

THE DIVIDE

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Pitch: *The Stone Tape* **meets** *Stargate*.

Logline: Two PhD science students discover the true nature of ghosts and hauntings, but their discovery is not without its pitfalls.

Treatment:

For a number of years **Julia Crain** has resisted pressure from her parents – mostly her mother – to complete her education and finish her doctorate. Finally she capitulates, when her children have grown old enough to be self-sufficient and the love she felt for her husband has evaporated and they divorce. The urge to strike out and create a new path for herself becomes too strong.

Her mother, who studied at Oxford and still retains all her university contacts, pulls a few strings and obtains a scholarship for her daughter. Julia finds herself living in her mother's old rooms at her old college, studying the chemical behavior of the brain during memory retrieval, and trying to find her place in Oxford post-graduate life.

She has always been reasonably fit and healthy without having to try too hard, but a fellow post-grad persuades her that rowing would be a good social activity to try, and she finds herself shivering in the cold of a frosty dawn, pulling on oars that chafe her hands and make her back ache. It's not long before she decides that rowing is not her forte – she has come to like her creature comforts too much and she finds that the physical discomfort holds no appeal for her. However, she still yearns to find something that will allow her not only to "belong" but also to physically vent her frustration at Life in general.

She continues to pursue her research into the way the human brain behaves during the process of retrieving a memory. She builds upon a recent discovery that part of the brain is devoted to "filling in the gaps" when a memory is too fragmented – or when a person is lying – and using Magnetic Resonance Imaging (MRI) it can be observed in the act of fabricating memories. This has given her the basis for her thesis, and as part of her information gathering she conducts interviews with specially-chosen subjects while they lie within an MRI scanner.

She works with a variety of subjects – convicted criminals, witnesses to crimes, ordinary citizens – asking them a battery of questions divided into three sections: one for a genuine memory (which she has engineered beforehand by specifically arranging for something to happen with each subject just before the interview), one for a deliberate lie that the subject is asked to tell, and one for any memory that the subject finds to be difficult to determine (whether it was a real event or not).

A couple of her subjects choose as their indeterminate memory the description of a haunting that they think they experienced, and Julia discovers that the part of the brain involved in filling in the gaps is not invoked during the telling of the event – which strongly suggests that the subjects did indeed see what they describe. She finds this curious, but doesn't attach much importance to it.

One evening she is working alone on her notes in the MRI lab after an interview, and suddenly every unattached metal object in the lab flies across the room and slams against the wall separating her lab from the lab next to it.

Realizing that someone has generated a huge magnetic field, much larger and stronger than anything that would normally be used for clinical purposes, she rushes angrily next door to discover the reason and to protest.

She confronts **Craig Dauphin**, a fellow post-grad and someone she vaguely remembers from her abortive attempt at rowing. Craig is immediately apologetic, explaining that he had over-revved his MRI unit to see whether its magnetic field could be made powerful enough to create a fleeting miniature black hole. It didn't seem to have worked and if he had known anyone else was in the vicinity he would never have carried out the experiment (which was reckless in any event). He explains that he was testing a theory about the creation of loops in space-time as a way of bringing a point in past time close to the present; he feels that this is how apparent visions, ghosts and hauntings arise. It's something of a hobby of his, he says – ghost hunting.

Julia is still angry with Craig and threatens to report him to his supervisor – not least because his experiment has probably erased all her credit cards in the next room (she always took the precaution of keeping them and any other metal objects like rings and earrings well away from her magnet, in a drawer outside

the lab, but the strength of the magnetic field created by Craig has almost certainly ruined the cards).

Later that evening, she sits alone in a nearby laundromat, dozing in the muggy heat from the tumble dryers as she waits for her laundry to dry. She is awakened by a gust of icy air and then startled by the sudden appearance of a coach and horses inside the room as it dashes silently by in front of her, materializing and disappearing in only a couple of seconds.

At first she cannot believe her eyes; she feels that she must have been dreaming. The image is so vivid however, and constantly replays in her mind, so much so that it keeps her awake most of that night. The following day she subjects herself to her own MRI scan with the help of a colleague (but without revealing exactly why she wants to undertake the process herself).

The results are interesting: it appears that she DID see what she thought she saw. Her brain did not fill

in the gaps – her recollection contains a genuine image.

That evening she plans to sit in the laundromat until it closes, but after a few hours in the muggy heat she has not seen any other event and her sleeplessness is fast catching up with her.

Shortly before closing time Craig rushes in and begins to do his laundry. Julia is still irritated by Craig, and the two conduct a polite but rather stilted conversation about academic trivia. She has not been able to contact Craig's supervisor and she still feels upset by the incident. She prepares to leave and then she remembers Craig's theory about the presence of tiny black holes and their association with visions, ghosts and hauntings.

She asks Craig to provide more details about his theory, but does not tell him what she saw the night before.

Craig tells her that the majority of genuine hauntings seem to have a number of features in common, and all can be explained by the presence of one or more miniature black holes.

Hauntings are usually silent – no sound is ever heard. (The supposed moaning of ghosts is, he feels, an exaggeration to make the event sound even scarier than it was.) If his theory is correct, only light can make the journey across time. If anything else could be transferred then not only would some fundamental laws be invalid, but Time Travel would be commonplace.

A drop in temperature precedes the event – he is certain that this is because the black hole forms a loop in space-time and the intense cold is caused by the two ribbons of the loop coming so close together that the absolute zero temperature of hyperspace (the gap between the two ribbons of space-time, where the temperature is -273 degrees Celsius) makes itself felt. He even has a nickname for the gap: The Divide.

Photons of light make it across the Divide in one direction only (or we'd have hauntings from the future) as the two regions of space-time slide against each other, and we "see" what we have called ghosts or visions, but they don't appear to see us.

Hauntings seem to be associated with extreme events (murder, suicide). Craig thinks that these events are the result of the severe local gravitational changes triggered by the black hole – much like the effect that the full moon produces (and with that the association with 'lunatic' behavior). Craig quotes a statistic about a rise in violent crime that is strongly correlated with the lunar cycle.

The location of the haunting in terms of the local space varies very little – you won't for example find the ghost of an English aristocrat appearing to inhabitants at the North Pole, or the ghost of an Eskimo appearing in the drawing room of an English country house.

The size of the loop in time seems to be quite small – perhaps encompassing a few hundred years at most, so we don't have cases of Neanderthals haunting us, although that far back in time there were so few people around that a haunting could arise with no ghosts visible. Craig is sure that the size of the hole dictates the size of the loop and thus how far back a haunting occurs, because the history of hauntings generally doesn't include anything further back than a few hundred years, he claims, which is what suggests a limit on the size of the black hole.

In Craig's opinion, since there are so many reports of hauntings, it's probable that there are many such miniature black holes in space.

The periodicity of the haunting – the time between each event – is usually a year, and Craig is confident that that's because it takes that long for the Earth to return to the same region of space-time that is close to the miniature black hole and being dragged along with it.

He's also sure that the hole grows steadily in proportion to the orbit of the solar system in which it exists, and so once it has arisen, instead of the haunting event moving forward with time as each anniversary comes along, the growing gravitational field of the black hole extends the loop to include the time that has elapsed since the last haunting (or a haunting would consist of a different event every anniversary).

Julia quizzes him about the likely effects, if he had been successful in his attempt to generate a miniature black hole the night before. Craig indicates that he had expected to see a brief image from some time in the relatively recent past.

Julia takes the bull by the horns and describes what she saw in the laundromat the night before. Craig is fascinated, and begins to speculate about the possibility that he DID manage to create the tiny black hole, but that in the moment of its creation it was

relocated to a point in space-time nearby so that its sphere of influence changed – to the laundromat and a couple of hours later.

Craig also predicts that if he really did create the miniature black hole locally, then someone in the laundromat a year from now will have the same experience that Julia did.

Craig suggests that the next step should be to investigate the recent history of the site on which the laundromat was built. The pair undertake research in the town hall's dusty archives. It transpires that nearby there used to stand a 300 year old coaching inn – the laundromat was built on the final approach to the inn's yard. The inn ceased to exist at the turn of the 1970s and the laundromat had been built as part of a refurbishment of the area – "urban renewal" it was called at the time.

Craig's excitement is rising. He thinks that it should be possible to create a situation whereby an observer

in our time could be made visible to someone who appears to be haunting us from the past. Two strong enough magnetic fields in opposition to each other could create a matrix of tiny wormholes (what he calls a "fenestration") near the miniature black hole, enabling light from the present to be transmitted "backwards" at the same time that light from the past is being transmitted forwards. Two way communication in time rather than space.

The resulting connector between the two moments in time might even allow sound to be transferred in much the same way that the pane of glass in a closed window still allows some sound to travel in both directions by receiving vibrations on one side and transmitting them on the other.

Craig has been experimenting with slowing down the velocity of a beam of light (the main focus of his doctorate) and feels that he could use two counter-rotating rings of light to create his fenestration

after over-revving an MRI unit to create another miniature black hole.

Julia is skeptical and does not relish another attempt by Craig to create a miniature black hole. Instead she proposes an alternative experiment to Craig: he should attempt to create his fenestration where a natural black hole already exists – that is, at a site where a reliable haunting occurs, and they should see if they can communicate with anyone from the past who is visible to them. If it works then they have something on which to build, and they should approach their supervisors for permission to research further.

Craig has copious files from his research into the history of ghosts and hauntings. From them they select a small handful of candidate sites where hauntings are scheduled to take place in the near future, and they set about preparing their experiment. Craig builds his fenestration device and Julia tries to devise a set of sensible questions to ask, and a set of sensible responses to potential questions.

They travel to a nearby village where a reliable haunting is said to occur. Craig sets up his equipment and Julia prepares a whiteboard on which she has written the message " Please don't be afraid. Wave your hand if you can read this".

The first attempt yields nothing concrete - the haunting occurs on time, and the ghost of a young woman, who appears to be a servant, seems to see the message but does not respond. Her clothing and the history of the haunting suggest that she may be from a period when few servants could read, so perhaps she is not a candidate. But it's a start.

Several unsuccessful attempts at different locations follow over the next several months. Finally however their perseverance yields a positive result: the ghost tentatively waves! Julia wipes the message and replaces it with: "Can you see me? Please shake (no) or nod (yes) your head".

The ghost – a young man – nods his head and faintly they hear him ask "Yes, but who – what are you?". Julia tries to talk to him, but has to shout to make herself heard: "What is your name? Can you get something with which to write?". The man shakes his head, and his image begins slowly to fade. Craig warns her that they may be about to lose contact. Julia shouts: "My name is Julia Crain. Please tell me your name!" The image disappears.

Now they appear to be on the right track. But how will it be possible for anyone they successfully contact to leave any kind of reliable record for the future? Is their "present" directly linked to the person's present or will that person's time line progress into a different future? They will have to wait a year to find out, because that's how long it will take before this particular haunting will occur again, and afford them an opportunity to make contact again.

Julia begins to experience some doubts about what they are doing. While the ability to communicate directly

with someone from the past could be a valuable resource – one might be able to resolve age-old crimes and mysteries, for example – there is a downside too. What if someone they can identify asks "When will I die and how?" What if someone from the past uses information gained from her about their future to either profit financially from the knowledge or escape due retribution?

She expresses her doubts to Craig, who says he understands her misgivings but that their discovery cannot and should not be suppressed. He believes that they both have adequately ethical motives and that they have a responsibility to pursue the search for knowledge. As Craig says, if they don't do the work, sooner or later someone else will stumble across the information, and they may not be as ethical as he feels he and Julia are.

Craig says: "Life is better if you take risks."

Julia disagrees. "Life is better if you take precautions" she counters, but she agrees that they should still move ahead with their initial investigation, and once they have established the facts, approach their supervisors with the results, and establish an ethics committee to oversee future work. Craig agrees, although he expresses reservations about the use of a committee in making decisions.

They try again at a different location – a jaded shopping mall. This time Craig attempts to create a larger fenestration, believing that it might enable easier communication during the brief window of opportunity. He adjusts his device – which he has nicknamed The Fenestrator – accordingly.

As soon as the figure they expected to see appears, Craig switches on his device, set to create a larger fenestration. This time the attempt to communicate unexpectedly backfires.

The larger fenestration appears to merge into a much larger single opening – a door directly into the hyperspace between the ribbon of the loop, where, it transpires, there are other universes – and something very nasty lurking in one of them.

The denizens of one of those universes – frightful looking beasts with a mouth filled with the longest, sharpest teeth (looking rather like the deep sea Ogresfish or Fangfish) and a predatory nature – bulge out of the fenestration, stretching the fabric of the membrane that separates them from Craig and Julia, and lunging at them.

The couple initially flee in panic, which is a natural reaction when your choice between Fight and Flight is dramatically reduced by the overwhelming presence of your opponent. In the confusion, Craig's still-functioning Fenestrator is left behind and it keeps the door between universes open.

The creatures do not appear able to pass directly into our universe but they do appear to have the strength to be able to stretch the membrane that separates them from us, and more and more creatures appear, pushing their way into the shopping mall. It's as if they are enveloped inside a giant rubber balloon, which they cannot penetrate but through it they can exert their presence upon things in our universe, with fatal results.

As they encounter shoppers in the mall they reach out and attack them, sinking their fangs into their victims. The fact that they can do nothing with the bodies does not seem to deter them from their destructive intent.

Craig drags Julia out of the mall and they make their escape to relative safety, unsure of exactly what to do. The sound of sirens announces the arrival of the authorities and after a heated argument in which Julia advocates staying and assisting the authorities, while Craig points out that they are unlikely to be in a

position to do much from a police detention cell, the pair begin to walk away.

Having accidentally opened Pandora's box, Craig and Julia clearly have a responsibility to undo their action. Obviously they need to locate Craig's Fenestrator and switch it off. Where though is it? When Craig replays the event in his mind, he remembers seeing one of the creatures pick up the Fenestrator and pull it through the doorway. It is still technically part of our universe but is now sitting somewhere in the parallel universe, enclosed in the separating membrane.

Julia's conscience is still tugging at her, and she insists to Craig that they cannot leave, that they must do whatever they can to recover the Fenestrator and turn it off.

They retrace their steps back to the mall, where chaos reigns. The police have cordoned off access to the area, where the creatures appear to be contained –

their inability to break through completely into our universe is at least limiting their activities.

Craig manages to locate a way to get back in to the mall and despite his protestations, Julia accompanies him.

The creatures appear to be focussing their attention where the police are most concentrated, leaving Craig and Julia free to explore the still-growing fenestration.

Craig identifies a point in the fenestration that clearly leads into the other universe, and concludes that this must be where the creatures had pulled his device through.

He persuades Julia to keep watch while he investigates, and he disappears into the membrane. Julia experiences several anxious minutes of waiting before he emerges, triumphant, the Fenestrator in his hands.

Julia begs him to switch it off immediately, which he does, but nothing happens. The fenestration is still there, still growing slowly.

The pair are both dismayed and alarmed. Craig is puzzled, and Julia has to remind him that he does not have the luxury of time to work out what went wrong. He has to close the fenestration in any way he can.

Craig wonders if reversing the rotation of the two counter-rotating circular beams of light might have the desired effect. He works feverishly on the device, dismantling it, making internal adjustments, and then putting it back together again.

He switches the Fenestrator back on. The fenestration begins to shrink rapidly, the membrane tightening and dragging the creatures back towards their own universe. As they struggle against the membrane, one of them lunges unexpectedly at Julia and grabs hold of her, pulling her, screaming, towards the other universe.

Craig drops the device and tries to pull Julia from the clutches of the creature, as the membrane drags the three of them towards the closing fenestration.

At the last moment Craig manages to free Julia, the creature is pulled back into its own universe and the fenestration disappears. Craig switches off the device and comforts the traumatized Julia. As she recovers, she asks him if the device is the only unit in existence.

Craig confirms that it is, and she demands that he destroy it and never build another. Craig agrees, and smashes the device to pieces.

As the pair walk towards the police, we flash to Craig's laboratory, where two more Fenestrators are sitting on a bench, ready for action...