

Futures

Dragon riders of CERN

Learning to fly. By Rachelle Wright



Yes, humans *do* ruin everything. But it's not their fault you got soft on your last assignment. Yes, yes – I'm sure you were very fierce. They probably still sing the praises of – what did they call you? 'Y Ddraig Las'? Sure. Undoubtedly all humanity still knows of you all these centuries down their timeline.

That's not why you're here, though, cadet; you're here to learn to be a rider. With your stints at galactic and planet-dweller scales completed, the only thing standing between you and being cleared to roam the Universe as you will, a free dragon, is your atomic-scale service requirement, with me.

Enough with that 'ma'am' stuff – you really have been around humans too long. Address me as Captain or Rider, and stop sulking – that will get you a lot further. Now pay attention.

At this point in the human timeline, they're becoming a threat to draconic existence again. I'm sure I don't need to lecture you on what happened when they first began

contemplating time; the resulting temporal causality is a scourge we've had to endure all downstream.

Well, they're at it again. No, not time – matter! They don't actually know quite what they're looking for, and they *certainly* don't have any idea what their observations could mean for us. Since their era when younglings like you tramped across the places they call China and Europe – and Wales, yes; I was trying to speak broadly rather than specifically. Now stop interrupting. As I was saying, since the time it was common for them to observe us on their scales, they've stopped believing in our existence, which is all to the good.

Why? Are you trying my patience on purpose, cadet? Because if they find us, it'll be a temporal causality fiasco all over again! And I don't care what stories you've heard, I'm neither easy to anger nor amusing to watch with my 'dander up'. You younglings and your human-borrowed expressions. If more of you took draconic culture as seriously as you do

those human mannerisms you've picked up ...

Fine; I'll explain. Without humans expecting to see us, we can come and go as we please. We're not confined to the range of forms they have imagined for us, and can exist at any scale of matter or time that we wish.

That's exactly why serving on the human scale during the Time of Belief that you and your friends so enjoy is a coming-of-age requirement. We need to keep human expectation restricted to that piece of the timeline.

As I was saying, though, the humans have let their curiosity get the better of them again, and it's our job to see that it doesn't get the better of *us*. In this era, they have built complex systems – huge ones, for them – to try to observe more and more of the Universe at atomic scales. Somehow, they've decided that the key to understanding the largest objects in the Universe is to learn about the smallest ones.

Of course, they don't know it's us they're looking for. They didn't set out to build all

Futures

these machines and theories saying, 'Let's see if we can find a dragon!' But it doesn't matter, because the effect is the same.

They're looking for something they've creatively dubbed 'dark matter'. They call it dark because so far, they haven't been able to detect any kind of electromagnetic radiation – which they broadly call 'light' – from it.

What they don't realize – what they cannot and *must not* know – is that what they've really seen out there is us. Even dragons can't hide from gravity.

That's why it's our responsibility here to keep the humans from finding us. They're clever critters, though, and keep coming up with new ways to search. They desperately want to understand matter. In order to learn more, they try to coax matter into certain behaviours, which will – they hope – unlock

the mysteries of the Universe. Of course, we don't *want* to be unlocked.

That's why this programme exists, cadet. If we fail, you won't get to go splash in that galactic cluster you're so fond of playing in any more. Oh yes – I did my homework, too. You're one of the reasons the humans are so nosy lately, the way you kept making those galaxies dance to your whims.

No, no. None of that now. You were just doing what dragons do. You just need to get better at escaping their notice. You need to learn another trick.

That got your attention, didn't it. Yes – being a rider is about more than duty. While you're keeping the humans confused, you'll be learning how to alter yourself, as well.

As you ride that energy, those almost undetectably small 'particles' they're passing

through all their intricate accelerators and such, you'll be able to direct your mount where you will – away from the humans' detectors, that is – and disguise it with aspects of your own draconic essence. You'll get to choose exactly how to defy their experiments. They can see some of those particles they're looking for, they can see waves or bursts of energy – it doesn't matter. Just as long as they don't see *dragons!* That's your job.

Now mount up, cadet. Let's go make a rider out of you.

After earning her master's in astrophysics at the University of Minnesota, **Rachelle Wright** moved on to other pursuits. Now her thoughts involve more dragons than particles, but sometimes the two still intermingle.

THE STORY BEHIND THE STORY

Rachelle Wright reveals the inspiration behind *Dragon riders of CERN*.

As a child, one of my earliest introductions to science fiction was Anne McCaffrey's *Dragonriders of Pern* series. Perhaps it is thus unsurprising that my wordplay-happy brain eventually coughed up this title for my consideration. I knew almost instantly that, unlike in McCaffrey's series, the dragons here would not be ridden, but instead themselves do the riding. And what would dragons at CERN ride except particles?

When I began looking into the various research projects at CERN, I realized that the puzzle of dark matter – a concept that went from cutting-edge research topic to introductory-level material between the time I was an undergraduate and when I taught undergraduates – was exactly what I was looking for. Dark matter is still unexplained and mysterious, the scientific equivalent of 'here be dragons'. It struck me as a perfect match.

