

Futures

Explaining novel scientific concepts to people whose technical acumen does not extend to turning it off, then turning it on again

Guided by the light. By Joel Glover

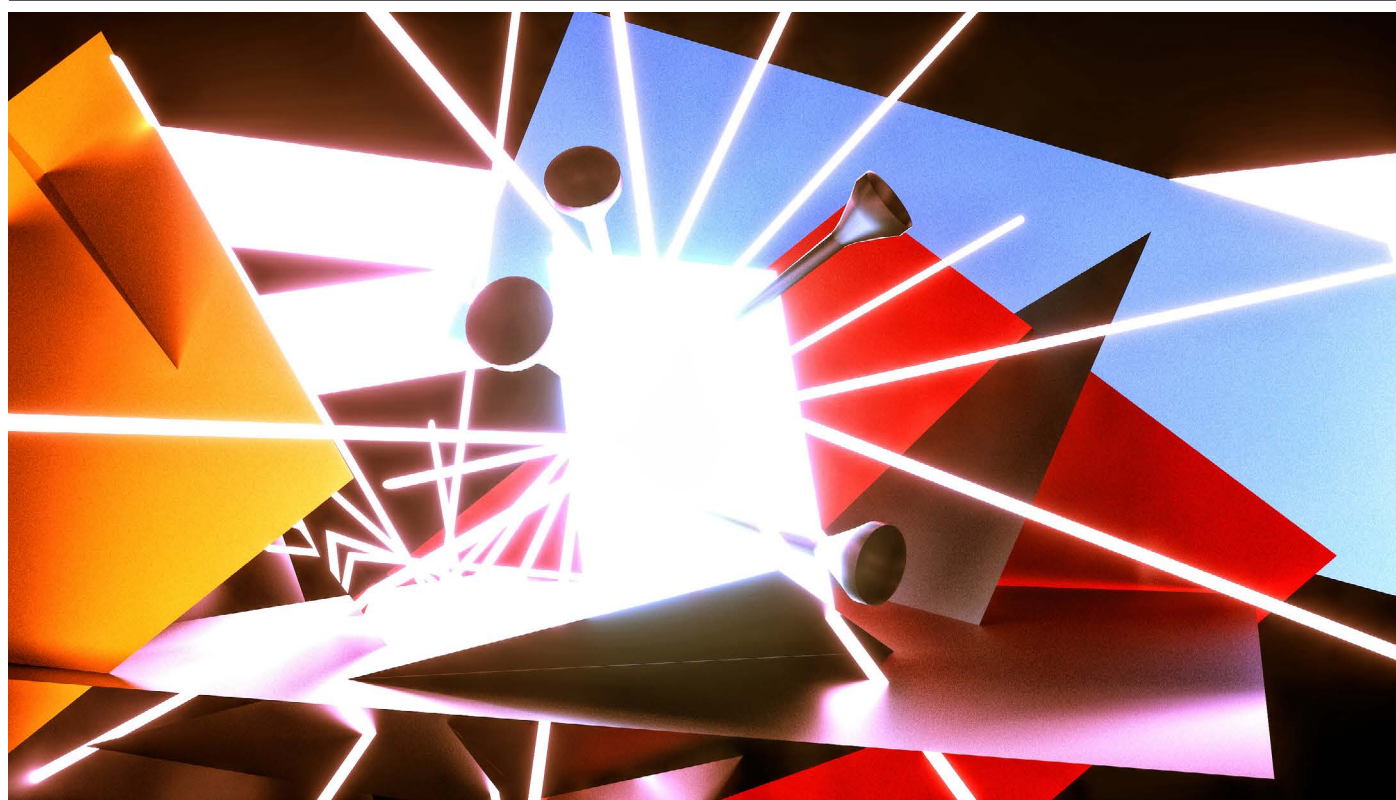


ILLUSTRATION BY JACEY

Before I begin the demonstration, it would help to establish a collective level of understanding: can I assume that you all know what a laser is?

I'm afraid lightsabers are not real, no.

That is a very good impression, yes. A million dollars, indeed. If only this lab could run on so little, am I right?

Perhaps it would be best if I started at the beginning.

Lasers.

OK, so, do you all remember CD and DVD players? Some of you are too young. For those

of you who don't remember CD players, have you seen a Tik Tok of a cat jumping at a red point? Well, that's a laser.

When a beam of light hits something it can be refracted ...

It means split.

Why didn't I say split? Good question.

When a beam of light hits something it can be split from its white whole into different colours, because the colours are all moving at slightly different speeds. This is how we get rainbows. You saw this in a YouTube science tutorial? Good.

Well, yes, I am aware that rainbows also have

a religious connotation but can we agree that the works of the Lord also follow a mundane physical process?

Where were we? Oh yes, a laser is a method scientists invented to use radiation to send a beam of light of one colour.

No, unless you shine them in someone's eye, they aren't dangerous, it isn't that sort of radiation.

Lasers are used everywhere in modern industry, from communications and lighting effects through to industrial cutting and medicinal uses.

Yes, some of those lasers would be

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dangerous if you took one home. Particularly if you shone it in someone's eye.

So as time went on, researchers and developers discovered new ways of using lasers.

Different colour light beams were able to be used for different things.

Yes, precisely, that is why Blu-Ray was called Blu-Ray.

No, Bluetooth has nothing to do with lasers. As I was saying.

Researchers, including some from the great state of Arizona (go Sun Devils), began to explore novel ways to emit lasers in different colours in parallel, and create white lasers that have been of great use in the manufacturing and research space.

Researchers here at Cuneiform DARPA have built on that to go one step further. Not a small step, either – one might say a giant leap.

If I could invite you all to put on the eye protection provided for you in the gift bags.

Well, no, Senator, we don't insist on it but we very strongly advise it. If you choose not to, would you please sign the waiver on the clipboard being distributed by my colleague?

For insurance purposes.

You may break open the security seals on the

envelopes you are being handed, which gives more of the technical details of our breakthrough. The National Security Adviser and the Attorney-General have asked me to remind you all that anything you see or hear from this point forward is covered by legal provisions including, but not limited to, the Espionage Act of 1917, the Securities Act of 1933, and Article 1, Section 8 of the Constitution of the United States of America.

Yes, Congressman Shapiro, I am aware that some sections have been redacted. If you have any questions about that, please direct them to the gentleman and ladies who have joined us from Langley.

At Cuneiform all researchers invest a day every week in exploring novel applications of technology with no obvious commercial application. In this way we invent the world of the future. Products we have launched that began their lives this way include Drone and I613.

Along with my colleagues Dr Johnson and Dr Vaughan we developed Project Perdix.

Using combinations of experimental technology created by Cuneiform DARPA we have achieved something quite unique. Guiding specific pulses of radiation through

nanosheets to create certain geometric forms, which are projected onto two interpenetrating face-centred cubic lattices heated to precisely 1074 kelvin, we have been able to do ... this.

Can we please get some first aid for the Senator? I think if we act quickly we might be able to save his sight.

We call it 'The Door', Deputy-Secretary San Miguel.

It would be fair to say we don't know where it goes, exactly.

No, the flickering isn't normal. It has never done that before.

Dr Vaughan, perhaps we should cut the power to the array?

Why is the door still open, then?

Whose voices are those, that sound like trumpets?

Punk, poet, extrovert, accountant and reformed mandarin, **Joel** is a cuddly teddy bear really. He lives in the woods of Hertfordshire with two boys and one wife. Twitter: @booksafterbed; Instagram: @joelgloverauthor

THE STORY BEHIND THE STORY

Joel Glover reveals the inspiration behind *Explaining novel scientific concepts to people whose technical acumen does not extend to turning it off, then turning it on again*.

We are sitting in my living room. The Mosconi Cup is on the TV. We have some delightful craft ales that really need drinking before they go off. I (languages graduate, accountant) am trying to explain to my best friend (PhD in chemistry, technology consultant) what it is exactly my new employer does.

I am failing miserably, and the craft beer is not the only thing that is to blame.

I am not the most technical person in the world.

We have white lasers, which I hadn't known was a thing. Fortunately, neither did he. I enjoyed him finding out about them very much.

Then, the week after, I sat down to try to learn what exactly it is they do.

I took that, mixed in satire about the idiotification of politics, the creeping commercialization of natural monopolies, and some demonology, and this is what came out the other end.

