The Fractal Dimension of Surprise:
Building Vibrant Prose from the Atoms Up

A writing workshop[1] presented by Ian Tregillis
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What is fractal dimensionality, and how does it relate to literature? What can the coastline of Britain teach us about writing craft? When discussing noteworthy stories, we sometimes overemphasize tales that trick the reader with unforeseen twists. But the mastery of craft doesn't begin from the top down. Instead, it's grown from the bottom up: from paragraphs, sentences, even the author's choice of individual words. Words and sentences are the atoms and molecules of story, and it's at this scale, the micro level, where truly great storytelling is built. In this informal interactive workshop, we'll draw inspiration from the works of superb writers -- including Raymond Chandler, the king of hard-boiled fiction; Eleanor Catton, the youngest Booker Prize winner; and Roger Zelazny, master fantasist -- as we try our hands at crafting truly kick-ass sentences, and making our prose as crinkly as the coastline of Britain.

This is a friendly, informal, interactive workshop. This isn't a lecture. Writers learn by writing, after all! So although I will talk a little bit now and then, we'll also do some Q&A, and study some cool examples from published works, and do a few exercises. Perhaps we'll even share them, if folks feel so inclined. (I won't put anybody on the spot.) I encourage questions and conversation. I genuinely want you to get something useful out of this. I hope you'll walk out of here feeling like it was a good use of a Wednesday evening! (On the other hand, this is a free workshop, and you get what you pay for.) I ask you to please be patient with me, because I'm trying out some new things here. We're all learning together. Let's be supportive and respectful of each other as we do that. Writing is hard enough as it is!

While this isn't a lecture, I do want to speak for just a few minutes before we dive in.

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[1] Materials: paper; pens; playing cards; 1 string, ~2' long; satellite image of GBR. Run time: 90-120 min

1. Who am I? Why did Beastly Books invite me to do this?

This workshop isn't about me. But maybe you heard "free writing workshop," wandered in, and now you're wondering who I am and why anybody should listen to me. (You probably shouldn't.) Here's the more formal way I might introduce myself:

My name is Ian. I am the author of seven published novels, several of which you can find on the shelves of this here bookshop (thank you, Beastly Books!). To date, my novels have been translated into nine or ten languages. My short fiction has appeared in markets including *Asimov's*, *The Magazine of Fantasy and Science Fiction*, and *Tor.com*, and collectively my short fiction has been reprinted in over half a dozen "year's best" and "best of" anthologies, including *The Best Science Fiction and Fantasy of the Year* and *Best New Horror*.

But none of that is a reason to listen to me. So let me introduce myself another way:

My name is Ian. I've been writing seriously for about 20 years (with time off for good behavior). Throughout that time I've striven to make a close and honest study of the craft. I've tried to hone my skills. I've attended numerous workshops, I've participated in several pro-level writing groups, I've developed friendships with many writers whom I admire, and I've received advice, help, and mentorship from some of the very best in the business. Along the way, I've tucked a magpie's assortment of tips, tricks, and techniques into my writing knapsack.

Maybe some of those will be helpful to you, too. But as Charles Coleman Finlay says,

2. Every writer is an autodidact.

I can't stand up here and tell you how to write. I can share things that have worked for me. But fundamentally, all honest writers, writers who strive to improve -- you know, the kinds of folks who attend a writing workshop at a bookstore at 5pm on a random Wednesday -- teach

themselves. Your writing journey will differ from my own, and from anybody else's.

That's why this workshop is focused on the one thing that is absolutely universal to all writers. The one thing we all share in common, whether we're newcomers to writing or venerated professionals, whether we're writing fiction or nonfiction, Pulitzer-bait biographies or LitRPG fan-fiction on AO3, micro-fiction or doorstopper novels. It also holds for screenplays, letters to the editor, tweets, toots, emails, instagram stories, you name it.

Quick: what is the one thing shared by all those forms of writing?

3. I'm talking about <u>words</u> and <u>sentences</u>: the atoms and molecules of writing.

Sometimes we overlook the fundamental building blocks of writing in favor of higher-level stuff. True fact: I cannot tell you how many times somebody has pulled me aside to ask some version of *How do I* really *get my novel published?* But I <u>can</u> tell you how many times I've been asked *How can I become a truly skillful writer?* **Do you want to hazard a guess? Zero.**

Ignoring the fundamental craft in order to worry about publication is putting the cart before the horse. (That's a cliché, by the way. More about those later.) A piano student doesn't approach the instrument for the first time in their life and suddenly bang out Rachmaninoff's Third Piano Concerto. Playing the Rach 3 takes years and years of dedication to the craft. Writing well is no different. To put it another way, you can't build a house without atoms and molecules. Whether you live in a 500 square foot casita or a 5000 square foot showpiece for *Architectural Digest*, I guarantee that your home is built from atoms and molecules. Just as every single story, every single book, you've ever read was built from words and sentences.

Now, just to reassure you-- this is NOT a workshop about grammar or diagramming sentences. This is about appreciating the beauty and versatility of the humble sentence.

The English language is an extraordinary precision instrument. As writers it is our job to wield it confidently and effectively. We are craftspeople working in the medium of sentence. Craft suffuses everything we do, and there is always room for excellence. Professional musicians practice nonstop. Professional athletes train nonstop. Skilled writers are no different.

So I hope to energize your passion for our craft. And I want to offer you a tool for thinking about it, a shift of perspective, that applies at every level of the job: from words and sentences (our primary focus today) this philosophy can be scaled up to entire multi-volume series of novels, and every level in-between: paragraphs, scenes, chapters... you name it.

Sound good? Everybody still with me? Any questions yet?

OK, great. Let's get to work.

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If I were to boil this workshop down to one mission statement, it's this:

> **Consider each and every sentence you write a new opportunity**
>
> **to take the reader someplace unexpected.**

Obviously, we can't do this with literally every sentence. Nor should we! The goal is to keep the reader engaged, and often "transparent" prose is best for that. But sometimes we want to keep them on their toes. Word choice may be our primary tool, but it is by no means the only tool. The very structure of the sentence, its length and heft, is equally essential. Just as there exist tiny but immensely effective molecules (water, after all, is H2O, just three atoms) powerful sentences can be short, like this famous 6-word heartbreaker[2]:

For sale: baby shoes, never worn.

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[2] Commonly attributed to Ernest Hemingway, but this may be apocryphal.

On the other hand, just as there are also massive molecules -- think DNA -- kick-ass sentences can be long, too. Consider this dreamy 127-word beauty from the first page of Eleanor Catton's spectacular Man Booker Prize-winning novel, THE LUMINARIES:

> From the variety of their comportment and dress--frock coats, tailcoats, Norfolk jackets with buttons of horn, yellow moleskin, cambric, and twill--they might have been twelve strangers on a railway car, each bound for a separate quarter of a city that possessed fog and tides enough to divide them; indeed, the studied isolation of each man as he pored over his paper, or leaned forward to tap his ashes into the grate, or placed the splay of his hand upon the baize to take his shot at billiards, conspired to form the very type of bodily silence that occurs, late in the evening, on a public railway--deadened here not by the slur and clunk of the coaches, but by the fat clatter of the rain.

Sentences have shapes, too, just as molecules do. In fact, in biology and chemistry, the shape of a molecule is absolutely essential to how it functions. Same with sentences. Compare

> Cutting the rope, he shouted, "Farewell!"

to

> "Farewell!" he shouted, cutting the rope.

Notice how these two sentences, which contain exactly the same words, emphasize different things. **What does version 1 emphasize? What does version 2 emphasize?**

Objectively, the information conveyed is identical, but subjectively, emotionally, these can hit very differently. The first emphasizes action, the second emphasizes separation, or loss. Were I writing a tale of separated lovers, I might opt for version 2. If I were writing an action adventure tale, I might opt for version 1. Your mileage may vary.

OK. Enough blathering. How about we dive in to our first exercise?

EXERCISE #1

I'll read you a functional but very bland sentence. Your mission is to rewrite it. That's it!
Stick to a single sentence, long or short as you like, but try to draw on your own personal writing
voice, your own personal experience, to think creatively and convey that same idea in a more
unique, more interesting way. Use action, description, sensory details, dialogue, whatever you
want. It's an open-ended mandate because this is an exercise in unfettered creativity. Remember
our mission statement, and remember there are no right or wrong answers. **Make sense?**

1) She was mad at him. Functional but boring. Notice how it *tells* us the emotion, but
doesn't demonstrate it, doesn't make us feel it. As a bonus, try to say this without using any
emotion words. [*Would anybody like to share their improvements? Good work!*]

For inspiration, here's how Raymond Chandler does it in THE LONG GOODBYE:

> She gave him a look that should have stuck four inches from his back.[3]

Not a single emotion word, and yet we know exactly what's going on here.

2) He was flushed with anger. This one is a little better, it includes an effect of the
emotion, but it's still somewhat drab and also passive. [*Any volunteers? Good work!*]

Consider this stunner from Howard Browne's THE TASTE OF ASHES:

> His face was the color of a slaughterhouse floor.

Again-- no emotion words! And yet, the very specific choice of words speaks volumes.

3) He was angry, but quickly relaxed. A more involved scenario, but it's still told to us in
a very arm's-length way. Stretch goal: no adverbs. [*Any volunteers? Good work!*]

Here's another example for comparison, again from THE TASTE OF ASHES:

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[3] Full disclosure: that isn't the exact line from the novel. At the risk of committing a heresy by daring to rewrite Chandler, I'll admit I've cleaned it up a little bit for the sake of demonstration.

The anger fell off his face like a stained bandage.

Here, notice how the writer conveys an abrupt shift without resorting to an adverb.

4) It was a cloudy day. Ok, in lieu of character emotion, we have a modicum of setting description. But it's a little bit generic. [*Any volunteers? Good work!*]

Now consider the first line of William Gibson's NEUROMANCER:

The sky above the port was the color of a television, tuned to a dead channel.

It makes me stop and think about what that means, to try to really picture this, at the same time hinting this is a world where technological metaphors supersede natural imagery.

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I don't want to give the impression that one should never use a concise sentence. Of course there are times and places where these example sentences might be exactly what you need. I'm not saying, "Never write, 'She was mad at him.'" I'm saying, think about what experience that sentence, in the intended context, gives the reader. Under the right circumstances, that short simple statement could hit like a hammer. Other times, it may fail to stir one hair.

We'll do another exercise in a little bit (if you folks feel up to it). But I said earlier that I wanted to offer you a new tool, a useful means of shifting perspective when you think about writing craft. I haven't mastered this, by any means; it's simply something I strive to keep at the fore when I'm writing. But, for what it's worth, here's how I think about the craft of writing.

[take string out; hold it taut between hands, up high where all can see it]

How long is this piece of string? Roughly, just a ballpark. How long would you say?

It's about two feet. Maybe 25 inches.

[crumple up the string, now hold it up between thumb and forefinger]

Now how long is it?

Well, that's an easy question! Of course, it's the same. Still about two feet long.

[hold up the satellite image of Great Britain]

Okay, now... How long is the coastline of Great Britain?

I realize this all seems like a weird tangent, but for me it gets to the very heart of craft. To explain that, I need to make a brief excursion into the world of mathematics.

In 1967, a mathematician named Benoit Mandelbrot published a now-famous paper titled, "How Long is the Coast of Britain? Statistical Self-Similarity and Fractional Dimension." Why on earth would a mathematician concern himself with something so basic? Well, in fact, trying to answer this deceptively simple question opens up a can of worms. (I hope you all noticed that I just used another cliché, by the way. More about those later.) Mandelbrot was picking up on earlier work by Lewis Fry Richardson, a Quaker pacifist who'd undertaken a statistical study of international conflict. Around 1950, Richardson noticed something really weird: Portuguese government cartographers and Spanish government cartographers stated substantially different values for the official length of the border between those two countries. How could that be? Surely there has to be one correct answer, right?

To emphasize how truly bizarre this is, imagine I handed out identical yardsticks and asked you all to measure how tall I am. It's not like half of you would decide I'm 5'2" while the rest of you concluded I'm 6'8". Yet that's what happened with Portugal & Spain -- they disagreed by something like 300 kilometers, which is the distance from here to Roswell!

This happened because the two governments defined border length using different-sized

measuring sticks. And borders and coastlines, it turns out, are fundamentally different from curvy pieces of string. If you take a piece of string, it's that same length regardless of whether you keep it long and straight or if you crumple it up as much as you can. And you'll get the same answer regardless of whether you measure the length in millimeters or light years. But borders and coastlines can be fundamentally different.

If you measure the coastline of Britain by laying down a succession of 200-kilometer measuring sticks, the answer you get is roughly 2400 km; if you measure it by laying down a succession of 50-km sticks, you get about 3400 km. The smaller measuring rod yields a longer coastline because the operation ends up tracing a more curvilinear path through space. Intuitively, we'd expect that a shorter measuring stick should give us a more accurate result. After all, that would be a "higher resolution" measurement, right? Yet, that's not what happens. What Richardson and Mandelbrot realized was that the measurement result effectively diverges to infinity as the measuring rod shrinks down to zero length.

Why is this?

The reason is that coastlines are approximately **fractal**[4]. They have a non-integer dimensionality-- they're neither 1 nor 2 dimensional, but somewhere in-between. An object is said to be fractal when it contains detailed structure at arbitrarily small scales. Or to say it another way: you zoom out, you zoom in, you find nontrivial structure at every scale. Imagine floating in space hundreds of miles above Great Britain. [hold up satellite image] You look down from orbit and see it has a crinkly coastline. But then if you zoomed in on a particularly crinkly bit of coastline, you'd find that the crinkles contained crinkles. And, if you kept zooming, you'd

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[4] Coastlines approximate fractal self-similar curves, and fractal self-similar curves can be "space-filling."

find that those crinkles contained still more crinkles, and so on and so forth, on and on and on.

Not forever, of course, because the material world is not infinitely divisible -- it's made of atoms.

But that's OK. So is writing: the atoms are words. Which brings me back to my point.

Some years ago, I had a revelation when I realized that some of the writing I admire most is, in a manner of speaking, fractal. Crunchy and crinkly on multiple scales. It was a watershed moment in my writing, and it completely changed how I think about the craft. (As writers we should always be doing that-- dissecting what we read, figuring out how it does or doesn't work.)

We all enjoy stories that take us to unexpected places. Twist endings. The solution to the murder mystery that nobody anticipated. But I'm convinced that to fixate on "clever" storytelling is to grossly overemphasize the importance of large-scale structure at the expense of the power of fractal craft. It's focusing on the wrong scale; it's looking at the map of Great Britain when we should be studying the grains of sand on the beach. We should be looking not only at the White Cliffs of Dover, but also at the individual fossilized diatoms within the chalk. We should never disregard the smallest scale-- the atoms and molecules of writing. The words and sentences.

(I should emphasize that the point of this fractal philosophy isn't to be surprising for the sake of being randomly surprising. Everything on the page is in service to one goal, which is to keep the reader engaged. So the fractal sentences should not merely be unanticipated, but also serve the story by conveying character, mood, setting, theme, plot, or what have you.)

So, to me, writing craft is really about the difference between [**string**] and [**GBR image**].

That's all pie-in-the-sky, so let me bring it down to earth (pun intended). I'm going to read two very short reader reactions, and then we'll take a quick poll.

1. That was a simple tale, well-told.

2. That was an ambitious tale, told poorly.

How would you prefer to hear your work described? Raise your hand if you'd rather hear version 1. Raise your hand if you'd prefer version 2.

Version 1 is a story that's relatively smooth at the largest scales, but crinkly at the small scales. Version 2 is a story that's crinkly at the largest scales, but boringly smooth at the small scales. Version 1 is a Raymond Chandler novel: the plot is predictable, the characterization (particularly of women) is risible, yet it's built from sentences like, "Dead men are heavier than broken hearts" (that's from THE BIG SLEEP). Version 2 is a multivolume universe-hopping, time-traveling, alternate-timeline-braiding epic adventure with 100 characters, built strictly out of sentences like, "She was mad at him. He was mad, too. They fought."

I hope you can appreciate the difference. All of this is the deep-down reason why I say

> **Consider each and every sentence you write a new opportunity**
>
> **to take the reader someplace unexpected.**

Still with me? Have I lost you? Any questions?

#

Before we dive in to our second exercise, I want to share more examples of kick-ass sentences. Mostly to get our creative juices flowing, but also because they're just so pretty.

Consider this sentence from Elizabeth Wein's breathtaking WWII novel CODE NAME VERITY. Here, the narrator is reminiscing about her best friend, and how unlikely it is -- owing to the British class system -- that they'd ever met much less become close:

> I don't believe it for a minute--that we wouldn't have become friends
> somehow--that an unexploded bomb wouldn't have gone off and blown us

> into the same crater, or that God himself wouldn't have come along and knocked our heads together in a flash of green sunlight.

Isn't that wonderful? *A flash of green sunlight.* It's so genuine, so honest, so deeply inside the narrator's head that it's as if she just blurted out the nonverbal image forming in her head without regard to how it might sound to somebody else.

Here's the first sentence of Sage Walker's novel THE MAN IN THE TREE. The book takes place within a generation seed-ship carved into an asteroid and

> The sun in the hollow center of *Kybele* is supported by six Eiffel Towers.

Wowsers! This is a great example of how even a short, simple, direct factual sentence needn't be boring or perfunctory. Brief and to the point, yet it *still* takes us someplace unanticipated.

How're we doing? Have I lost anybody? Any questions? Up for another exercise?

EXERCISE #2

For our second exercise, instead of rewriting several different example sentences, we're

going to rewrite the same sentence multiple times. Each time, our goal will be different, as we

aim to convey a variety of effects. **Make sense?**

Our template sentence is:

> Olivia focused her binoculars on the collapsed glacier, anxiously
> awaiting word from the rescue party.

1) First, try to rewrite this sentence in a way that conveys the setting. Imagine a particular

detail or details that would put you there with Olivia, then think about how you might convey

that creatively, immersively. Bonus points for using a sense other than sight. [*Any volunteers?*]

2) Next, try to convey Olivia's emotional state *without using any emotion words* (things

like anxious, scared, vindicated, etc.) To make it more concrete, I'll give you a context. What if

> 2a) Olivia's mother was climbing the glacier when it collapsed?

> 2b) Olivia secretly caused the accident to eliminate the only witness to a crime?

But again, remember, no emotion words! [*Any volunteers?*]

3) Next, try to convey Olivia's character or personality through action, *without using any*

adverbs. Let's use the same contexts as before:

> 3a) Olivia's mother was climbing the glacier when it collapsed.

> 3b) Olivia secretly caused the accident to eliminate the only witness to a crime.

But again, remember, no adverbs! [*Any volunteers?*]

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Please don't get the impression that I'm advocating solely for short, clever sentences.

Several of the examples I've chosen have leaned that way, but mostly because I think shorter, sharper examples are easier to convey and easier to grok. But long sentences can also take the reader someplace unanticipated, by carrying them on a mini-journey -- floating them down a river of prose past sensory images, snippets of action or dialogue, intrusive memories or associations, as with that wonderful Eleanor Catton example I read earlier. Here's a lovely long sentence (half as long, a mere 64 words) from Margaret Atwood's ALIAS GRACE:

> I am often in this parlour, clearing away the tea things and dusting the small tables and the long mirror with the frame of grapes and leaves around it, and the pianoforte; and the tall clock that came from Europe, with the orange-gold sun and the silver moon, that go in and out according to the time of day and the week of the month.

In one sentence the narrator whirls us around the room, like a camera spinning through an establishing shot, using just a couple of specific details to build the space in our minds before zooming in on the clock, giving us a snippet of its history and behavior.

Here's one more, this time from Susanna Clarke's JONATHAN STRANGE & MR. NORRELL. Instead of writing something prosaic like, "York is an old English Cathedral town," she whips out this 80 word beauty *which takes the reader, almost literally, on an unexpected mini-journey*:

> When going about one's business in the muddle of narrow streets one is sure to lose sight of the Cathedral, but then the town will open out and suddenly it is there, many times taller and many times larger than any other building, and one realizes that one has reached the heart of the town and that all streets and lanes have in some way led here, to a place of mysteries much deeper than any Mr Norrell knew of.

Crinkly, fractal long sentences are the aim of our third exercise.

EXERCISE #3

The goal of our third exercise is to harness the power of free-association to cooperatively draft a long flowing sentence in the vein of the examples I've shared. The idea is to generate something that we could later revise until it's lovely. To help us do that, we'll use these playing cards to impose just a little bit of structure. When this works well it's pretty fun. We'll see how it goes. **What do you folks think? Want to give it a try?**

Now I'm going to come around and have several of you choose cards at random. We'll go until we have 7 cards, no more than 3 of each suit, or until all 4 suits are represented.

[shuffle; fan out cards facing me; walk around, have attendees draw cards]

Ok. I'm going to give you a scenario, and then we're going to cooperatively craft a sentence about that scenario by chaining together a string of clauses or fragments. The cards will tell us what kind of clauses to use; we'll link the clauses using any assortment of commas, em-dashes, semicolons, and/or connecting words we want, as long as they're effectively invisible.

 I've designated the suits as follows:

• **Diamonds:** a description ('D' for 'description')

• **Hearts:** feeling or emotion (a glimpse of somebody's heart)

• **Spades:** a non-visual sensory detail ('S' for sense, or maybe smell)

• **Clubs:** action, via present participle such as *looking, taking, singing, tasting, punching, eating, drinking, dancing* (think clubs for 'going clubbing')

One final thing-- we need an amanuensis. **Do we have a volunteer to write down the sentence as we build it, and then read the final result?**

1) The scene is a cocktail party hosting the first extraterrestrial ambassador to Earth.

2) [re-shuffle; new cards; new amanuensis] The scene is an elopement at a Las Vegas drive-through wedding chapel.

3) [re-shuffle; new cards; new amanuensis] The scene is a reckless experiment in a mad scientist's laboratory.

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Okay, more examples.

Here's a crackerjack bit from Ursula K. LeGuin's THE LATHE OF HEAVEN. The POV character has a strange affliction-- when he dreams at night, his dreams can change reality. At this point in the novel, the world has undergone several wrenching changes because of this.

This life lacked realness; it was hollow; the dream, creating where there was no necessity to create, had worn thin and sleazy.

Here's one more, from the opening pages of Raymond Chandler's *Farewell, My Lovely*. This is Philip Marlowe's first impression when he encounters an ex-con in a tony Los Angeles neighborhood:

Even on Central Avenue, not the quietest-dressed street in the world, he looked about as inconspicuous as a tarantula on a slice of angel food.

Isn't that fantastic? Let's take a second to compare that spectacular mental image to a much duller way of saying it. If we were writing on autopilot, we might type a short but boring sentence such as

He didn't blend in.

or, heavens forgive us,

He stuck out like a sore thumb.

Would anybody like to hazard a guess as to why I particularly dislike that last

version? That's right: it's a cliché. So let's talk about clichés for a moment.

Remember our call to arms: that we should consider every sentence a new opportunity to take readers someplace unexpected. Clichés are the complete opposite of that. They're a form of mental autopilot, a kind of lazy shorthand that tells the reader where we're going before we get there. When we lean on a cliché, it enables the reader to get ahead of us, because they can finish our sentences for us, which runs completely counter to the entire philosophy of this workshop.

To demonstrate this, let's do a little call-and-response. Fill in the blanks:

- Cosette had fallen in love. She was completely head [over heels].

- Our rescue party arrived in the nick [of time].

- It didn't turn out the way I wanted, but every cloud has [a silver lining].

- Absence makes [the heart grow fonder].

- That Ox, he's a nice guy, but he's thick [as a brick].

- Jennifer's probing questions opened a can [of worms].

- The killer mingled in the unsuspecting crowd like a wolf [in sheep's clothing].

(Notice that I didn't cast any of these examples as dialogue. Dialogue is a little different -- people do speak in clichés all the time; they're a convenient shorthand, after all.)

Our mission statement also happens to make a great cliché detector!

But clichés can be useful. After all, when the reader thinks they know where we're going, it's easier to take them someplace they didn't anticipate. There's no law that says you can't start with a cliché, file off the serial number, do some after-market modifications, and turn it into a spring-loaded bear trap for an unsuspecting reader. For example, let's take the sentence

The fright took [a year] [off her life].

See, you knew where I was going! The problem with that sentence isn't that a character was frightened, it's the perfunctory way that's conveyed. So, in the spirit of our mission statement, I might indulge in some free association in an effort to generate something crinklier, more fractal: a year off her life; life expectancy; actuarial tables; actuaries; life insurance... How might I use this? Well, just to get the spitball rolling I might start with something awful like

The fright made an actuarial footnote of Carmen? Yuck! That's terrible! This makes no sense, it's too obscure, it's super awkward, and it requires a huge logical leap from readers.

The fright triggered a clause in Carmen's life-insurance policy? No. It's horribly clunky, too long, equally nonsensical and somehow even more convoluted. And much too literal.

The fright put Carmen's life insurance policy to the test? Hmm. Possibly a tiny step in vaguely the right direction, but this still implies she died, which is missing the emotional point. Also it's too vague and bland. Specificity would be better.

The fright stress-tested Carmen's heart? Hmm, this might have potential. At least it's shorter, though it's still a bit clunky. But maybe something specific about her heart.

The fright reduced Carmen's lifetime allotment of heartbeats? Hmm, maybe we're in the neighborhood of something passable, but it's still too clunky and "reduced" is terribly weak.

The fright nicked a few heartbeats from Carmen's lifetime allotment? Okay, maybe now we're getting somewhere...

And I'd keep iterating on it until I was happy, possibly over multiple writing sessions. I might even chuck it and start over. All for one sentence.

I hope this demonstrates another point I wanted to make about trying to craft crinkly fractal prose: it takes time and effort. As you can see, I personally have to pour blood and sweat

into it and the vast majority of the time I still end up with shit. For most mortals, truly wonderful sentences don't spring fully formed like Athena from the brow of Zeus. (Which is why I decided against turning the free-association cliché demonstration into another collaborative exercise.)

How are people doing? Still with me? Questions?

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Bear in mind, too, the clichés aren't only a sentence-level issue. Just as genuinely fractal storytelling takes readers to unanticipated places at all levels of story-- words, sentences, paragraphs, pages, chapters, acts, novels -- there are also higher-level clichés: clichéd exchanges of dialogue and even clichéd plots. (There's a reason short fiction venues sometimes maintain a list of story concepts they will NOT accept). Here are two examples of clichéd dialogue that are so very common and so deeply tired that they make me want to stab myself in the face. **Raise your hand if you've ever read or seen some version of this exchange:**

> "I'm coming with you."
> "No, it's too dangerous."

Oh my god. Never write that. It's super lazy. Here's another. **Raise your hand if you've read or seen:**

> "I'm sorry sir, but with all due respect..."

Never ever ever write that. Please.

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Before I wrap up, let's take one step back for a moment and think about fractal craft. How might our guiding principle -- of using our prose to take readers to unanticipated places -- manifest at the next level, within or between paragraphs? There are many ways to do this, of

course. There's no single right answer. But I'd like to share one particularly effective method.

At the page or paragraph level crunchy prose can be achieved with an abrupt change of tone, voice, or diction. It can't be done too often, lest we telegraph the punch, but done right it can be very effective indeed.

Here's an example at the paragraph level. Now, this has some swearing in it, but this short paragraph constitutes the very first lines spoken in Rajiv Joseph's Tony- and Pulitzer-nominated play, *Bengal Tiger at the Baghdad Zoo*:

> The lions escaped two days ago. Predictably, they got killed in about two hours. Everybody always gives lions so much credit. But I am bigger than them. I am bigger than those motherfuckers.

The first time I saw this performed, that little rabbit punch, that jab of swearing took me completely off-guard. But it's good not because the playwright drops an unexpected f-bomb. It's far more than just a little jolt of surprise or unease. It also tells us volumes about the narrator.

Consider this abridged passage from Roger Zelazny's novel THE GUNS OF AVALON. **As I read aloud, listen for the zigzag moment; raise your hand when you think you've heard it.** The context is the bedchamber of a fortress, where a couple are about to get down to romantic business when they hear something outside. Our narrator, Corwin of Amber, grabs his sword, Grayswandir, and then--

> I could hear a heavy flapping above the storm, and there came a scratching on the stone of the wall...
> Then I was looking into two hot, red eyes which were looking back into my own. I dropped mine quickly. The thing stood there on the ledge outside the window and regarded me.
> It was well over six feet in height, with great branches of antlers growing out of its forehead. Nude, its flesh was a uniform ash-gray in color. It appeared to be sexless, and it had gray, leathery wings extending far out behind it and joining with the night. It held a short, heavy sword of

dark metal in its right hand, and there were runes carved all along the blade...

"Enter at your peril," I said loudly, and I raised the point of Grayswandir to indicate its breast.

It chuckled. It just stood there and chuckled...It tried to meet my eyes once more, but I would not let it. If it looked into my eyes for long, it would know me...

"Who are you?" I asked.

"Strygalldwir is my name. Conjure with it and I will eat your heart and liver."

"Conjure with it? I can't even pronounce it," I said, "and my cirrhosis would give you indigestion. Go away."

Over just a few short paragraphs Zelazny eases us into the scenario -- a fantastical monster in a world of castles and swords and runes and soul-stealing magic and the power of true names -- but then, just as we think we know where this is going... Wham! This is *not* the kind of setting where people casually discuss liver cirrhosis.

But suddenly we are, even though we didn't expect it.

Notice, too, that while I chose this as an example of fractal craft at the paragraph level, the bit that takes us someplace unexpected is one little sentence.

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Okay. That brings me to the end. Maybe I've belabored the point long enough. But just in case I haven't, let's repeat our call to arms one more time.

Say it with me, if you would?

> **Consider each and every sentence you write a new opportunity to take the reader someplace unexpected.**

Thanks for coming. I hope you got something useful out of this.

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