```
import matplotlib.pyplot as plt
import numpy as np
```

```
def get_iter(c:complex, thresh:int =4, max_steps:int =25) -> int:
    # Z_(n) = (Z_(n-1))^2 + c
    # Z_(o) = c
    z=c
    i=1
    while i<max_steps and (z*z.conjugate()).real<thresh:
        z=z*z + c
        i+=1
    return i
def plotter(n, thresh, max_steps=25):
    mx = 2.48 / (n-1)
    my = 2.26 / (n-1)
    mapper = lambda x,y: (mx*x - 2, my*y - 1.13)
    img=np.full((n,n), 255)
    for x in range(n):
        for y in range(n):
            it = get_iter(complex(*mapper(x,y)), thresh=thresh, max_
        steps=max_steps)
            img[y][x] = 255 - it
    return img
```

```
n=1000

img = plotter(n, thresh=4, max_steps=50)

plt.imshow(img, cmap="plasma")

plt.axis("off")

plt.show()
```

GENESIS

This book contains existing philosophical and religious themes, like prophecy, love, truth, karma, the nature of reality, and living in a simulation. The book encompasses Plato's Allegory that is presented in Plato's Republic.

In Plato's Allegory, Socrates describes a group of people chained to a wall within a cave their whole lives. The only reality they know of is the mere shadows projected on the wall in front of them, and they believe these are real entities. Then, one of the prisoners is freed. He leaves the cave and gets to experience the real world outside. But when he returns to the cave to enlighten the other prisoners with the truth, he faces resistance. The prisoners of the cave are chained so that they cannot move their legs and necks. They can only sit and watch the wall in front of them, but cannot look around, cannot see each other nor the wall they're chained to. Behind the prisoners burns a fire. There are people in between the fire and the prisoners. These people hold sticks with several forms (birds, horses, dogs) which project onto the wall. So, all they've ever seen are mere projections of objects that appear in the real world: a world that's alien to them. When one of the prisoners is freed and ascends from the cave into the real world, he experiences sunlight for the first time in his life. He is confused and needs time to adapt, as he's never seen the daylight before. But when his eyes have adjusted, he encounters all the forms he recognises from his life in the cave. But they're different this time. Instead of mere silhouettes, he sees the actual entities: full of colour and with profound detail. He then realises what he thought was real, was in fact, an illusion.

In Plato's allegory, the liberated man ascends from darkness into the light, from the lower level within the cave to a higher level outside. This ascension serves as a metaphor for gaining knowledge and becoming a philosopher and, thus, obtaining a clear world vision. Plato's reality presents itself as generally more beautiful in comparison with the cave. Also, the freedom of movement in the outside world is a vast improvement. Overall, the real world seems way more pleasurable, and it would be pretty absurd to exchange it for a life in the cave. But this book is different...



This book will show you how deep the rabbit hole of the true reality goes. It shows a descent rather than ascent into reality. This idea comes to fruition when the reader will run the algorithm and it will show the real truth of the readers' reality when it falls from a relatively pleasurable reality into a hellish wasteland with superficialities and world run by selfish entities. As opposed to Plato's reality, the reality shown by the book isn't beautiful, It's terrible but its the ultimate truth of the reader's reality. Those who choose not to read and run the algorithms of the book can live in a vast, colourful, sunny but a world of falsehood filled with superficial optimism and goodness.

BLIND TO THE TRUTH

One could say that living imprisoned in the cave is more pleasurable than living freely in the outside world. A typical reaction can be seen from the readers confronted with the harsh reality. We can see this when, for example, we discover that one of our parents isn't our biological parent. Or the person we consider our greatest enemy turns out to be our parent. In such cases, the truth carries such a magnitude that accepting it shakes one's identity to its very foundations. Such a massive shift in perception generally terrifies people. Many people prefer living in a safe bubble of lies to looking outside for the truth. Living in a cozy, false reality can be pretty convenient and comfortable; you just have to remain ignorant of everything that could burst your bubble. So instead, you go along with the deceptive narrative of the herd, often amplified by mass media and entertainment. But we also see the opposite happening, like people opposing common knowledge, adopting a false truth like the idea that Earth is flat. So truth, by and large, can be easily fabricated.

"Denial is the most predictable of all human responses"

When Plato's enlightened man tries to persuade the people in the cave to go outside, he meets resistance and ridicule. Plato described such endeavour as "inserting vision into blind eyes." It's a waste of time trying to convince someone of the truth if they aren't receptive to it. Many are so hopelessly dependent on the system that they'll fight to protect it; similarly, Socrates asks if these people wouldn't kill the person offering them the truth about their existence. Nevertheless, Plato points to the philosopher's responsibility to act in the interest of the unenlightened ones, even if they're hostile.

REJECTING A PAINFUL TRUTH

In Plato's allegory, we see that liberation ultimately positively affects the man who's freed. But what if someone knows the truth, but hates it so much, that he chooses a false reality? Even though some readers may feel stranded in the same dark world, they may seem rather happy with their liberation. Some may finds meaning in it and take on the role of Plato's enlightened man, as he takes responsibility to help the people still imprisoned. Through their liberation, they found what they were looking for, which probably compensates sufficiently for having to face the bleakness of reality. Some, on the other hand, may not enjoy reality in the slightest. Some may also realise that,

"Ignorance is bliss"

Readers may become aware that they cannot unsee what they have seen, which results from encountering truth. When the veil of ignorance has been lifted, there's no going back. The truth lies naked in front of us. A relationship between people changes when its fundamental story turns out to be a lie and reality is not as beautiful as it seemed. The relationship was more enjoyable before the truth came out. It was based on an illusion, but in exchange for not knowing, we felt a connection, love, intimacy, pleasure, and ironically trust. Truth destroyed all that.

Some may essentially make a hedonistic decision exchanging reality and freedom for blissful ignorance. Some may also agree that their apparent world can be more real to them than the absolute reality and the truth of the world.

SUSPENSION OF DISBELIEF

The readers were living in an illusion first, before they actually read the book. Now, they have become illusionists themselves. When they go back into the world for the first time after their liberation, they will sees it in a different light. They will realises that none of their memories ever really happened. They recognize places where they used to eat, work, live, but 'lucidly,' with the knowledge that they're just simulacra. The same must have happened to Plato's enlightened man going back into the cave for the first time after his ascension regarding the shadows on the wall. It probably leaves one disillusioned, perhaps disappointed with the lack of mystique these appearances once had. Finding out how a magic trick works makes it a lot less appealing.

Truth, therefore, often goes at the expense of enjoyment. An example of this is a legendary character in Western Christian culture called Santa Claus, which originates from the early Christian bishop Saint Nicholas. For most children, Santa Claus is a truly magical experience: the idea of an old bearded man traveling from the North Pole in a sleigh pulled by flying reindeer. According to the legend, Santa's elves make toys and other presents in a secret workshop and Santa brings them to the children on Christmas Eve. With all the stories, songs, fairy tales, and films about Santa Claus, his annual appearance is almost a religious experience to the infant mind. But when children are around the age of 6, their parents begin to tell the truth about Santa Claus. Many kids react emotionally and in disbelief. A once so much enjoyed illusion is crushed and loses its magical appeal.

Hence, it's not uncommon to experience nostalgia for the good old time when we were ignorant of the truth and when a "surrogate truth" was more appealing. However, interestingly enough, people still can find joy in what they know is fake. It show the human capacity to treat an illusion as if it's real. There's a philosophical term for this phenomenon, namely: "suspension of disbelief."



"Suspension of disbelief" is the intentional avoidance of skepticism, critical thinking, and logic when facing something unreal. For ages, humans have eagerly consumed illusions as entertainment, from cinemas and theatre performances to the puppet shows of the past. Likewise, Plato's character can still choose to act as if the silhouettes in the cave are real entities, temporarily suspending his disbelief in exchange for enjoyment and having a good time with his old, unenlightened friends.

The possibilities regarding the enjoyment of fakery are endless. We can see this with today's technology as well, how people can immerse themselves in a video game is almost like they're living a second life: an existence mostly more pleasant and rewarding. But the objects that appear on the screen aren't real but mere projections. To enjoy them as if they were real, one needs to suspend that truth temporarily. Humans seem to be able to tempo rarily accept and appreciate the lie when it suits them.

DO YOU ACTUALLY WANT THE TRUTH

Do we actually want the truth? If asked, most people will probably answer "yes" to this question. But when exploring Plato's Allegory, we discover that the human relationship with truth is not that simple. In some cases, we welcome the truth. In other cases, we hide from it, temporarily suspend it, reject it, and even wish to forget the truth if we had that option. Plato's work shows people's disdain for a truth that threatens their reality. We tend to attach to the familiar, the comfortable, the meaningful, and are sometimes willing to defend it with our lives. When it comes to the latter, we just have to look at how people are ready to die for their religions and political ideologies. So, again, do we want the truth? The answer seems to be: "It depends."

We tend to handle the facts selectively, as the truth appears in many different forms, with different magnitudes. Truth can uplift us; it can leave us indifferent but can also make us depressed and miserable. For example, in Plato's allegory, learning the truth has virtually no downsides. The only downside is the hostility by those in the cave. But aside from that, it's pretty evident that Plato's truth leads to something better and would uplift almost anyone. But in the real world, the truth is less enjoyable. However, the effect that truth has on us doesn't necessarily depend on the truth itself; it also depends on the person receiving it.

For some, the state of the world will provide them with meaning and legitimised the battle they were fighting as liberators of humanity, which is quite an incredible goal to have in life. On the other hand, some people may feel uncomfortable and poke fun at that goal, which shows their cynicism and lack of meaning they found in their existence. People tend to adopt surrogate truths to cover up a painful reality. By contrast, others love painful realities, but these are often instrumental to their already dark worldview. People from both camps also tend to ignore facts that oppose how they want to see the world. In many if not most cases, they share their world-views with like-minded people. Sharing a certain truth, regardless of whether it's true, has benefits. Again, look at religious groups, political movements, and even the flatearth society. Being part of such groups can provide people with purpose and social connections. The downside is that adopting opposing views as a member (even if they were true) could lead to other members ostracizing you. And here's where the dark side of suspension of disbelief comes in. Some, if not many, are willing to turn a blind eye to the truth not just for innocent enjoyment but also out of convenience. For example, someone keeps subscribing to a false belief against one's better judgment, just to belong or out of fear of being ostracized. All in all, people seem pretty opportunistic when it comes to the truth. We want 'a' truth, not necessarily 'the' truth. We want 'a' reality, not necessarily 'the' reality.

But the truth and the lie often have something in common: they both appear as stories. So, could it be that we fundamentally don't want the truth, but a story: a story to believe in, identify with, share with others, dwell on, and (perhaps most importantly) to provide us with a sense of meaning and belonging? This book will ask you, the readers, the following question:

"Do we, as human beings, actually want the truth?"



```
offset = float(offset)
tau=(1+5^{**}\circ.5)/2.\circ # golden ratio approx = 1.618\circ33989
#(2-tau)*2*np.pi is golden angle = c. 2.39996323 radians, or c. 137.5
degrees
inc = (2-tau)^{*}2^{*}np.pi + offset
```

disc = mpatches.Circle((x,y),drad) patches.append(disc) # start building the plot fig = plt.figure() ax = plt.axes([0,0,1,1]) alpha=1.0) collection.set_array(np.array(colcycle)) ax.add_collection(collection)

SEEING PAST YOUR OWN PERSPECTIVE

Imagine that you had your smartphone miniaturised and hooked up directly to your brain. If you had this sort of brain chip, you'd be able to upload and download to the internet at the speed of thought. Accessing social media or Wikipedia would be a lot like consulting your own memory. It would be as easy and as intimate as thinking. But would it make it easier for you to know what's true?

Just because a way of accessing information is faster it doesn't mean it's more reliable, of course, and it doesn't mean that we would all interpret it the same way. And it doesn't mean that you would be any better at evaluating it. In fact, you might even be worse, because, more data, less time for evaluation. Something like this is already happening to us right now. We already carry a world of information around in our pockets, but it seems as if the more information we share and access online, the more difficult it can be for us to tell the difference between what's real and what's fake. It's as if we know more but understand less.

It's a feature of modern life, that large swaths of the public live in isolated information bubbles. We're polarized: not just over values, but over the facts. One reason for that is, the data analytics that drive the internet get us not just more information, but more of the information that we want. Our online life is personalised; everything from the ads we read to the news that comes down our Facebook feed is tailored to satisfy our preferences. And so while we get more information, a lot of that information ends up reflecting ourselves as much as it does reality.

It's no surprise that we're in a situation, a paradoxical situation, of thinking that we know so much more, and yet not agreeing on what it is we know. So how are we going to solve this problem of knowledge polarization? One obvious tactic is to try to fix our technology, to redesign our digital platforms, so as to make them less susceptible to polarization.



Humans think that fixing technology is obviously really important, but we don't think technology alone, fixing it, is going to solve the problem of knowledge polarization. We don't think that because we don't think that at the end of the day, it is a technological problem. We think it's a human problem, having to do with how we think and what we value. We're going to need help from psychology and political science. But we're also going to need help, from philosophy. Because to solve the problem of knowledge polarization, we're going to need to reconnect with one fundamental, philosophical idea: that we live in a common reality.

The idea of a common reality is like, a lot of philosophical concepts: easy to state but mysteriously difficult to put into practice. To really accept it, we need to do three things, each of which is a challenge right now.

def Collatz(n): while n != 1: if n & 1: $list_1 = [n]$ if n == 1: return [1] if n < current:

current = $current/_2$ return [chainNumber, n] def collatz(n if n % 2 == 0: while n > 1: def collatz(n): if n == 0: while n != 1: return cnt

BELIEVE IN TRUTH

You might have noticed that our culture is having something of a troubled relationship with that concept right now. It seems as if we disagree so much that, it's as if there are no facts anymore. But that thought is actually an expression of a sort of seductive line of argument that's in the air. It goes like this: "we just can't step outside of our own perspectives; we can't step outside of our biases. Every time we try, we just get more information from our perspective." So, this line of thought goes, "we might as well admit that objective truth is an illusion, or it doesn't matter, because either we'll never know what it is, or it doesn't exist in the first place."

That's not a new philosophical thought - skepticism about truth. During the end of the last century, as some of you know, it was very popular in certain academic circles. But it really goes back all the way to the Greek philosopher Pythagoras, if not farther back. Pythagoras said that objective truth was an illusion because "man is the measure of all things." That can seem like a bracing bit of realpolitik to people, or liberating, because it allows each of us to discover or make our own truth. But it's a bit of self-serving rationalization disguised as philosophy. It confuses the difficulty of being certain with the impossibility of truth.

It's difficult to be certain about anything. But in practice, we do agree on all sorts of facts. We agree that bullets can kill people. We agree that you can't flap your arms and fly. We agree - or we should - that there is an external reality and ignoring it can get you hurt. Nonetheless, skepticism about truth can be tempting, because it allows us to rationalize away our own biases. Often it's easier for us to wrap ourselves in our cozy information bubbles, live in bad faith, and take those bubbles as the measure of reality. But the real dangerous thing about skepticism with regard to truth is that it leads to despotism.



"Man is the measure of all things" inevitably becomes "THE Man is the measure of all things." Just as "every man for himself" always seems to turn out to be "only the strong survive". You can't speak truth to power if the power speaks truth by definition.

SAPERE AUDE

In order to accept that we really live in a common reality the second thing can be summed up by the Latin phrase that Kant took as the motto for the Enlightenment: "Sapere aude," or "dare to know." Or as Kant wants, "to dare to know for yourself."

In the early days of the internet, a lot of us thought that information technology was always going to make it easier for us to know for ourselves, and of course in many ways, it has. But as the internet has become more and more a part of our lives, our reliance on it, our use of it, has become often more passive. Much of what we know today we Google-know. We download prepackaged sets of facts and sort of shuffle them along the assembly line of social media. Now, Google-knowing is useful precisely because it involves a sort of intellectual outsourcing. We offload our effort onto a network of others and algorithms. And that allows us, of course, to not clutter our minds with all sorts of facts. We can just download them when we need them. But there's a difference between downloading a set of facts and really understanding how or why those facts are as they are. Understanding why a particular disease spreads, or how a mathematical proof works, or why your friend is depressed, involves more than just downloading. It's going to require, most likely, doing some work for yourself: having a little creative insight; using your imagination; getting out into the field; doing the experiment; working through the proof; talking to someone.

We need to find ways of encouraging forms of knowing that are more active, and don't always involve passing off our effort into our bubble. Because the thing about Google-knowing is that too often it ends up being bubble- knowing. And bubble-knowing means always being right.

But daring to know, daring to understand, means risking the possibility that you could be wrong. It means risking the possibility that what you want and what's true are different things.

HUMILITY

The third thing that we need to do to accept that we live in a common reality is: have a little humility. By humility here, we mean epistemic humility, which means, in a sense, knowing that you don't know it all. But it also means something more than that. It means seeing your worldview as open to improvement by the evidence and experience of others. Seeing your worldview as open to improvement by the evidence and experience of others. That's more than just being open to change. It's more than just being open to self- improvement. It means seeing your knowledge as capable of enhancing or being enriched by what others contribute. That's part of what is involved in recognizing there's a common reality, that you too, are responsible to. Society is not particularly great at enhancing or encouraging that sort of humility. That's partly because, we tend to confuse arrogance and confidence. And it's partly because, arrogance is just easier. It's just easier to think of yourself as knowing it all. It's just easier to think of yourself as having it all figured out. But that is another example of the bad faith towards the truth. So the concept of a common reality, like a lot of philosophical concepts, can seem so obvious, that we can look right past it and forget why it's important.

Democracies can't function if their citizens don't strive, at least some of the time, to inhabit a common space, a space where they can pass ideas back and forth when - and especially when - they disagree. But you can't strive to inhabit that space if you don't already accept that you live in the same reality. To accept that, we've got to believe in truth, we've got to encourage more active ways of knowing. And we've got to have the humility to realize that we're not the measure of all things. We may yet one day realize the vision of having the internet in our brains. But if we want that to be liberating and not terrifying, if we want it to expand our understanding and not just our passive knowing, we need to remember that our perspectives, as wondrous, as beautiful as they are, are just that - perspectives on one reality.

* The Collatz Tree v1.0 Process * Some PARAMETERS to play with float START_AEVEN = 4; // angle increase for even branches float START_AODD = -8; // angle increse for odd branches // number of branches // set to true if you want to generate the frames ated (warning they can occupy a lot of space) int numsaved: float ao = START_AODD * (PI/90); // convert start angle odd in float acco = 0.001; // acceleration odd float currspeede = 0; // speed even float currspeedo = 0; // speed odd float target_speede = SPEED_AEVEN;

* A Collatz number class TCollatzPoint { float branchlen = FIRST_BRANCHLEN; drawCollatz(ae, ao, BRANCHES); drawCollatz(ae, ao, BRANCHES) TCollatzPoint $buf_2 = new TCollatzPoint_{1024};$ TCollatzPoint bufswap□; noFill(); else { int c = colray[(coff + depth) % colray.length];
//c = (c % oxfffff) | ox8000000;