unpredictable eruptions aren't the only things to worry about if you are living inside a volcano. Lava has a lot of gases dissolved in it that can escape through fractures in rocks and diffuse through permeable soil. The sulphur in these gases readily reacts with moisture in the air to produce sulphuric acid that would quickly rust all that shiny steel and corrode the mechanism of the retractable roof. Metal surfaces and mechanical components would need to be heavily protected from corrosion. Using an alternative, corrosion-resistant metal like tungsten would cut down on maintenance and, having the highest melting point of all metals, it wouldn't melt in the heat of a rocket launch. It would be fiendishly expensive and difficult to work with, but money and inconvenience appear to be no barriers for Blofeld. None of this would help with the fact that many of these sulphurous gases seeping and belching out of volcanoes are also very toxic. The hordes of minions, scientists, henchmen, cooks and cleaners needed to build and maintain a volcano lair would all be working in potentially hazardous conditions, not that this would bother Blofeld one bit.

As an aside, where do the villains recruit their staff? Is there a minion recruitment agency or does Blofeld just put a card in the post office window? And how does he command such loyalty? The sight of 150 ninjas abseiling from the roof and I'd be the first to throw down my weapon and point towards Blofeld, but these guys fight to the death. You'd need to offer more than a steady income and a free boiler suit to retain such an incentivised workforce. The benefits package must be phenomenal.

The working conditions Bond villain employees have to endure leave a lot to be desired. On top of the lax day-to-day health and safety, together with the risk of being attacked by Bond and teams of highly trained combatants, there is also a very good chance of your workplace exploding – a worryingly common event in 007's world (see chapter 011). This is only compounded when your workplace is a volcano. As mentioned, volcanoes can remain dormant for a long time but there is no guarantee they will stay that way. Ideally, Blofeld wants to destroy his lair at a moment of his choosing: if and when his hideout is discovered and comes under attack.<sup>7</sup> Having proofed his hideout against regular rocket launches, which are essentially controlled explosions, it might take something fairly hefty to trigger an eruption. A nuclear device should do it, and Bond villains always seem to have at least one of those lying about the place. Never mind the hundreds of employees that would die in the process. Blofeld's plan may be foiled, as it always is, but as long as he has provided himself with a means of escaping before the eruption engulfs his whole enterprise, he will survive to bother Bond another day. Other Bond villains have not been so meticulous in their planning and often go down with the ship.