When the sun starts to go down on the canyonlands of south-eastern Utah in the American west, it bathes the vast rock formations and canyons in a deep red glow. It’s beautiful.

But at night, if you’re alone, it can be a cold and frightening place. Particularly if you find yourself trapped in one of the deep ravines that split the sandstone monoliths in two. It would be difficult for anyone to hear you during the day – but in the dark, a cry for help would be met with only silence.

No one knows that more than 35-year-old Aron Ralston. In 2003, he had gone hiking, alone, near Robbers Roost – an old outlaw hideout used by Butch Cassidy. But while Ralston was climbing down a narrow slot in Bluejohn Canyon, a boulder became dislodged, crushing Ralston’s right forearm and pinning it against the wall.

For five and a half days, he struggled to get free until he was forced to do the unthinkable. Using a blunt knife from his multi-tool, he began amputating his arm. This month Ralston’s incredible tale of survival comes to the big screen courtesy of film-maker Danny Boyle, in his new movie, 127 Hours.

Ralston was raised in the suburbs of Indianapolis, Indiana, but moved with his parents to Denver, Colorado when he was 11. He was a bright student and, after university he moved to Arizona to be close to his parents to Denver, Colorado when he was 11. He was a bright student and, after university he moved to Arizona to be close to them. He loved the outdoors and would hike, ski and cycle. He also went on a gap year to travel to places like the Colorado Rockies.

But Ralston was more than capable. ‘I was accustomed to being in far, far riskier environments,’ he says. ‘So I thought going into that canyon was a walk in the park – there were no avalanches, it was a beautiful day and I was essentially just walking.’

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According to retired National Parks Service ranger Steve Swanke, people call the tiny town of Moab the ‘end of the world’. ‘Well, imagine going to the end of the world and then travelling for two and a half hours more. That takes you to the Horseshoe Canyon trailhead where Aron Ralston began his journey. It’s in the middle of nowhere.’

Ralston was only planning to go day hiking and maybe do some rappelling so he could explore the slot canyons. He’d taken a gallon of water with him – plenty for such a short trip. He’d be back in Aspen by nightfall.

In Boyle’s characteristically slick and fast-paced film, we see Ralston, played by James Franco, cycling through the breathtaking landscape of red sand and shadows. He meets up with two girls out hiking and takes them swimming in an idyllic, tranquil pool hidden in one of the canyons.

But it is after he leaves the girls to continue his hike that disaster strikes. Ralston had left his bike and continued on foot into Bluejohn Canyon. According to online climbing discussion forum summitpost.org, the canyon requires technical rock and canyoneering skills to negotiate. But Ralston was more than capable.

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But suddenly, Ralston slipped and fell down the chasm, dislodging an 800lb (360kg) chockstone boulder, which is much harder than sandstone. It crushed his arm and left Ralston pinned against the canyon wall.

He made several futile attempts to chip away at the boulder with his utility knife – but it was already fairly blunt and this just made it worse. That first night, as darkness descended on the Utah canyonlands, Ralston realised just how alone he was.

‘If you want someone to show up and help you if something bad happens, you’d better tell someone where you’re going. And of course I wanted someone to know – but I’d made a choice and it was a choice I was going to have to live with.’

But living through this was going to be far from easy. Ralston says the boulder was crushing his wrist so tightly that everything up to his fingertips was numb. ‘It’s called compartment syndrome – when the nerves and blood vessels are pinched, so that the tissue goes into necrosis and dies,’ he explains.

He began stabbing the blade of his knife into the dead skin of his thumb.
Hisssss. He could hear the air escaping from the decomposing digit. 'I realised early on that I was going to have to cut my arm off to get free but there was also resistance: I didn’t want to do it,' he says. 'But by the second day I was already figuring out how I could do it, so in the film you see that progression: trying to cut into the arm like a saw, finding the tourniquet, then the realisation that the knife was too dull to get through the bone. That despair was followed by a kind of peace; a realisation that I was going to die there and there was nothing I could do, so in the film you see that progression.'

After five and a half days inside the canyon, out of water, delirious and hallucinating, Ralston had an epiphany. I felt my bone bend and I realised I could use the boulder to break it. It was like fireworks going off – I was going to get out of there.'

Ralston managed to use his body weight to violently bend his arm until the boulder snapped his forearm. He then ingeniously used the attachment from his hydration pack – a bendy rubber hose that you use to suck water out of the pack – as a makeshift tourniquet, and began saving and cutting through the remaining cartilage, skin and tendons with his multitool.

If reading about it is making you feel queasy you may find Boyle’s movie too much to stomach. Each time Ralston's character attempts to sever a nerve, Boyle uses a loud metallic sound to emphasise the excruciating pain he feels. It fills the cinema and you’re forced to look away.

But Ralston says Boyle has handled it perfectly. 'Severing the nerve severed a direct line to my brain. The central nervous system is right there. It's graphic, but I think it’s appropriate,' he says. 'You couldn’t show any less of it and still understand what I went through. Without having to belabour it, the actual amputation lasted over an hour. So I think three minutes on film is just right. It was actually very euphoric for me and audiences have cheered and clapped.

In the film, Franco laughs manically because he’s broken his bone and that’s how it was. I had this huge grin on my face as I picked up that knife to start this horrific thing. It was traumatic but it was a blessing to be able to get out of there.’

Ralston says the process of amputating his arm meant he endured both the extremes of pain and absolute elation, because, he says, he knew that he was closer to the end of his ordeal to being free. He describes the moment when he walked out of the canyon as being reborn, ‘because I’d already accepted I was going to die’. Ralston used the small point-and-shoot camera he had with him to take a picture of the rock and his severed hand 'as a kind of “screw you, I’m outta here”', he says.

He then made a makeshift sling, and incredibly managed to rappel down a 60ft cliff face to the floor of the canyon. Ironically, this would have been the one and only technical aspect of his entire trip. And Ralston managed it after amputating his arm and being deprived of sleep for five days. Covered in blood, he began marching out of the canyon. A family out hiking found him and called the emergency services.

Captain Kyle Ekker of the Emery County Sheriff’s Department said Ralston’s family and friends had reported him missing the previous day. Although he hadn’t told them where he was going they were convinced he had gone hiking in that county. ‘We started checking the southeast corner of the county and we were just lucky that we came across his truck at the trail head of Horseshoe Canyon.’

Steve Swanke was at work early that morning when he got a call saying a hiker was missing. ‘We sensed a great deal of urgency. We threw resources at it real quickly. By 3pm that afternoon we had him located, accessed, and in the helicopter, down into the hospital and stabilised. I wasn’t surprised he survived – he had a strong body, a strong mind, he was in his element and he was technically savvy. He also had a very strong will to live.’

Rescuers tried to keep Ralston awake for the 12-minute flight to the hospital in Moab. When they got there he stunned them by walking into the emergency room on his own.

Since the accident, Ralston has been back to Bluejohn Canyon 10 times – with friends, news crews and with the producers of 127 Hours. They even shot some of the film there.

Understandably, the road to recovery hasn’t been easy. At first, Ralston was determined to carry on challenging himself. Using a special prosthetic arm, he tried ultrarunning (ridiculously long running races) extreme mountaineering and whitewater rafting. And he was finally able to complete the challenge he’d set himself before his accident. But, Ralston claims, he began to adopt a sense of invincibility; that if the accident in Utah hadn’t killed him, nothing could. ‘I realised somewhere along the way that I was just headed back to that same spot in the canyon where my life was on the line,’ he says.

In 2006, Ralston lost three friends to suicide and he says it was a wake-up call; he felt he’d been given a second chance. He wanted to put more time into the non-profit work he’d started, taking disabled veterans climbing; helping troubled youngsters; preserving Colorado’s national forests and wilderness areas. But he also realised it was time to settle down.

‘I’d fallen in love with a woman but she broke up with me and I was devastated. Six months later, I went into a suicidal depression from the break-up of the relationship, but I resolved to not do what my friends had done. And so I reached out to her. Then, in the early winter of 2007, I was at a pub in Aspen watching a friend’s band play and I met this woman. Jessica. She bought me a beer, we started talking and the next day we went hiking.’

They married in August, 2009 and now live in Boulder, Colorado, with their young son, Leo. Ralston says his wife played a huge role in his healing. ‘And that’s where I’m finally at today – my life is about being with my family,’ he says. ‘This is what’s important.’

At the end of the film, you see the real Aron Ralston together with Jessica and Leo, sitting on a sofa, with the canyon behind them. Ralston says it’s funny, but even though he didn’t know them at the time, they’re the reason he was able to get out of that canyon alive. ‘We have these very fundamental desires for freedom, for love and for connection. And that’s what got me out.’

127 Hours is released on January 7