Information and Belief



By Charles Davi

$Table\ of\ contents$

- "The office", page 3.
- "The open house", page 5.
- "Another transponder", page 7.
- "Estampes", page 9.
- "Michael Bolton", page 11.
- Musical references, page 13.
- "Pandora", page 14. †

The office

Today I'm working on thermodynamics -

Specifically, the first question I considered at the intersection of information theory and physics, about six years ago:

How much information do you need to describe a thing?

One conclusion that I reached, about six years ago, is that light must be the simplest substance were aware of, in terms of how much information it takes to describe its behavior -

Just point a lit flashlight at a wall.

How would you describe what the light did to get there?

You'd merely have to point in the direction that it traveled, since the speed of light is constant.

So if you want to describe what light does, all you have to know is the direction that it's going, and then you know everything you need to know to about its motion.

Now compare that to throwing a plate of spaghetti at a wall -

If you want to account for the movement of the noodles, you'll need a lot of detail, since they'll all do different things, possibly moving at different speeds, in different directions, at different times.

There is of course more to my work than just a flashlight and some noodles, with the commercial goal to describe complex systems using simple code -

If you can do that, then you can predict how a system will behave on a cheap computer, which has applications that range from farming, to defense.

And I've done exactly this, today, so now I'm headed home.

I pack up for the day -

I open up a new pack of printer paper, that I use to keep my notes, writing down an outline of my work.

Once I'm done, I wipe the dry-erase board clear, using the eraser, doubling back with a wet cloth.

Then I punch three-ring binder holes in my notes, add them to a binder that's been accumulating, for about a month, I'll eventually have picked up, scanned, and placed into storage, and uploaded to a system I can search, later on, if I need to.

I'm working for a private U.S. aeronautics firm, getting paid to do this type of research in A.I., having left my old job about a year ago.

Ida simply switched her office, working out of Copenhagen, which was fine with her, since she has a lot of friends in the city, and in Malmö.

I told her I'd be making more than I was before, with a year's worth of severance, if the new job doesn't work out, so she was fine overall with the move.

What I didn't mention is that I sold some rights in my core algorithms, which allow almost every problem in machine learning to be solved quickly on extremely cheap computers -

They can turn a \$150 tablet, into a supercharged 10-year old, that can read, and recognize objects, but also track the path of about a dozen rockets, and predict 10,000 steps in the future, in an instant.

I hid this not to lie to her, or protect my wealth, since it's probably not protected by local law, in any case -

I did it so we keep things steady, so the move would be simpler, and this news would soon surprise her on the upside.

I told her the truth about the matter she was most concerned with, which is my salary, leaving the additional good news for another day. \dagger

The open house

Walking around Copenhagen, we often visit open houses, with old brownstones being our favorite.

We came upon an old brownstone on a quiet block, with a bright blue door, draped in vines, potted flowers hanging outside the windows, and a pale brick exterior.

We saw the sign for an open house, and decided to have a look inside.

There were a bunch of people floating around, with the broker near the door, standing near a tiny fold-up desk, with a bunch of business cards on top -

She was polite, but assertive, shaking both our hands, Ida's hand first, handing each of us a business card.

The house is very old, with wide-planked, weathered, hardwood floors, an old wooden staircase, terminating at an exposed landing, with a wrap-around, wooden banister.

The house was completely empty, and so the tenants must have moved already, which suggests they're either too rich to care about the cost of the house, or getting desperate for a closing.

In either case, they're clearly done with the place, suggesting that it can be taken.

Ida seems immediately taken as well, walking up the stairs, on her own, I can see her fingers brush the old, rough railing on the banister, as she stares up toward the landing, eventually disappearing, into one of the rooms at the top of the stairs.

I stay put, staring out, through the railroad layout of the first floor, out into the kitchen, then through the kitchen window, getting faint glimpses of the backyard, just beyond -

I can see the daylight, broken up by a moving tree, lightly swaying in the wind, casting moving light along the floors, walls, and ceilings of the house.

Ida comes back out, peeking in the bathroom at the top right of the landing, seeing me below, with a look I've never seen before -

A calm more than happy, serene in her slower motions, her hand again hovers down the railing, fingers lightly touching on its rough grain, beyond the light let in by the kitchen window, someone new opens up the front door, and Ida gets lit up, breaking through her newfound stoicism, leaving just a simple grin, looking at me with a subtle love, leaving me now sharing in her grace.

. . .

The next day I email the broker:

"Hi Anna -

I'm interested in the house, what are next steps?"

To which she replies, a few hours later -

"Hello Charles,

I'd like to set up a phone interview, to be sure it all makes sense, as we have an offer, near the asking price.

What day works best for you?"

To which I immediately reply,

"I'll pay .03% over asking, cash."

To which she quickly replies -

"Hi Charles,

That's great, but we'll need to run a background check first, and so I think we'll still need to do a call, before we move ahead."

And I fire back, copying my banker -

"Anna -

Please meet Espen, he can get you any info that you need.

Espen -

Please see below, and coordinate with Anna.

I'd like to get this closed as soon as possible, so please keep me posted on any issues that pop up.

Thanks,

Charles"

We close on the house, six weeks later. †

$Another\ transponder$

Driving over the Øresundsbron Bridge into Malmö, I play, "Hurricane", by Mat Zo.

"This is a bit aggressive." she says, to which I reply,

"Give it a minute."

A large group of seagulls fly along the car, just beyond the bridge, with enormous clouds lining both sides of the horizon, beginning where the horizon meets the sea below, and up hundreds of feet into the air, though the sky above is perfectly clear -

I take a sip from my water bottle, and she gestures, asking to have a bit as well, so I pass it over to her.

I quickly look out my window, to see an airplane at cruising altitude, making its way above the giant wall of clouds, painting a clean horizontal line parallel to the horizon below, with a second plane at what seems to be another few hundred feet above the first, heading in the opposite direction, in roughly our direction of motion, and Ida asks,

"Why do you always look at airplanes?", to which I reply,

"I don't know how it got started, but one time I actually found legitimate mechanical insight from it, so now it's become a habit."

"You're a proper freak.", she says, with a somewhat awkward pause afterwards.

The song takes off about a minute later, and I can see she really likes it, as she squeezes my leg, saying,

"I'm sorry that I tease you for your strange behaviors -

I see they work for you, and so I don't mind."

"Thank you, your majesty.", I reply, looking forward.

So she pinches my leg.

Now about four minutes into the song, we approach its climax, the kick repeating, leaving, alerting us to something new to come -

Synth pads bouncing, vocals panning, the bass line slowly rising, into higher registers, the bridge itself, rising from the road below, into a suspension structure, for the second time, with beams repeating, rapidly, as we barrel on, echoing

the sky on either side, I see her looking up to trace their path, then descending, like a landing, as I see her joy, in the animated structure of the world around us -

Our decisions, however meager, contribute to a moving portrait, that we share, together, as coauthors and spectators of an uncertain future, and a certain now.

She looks out the window as we leave the beams behind us, looking outward, singing to herself, this time content with my participation in her song.

She looks down at the windshield, seeing the small American flag stuck upon the glass, smiling at me, in my cliché, understanding my love for New York, and America as well - $\,$

That I could come from nowhere else, at least on this Earth. \dagger

Estampes

On the drive back, I tell her that I have a few surprises -

She's a bit tired, leaning on my shoulder, and asks,

"Will they require much effort on my part?", and she quickly adds,

"Please tell me they don't involve that awful boat.", to which I reply,

"There are no boats at all involved, just a bit of walking, but not that far from our apartment.", to which she says,

"Fair enough, I'll oblige.", as she again rests her head on my shoulder.

. . .

I park the car in our usual spot, down the block from our apartment, and as she gets out, she says,

"So which way are we going?"

And I point, as the both of us head onward, now hand in hand, with Ida visibly a bit tired, episodically resting her head again against my body.

We get up to the house, and she says,

"I knew you did this -

I cannot believe you, Charles."

I take out the key, and open up the front door, having already set the dimmer the night before, together with a blanket, tealight candles, a bottle of cannonau, to remind us of Sardegna, with two, tall, wide glasses set on top.

There's another light, at the top of the landing, just above a painting that she didn't see at the openhouse, so she leans her head in, walking closer to the painting, getting closer to the base of the staircase, and upon recognizing Odilon Redon's, "Pandora", she exclaims,

"Now, I didn't think you did that -

You're a maniac, that must have cost a fortune."

"Yes.", I reply.

...

She starts to take off her shirt, as the warm chords of, "Estampes", by

Debussy begin to play, and so I do the same, laying my shirt on the blanket, just before me, under the old chandelier, with those thin, faux-candlestick lights, the crystals hanging under, partially illuminated, in the dim light that I've set it to, as I move over to lay my back atop my shirt, she moves to climb on top of me.

I can see the Redon at the top of the stairs, as we kiss, seeing Ida, somehow the subject of a painting, from a century ago, made by a man, I only somewhat jokingly think at times, is himself made to look a bit like Odin -

Having stolen Ida, just for me, from Heaven itself, paying with his life for his generosity.

She opens her eyes, knowing that I never close mine, and sees me staring up, knowing more or less now what I see, she slips down to lay atop my chest, the back of my head now against the floor, looking up into the chandelier above -

Motionless, just like us, glowing of a different sort, till the song is over, both of us knowing, we're to get up at the end, put our clothes back on, turn the lights off, and walk home, together, because it's finally just the two of us. †

Michael Bolton

Ida's in our kitchen eating breakfast, while using a shared computer, that's logged into my iTunes account, looking for something to listen to -

She notices that I've played the same Mø song, 56 times in the last month, and so she gives it a listen, with a bit of suspicion.

She hears the opening word:

"Baby".

Thinking, albeit briefly, perhaps I'm using the song, as some kind of sexual device, repetitiously, but she dismisses this, with confidence, as not only unlikely, but also uninteresting.

But then upon hearing the closing phrase of the opening line, "You hold me in your arms, like your red guitar", knowing I had a red guitar in college, she grows legitimately paranoid, looking up Mø online, as she eats an open-faced sandwich, on hearty, Danish bread, with cheese and sliced cucumbers, sipping her coffee -

Staring at images of Mø, scrolling, only to realize that Mø looks a lot like her, who looks a bit me as well, adding to her jealousy, which consciously, she knows makes no sense at all, but she nonetheless can't help but wonder, whether there's something there, since if it were true, I would likely never tell her, and so she broods on the idea, of the secret relationship, with the Danish celebrity, while she eats her breakfast, in the kitchen, ultimately deciding that simply asking me about it is the best, and most mature solution to the problem.

Continuing to listen, to strengthen her case, she he hears the line, "I want both of those hands on me", and gets legitimately jealous.

Then, "I don't have to sleep." -

And now she can't help herself, almost angry, at the thought of sleepless, relentless sex, between myself and $M\emptyset$.

She survives to the end of the first chorus, which again closes with the word, "baby", seeming to add insult to injury, now convinced that it's at least not impossible that the song is in fact about an affair between me, and a Danish celebrity, Mø, and that I've orchestrated this confession, perhaps even writing the song with Mø, given the seemingly unending use of the word, "baby", that Mø is, "losing her mind", briefly even identifying with Mø, and of course, the "red guitar", and Mø's appearance, which is very similar to Ida's, and bizarrely, somewhat similar to mine, noting my narcissism as an additional factor, contributing to the plausibility of this seemingly implausible theory.

She realizes, that suddenly, she's now forced to evaluate incredibly unlikely things, as at least possible, and she struggles with their probabilities -

What was previously totally disregarded, must now at least be considered, leading her in this case to experience jealousy in proportion to the actual occurrence of an event, despite knowing its probability is minuscule, even given these compelling factors.

So she walks into the living room, as I'm sitting on a couch, reading the Financial Times, and she asks -

"Do you know Mø, personally?"

I pause, put the paper down, and look up at her, for a moment, sizing up the situation, and once I realize what she's getting at, I start laughing -

"Did you sleep with Michael Bolton?", I ask.

She starts laughing, "I hate you, you watch, I'm going to find out", to which I say,

"Is that a yes on the Bolton thing?"

She walks back toward the kitchen, turns around to give me the finger, while still walking away, smiling, and once back in the kitchen, puts the song on, again, this time, extremely loud, now singing along -

"Oh, oh oh, baby -

You hold me in your arms like your **red guitar**.", with great emphasis on the words, "baby", and "red guitar", dancing in the kitchen, as if she's holding a microphone, singing into a sponge.

"Wow, you're a loser." †

$Musical\ references$

Note that song titles are hyperlinks $\,$

- 1. Mat Zo, "Hurricane" (2013).
- 2. Claude Debussy, "Estampes" (1903).
- 3. Karen Marie Ørsted "Mø" Andersen, "Beautiful Wreck" (2018).

${\it Pandora}^1$

When you fall,

Out of sight,

I slip back in my mind.

And I see a long game to play -

The cruelest of loves,

That's been found and then displaced.

Though it's not a way to spend your days -

Tracing out memories of a broken vase.

No it's not a way to spend your days,

But it's a longwinded way of saying that,

That I love you.

That I love you.

That I love you.

That I love you.

When you fall,

Out of line,

Just slip back in your mind,

And you'll hear a song, singing plain -

Proof that love has found a home in this place.

Though it's not a way to spend your days -

 $^{^{1}}$ The song, "Pandora", set to this poem, also written by me, is available here.

Rebuilding memories of a broken vase.

No, it's not a way to spend your days,

But if you want it,

Here's my way of saying that,

That I love you.

That I love you.

That I love you.

That I love you.†

For, "Anna", in Denmark.