

Art or science? Welcome to the dark side



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## Lights

Aurelio is stuck looking at the back of his car. Seems there is a note for him in Hebrew, written by finger on the dusty window. There is only one person that speaks it in his inner circle, his best friend Chloe, who he hasn't seen for a while. Why would she ever leave him a message like that, and not on his phone? He quickly looks it up on Google translate. "*The sadness will last forever.*" "I know my car is dirty, no need to rub it in my face!" he texted her. She is not online.

Chloe is what someone would describe as a very normal person. Not boring at all, but nothing atypical whatsoever either. She graduated from the London School of Economics and works for an investment fund, one of the bigger ones in the city. Many people think that she is an accomplice in money laundering, as many of the funds there do have the occasional connection to a Ukrainian mafia boss or a Qatari prince, but she scorns them by stating it's part of her job.

Flashbacks from two weeks ago come to Aurelio's mind of when he was having a final nightcap in his hotel room with Chloe after an event at an art gallery in London. What a crazy experience it was. "I am an artist and a millionaire. How surreal! It feels like a fraud..." His racing mind comes back to Chloe and her large smile. She decided after all to take the plunge and go to a sperm bank. "Why are all the men Scandinavian? Is it a trend there? Good genes, I suppose," she laughed, adding "all women secretly want a tall blonde guy with blue eyes as the father of their children. It's in the psychology textbooks!". Her eyes sparkled as she announced that she was pregnant. "Well after all, you didn't want to donate, so now I have to settle with some Dane," she teased him. They both drank to that awkwardness and laughed it off.

Aurelio is trying to reach her by phone, but to no avail. Calling her mother is a dead end; clinical depression cannot be reasoned with, she hardly speaks and is utterly detached. Aurelio decides to drop in at her apartment to check out what's going on. Gets on his bike and in five minutes he is there. A chill goes down his spine as he looks at her window and notices the lights are off. Now, that would be perfectly understandable for any other person in the world but Chloe. She has a fear of the dark and leaves the lights on no matter what so she doesn't return to a dark apartment. Aurelio has tried time and again to convince her that she is wasting energy and harming the environment, but phobias, much like dementia, cannot be rationalized. Her buzzer remains unanswered.

“Nah, I’m just being paranoid,” he thought. “I’m exhausted from worrying about everyone and everything. I’ll just go to sleep and pretend it’s a normal night. Need to be ready for tomorrow.”

## **Breakthrough**

The University of Amsterdam is super-busy today, there is an overflow of bicycles everywhere. Even Patrick Roeter, the leading Dutch AI researcher, arrived on his humble retro men’s bike to attend the defense of Aurelio’s PhD thesis on “Training AI Systems on Clinical Psychology Data.”

Aurelio is nervous. His heart is racing and he has broken a sweat. “Time to try that pill I read about on Reddit, Propranolol”. This drug makes anxiety go away and is the go-to for many musicians and public speakers. Twenty minutes in, Aurelio starts to feel the effect and regains his confidence. His hands are no longer trembling. “Fuck it, why worry in the first place? I’m a fucking millionaire, so who cares?” Stares at the crowd and starts his

presentation without any hesitation. Propranolol works wonders - he is quite comfortable and even plays with the audience, cracking jokes about terminator AIs and mocking famous scientists for their fears of the impending apocalypse. Patrick the famous researcher is not impressed. He doesn't think one should be cocky about things one doesn't currently understand. He is older and wiser. He has been there. Nevertheless, the thesis is an extraordinary one. Aurelio trained his AI system using a database of psychology textbooks and meta-analysis of studies about depression and suicide. He managed to get the most prestigious hospitals to participate in the study and after a long battle over patient privacy data, he convinced the state that it's all for the good of science and humanity. On top of the meta-analysis, he matched written and verbal archives as well as other material such as drawings by or tests of patients that later became suicidal. The AI system can now recognize suicidal patients through their vocabulary and drawings with a high degree of accuracy. This is going to be a breakthrough thesis and once published in the highest esteemed medical journal it will generate shockwaves. If indeed the results are validated and the diagnosis of suicidal tendencies can be made through software, a Pandora's box will open. The software could analyze all the things said on internet forums, every public TV politician interview and even everything written on everyday chat software. Perhaps the smartphone itself may warn your doctor that you are writing in a specific way. It may potentially become apparent that you are talking to a mentally unstable individual, in which case an alert on the dating site gets triggered. It all sounds good but ominous at the same time. Aurelio is having none of it. As any self-respecting scientist, he doesn't judge the science. That's best left for politicians and philosophers.

## Mary Poppins

During the last few years, London has become a major art hub. It always was, but since Brexit and the turning of the eternal Chinese president into a modern dictator there has been an outflow of capital and wealthy men. Much like the exodus from Russia in the past, they have all fled to London. The City doesn't ask many questions about the origin of their billions. Without EU financial controls, all money is welcome. Art has a bad reputation. They call it "the beautiful washing machine." Bob buys a painting for an X amount of pounds, Alice buys the painting from Bob for ten times the X amount of pounds and Bob suddenly has nine times the X amount of pounds, legitimized; this is propelled by the affinity for luxury in all ex-communist states.

Mary Cunningham is one of the smartest of the lot. She caught on the wave early enough and after several stints at famous art auction houses, opened her own gallery, the infamous "Mary Poppins"; a wordplay on her name, the oh-so-British movie and the "pop" of art. A night's visit to the gallery costs upwards of 1k pounds, to filter out the plebs. Why waste time with people that can't afford it? Mary is famous for being bold and not afraid to host new artists, including the unstable ones. She recently brought on a mystery artist, the concept of which is totally new.

Lauretta is a representative of said artist. She attends all the galas and talks about the paintings, but she is not the one that created them. She is the frontwoman of the artist whose name is Iri. A modern Banksy, but with a face. Just not his. Lauretta is in her thirties, bright, blue-eyed and with very tanned skin. Her face looks exactly like what you could expect from someone that has traveled around the world and met people from all walks of life. A stylish hippie - she hates the word hipster. Her wrinkles can attest to all the above. A jack of all

trades, she has imported art from Asia, has flipped paintings for profit avoiding taxes overseas as well as having helped wealthy friends find apartments to invest in. The parties she organized for them - all perks included- became legendary for their infamy. The perfect woman for the job. She and Aurelio met during her short but mandatory stretch in Amsterdam, expected of any self-respecting modern day adventurer. Their fling didn't last long, as they were both too independent for a relationship, but their business arrangement appears to be working well. When Aurelio told her about his project after a party and under the influence, it was by accident. But Laretta was not remiss and came back with a proper business proposal: she would be the frontwoman, she would get all the flamboyant aristocracy of London on board and introduce the concept to Mary, her mentor.

Within the last year, eight of Iri's paintings have been sold for an average of 400,000 each. It's not only the mystery that excites collectors, but also the totally innovative method of painting. Actually it in itself is not new at all, but the concept totally is. Iri utilizes a mix of almost all the prior art trends together in an amazing and coherent flow that is out of this world. Impressionism mixed with cubism. Some kitsch elements that blend in the many layers of the painting. It would be like morphing the face of Marlon Brando with the face of Monica Belucci, without the ridiculous outcome. Instead, the result is similar to Mona Lisa with its cryptic and many facets. Art aficionados are raving about them and speculate that this is the beginning of a new art wave. Others say it's impossible because the style is so difficult to master without producing something that looks so absurd that no established artist will follow it. Basically, it's a huge gamble.

The first painting was sold for a mere 5,000. The second for 50,000. Iri's last masterpiece was sold for a good 2M. Nobody knows how many works of art have been produced. Could this be an already established artist that wishes to keep himself anonymous?

What happens to the price of the paintings once the truth emerges, if ever? Maybe post-mortem? One thing is certain: while investors in the financial world hate uncertainty, the small art-loving circle of eccentric billionaires cannot get enough of it. Bansky invented it, Iri mastered it.

“Do you recognize any influences in this one?” Chloe asked Aurelio, sipping some champagne. “Sure thing, I recognize almost all prior art in it! There’s novelty in copying and mixing. This artist is a master cheater,” said Aurelio laughingly. Chloe is completely in the dark. He had convinced her to visit the gallery because he had free tickets, Chloe being an art fan, unlike him. It was actually surprising that he proposed this outing, and Chloe was wishfully thinking that there was something more to it, but in vain. Since they met 6 years ago during a wild Amsterdam expat party, Chloe has secretly been in love with Aurelio, even though she knows that he is not that into her. Their friendship is a 90/10 mix of real friendship and flirting, with its ups and downs when one of the two is dating “seriously.”

“Hey guys, how d’you like the art here?” Laretta smiled to the guests. On purpose, Chloe goes to get another drink to leave Aurelio alone with Laretta, just trying to be a good wing-man despite the fact that she is dying a bit inside. Laretta is as stunning as it gets.

“What the fuck’re you doing here?” she asks him with a fake smile in an attempt to hide her emotions.

“Thought I’d check out my masterpieces...”

“Yeah, but you’re making me super nervous, we agreed on keeping a low profile. Anyway, are you following the news? So weird, remember the painting we sold a month ago to this lady from Hong Kong, the wife of that billionaire that owns medical labs? Well, the news said that she committed suicide. Isn’t that weird? She seemed quite happy and was decorating an art room in a new penthouse they bought.”

“No, I didn’t hear about that. Why’re you telling me? I don’t care about the buyers. They’re just unknown clients to me.” Aurelio seemed annoyed.

Chloe came back to interrupt what seemed to be a flirt gone wrong from the outside by reading into the body language. If only she knew.

### **The Master Plan**

Aurelio has been secretly working on a parallel project out of his basement. The AI thesis was just a cover-up. A decoy. He was secretly training the AI for a different purpose. “Yes, I do want to help humanity, but after I get filthy rich,” he mused. Aurelio has always been obsessed with AI since he was a kid, since he read such masterpieces as ‘Do Androids Dream of Electric Sheep,’ and reading everything about his role model, Von Neumann. A typical geek weirdo to others, but highly respected in his academic field. The idea of creating an AI that can understand and express emotions was always in Aurelio’s mind. “You need to aim for the stars,” he reminded himself. In principle, such an AI would help the field of psychology tremendously by analyzing people with mental disorders. And that’s what he presented some days ago.

Iri is not really capable of feeling in the human sense. For years and years there has been speculation about creating a General Artificial Intelligence machine or software (a robotic look is only related to our own feelings, no significance whatsoever) but that is still a long time away from our capabilities. Specific AI algorithms such as Iri are state of the art and can understand emotions from text, analyze and express them. They can write a sad piece of text that resembles what was written by someone intending to commit suicide, or they can happily sex-chat with a wife while her husband is at work. Iri can do much more than this

though. Aurelio was looking for a way to monetize his algorithm, and everyone knows that if you present your thesis and make your algorithm public domain, there is no money to be made unless you are hired by a prestigious company. Now art - art is a perfect match. Art is the ultimate expression of emotions, and the only way that emotions are rewarded in societal systems. If you make an emotion visible, reproducible, transportable, and capture your soul as it was at that very moment, that holds a lot of value. Most of the times its worth is negligible simply because what the artist is feeling is felt by billions, but only a very few can actually give feelings shape. Iri cannot talk and is unable to pass the famous Turing test, in which a human needs to be fooled by an AI into believing that he or she is talking to another human being. That's not the purpose and that would net zero money for Aurelio. Instead, Iri is capable of drawing. Actually drawing as in moving a robotic arm fitted with actual brushes and colors on canvas. But where does it get the inspiration from? As Aurelio was training the system for his thesis with mentally ill patients, he also trained the system on the works of previous great - and not so great - painters. He gave the training data all the details he could find, including any diagnosed diseases of painters, time of death, marital status, for instance. The system is very complex and assigns weighted values to emotions and patterns in the paintings. In plain English, the final painting before a suicide is more emotionally loaded than a painting created in the middle of the painter's career when he is creating art at times just to monetize his fame. There is a surprising amount of suicides and mental disease among painters. Correlation or causation? Who knows. One thing is for sure: this algorithm generates magnificent pieces of art in a very novel way. Much like starting an art revolution based on blending and mixing. The good thing about painting and painters is that they are so complex and without rules that it's not immediately, not even remotely, possible to verify if a piece of art is made by a human or a machine. There is no Turing test for art. Music, on the

other hand, is much more uniform. Even heavy metal tracks share many common features with techno tracks. They both start off mild, peak around the middle, possibly peak again, provide a closing, have a tempo and generally follow the rules of their genre. There are no such barriers in painting. Anything goes. Art is anything that is provocative and weird enough.

### **Downhill**

After his presentation ended and while partaking in some celebratory drinks - even Roeter got a bit tipsy and talkative! - Aurelio felt like having a wild night with his favorite partygoer at one of the famous underground clubs in Amsterdam. He texts Chloe. "Hey, I thought you were coming to my thesis presentation. Fuck, it's over, can't believe it! Let's go party before you turn into a boring mommy!" A few minutes later, the message was still undelivered. Aurelio is really starting to worry now and calls her again. Phone is shut down. In a weird twist of his mind he gets on google translate, keys in the Israeli phrase and tries to google it in English. Now a cold sweat is running down his spine. "Vincent van Gogh's suicide note - the sadness will last forever."

Aurelio jumps in a taxi and calls the police. "Hello, East Amsterdam police station."

"Please come, I think my friend's committed suicide!"

"Sir, please give us your information and why you think your friend has committed suicide. We receive phone calls like this many times a day and we cannot send officers without any evidence that something has happened."

Aurelio is struck by the pointlessness of this conversation and quickly hangs up. He rings all the buzzers in the building and some old lady buzzes him in after asking him what he

wants and hearing the name Chloe. He frantically runs up the stairs and rings the bell to her apartment. No reply. He makes the big decision to do something he has seen a number of times in the movies, namely to kick down the door. How difficult can it be? Old Amsterdam doors with their useless locks. After two failed attempts, the neighbors are out and calling the police. One neighbor recognizes him, they had met at Chloe's birthday party last year. "What're you doing, man? What's going on!?" Aurelio fixes him with a piercing look conveying the gravity of the situation. The message was received without much verbal communication and now they are both trying to break down the door. The neighbor finds something large to smash the lock with and Aurelio lashes into the apartment.

"Chloe! Oh no... I love you ...". The neighbors are rendered dumbfounded, listening to Aurelio screaming in despair over Chloe's lifeless body. Now Aurelio feels it too. The sadness will last forever. The two now have something in common. Such a cliché. You need to lose something to understand how important it was.

### **The Dark Side of the Moon**

It has been a long night at the police station. Still in shock, Aurelio is talking to a therapist that explains to him that he will probably have some symptoms of post traumatic stress disorder and he should seek help if he feels distressed in the short future. She also informs him of a novel technique developed in the Netherlands that involves - what a coincidence - taking the drug Propranolol while under medical supervision to consolidate the painful memories into "a warmer spot in your mind," as she cheerfully explains. Aurelio looks at her curiously. She looks like she dropped some MDMA on a Friday night while on duty and was called in for the emergency. Either that or she is just one of those disgustingly

cheerful people, even at the sight of death. Of course, he can't sleep. He needs some answers. Something is off. The lights were on when he entered the apartment. Was that so, or was it his mind playing tricks on him? He was briefed that the approximate time of death was Thursday evening. That's when he went to her apartment and the lights were off. Had she been there and turned on the lights before she committed suicide, or... or... "OK, stop. This is insane. I'm not going to play a crime thriller inside my head. I will stop these thoughts right now. Stop. Stop. I stop these thoughts right now. Stop." Aurelio has suffered bouts of OCD since he was a child, but they usually only manifest themselves in times of severe stress. His encrypted messenger beeps. It's Lairetta.

"Hey, just FYI another buyer, this time a Swiss man that was a retired banker, committed suicide. He also bought our most expensive painting a few weeks ago. I AM FREAKING OUT. Call me."

Aurelio is confused. A thought repeatedly pierces his mind but he is trying to shut it out. He can't. He runs down to his basement and starts fiddling with Iri's algorithm and its analysis results. The problem with AI is that not even the people that create them understand exactly how they work. They can make educated guesses, but that's all. Aurelio used the same algorithm that was trained in the mental disorder patients and blended it with the painters to give emotions more weight in the paintings. Of course, these were negatively weighted emotions but that didn't stop any of the greatest artists creating masterpieces. Madness and creativity have enjoyed a strong bond since antiquity. After staying up all night, his eyes red and watery and his mind numb but sharp and focused at the same time, he has a bizarre feeling he has never experienced before. He runs some tests and something unexpected happens: Aurelio discovers a model created by Iri. The algorithm found patterns that were repeated in paintings before suicides and since they bear the maximum emotional

weight, it used them to create its own paintings, which have a tremendously higher negative emotion weight by design.

“So what? Nobody ever committed suicide because they saw a painting by Van Gogh, that’s crazy!” Nonetheless, reality is cruel. At least two buyers and his beloved Chloe all committed suicide in a span of the last few weeks. Aurelio realizes that he needs to get to the bottom of this and books a flight to London for the next day.

### **The London Underground**

It’s one of those very rare sunny days in London when everybody is lying on the grass, reading a book and looking happy. That context is very annoying to Aurelio who is still in shock, much like when people mourning don’t want to watch happy movies. For some reason that he subconsciously understands but wants to hide from himself, he messages Laretta to meet him at a neutral place that night. He doesn’t want to feel very connected and meet at her place, but rather prefers to treat it like a business problem that demands a solution. Instead, they will meet at a quiet bar used by illicit couples needing complete privacy. Nobody pays attention there, smartphones aren’t allowed and waiters are sworn to secrecy. The place looks like a 60s cabaret with red as the prevailing color and separate semi-private chambers.

Aurelio is there earlier. In an effort to calm himself down, he orders a double scotch. Laretta enters the bar and spots him from a distance. Neither of them looks like they are on a date. They are a mess. Laretta is sleepless, in trainers and without makeup, resembling nothing of the glamorous woman at the art gallery. She sits down as they silently observe each other for a good few seconds.

“So tell me. It’s as simple as that. Just tell me what the hell is going on! Is this some sick game you’re playing? I’m warning you, I’ll go to the police!”

“Shhh, let’s calm down and pretend we’re in a situation room. I’ll tell you what I know.” Aurelio describes his creation to her in great technical detail. Laretta is shocked.

“What? I thought you’re the artist and you didn’t want to mess with your academic career. An algorithm was the painter?! OK I don’t care. You’re confusing me. So what if an algorithm is the painter? People are dead!”

“Laretta shut up! Chloe’s dead too. The girl you met at the gallery!” His eyes are welling up. “So please don’t push me!” Now Laretta is the one worrying that everyone is listening in on them. “OK, so now the gist of it all. I have no clue! Laretta, you need to believe me, I have no clue what’s going on. I can only speculate that because the algorithm overloaded the paintings with emotion, something that no artist ever has done on such a scale before, it makes the people looking at them so sad that they commit suicide. I mean clearly not everyone, since we didn’t. It must work on some predisposed individuals. Chloe’s mother has been clinically depressed for decades, who knows what burdens the other buyers carried. I can’t know for sure. I’m sorry, I know you want more answers. We need to destroy the rest of the paintings at Mary’s. Find an excuse. Tell her the artist wants to add something to them and needs the paintings back. Whatever.”

“No, that’s not enough. We need to take back all the remaining paintings from the buyers, their lives are in danger. I hope you realize that, right? Please, go along with what I’ve just said. We need to get the paintings back!” Aurelio shoots her a cold look and nods.

“Alright, let’s plan this tomorrow, we’re in no shape to think clearly today.”

Aurelio likes to walk a lot. It clears his mind, and the streets of London are perfect for this. Anonymous and dark. This time he opts to go back to his hotel through Hyde Park. Slowly but steadily enough, it creeps up on him. This thought has been stuck with him since booking his tickets, but he is trying to push it away. He knows it's there, lodged deep within his mind. His legs feel weak and shaky and his hands and lips are becoming numb, an escalating full blown panic attack. He sits down on a bench for a bit but he is feeling too hyper, he needs to keep walking. According to his watch, which issues a warning alert, his heart is beating at 158. He knows what needs to be done, there is no other way. None of the other options are going to work. Being a rational programmer, he goes through them one by one.

Option A. Laretta approaches all the buyers and explains to them that they need to sell back the paintings at the same buying price. That is NOT going to work because he doesn't have the total sum. One of the problems with getting paid in untraceable digital currencies is that their value fluctuates immensely, and Aurelio currently only has a fraction of the money he originally received from selling the paintings.

Option B. Laretta tells the buyers the truth. They panic, destroy the paintings, seek therapy and ask Aurelio for compensation, on top of the money owed, resulting in legal battles and the destruction of his career. Meaning that then he is finished. On top of that, someone else could replicate the idea and create a malicious AI that will intentionally show disturbing images and kill innocent people, like a manufactured bio-terrorism virus.

Option C. Laretta is silenced. She is the only connection to Aurelio.

Aurelio starts shaking even more while realizing the unthinkable. He is actually thinking about murdering another human being. Not in a time of war, not in defense and

certainly not because he's a terrible person. His self-preservation instinct kicks in. A comforting thought goes like this:

“I'll indeed save many lives with my AI that will help psychologists, and I'll spend the money helping children in Africa. I'll take one life because it's necessary and save many more. All lives carry the same importance, so I will be a net gain for humanity. Stone cold rationalism. Yes.”

He heads back to his hotel room and meticulously starts planning in a calculating way. He connects through a VPN and Tor, the tools of the trade to get onto the Darknet. Aurelio was not using the Darknet for reasons that people would suspect. Darknets are most commonly used to buy and sell weapons and drugs, and to order hits. But Aurelio was using the Darknet to get access to illegal AI breakthroughs being developed in countries where AI ethics laws are not applicable. You see, the rally of many intellectuals around the world to prevent malicious AI harming humans paid off, and most developed countries adopted them eventually. But there are always countries in which laws don't apply. What's more, unlike nuclear weapons and bioterrorism, AI doesn't need exotic materials or facilities in order for it to be developed. A few computers and experts in a basement suffice to create something extremely dangerous for humanity. Aurelio was well aware that he was playing with fire, but he needed some extra capabilities in his algorithm to make it better, the kind of capabilities that are illegal. This time however, he wants to use the Darknet for something much darker. Obviously a nerd like him cannot even kill a chicken, let alone another human being, let alone an ex-lover-turned-business partner. Finding a hired killer on the Darknet is very straightforward, but it does entail a certain risk in that you are actually talking to and trying to hire a police officer, as many states have infiltrated the Darknet. But that's a remote possibility and Aurelio is sure he has to take it on.

“Give me all the details of the person in question,” writes Drek, a user with good reviews for “sealing the deal,” as murderers call it in Darknet slang.

After shutting down his laptop, Aurelio knows full well that he will not ever be the same again.

### **Altered State of Consciousness**

Aurelio is eating at Chloe’s favorite restaurant, an upscale Indonesian place in the heart of Amsterdam. He has just returned from London. He is sitting there alone with Chloe’s favorite dish and a very expensive wine. That’s the true Turing test, the suicide. A true AI capable of being equal to humans emotionally must have a certain rate of failure and suicide, otherwise there is no plurality of emotions.

“Iri’s deleted, Chloe’s dead, Laretta’s dead, I *am* dead.” he thought. A sick feeling in his stomach drives him to the toilet where he starts to cry. A concerned waiter knocks on the door, but Aurelio tells him that everything is fine. After a while he leaves the toilet, drops a hundred euro bill on the table and quickly exits the restaurant. It’s raining as always, but this time the rain is cleansing.

Aurelio committed suicide that night after staring at a painting in his basement. His breakthrough algorithm continues to be used to this day, saving thousands of lives by preemptively scanning for suicidal tendencies in the general population.

END