


Kate Isaacs: I have a few pictures to show you. This first image shows Einstein's theory of general relativity. Many people know Einstein's theory of special relativity, or $E=Mc^2$. General relativity is an elegant set of ten equations that describe gravity as a result of space time being curved by mass and energy. In 2017, the Nobel Prize was awarded to a group of scientists who discovered that Einstein was correct. His theory of general relativity predicted the existence of gravitational waves almost exactly a hundred years before they were confirmed by direct measurement.

General Relativity

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$

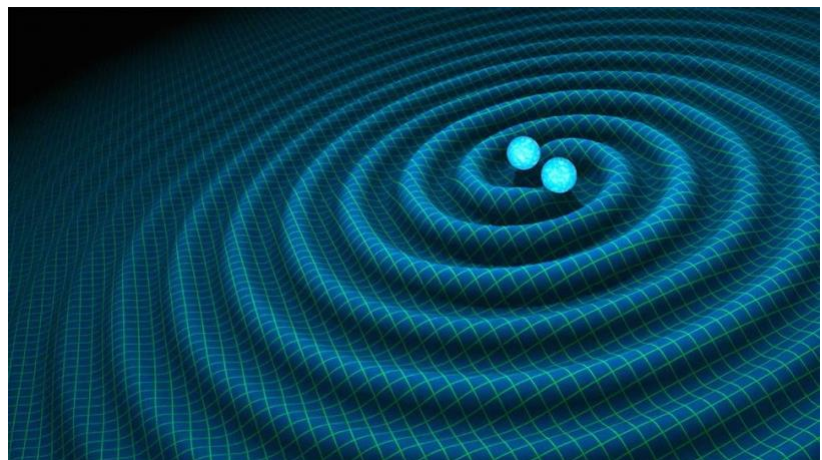
curvature of spacetime
expanding universe
all mass and energy in the universe

Einstein tensor
cosmological constant
metric tensor
energy-momentum tensor



From knowlo.org, Read more at https://en.wikipedia.org/wiki/Einstein_field_equations

Next is a picture of colliding black holes in the universe that led to a ripple of space time and allowed the scientists to detect the gravitational waves. That's what Einstein predicted with this simple equation over a hundred years ago. We go from this lofty universal principle to a profound but rather simple-looking equation that explains much of the complexity of what we see.



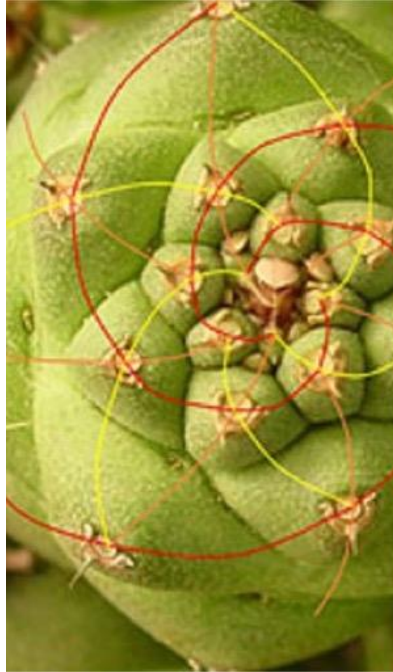
This is an announcement from Dr. Rafael Reif, who is the president of MIT, where one of the scientists who did this work on gravitational waves works.

From: [Scientific American](#)

"[This is a story] of human achievement. It begins with Einstein: an expansive human consciousness that could form a concept so far beyond the experimental capabilities of his day that inventing the tools to prove its validity took a hundred years. And...the story extends to the scientific creativity and perseverance of Rainer Weiss [professor emeritus at MIT]...Working for decades at the edge of technological possibility, against the odds, Weiss led a global collaboration to turn a brilliant thought experiment into a triumph of scientific discovery" (<https://president.mit.edu/speeches-writing/major-scientific-announcement>).

I don't know about you, but that sends chills down my spine. If you go to Rai Weiss's website, he is very humble, and describes his role now “to be the equivalent of a grad student” again and very much enjoying it. How wonderful to spend time inquiring into the secrets of the universe with a beginner's mind.

These next images show how the Fibonacci spiral shows up in many forms of nature. Again, it's a simple mathematical relationship that orders our universe in nature here on earth. Patrick Shipman, an Associate Professor at Colorado State University, has studied cacti. He went deep into the secrets of cacti to figure out a model that would predict how plants form patterns. And he discovered, again, a simple principle that orders this beauty of nature.



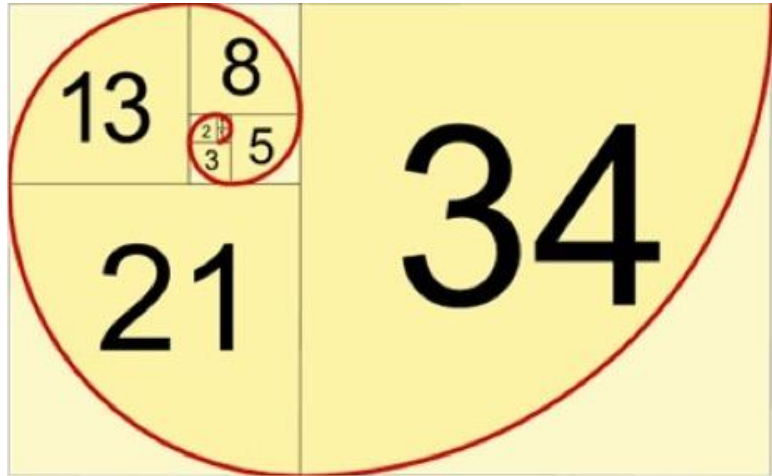
From: [Discover Magazine](#) (cactus), [Pueblo Chieftan](#) (pinecone)

He found that the initial curvature of a plant near the tip of its growth plate influences the shape that it will form. Plants that have a high degree of curvature will always produce hexagonal configurations, such as this cactus and the pinecone. The spirals are ordered by the Fibonacci sequence. Shipman also developed a mathematical prediction for how the minute elevations in our fingertips that can be seen in embryos at about six and a half weeks, stretches and forms into the three types of fingerprint patterns: arches, loops and whirls. His simple equations and models predicted how fingerprints will form in the end. All these patterns are guided by an even more fundamental and simple master principle: Nature conserves energy. So all of these beautiful patterns are the most energy conserving patterns that nature can produce (Read more here: <https://news.arizona.edu/story/ua-mathematicians-predict-patterns-fingerprints-cacti>).



From: Shutterstock

This is a picture of the Fibonacci spiral. It starts in the very beginning with a geometric equation wherein the addition of the two previous integers produces the next integer. Two plus three equals five; five plus three equals eight, five plus eight equals thirteen, and so on. If you arrange squares increasing in size on the Fibonacci spiral, you will get Nautilus shells, pinecones, and cactus spirals. Einstein's thought experiment was proved out later by experiments. This story works the other way around going deep into the phenomena and deriving the principles from it. Whatever we see of the complexity and beauty of nature often can be distilled down to simple and elegant principles.



From: Mathisfun.com

Here's another picture of a beautiful pattern. This one is humanly created. Let's speak for a



moment about the principles that underlie our ability to architect beauty, serving in our role as stewards of the earth. This picture shows Apricot Lane Farm in California, started by Molly and John Chester (<https://www.apricotlanefarms.com/>).

From: Apricot Lane Farms

John was a wildlife filmmaker, traveling the world, making documentaries. Molly was a personal

chef who had addressed some of her own personal health issues by changing her diet. The two of them were living in a cramped apartment in Santa Monica with a dog that had severe separation anxiety and would not stop barking when they were away at work. They decided to fulfill their promise to their dog, that they would never abandon him, which led to the decision to fulfill a long-time dream of starting a farm (<https://www.apricotlanefarms.com/our-story>). This was despite the fact that they had never farmed in their lives.

They found an investor and purchased a decrepit old lemon and avocado farm in Ventura County, California. Initially it was dry baked earth, nothing growing anywhere. The soil was completely devastated. You couldn't even put a spade into it. This is a picture of what things



looked like before they moved in. There's just baked,

From: [Apricot Lane Farms](https://www.apricotlanefarms.com)

parched soil. It wasn't actually soil; it was dirt. The soil was dead. One of the many things they did was to plant cover crops between all the trees to begin to regenerate the soil. But that created a new problem. The crops were wonderful at retaining the water and replenishing the nutrients in the soil. But they began to attract a lot of pests, including gophers and thousands of tree eating snails.

In response, John and Molly did a few things that I have also seen in my research on organizations that are nimble and well-prepared to change in response to the fast-changing business conditions.



First, the Chesters held an unwavering purpose to farm using regenerative methods, working in alignment with nature, not in an extractive way. What did that mean, though? What does it mean to be a regenerative farmer? As leaders do, they translated this ideal into some simple guidelines, or guardrails, that they used to filter every decision that they made on the farm. There were four.

Guardrail one: biodiversity is king. You want to have as much biodiversity as possible. So you don't plant just one kind of lemon tree. You plant varieties of citrus, plus many other kinds of fruit trees. And, you have as many animals as possible on the farm, because they produce manure

to enrich the soil. And if you have a lot of animals, then you're in a good position to see what purpose each animal is supposed to have in the ecosystem.

Guardrail two: "soil is everything." The health of the farm starts with the soil and the microorganisms in the soil. Bringing that back is everything. Guardrail three: "no bare soil, ever." A simple rule. If you ever see bare soil, you have to figure out a way to plant it with something that's generative for the farm.

And guardrail four, the most important thing: make it beautiful. In their podcast interview with Rich Roll, John Chester explained that their mentor, Alan York, who taught them these principles, argued that regardless of the science, make the farm beautiful because "beauty is what's going to inspire you to stay here and look as deeply as you need to, to find the solutions. That cultivation is full of endless possibility. So above all, it must be beautiful to engage your imagination."

They had then, first, purpose, and second principles. Third, their job as leaders was to balance paradoxes that popped up all around the farm. There was lots of biodiversity and lots of mess and chaos, and yet also a need for order. How were they to bring order of the chaos? How were they going to understand the purpose of each part in a way that wasn't overwhelming to them, but that also helped bring the farm to a different level homeostasis?

For example, their pond was being overgrown with algae because their ducks and geese were pooping so much in the pond that it was getting choked with algae. How could they solve multiple problems at once? They loaded the ducks onto a trailer, brought them to the orchard and let the ducks out of the truck. The duck's waddled around and ate thousands upon thousands of snails. And their poop contained more nitrogen and regenerated the soil around the trees.

They said it was a thrilling day to discover the purpose of the ducks. They spoke about how their job as leaders was to be patient and have the willingness to sit and sit and observe and observe, and notice and notice, and have humility, until the insight came about what the next step was. There is a film about their experience: (<https://www.biggestlittlefarmmovie.com/>).

Bringing us finally to some of the simple spiritual principles that are at the heart of things, there is fundamental core principle to recall, captured in this saying, "I am the way, the truth, and the life" (John 14:6-7). Alan Hammond has often spoken about this. As he put it—We love to love—we *are* love. We love the truth, always doing the right thing. In contemporary culture, as Brene Brown puts it, "be more interested in *getting* it right than in *being* right." And we love Life, which is creative. We love to create. We are creative beings. This one sentence contains all we really need to know. That is the simplicity that orders the complexity and the beauty of our lives.

In the end it's all about living the simple truth, and having the humility, the patience, and the open heart to discover those things and live them.

Bill Isaacs: Kate reminds us of the fact that magic has not been drained from the world, despite the efforts of humankind over the last particularly 150 years, and certainly well before that, to operate without reference to the divine. It turns out this is not so possible. It turns out that magic infuses the world. We hear stories like the one Kate recounted and know that there's a marvelous awakening, a regeneration that is occurring, where people in many different contexts are finding that the beauty of truth has practical implications. It always does. And yet we are on the precipice. There are consequences for having forgotten or ignored these things.

On October 31st representatives of 197 nations are gathering in Glasgow for the 26th Conference of Parties, or COP conference. This is the "last best hope for the world to get its act together," John Kerry has said. I've been participating with a group of preeminent individuals over the last nine months who have been endeavoring to influence this event, which is meant to at last compel the nations of the earth to do something about the increasingly obvious looming climate catastrophe facing the planet. It's been very striking, listening to this group of well-intended and earnest people, including some very famous ones, how difficult it is for people to step away from constantly advocating for their point of view and trying to get everyone to comply. This does not lead to regenerative outcomes.

It takes some courage to do something else—to stop, listen and bring the humility necessary to acknowledge that one doesn't actually know what to do: to listen to what the system is actually saying, to what Life is saying. Human beings carry the conviction that they can figure it all out. The human intellect believes it is poised to eventually understand everything. But the way, it reaches understanding by abstracts and extracts from the whole, and conclusions on this basis inevitably cause destruction. This presents a real dilemma. If the only thing we have to work with is our minds, and yet our minds operate in a way that get us in trouble, what do we do? Well, nothing like a little pressure to force the issue!

In the last few months, the UN published a report being described as a "code red for humanity," like a smoke alarm piercing the kitchen atmosphere. Despite this, another recent UN report shows that most countries are planning to produce about a hundred and ten percent *more* fossil fuels over the next 10 years than is required to reduce the emissions to the point where we hit the target of one and a half degrees centigrade. These published reports examined actual planned industry activity; in other words, this is probably what's going to happen. So we have a lot of surface drama about the need to reduce emissions, but action underneath that continues to move everything in the opposite direction.

People are noticing these dilemmas. In the conversation I mentioned, there were various moments where people who were normally quite reserved got very direct, passionate and even desperate as they tried to figure out how to speak and think in a new way. Many of these people have spent years working on these issues and they're at their wit's end. They see, as it was put in *Game of Thrones*, that "winter is coming." There's a growing intensity to this moment in history. I am quite sure that this is not the first instance where human beings have seen the rising shadow of intensity. What will we do about it this time? Often in such times, especially when intensity gets truly extreme, human beings cast their eyes to the heavens to pray. They seek guidance from something higher. The people in Kate's story hit a moment like that, three or four years into their journey, of absolute despair. Nothing was working. They realized that they had to find a kind of new relationship to everything they were doing. And they managed to do it. They found the humility and they did it. What was true for them can be true for us.

What is potentially different in this day is that there is some level of regenerative understanding present in people, in us, and no doubt in some who are attending the COP conference. We can articulate and more, *live* these things. We can represent that awakened energy. An enormous responsibility falls to those who come to this awareness. In so doing they represent God to the people and the people to God.

This is a perhaps archaic way of speaking, but it's also factual. How does it work? Through the shifts in my consciousness. It appears through the regeneration that we allow to occur inside ourselves. One of the great mysteries is how we could achieve any kind of truly global scale regeneration, given the scope of the difficulties and the obvious recalcitrance of human consciousness. The answer, put simply, is that it's an inside job.

As we awaken, and live these principles, we realize that the vastness of the external cosmos, however immense, is actually very small compared to the vastness of the internal reality in which we participate. In other words, as there is regenerative movement in ourselves, our sense of proportion and perspective shifts. Our understanding of space changes. Our understanding of time changes. These concepts reside within a certain constrained domain while landlocked in conditioned human consciousness, including, certainly, our own. But as new energy and new understanding begins to appear, so do new possibilities. Taken-for-granted assumptions about ways of operating start to shift. The pandemic, as one example, seems to have cracked the frame for some people, and catalyzed unexpected changes.

For instance, there are something like a hundred container ships off the port of Long Beach in California today, with more coming all the time. This is a symptom of disrupted supply chains through the United States and beyond, which is creating shortages of all kinds. Used car

prices are at an all-time high. There is a shortage of workers to unload the ships. There's a shortage of truckers to drive the trucks. There's a shortage of service workers to work in restaurants. There's a change going on, one that is signaling new behavior. Some are calling this "the great resignation." People are quitting their jobs at a high rate. They no longer seem to want to work endless hours for low wages in jobs they don't love. All of this is leading people to begin to generate a new kind of substance, a new kind of understanding that opens them to new possibilities. They are starting to rethink what they are doing, where they live, what matters to them. Work is unlikely to ever again look the way it once did.

One thing we know about the regenerative magic of life is that it consistently defies human expectations. We know that what looks intractable and impossible to shift can in fact be transformed, and quite quickly. The problem is not that we need new policies or new technologies. What's required is a shift of consciousness. It can be very challenging for people who are grappling with intense COP negotiations, seeking to farm in a new way, or to lead businesses in a new way, to function differently. Their effectiveness requires changes inside themselves. This could sound very self-centered or solipsistic. It is *Self*-centered, but with a capital S, a Self-centered in truth. This is the only kind of leadership that will ever make any difference.

The changes that are needed are not small. They require regeneration in how we think about time, of how we think about space, and how we think about energy, and ultimately how we think about and understand identity. Nothing less than that can handle what is coming. Winter is coming, but so is spring—one after the other if we will let it. There is the stature present in human beings now to participate in the wider magic of Life.

Realizing it or not, we have been part of a rebellion, ongoing on the planet for centuries, a rebellion against being aligned with the principles of truth. The consequences of this are being felt not in some future moment, but now. It is time to be more forceful about the shifts that are needed and the gifts that will come as we assume our natural birthright. Those who have ears to hear will move with this and are moving with it. Some people, particularly those who are in positions of visible leadership, find it hard to acknowledge openly what they know. But they may also know they are part of an inevitable ascending cycle, one they can't get off. They know they have leadership responsibility in this great transition. They might not say they are representing God to the people and the people to God, but that's in fact what they're doing. They are learning to represent the stature of Being to human consciousness (their own, first) and to bring an open-hearted stance of humility towards what is larger than they are, towards Life. They are finding the courage to acknowledge that there is in fact a way through it all as they align with life and bring

that energy into their circumstances. As we do that ourselves, we back them and accelerate this collective movement.