The Interwoven Intricacies of a Real World

One of the most daunting—but, in my opinion, also the most exciting—aspects of writing speculative fiction (spec-fic) is worldbuilding. It's hard to do, and it's complicated, but in my opinion it can make or break a book. A shallow plot can be at least partially saved by complex characters and a fascinating, fully developed world.

Every author does this, even if they're writing a contemporary romance in the town they've spent decades living in. They still need to construct a fictional world around their characters and establish it in a real way for readers. No matter how long the *author* may have lived in a town, it's going to be a new place for almost all readers; all relevant details need to be laid out in a way that'll helps show why this particular story is best set in this particular place.

All subgenres of spec-fic demand an even more in-depth approach to worldbuilding. Establishing a setting takes on a new importance when the story when magic or currently unavailable technology is added, or if the story takes place somewhere other than modern-day Earth. Nothing that happens to the characters—and no actions they take—will make sense if readers don't understand the rules of the world. This is because readers (and movie-goers) understand worldbuilding on a subconscious level, recognizing both excellent and poorly constructed universes on instinct. Instinct, however, can only help so much when trying to create a universe from atoms. One mistake that's easy to make, and one that could easily become a critical failing, is cause and effect.

If you've ever watched a nature documentary (and, if you haven't, I highly recommend changing that—Netflix has a lot of excellent options), ecosystems are complex, multilayered structures. The various animals, plants, and organisms are interdependent on each other, so the failure of one can harm so many others. A shift in one can change the world. Failing to take those facts into account can cause your world to crumble on page one.

But what, exactly, does an author need to be thinking about when constructing a universe, and what kind of questions do they need to ask about each aspect?

Landscape: Where people live has a huge impact on how their society develops. This is one of the reasons why Polynesian cultures are so different from African ones, and how both are equally distinct from South American. People living in the deep arctic are unlikely to develop magic dependent on trees or a diet primarily of poultry. A desert-based culture probably isn't going to specialize in water magic or subsist on an entirely vegetarian diet. A family living on a cargo ship in deep space isn't likely to have a bone-deep loyalty to any government, but neither are they likely to have fresh meat and produce at every meal.

Food: What grows in your landscape? In a rainforest, fruits, bugs, and small animals are going to be the staple. In a desert, people had better learn irrigation if they don't want to live off snakes, reptiles, and camels. On a space station, hydroponically grown vegetables and farm-raised animals are the expectation. Every landscape includes an ecosystem, and you must remember how that system works when you describe what—and how—a character eats. What and how much a character eats will have rippling impacts that spread into all other facets.

Social Structure: How does the society deal with change? With stagnation? What are their views on diversity and difference? How striated are their social classes and how easy (or impossible) is it for people to move between them? What does it look like—is it tribal? Militaristic? Isolated? Exploratory? How these traits appear (or fail to appear) within a culture is shaped by curiosity, necessity, and the availability of resources. Little will turn a normally peaceful city chaotic than a sudden lack of food. Abundance, on the other hand, makes peace easy to maintain.

Government: There are dozens of forms a government can take, and each one will change the way the citizens perceive it. It will also change the way they expect resources to be shared—or hoarded. The kind of control a government has, how it uses that control, and its propaganda will also greatly impact the level of trust people have in it. Additionally, elected officials aren't always the people in charge. Corporations, religious leaders, and other powerful individuals can exert influence, sometimes from the shadows and sometimes in plain sight. Knowing both the shape of the legitimate government and the shadow powers is important.

Religion: People fight and die for beliefs, so know what your characters believe and the shape those beliefs take. There are a lot of belief systems—agnosticism, animism, atheism, deism, dualism, humanism, idealism, naturalism, new age, nihilism, nontheism, monotheism, polytheism. And those are just the most common systems. There's also acosmism, antitheism, binitariansim, and more. Make sure the belief system you're using is the right one.

Families and Relationships: How and by whom are children raised? Are marriages arranged or chosen? Are all relationships expected to be limited to two-partner monogamy or are open relationships more common? These answers will greatly depend on the foundations that have been laid for the world. Religion and government will have an especially powerful impact on the family unit and the expectations people have of and for it.

Villages, Towns, Cities, and Homes: Structurally, where and how do people live? Maybe major cities don't exist in this world. Maybe everyone lives in ant-farm-like underground communities. Maybe towering apartment buildings are the predominant structure. How people live with each other changes how they interact, so keep this in mind.

Language: How people talk can be as important as what they say, and language is influenced by a lot of things. This includes both the vocabulary and the actual sounds included in the language. Invasion of different cultures can also have a massive impact. So can landscape. The Inuit people of northern Canada and Alaska, for example, have [dozens of distinct words for snow and ice](). The Sami, who live in Scandinavia and Russia, have at least one hundred eighty words for snow and ice, and close to a thousand to describe reindeer. Whatever is most important to a culture will be reflected in the language.

Science and Technology: Science is how we test our assumptions about the world around us, but what we discover or develop through these tests isn't always accepted. Just look what happened to the early European astronomers, especially while the Inquisition held power. Neither scientific nor technological progress is always positive, however it's important to know if a society's relationship with it is. Do people trust technology? Do they push for advancements or punish those who try to create change? Are cities reliant on magic or machines? Are there factions working on developments against the will of the main portion of the government and citizenry? These answers can change the way characters approach change or anything new, so it's important to understand them.

Magic: Obviously this section is going to impact those creating a fantasy world more than it will for those working on science fiction…although not exclusively so. When developing a magic system, remember religion. Remember landscape. Remember resource availability. Remember views of technology and science. Remember that nothing is free. Even the most powerful mage in the universe has limits, and there are always consequences to every spell and potion. That can be a cost paid by the mage themselves (exhaustion, hunger, lost time, etc.) or it can be an external cost (holes in the universe, a life lost for a life saved, etc.). There's always a downside, though, and someone has to pay for each choice by the time it's all over.

Relationship with Nature: Despite our reliance on clean air and water, modern humanity tends to be incredibly disrespectful of our planet's natural resources. This isn't universal, though. Some cultures revere the natural world and manage to live harmoniously with it. Most cultures fall somewhere in between. How a character sees the natural world can also impact the importance they place on life in a general sense—which can severely impact the character's actions and views.

Death: If life as we understand it is involved in the story, then eventually someone is going to die. How do they mourn? What do they physically do with the dead? Are there religious rituals that must be completed? Piles of government forms? If the landscape is a rocky, barren desert, then corpses probably aren't buried—they're either entombed or used somehow. If the characters are living on a spaceship, then the corpses must be either shot out an airlock or held in storage somehow until the ship lands on a planet.

Secrets: Keeping secrets can cause trouble, or it can help someone gather power. Who can keep secrets in this society? What kind of secrets are people punished for? Forgiven for? If the government and/or the religious leaders are watching everyone, hiding anything is an act of rebellion. It can also be a rebellion if society expects total and absolute honesty.

A final point I want to make is choice. As an author creating a world that diverges from ours, you have to make choices. Magic or technology? City or middle of nowhere? There are thousands of options—millions or billions, maybe—and each one shapes the world your characters and readers will live in. This means that what you include is just as important as what you exclude.

If you have a fantasy world where dragons and magic are real, but diversity of the human population isn't, that's a choice. One that doesn't reflect any kind of biological reality I'm aware of. If your story set thousands of years in the future doesn't include a wildly diverse cast, what are you saying about our future?

As you carve your world out of words and use it to breathe life onto blank pages, consider the list of facets above, and then consider this last bit. When it comes time to fill that world with people, create them consciously. With purpose and full knowledge that they can and should reflect the wonderful diversity of the people who will be reading the story one day. Diversify and represent, just make sure you do it right.

Recommended Resources:

Erica Cameron – http://byericacameron.com/wp/resources
My Resources for Writers page has links broken down by subject, and all of them are pages I've found useful over the years.

Holly Lisle – http://hollylisle.com
This career fantasy author has dedicated years of her life to helping authors with their own work, and the clinics she sells online are an incredible resource. Additionally, her website includes copious amounts of free material and she created a forum for writers to share resources and information.

Michelle Schusterman – http://www.yahighway.com/2012/05/how-to-make-series-bible-guest-post-by.html
The author of the middle grade series *I Heart Band* offers a description of the organization method she uses for her series bible. Keeping one is necessary, especially with deep worldbuilding, and can be useful even with contemporary series.

Aeon Timeline – A program created for writers to help them track events

OneNote – An amazing Microsoft program to organize research and information

[Why I barely read SF these days](#)

By Charlie Stross

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I've changed over the years as I've lived through changing times, and what I focus on in a work of fiction has gradually shifted. Meanwhile, the world in which I *interpret* a work of fiction has changed. And in the here and now, I find it really difficult to suspend my disbelief in the sorts of worlds other science fiction writers are depicting.

About a decade ago, M. John Harrison (whose stories and novels you should totally read, if you haven't already) wrote on his blog:

Every moment of a science fiction story must represent the triumph of writing over worldbuilding.

Worldbuilding is dull. Worldbuilding literalises the urge to invent. Worldbuilding gives an unnecessary permission for acts of writing (indeed, for acts of reading). Worldbuilding numbs the reader's ability to fulfil their part of the bargain, because it believes that it has to do everything around here if anything is going to get done.

Above all, worldbuilding is not technically necessary. It is the great clomping foot of nerdism. It is the attempt to exhaustively survey a place that isn't there. A good writer would never try to do that, even with a place that is there.

I recognize the point he's putting in play here: but I (conditionally) disagree. The implicit construction of an artificial but plausible world is what distinguishes a work of science fiction from any other form of literature. It's an alternative type of underpinning to actually-existing reality, which is generally more substantial (and less plausible—reality is under no compulsion to make sense). Note the emphasis on *implicit*, though. Worldbuilding is like underwear: it needs to be there, but it shouldn't be on display, unless you're performing burlesque. Worldbuilding is the scaffolding that supports the costume to which our attention is directed. Without worldbuilding, the galactic emperor has no underpants to wear with his new suit, and runs the risk of leaving skidmarks on his story.

Storytelling is about humanity and its endless introspective quest to understand its own existence and meaning. But humans are social animals. We exist in a context provided by our culture and history and relationships, and if we're going to write a fiction about people who live in circumstances other than our own, we need to understand our protagonists' social context—otherwise, we're looking at perspective-free cardboard cut-outs. And technology and environment inextricably dictate large parts of that context.

You can't write a novel of contemporary life in the UK today without acknowledging that almost everybody is clutching a softly-glowing fondleslab that grants instant access to the sum total of human knowledge, provides an easy avenue for school bullies to get at their victims out-of-hours, tracks and quantifies their relationships (badly), and taunts them constantly with the prospect of the abolition of privacy in return for endless emotionally inappropriate cat videos. We're living in a world where invisible flying killer robots murder wedding parties in Kandahar, a billionaire is about to send a sports car out past Mars, and loneliness is a contagious epidemic. We live with constant low-level anxiety and trauma induced by our current media climate, tracking bizarre manufactured crises that distract and dismay us and keep us constantly emotionally off-balance. These things are the worms in the heart of the mainstream novel of the 21st century. You don't have to extract them and put them on public display, but if they aren't lurking in the implied spaces of your story your protagonists will strike a false note, alienated from the very society they are supposed to illuminate.

Now for a personal perspective. I don't find other peoples' motivations intuitively obvious: I have to apply conscious reasoning to put myself in a different head-space. I am quite frequently alienated by my fellow humans' attitudes and outlook. (I strongly suspect I have mild ASD.) For me, world-building provides a set of behavioural constraints that make it *easier* to understand the character of my fictional protagonists. (For example, if writing a 2018 story: new media channels lead to a constant barrage of false news generated by state actors trying to produce political change, delivered via advertising networks? And this is why my characters constantly feel uneasy and defensive, dominated by a low-level sense of alienation and angst.) The purpose of world-building is to provide the social context within which our characters feel, think, and act. I don't think you can write fiction without it.

Now, what's my problem with contemporary science fiction?

Simply put, plausible world-building in the twenty-first century is *incredibly hard work*. (One synonym for "plausible" in this sense is "internally consistent".) A lot of authors seem to have responded to this by jetisoning consistency and abandoning any pretense at plausibility: it's just too hard, and they want to focus on the characters or the exciting plot elements and get to the explosions without bothering to nerdishly wonder if the explosives are survivable by their protagonists at this particular range. To a generation raised on movie and TV special effects, plausible internal consistency is generally less of a priority than spectacle.

When George Lucas was choreographing the dogfights in "Star Wars", he took his visual references from film of first world war dogfights over the trenches in western Europe. With aircraft flying at 100-200 km/h in large formations, the cinema screen could frame multiple aircraft maneuvering in proximity, close enough to be visually distinguishable. The second world war wasn't cinematic: with aircraft engaging at speeds of 400-800 km/h, the cinematographer would have had a choice between framing dots dancing in the distance, or zooming in on one or two aircraft. (While some movies depict second world war air engagements, they're not visually captivating: either you see multiple aircraft cruising in close formation, or a sudden flash of disruptive motion—see for example the bomber formation in *Memphis Belle*, or the final attack on the U-boat pen in *Das Boot*.) Trying to accurately depict an engagement between modern jet fighters, with missiles launched from beyond visual range and a knife-fight with guns takes place in a fraction of a second at a range of multiple kilometres, is cinematically futile: the required visual context of a battle between massed forces evaporates in front of the camera ... which is why in *Independence Day* we see vast formations of F/A-18s (a supersonic jet) maneuvering as if they're Sopwith Camels. (You can take that movie as a perfect example of the triumph of spectacle over plausibility at just about every level.)

... So for a couple of generations now, the generic vision of a space battle is modelled on an air battle, and not just *any* air battle, but one plucked from a very specific period that was compatible with a film director's desire to show massed fighter-on-fighter action at close enough range that the audience could identify the good guys and bad guys by eye.

Let me have another go at George Lucas (I'm sure if he feels picked on he can sob himself to sleep on a mattress stuffed with $500 bills). Take the asteroid field scene from *The Empire Strikes Back*: here in the real world, we know that the average distance between asteroids over 1km in diameter in the asteroid belt is on the order of 3 million kilometers, or about eight times the distance between the Earth and the Moon. This is of course utterly useless to a storyteller who wants an exciting game of hide-and-seek: so Lucas ignored it to give us [an exciting game of ...](#)

Unfortunately, we get this regurgitated in one goddamned space opera after another: spectacle in place of insight, decolorized and pixellated by authors who haven't bothered to re-think their assumptions and instead simply cut and paste Lucas's cinematic vision. Let me say it here: when you fuck with the underlying consistency of your universe, you are cheating your readers. You may think that this isn't actually central to your work: you're trying to tell a story about human relationships, why get worked up about the average spacing of asteroids when the real purpose of the asteroid belt is to give your protagonists a tense situation to survive and a shared experience to bond over? But the effects of internal inconsistency are insidious. If you play fast and loose with distance and time scale factors, then you undermine travel times. If your travel times are rubberized, you implicitly kneecapped the economics of trade in your futurescape. Which in turn affects your protagonist's lifestyle, caste, trade, job, and *social context*. And, thereby, their human, emotional relationships. The people you're writing the story of live in a (metaphorical) house the size of a galaxy. Undermine part of the foundations and the rest of the house of cards is liable to crumble, crushing your characters under a burden of inconsistencies. (And if you wanted that goddamn Lucasian asteroid belt experience why not set your story aboard a sailing ship trying to avoid running aground in a storm? Where the scale factor fits.)

Similar to the sad baggage surrounding space battles and asteroid belts, we carry real world baggage with us into SF. It happens whenever we fail to question our assumptions. Next time you read a a work of SF ask yourself whether the protagonists have a healthy work/life balance. No, really: what is this thing called a *job*, and what is it doing in my post-scarcity interplanetary future? *Why* is this side-effect of carbon energy economics clogging up my post-climate-change world? Where does the concept of a paid occupation whereby individuals auction some portion of their lifespan to third parties as labour in return for money come from historically? What is the

social structure of a posthuman lifespan? What are the medical and demographic constraints upon what we do at different ages if our average life expectancy is 200? *Why* is gender? *Where* is the world of childhood?

Some of these things may feel like constants, but they're *really* not. Humans are social organisms, our technologies are part of our cultures, and the way we live is largely determined by this stuff. Alienated labour as we know it today, distinct from identity, didn't exist in its current form before the industrial revolution. Look back two centuries, to before the germ theory of disease brought vaccination and medical hygeine: about 50% of children died before reaching maturity and up to 10% of pregnancies ended in maternal death—childbearing killed a significant minority of women and consumed huge amounts of labour, just to maintain a stable population, at gigantic and horrible social cost. Energy economics depended on static power sources (windmills and water wheels: sails on boats), or on muscle power. To an English writer of the 18th century, these must have looked like inevitable constraints on the shape of any conceivable future—but they weren't.

Similarly, if I was to choose a candidate for the great clomping foot of nerdism afflicting fiction today, I'd pick late-period capitalism, the piss-polluted sea we fish are doomed to swim in. It *seems* inevitable but it's a relatively recent development in historic terms, and it's clearly not sustainable in the long term. However, trying to visualize a world without it is surprisingly difficult. Take a random grab-bag of concepts and try to imagine the following without capitalism: "advertising", "trophy wife", "health insurance", "jaywalking", "passport", "police", "teen-ager", "television".

SF should—in my view—be draining the ocean and trying to see at a glance which of the gasping, flopping creatures on the sea bed might be lungfish. But too much SF shrugs at the state of our seas and settles for draining the local acquarium, or even just the bathtub, instead. In pathological cases it settles for gazing into the depths of a brightly coloured computer-generated fishtank screensaver. If you're writing a story that posits giant all-embracing interstellar space corporations, or a space mafia, or space battleships, *never mind* universalizing contemporary norms of gender, race, and power hierarchies, *let alone* fashions in clothing as social class

signifiers, or religions ... then you need to think long and hard about whether you've mistaken your screensaver for the ocean.

And I'm sick and tired of watching the goldfish.