



**“You see, thing is, we might not have much more time together. Thursday next, we’ll vote. All of us. Well, all who can be bothered. Everyone on earth alive now, on what the leaders of the ‘yes’ proposition call the ‘great emancipation from the past.’”**

BURKHARD SCHAFER

# Digital Pharaohs

A Play in n+1 Acts Unless Machine Halts

**ZombAI apocalypse or digital immortality? Will AI break the intergenerational contract? In a post global-warming world, a couple has to decide how much influence it wants to give to the digital ghosts of the past and find their destiny.**

## INTRODUCTION

The play “Digital Pharaohs” depicts a society where people routinely train AIs on their personal preferences, ethical commitments, and normative inclinations in the hope that these “legacy AIs” can, after the death of their owner, give guidance, advice, and help to the next generation(s). In this society, wills and testaments are supplemented or replaced by these dynamic, continuously learning and adapting computational

artifacts. But as Arthur C Clarke noted, “Behind every man now alive stand 30 ghosts, for that is the ratio by which the dead outnumber the living” and for some the dead hand of the past has become stifling and oppressive. The piece centers around the trials and tribulations of a young couple at the eve of a referendum. The question: should all “legacy AIs” be deleted 20 years after the death of their owner, at the

latest? Between them, they cover the positions for and against this proposal, reflecting in the process also on their different backgrounds and personal experiences: immigrant versus native; rich versus poor; looking to the past versus looking to the future, communal versus individualistic conceptions of society etc. Throughout the play, the theme of memory and the desire for immortality and remembrance as anthropological constants through time and space is evoked, to put into a much wider historical and cultural context what might otherwise seem to be a very current and unprecedented technological question. The ability to record our lives digitally, and to sue technology to create “digital afterlives,” has become a topic in legal research since the “resurrection” of the rapper Tupac in the form of a hologram, and more recently through concerns about the way in which social media platforms such as Facebook curate (and commercially

exploit) the profiles of their members even after their death. To what extent can the resulting problems be resolved through “better technology,” when should the law intervene, and what are the underlying visions of a good society, intergenerational fairness and our treatment of the past? The play leaves open the outcome of the referendum, and also the choice of one of the protagonists. So, too, the reader will have to decide if the vision depicted in the play is utopian, dystopian, or a mix of the two, and if the latter, how it could be turned into something better (through tech, law, cultural, and social practices etc.). The format of a play was chosen to bring in the necessary context through stage directions and props, hopefully “showing” the issues rather than, as academics normally do, telling about them. It also allowed the two positions to be given their own voices and to avoid trying to resolve a complex issue prematurely.

## SETTING

A mountain house in the Dolomites.

## DRAMATIS PERSONAE

Dolasilla, a young woman from Bozen

Dwyfan mac Bóchra, Dolasilla's husband, a climate refugee from the Isle of Lewis

Chorus

Speaker 1, 2, and 3 from the Chorus

A TV news anchor

A reporter

Professor Sara S. Wati, a cybersecurity specialist

A soldier

Alexa (voice only)

Roomba

## ACT 0+1

**Projected on the screen behind the stage:**

*"Behind every man now alive stand 30 ghosts, for that is the ratio by which the dead outnumber the living." 2001: A Space Odyssey, Arthur C Clark*

*"Follow me; and let the dead bury their dead." Matthew 8:22*

**Screen goes dark, light on stage, a kitchen. Dolasilla works with her back to Dwyfan, who sits at the table.**

*Dolasilla:* So ... <silence>

*Dwyfan:* <silence> So.

*Dolasilla:* So, did you finally submit your ballot paper?

*Dwyfan:* There are still three days left.

*Dolasilla:* We agreed we'd both be doing this.

*Dwyfan*: Yes.

*Dolasilla*: And doing it on our own ...

*Dwyfan*: Yes, already!

<silence>

*Dolasilla* <exasperated>: You are going to consult *it* ...

<silence>

*Dolasilla* <more angry>: You are going to consult *it*, even though we agreed not to! We agreed that we'd make the decision ourselves. We, on our own—our generation saying what *we* want for a change, what our interests are, and even if we use that freedom for nothing but to surrender it to the AIs, if that's what most want.

*Dwyfan*: Oh, come on, I call bullshit.

<Roomba comes into the room, cleaning floors, he moves out of the way>

*Dwyfan*: We are not at one of your rallies, and this is not Terminator XII, the Rise of the Returned Machines.

<Roomba bumps into him from behind, makes him lose his footing a bit, he aims a kick at it>

*Dwyfan*: This is just how we want to use a tool, that's it, no point hyping it or making it some big symbolic thing it is not

<Roomba gets even louder>

*Dolasilla* <even louder>: So, if it's not a big deal, why haven't you just voted already?

<moves out of the way of Roomba, Roomba gets more noisy, forcing him to shout now>

*Dwyfan* <animated>: I didn't say that. Deciding to burn down all libraries would be important too. Deciding to melt down the Eiffel Tower or to use

the Mona Lisa as kindling would be a big thing too, just not the end of the world, or of the tyranny of books.

*Dolasilla* < shouting>: It could be, if the alternative is to freeze to death.

<noise of a Roomba begins to drown out speech>

*Dwyfan* <shouting, but inaudible, drowned out by Roomba>: But we aren't freezing.

<Roomba suddenly cuts out, silence>

*Dwyfan* <still on top of his voice>: ... All this is really about is that you did not get along with your parents the way I did with mine.

*Dwyfan*: ...

*Dolasilla*: ...

*Dwyfan*: ...

*Dwyfan*: Oh marmot, I'm sorry ... I did not ... I ...

*Dolasilla*: ...

*Dwyfan*: That was a shit thing to say, sorry. But my real point stands. You are just begging the question if you think that consulting them means letting them govern us.

<Roomba starts making noise again>

*Dwyfan* <louder>: It's always been our choices, they advise us, but they never made us do anything we didn't want, consciously or subconsciously.

<Roomba even louder>

*Dwyfan* <exasperated but glad about distraction>: Why is this bloody machine in here anyway, why can't it do something else first while we talk?

*Dolasilla* <sweetly-maliciously>: Why, but darling, don't you remember? The ZombAI that is your uncle John Stuart McCaig's legacy program optimized

cleaning costs against our observed average space usage and drafted the cleaning contract. Remind me, what did it do then? Oh yes, put the whole bloody thing on a blockchain, so that we could not change it, ever, so the cleaning bot comes automatically at the allotted time as long as John's legacy trust pays. Blockchain ... that was that big stupid thing just before he died, wasn't it, 20 years ago? And even if we could make our own arrangements, you know we've been told the trust fund might evoke the "allowance to be cut if my nephew ever turns out to be a wastrel and spendthrift and good for nothing" if we overrule the AI? Uncle John, who made your aunt cook potato peels for soup but spend oodles of money on his mausoleum? And that's why we aren't supposed to be in our kitchen right now, it's the Roomba's house now ...

*Dwyfan* <grinning>: Don't call them ZombAIs, you disrespectful creep.

*Dolasilla* <grinning, arms extended>: I need to find a brain, a brain in this room.

*Dolasilla* <walks towards him, stops, then continues to walk past him>: Need to find brrrrrain ...

<scoops up Roomba>

*Dolasilla*: OK, let's see if we can fix this little brain of yours, shall we?

*Dolasilla* <to Dwyfan>: Shush, be a good data point; do what the house-usage optimization algorithm decided for us and play somewhere else, while I sort this

*Dolasilla* <to his retreating back>: Oh, and one more thing you can do while playing outside.

*Dwyfan* <turns head> Yes?

*Dolasilla*: FILL IN THAT FRIGGING VOTING FORM ... no cheating!

<exit him to the right>

*Dolasilla* <talking to herself, while taking the Roomba apart, which keeps making noises>

<sighs>: And while you are at it, for fuck's sake grow up. Yah, told you so and all that, thanks Mom. You said I was dating an insecure child when I first brought him around for lunch to meet you and dad. And you *keep* telling me this, now that you're dead for these past ten years, and what is left of you is on a frigging silicon chip with insufficient RAM and a way-too-cheap learning algorithm. *Every* time we speak, which thankfully isn't that often. Just often enough that your AI does not terminate the trust fund and gives it all to the cats. And why won't he grow up? Because *his* folks spend much more on *their* legacy AI, and his grandmothers' and mother's perfectly deep-faked digital ghosts, hair-spikes and crows eye and all, hover over his shoulder, metaphorically speaking, and tell him to be a good boy even when the bloody thing is switched off.

But we don't owe you. In fact, what gets to me most is that it was your generation that screwed it all up for us big time, yours and grand-dey's. You left us so little. You depleted the world, heated the seas so that you could, what, put cat images on the least energy efficient database design possible, or fly the globe to give talks about the harms of flying? What a hypocrite you were, mom. What did *our* generation inherit, apart from *your* problems? You used your wealth to build an economy without property. You didn't own cars, you just called Ubers, no homes, you just stayed in Airbnb, no books, but licenses for streaming services that died with you. I wasn't even allowed to keep the notes I added to the eBooks you read to me as a child when you died. Not only did you leave us this mess, but now your personalized AIs keep telling us how useless we are, and how to live our lives better? The track record of your generation isn't exactly stellar on that score, is it?

*Chorus left* <whispers>: Remember us. When did this story begin? A hundred thousand years ago, when under a hot Mediterranean sun, our sons and daughters first learned to paint our skeletons in rich ochre, burying them with grave gifts that took food out of the mouth of the living and gave it to us dead? Remember us.

*Chorus right* <whispers>: Remember me. When did this story begin?

*Speaker 1*: Remember me, your Pharaoh, as I won't let you forget me. I harnessed the technology and the power of my empire for that one purpose: *I will not be forgotten*. No hardship too hard.

*Chorus left* <whispers>: For my people,

*Speaker 1*: No cost too high

*Chorus right* <whispers>: For my people,

*Speaker 1*: For generations to come and in all eternity, when you wake up in the morning, you will be reminded of me when your eyes look to the east. My tomb will cast its shadow through space and time. The living, they can be forced with whips weaved from leather, and chains cast from iron. The yet unborn, for them, you need whips weaved from love and chains made from memories. More carefully constructed, more dear to procure. When the heat of the day burns down on you, or the cold of the night makes you shiver, because there are no stones for you left to build your house, only sand, sand, ever more sand, look up and see the pyramid I made from them. Remember me, and tremble.

<Roomba still whines>

*Dolasilla* <To Roomba and/or Chorus>: Oh why won't you just be quiet!

**Curtain**

## INTERLUDE

Empty living room, Roomba moves up and down. Music cuts in and gets louder—*Electric Eyes* by Judas Priest. Increasingly, it makes more and more complex figures, like an ice dancer. As music comes to an end, Roomba moves to edge of stage towards audience and takes a bow.

## ACT (0+1)+1

Dwyfan's room, he slouches on the couch.

*Dwyfan*: Alexa, call L&P Legacy AI services.

*Alexa* <Voice from ether>: Connection established, authentication needed.

*Dwyfan* : Dwyfan mac Bóchra legacy contract 23-34-2875, request access to

legacy AI of Niamh nic Bóchra, Fionn mac Bóchra, Afric nic Bóchra.

*Alexa voice:* Iris scan completed, voice profile completed, password check completed. Before proceeding, identify in projected images those of a friendly dog.

<captcha with dog images projected on screen>

*Dwyfan:* 2, 5, and 7

*Alexa Voice:* Identification complete, Lares et Penates web access granted. Do you want to change default user setting, last changed November 17, 2038?

*Dwyfan :* Yes. Switch off chat and reply mode, listening mode only. Belay that. Listening and learning mode.

*Alexa voice:* Listening and learning activated, reply and chat deactivated. Enjoy the company and have a lovely day, Dwyfan Mac Niall

*Dwyfan* <suddenly sitting upright>: Hi ma, grunny, grand-dey. I thought I need to talk to you a bit. I switched off your reply mode, sorry, but Dolasilla and I had a bit of a fight over you, again. So I promised. But it helps me to think more clearly when I know you are listening. I only promised not to ask you anything, not to stay away from you, so whatever. Anyway, I know you are not real, just what files, images, and memories you could save when the floods came, that and whatever little time you had left to train the algorithm to think a bit like you, and that's all.

I sometimes wonder, were you afraid as the waters came and came, and you knew the dykes had failed, and there was no way out? Did you hide your fear while you taught the program how to look after me? Or did a bit of it creep into your answers and your mind, so that the voices I've heard ever since I was old enough to use a handheld are never as happy, as content, as in love as you were in real life, always a bit more worried, a bit more afeared? And did this make me more fearful and afraid too? Because right now, I'm afraid enough to puke. And sometimes I think I always was.

You see, thing is, we might not have much more time together. Thursday next, we'll vote. All of us. Well, all who can be bothered. Everyone on earth alive now, on what the leaders of the "yes" proposition call the "great

emancipation from the past.” And if they win, that will be it. 20 years after the death of the owner, all their memorial AIs will get wiped from the central servers, all personal trusts will get disbanded and the assets distributed among the living to be used as they see fit, and the others will be administered solely by living humans, without the AI of the trustor having a say or getting consulted. Which is OK with me, I guess, to be honest. The money thing. That you still control, one way or the other, more property than we living do, and that that will stop.

But we’ll also take the intelligence away from you. I’ll be allowed to keep the static recordings of your voices and stuff like that. But I won’t be able to ask you new questions for new answers or simply have a chat. Too easy for you to still manipulate our lives, you see, or so the experts said. Not good for us. Need to “grow up.”

< ... >

Do you know that there are only 27 of us alive now who have spoken our language from birth? And maybe 30 or so academics who learned it for their research? A couple in what’s left of the Highlands, a few more in the Himalayas, and me here, in the Alps. But you know all this of course. Like, because I told you before. And you probably have subroutines that pull that info from the web anyway, I’m sure grandma Afric does, you were always keen on our tongue. You’d pinch me if I used English and gave me cookies if I got it right, and then you’d fight with Ma over obesity. And then the last ship came, and got me out, and I knew I’d not see you again in this life, and you died a bit for me then, and I died a bit too, but I had your chips, on a game console that could barely cope with sound, but you told me that you were there with me as the waves came. With your inference engines and NLPs wiped, with whom will I speak in the tongue? We sometimes Skype, those of us who are left, but there is so little of the world we share now, and so little time we had together, that there is nothing much to talk about. And what’s “Yak” in Gaelic anyway? Maybe it’s true as they say, “it is dead already and we’re just bringing food to a graveyard.” So, you’ll die for me again, and I’ll die a little bit again, and I’m not sure I can do this twice. Who will I then be?

*Chorus left* <whispers>: Remember us. When did this story begin? Did it begin when the White Raven died of a broken heart? Died, far away from home, a queen exiled to the kitchen, a stranger in a strange land, no kin, no friend, no champion to raise his voice for her whose had been silenced?

Her brother, the blessed giant, Bendigeidfran, his head cut off and carried home by his seven companions. For seven years, it spoke to them, guided them, comforted them, sharing his wisdom and wit even after death. Who will speak with you now, sons of Prydyn? Who will tell you who you are?

*Chorus right* <loud, militaristic but almost too fast to follow>: Remember me. When did this story begin? Hear of my deeds.

*Speaker 1*: I was mighty Caesar. You *will* remember me. I carved my deeds on a pair of bronze pillars. I bestrode this world. Those who butchered my father I drove into exile, avenging their crime by legal judgments, and afterward, when they made war upon the republic, I defeated them twice in battle. Many times, I waged wars by land and sea over the whole world, and as victor I spared all citizens who asked for pardons. I restored the Capitol and the Theatre of Pompey, both works at great expense, without inscribing my name upon them. In my sixth and seventh consulships, after I had extinguished the civil wars, having become master of everything by consent of all, I transferred the republic from my power to the control of the senate and the Roman people. In return for this service of mine by decree of the senate I was called Augustus, and the door-posts of my house were screened with laurels at public expense, and a civic crown was fixed above my door and a golden shield was set up in the Julian Senate House with an inscription attesting that the senate and the Roman people gave it to me because of my courage, clemency, justice, and piety. After that time, I excelled all in authority but I had no more power than others who were my colleagues in each magistracy. These are the dead that I carved on the pillars for others to follow; remember me by the art of the masons, and the skill of the smiths.

*Chorus left* <whispering, speaking at cross-purposes and fading out one voice after the other>:

When did our story begin? Remember us, why won't you remember us.

I too was a Caesar,

I too was a man.

I too was a Pharaoh

I too did deeds

I too was loved.

*Speaker 2:* I was ... who was I? I was ... Elagabalus ... I think ... I must remember ... you must remember ... or was I Severus? Why does Severus look like me, but does not feel like me? Why can't I ... you ... remember? They stripped me naked, they cut my head, they threw me in the river, give me back my name, give me back my face, remember me, please remember me.

*Speaker 3:* I was ... who was I? I was ... Herostr ... no, I mustn't ... I must not say it, on pain of death ... but dead I am already. Fire, it is burning, you must remember the fire. Will you risk for me to defy proud Ephesus, and give me back my name? Please, remember me.

*Speaker 4:* I was ... who was I? I was ... a King ... no a Queen ... surely, I must remember this, you must remember this. I reigned over so many, so rich was my land, I was your queen, your king, I was ... I was Smenkhkare? No, I was ... Neferneferuaten? I was, I loved, I reigned with Nefertiti? You must know this, I must know this ... my name smells of wine, why does it smell of wine ... give me back my name, remember me, please remember me.

<Loud knock on door>

*Dolasilla:* Can I come in?

*Dwyfan* <hastily, quietly>: Alexa, disconnect.

*Dwyfan* <standing up, speaking to door>: Of course, come in.

*Dolasilla* <upon entering>: Look, I'm sorry for what I said.

*Dwyfan* <at the same time>: Look, marmoset, I'm so sorry for what I said.

*Dolasilla* <grinning> Peace, no badgering?

*Dwyfan* <grinning> Peace, no badgering!

<They cuddle on coach>

*Dolasilla:* Pizza with Haggis, and some TV? Alexa?

*Dwyfan:* Kaiserschmarrn for desert!

*Dolasilla:* Again?

<on screen: TV switches on, the news is on>

*TV news anchor:* Domestic news. On the eve of the referendum on time limits for legacy AIs, there have been reports of a major coordinated cyberattack on Lares et Penates, which, with over 900 million AIs on its servers, is the largest company in the legacy AI sector. An industry source called the attacks “coordinated, sophisticated and well-resourced.” A spokesperson for the No Time Limits campaign group called the incident a callous and politically motivated attack to sway public opinion on the eve of the vote and to create suspicion towards legacy AIs. The allegation was strongly rejected by the Yes campaign.

We spoke earlier to Professor Sara S Vati, professor for cybersecurity, at her office in Delhi.

*Reporter:* Professor Vati, *L&P* prides itself on its security; their motto is: “Your family’s memory, a flame kept alive for eternity.” How could such a massive breach happen?

*Professor Vati:* The attackers did not attack the file storage directly, but exploited a vulnerability in the learning interfaces, the parts of the program that allow users like you and me to train our AIs on our preferences. From what we know, they hijacked this insecure connection, which allowed them to overload the learning module with millions of answers.

*Reporter:* Can you explain to our viewers in layman’s terms what this means?

*Professor Vati:* We are all used to training our legacy AIs, sometimes for a few minutes, sometimes for hours a day, right? You all know the type of questions they ask: “You have baked just enough cake for a family Sunday, when suddenly your best friend Katie and her kids ring unexpectedly—how do you now divide the cake between them, you, your brothers, and parents?” Or “You just won a million euros in the lottery, how much do you spend on yourself, give to your siblings, donate to charity, or put in the bowl of the next beggar you see.” From your answers, and the massive data it has about all users, the AI builds your moral and social profile; it learns what sort of person you are, and how you would probably behave should this

type of situation come up. And then, should you not be around any longer, it can use what it learned about your preferences to advise your children or the trust fund you set up for them. If you consistently consider donating to a beggar on the street in your answers, it will learn to recommend being charitable to beggars, and so on and so forth. Now, most of us manage to answer, what, maybe 20 training questions a day, tops? So not much to go on for an AI to find patterns. Now imagine someone finds a way to pretend to be you, and uses a bot to feed the AI hundred thousand or a million answers, and in each of them they give lots of money to “Save the Penguins.” What do you think will happen?

*Reporter:* It will be a great day for penguins.

*Prof Vati:* Exactly! So, they only have to set up a bank account in the name of a fake charity, train all the legacy AI’s to recommend giving money to that charity, wait a day, close it down, and run away with the money.

*Reporter:* But AIs can’t make financial transactions, right?

*Prof Vati:* True, the law never allowed them to act on their own; they only give advice. However, we designed them to make the advice very persuasive, and every year they become more realistic and life-like. To put it into context, last month alone L&B servers received almost 4 billion queries, that is, people talking to the AI of one of their ancestors. Not all of them were for advice of course, some people simply like to chat, so say 1 billion queries for advice. Studies have shown that most people follow the advice, on average 73 percent. That’s an average. The number is of course much higher in countries with strong traditions of ancestor worship or respect for the elderly; there it can be over 95 percent. And quite a lot of the queries come not from descendants at all, but bank managers and lawyers who administer trusts—and they almost always agree with the AI; there’s a much lower risk of getting sued if you just do what the machine recommends. Now remember that almost all trusts use a legacy AI of the trustor to advise them in their duties; that alone means control over more money than your country’s GDP. And suddenly, they all make dispositions for the benefit of the persons who hacked them.

*Reporter:* So, this is quite a serious issue?

*Prof Vati:* Potentially, if it had remained undetected. Of course, L&P is using highly sophisticated fraud detection software that very quickly spotted

when the AIs started to behave anomalously, and they quickly reset all profiles to last week's—and most people would probably hesitate anyway if their grandfather's legacy AI suddenly developed an inexplicable fondness for penguins.

*Reporter:* Prof Vati, thank you

*TV news anchor:* So, you've heard it—if your grandfather's legacy AI asks you to donate to penguins, just ignore him. Speaking of penguins, in sport the Pittsburgh Penguins lost their ... <sound diminishes>

*Dwyfan* <mutes TV with remote>: OK, say it

*Dolasilla:* What? Penguins are adorable and deserve all they get! Seriously though, for me that's not it. OK, more people will now vote yes, and I'm happy about that, sure. But it's not my reason, and it need not be yours either. There are always risks, and every tech has flaws. The issue is not to make the tech better. It's not about the tech, it's what we have done with it. This whole ... business was a bad idea to start with, and I'd vote again the way I did even if the ghost of Alan Turing himself certified their security. That is his real ghost. Not his ZombAI. I would not trust that farther than I can spit.

*Dwyfan:* But *would* we know? What if this has already happened, and it's all a lie? You know, I tell myself I remember my parents. A smile, a hand touching, a smell. But then I don't know if I really remember *them*, or if I just remember the first time I spoke to the hologram. How much of my memories are mine, how much is just something I was made to believe by a cunning algorithm, or the corporation that stores it?

*Dolasilla:* Well, I'd spot it if someone hacked my dad's. It would probably be an improvement, for starters. Might even give sensible advice; now that would be a dead giveaway. You remember when it suggested that we should give all our wedding cake, AND our presents, to a utility monster?

*Dwyfan:* Ah yes, the Nozick bug; that model had it badly, but you had him fixed, didn't you?

*Dolasilla:* Sure. But that's the thing, or part of it. My folks didn't really care. Dad's legacy AI is hardly more than a spreadsheet with a utility calculus, and their holographs are not so much uncanny valley, more the sunlit

highlands of canny. They didn't think they'd ever die, you see, and didn't have much to leave me anyway, what with spending most on booze and fun and parties, so why bother with a top of the shelf, expensive legacy system? And still for all practical or legal purposes, it's taken as serious as yours, which has all bells and whistles. By that senile old fool who manages my parent's trust for starters.

And you know, sometimes I'm envious of you, and how you can talk to them as if they really are still around, and I know I shouldn't be, because it's also so sad what you lost, and you didn't have the real thing, not as long as I did anyways. And then sometimes I'm not at all envious, just angry for you, and us, because it also means you're never fully here, or fully now, because of it. And then I hear people on the No side talk, and they're all like that, with their dead folks rendered pitch perfect, glitch free and no constant reboots, but for those like me, what we'd be freed of are the grotesque caricatures of the people we loved and who'd have hated to see themselves reduced to this.

*Dwyfan:* But if you feel like this, why not switch him off?

*Dolasilla:* Well, I can't, can I? There are still lots of his old friends who also have access, and they aren't going to give it up. And for them its good company, they mostly don't make more sense than his AI these days anyway. So even if I'd not talk to it any more, I'd still know it's there, pretending to be Dad, and that's bad enough And my sister would get fits, and claim I always hated our parents, and that's more than I can take at the moment. That's too why I want that law—if we all *have* to do it, we can switch them off without any feeling of personal guilt. So it really only works if we *all* do it, together.

<Dwyfan and Dolasilla cuddle on sofa, light dims>

## ACT ((0+1)+1)+1

*Chorus:* When did this story begin? They send us to war, away to a land we would not have found on a map. We were so young, and so afraid. For our children, the ones we left behind, they let us record messages, on a video machine as grey-brown as our fatigues, as grey brown as the sand surrounding us.

On screen left, a flickering video of soldier in uniform talking to a camera; on screen right a series of different videos.

### **First scene**

<On screen left>

*Soldier:* Hi love You are two today. Mom is going to play this for you. I wish I could be with you. I love you. I watch you from above, always. Be good. Do what Mum says. I love you.

<On screen right: shaky film of a toddler playing in crib, smiling at the cam>

### **Second scene**

<Left>

*Soldier:* Hi love! You are six today. Mom is going to play this for you. You've been going to school for the first time. I wish I could have been there with you, holding your hand. I hope you like reading. I asked Mom to give you a book for birthday that I loved when I was your age. Be good. Do what Mom and the teachers say. I love you.

<Right: video of schoolchildren playing; one waves to camera>

### **Third scene**

<Left>

*Soldier:* Hi love! You are 16 today. Mom is going to play this for you. Wow, you look great! I wish I had been there for your prom, doing the first dance with you. I hope you had a great time—I wished I'd been there to give whatever boy you chose a hard time. I hope you have better sense than your mother. Stay away from guys in uniform. I hope you'll go to uni. You have your mother's smarts. I love you.

<Right: video of girls in dance dresses. The one in the center is plain. A group of other girls in more fanciful dress approach her, push here around, she falls, crying>

#### **Fourth scene**

<Left>

*Soldier:* Hi love! You are 18 today. If you are still in our old place, then you are now old enough to drink, drive a car, and to enlist. Which are worrying thoughts for a father. Better not do them—apart from maybe the car. So, I put some money aside, towards your driver's license. So that you can visit mom when you come from university at the weekends. And so that you don't have to rely on guys to drive you home after parties. And so that you stay sober at parties. Don't tell me your old man did not think of everything. I love you.

<Right: a decrepit flat, a young woman with a tired and bruised face, cradling a baby away from a young man, who shouts at them and raises his fist.>

#### **Fifth scene**

<Left>

*Soldier:* You are 24 today. Mom is going to play this for you. This year you graduated, congratulations! I wished I'd been there, to see you in your gown, ready to change the world. I hope you fell in love with your subject. And not boys. But fathers say these things. I wished I'd been there to protect you all the way, but I'm sure you did great. I love you, and I'm proud of you.

<Right: A dark alley. A woman with heavy make-up and skinny dress prepares her arm for a drug injection>

*Chorus:* When did this story begin? When our world became digital, our selves quantified, our devices intelligent? Living forever, strings of zeros and 1s, uploaded downvoted, downloaded upvoted, measured but not understood, archived but not inactive, digital immortals buzzing in pyramids made from silicon, memified, gif-ted to those who came after us.

## ACT (((0+1)+1)+1)+1

Dolasilla and Dwyfan still comfortable on sofa, talking while, on screen, the TV news continues.

*Dolasilla*: Hey, look, isn't that your old place?

*Dwyfan*: Alexa, sound.

On screen a TV image of floods in Scotland.

*TV news anchor*: International news: Further delay in land reclaim for the Highland Republic.

The First Minister of the Highland Republic, John McCormick, announced today that the ambitious plan to reclaim and desalinate 70 percent of the submerged landmass between what used to be Perth and Dundee by 2080 has suffered further setbacks. Continuing adverse weather events, unanticipated problems with residual contamination and insufficient energy supply mean that it is now unlikely that this first attempt at large-scale land reclaim will be completed within this century. This will come as a particular disappointment to the many Scottish diaspora communities who had been promised that space for the resettlement of over 10,000 families would be created within the next generation. Over a million survivors found shelter in the Highland region of Scotland after the 2025 floods left Britain devastated and largely submerged, while similar numbers of Scots were relocated to other mountainous parts of the world. A spokesperson for the government affirmed its commitment ...

*Dolasilla* <Alexa, switch TV off>: Dwyfan, I'm so sorry

*Dwyfan*: Well, it sounds as if I'll stay a bit longer then ...

*Dolasilla*: There could be worse places, you know ...

*Dwyfan*: Yes, places without Kaiserschmarrn.

*Dolasilla*: Or with worse company ...

*Dwyfan*: Oh yes—people who don't know how to make Kaiserschmarrn.

*Dolasilla:* The recipe for which, to get back on topic, I luckily wrote down in an old-fashioned notebook. If I followed mom's AI, you'd get it with minced emperor, which is a pain to get these days.

*Dwyfan:* This is not about penguins again?

*Dolasilla:* More an issue of things getting lost in machine translation. You're taking this better than I thought, though.

*Dwyfan:* I'm here. With you. Now. And you are right that I'm carrying maybe too much of the old place with me. I don't want this. Not if it becomes a problem starting a new life. For us. Restart, reboot, reset to factory settings.

*Dolasilla:* And download and reinstall all the apps again? You're my Scottish man, the guy with the most exotic accent in the village, and the envy of all my girlfriends. Remembering is good. It's who you are and who I fell in love with. We just need new ways of doing it. Or old ways. I know that it's way more difficult for you than me. For me, it's just about my parents—otherwise the world around me is pretty much the world I grew up in, plus one big red-haired guy. And it will be the same with or without me, nothing depends on me, and that feels good. You, they gave you the burden of their whole world. It's not just personal for you, is it? You fear that if you lose them, you will forget who you are, and the world will forget who they were. But that's not true. I won't let you forget. Look, I even promise to learn Gaelic.

*Dwyfan:* Níor smaoinigh mé riamh go ndéanfá é!

*Dolasilla:* IF you learn Ladin

*Dwyfan:* But you don't speak Ladin yourself!

*Dolasilla:* So? You can teach me, then. And our child

*Dwyfan:* ...

*Dolasilla:* Once we have one!

*Dwyfan:* ONCE we have one—how would you feel?

*Dolasilla:* Uh?

*Dwyfan:* I mean, that was all about the past. What about the future? Would you not want to look over him?

*Dolasilla:* Her!

*Dwyfan:* Over her, every way you can? Would we not want to be there for her, help her find her way, warn her about the things we learned the hard way that they hurt? If we had a child—and something were to happen to you, I'd need all the help I could get. Who should I fight with over when to get her her first drink if not you? And even if it's only your digital memory.

*Dolasilla:* So, you need an AI to stop you turning our as yet unborn daughter, that sweet innocent child, into an alcoholic? Dwyfan Mac Niall, the chances of you ever procreating just dropped dramatically ...

*Dwyfan:* Or if something happened to me, I'd want to tell her how much I love her. And when she is afraid on her first day in school, I would want to tell her that I know how frightening it is to go to a new place and meet new people. And tell her of my island, and how I left it and was also afraid, but that I then met the most amazing and wonderful people, and that I learned it does not matter that things change, because you'll always find someone to love, and who'll love you, and that they will always be with you.

*Dolasilla:* I'm pattern matching and recognizing a ploy to sweet talk me into doing foolish things.

*Dwyfan:* Seriously though? I would love to have a child with you. But it also scares me. We've both had close calls already; most folks in our generation did. What if something happened to you and me? Aren't our AIs not something we'd want, for her?

*Dolasilla* <after a pause>: I would want to do all I can for her. And currently that would mean also recording me in digital, just in case. But I'd hate me for doing it, and I'd know, intellectually, that it would be a mistake. That's why we need this law. We don't need laws to tell us to do what we want anyway, we need them to do the right thing even if we don't want to.

And I also think you are wrong, if in a sweet way. We'd really be doing this for us, not for her. That's where the whole thing went wrong, I think. You want to keep your culture and family history alive. That's fine, I get it, and things are different for you than me. I never had to doubt who I was, I was

never not connected with folks who think and live and talk like me. And if you really decide that voting for the AI time-limitation law would mean betraying your culture, or harm it, then that's cool with me, honestly. But it should be for the right reasons, and after you'd thought it through hard.

Because this goes beyond your mother, your grandmother, and your aunt. With our AIs, we reduced cultures and traditions to individuals and their preferences. But cultures don't work like that. They are created by everyone, jointly through the way we treat each other, and how we remember together. Every generation adds to it, misunderstands the previous one, and is then misunderstood again. If it isn't that, it is dead anyway. These AIs, they take away from the present the right to misunderstand and reinterpret the past, and to remember it on its own terms. And while the AIs look dynamic, flexible and responsive, ultimately they are just lonely individuals frozen in time. For what you want, you need more, something we can add to, modify, and become part of, ourselves and our children after us, like an heirloom patchwork quilt. The current thing, my father sitting all by himself in his room shouting answers at something that, if everything is said and done, was just a fancy recording machine, that isn't it. You know the two tall trees back in the garden?

*Dwyfan:* As well you know ... <grins>

*Dolasilla:* Right. For me they are special too, but also for another reason. I remember how we planted them, me, father, and Sis. Us kids carried the saplings, they were taller than us. And when we had finished, father would mark our height on them, and said that we'd see who'd grow fastest, me, my sister, or our trees. And for a while, he'd measure us almost every time when we were in the garden, and always on our birthdays. And do you know why this memory is so important to me?

*Dwyfan:* Well, I guess ...

*Dolasilla:* Because it is the one thing I remember him doing for the long term. Not just "because it seemed a good idea at the time" and was as quickly forgotten as it came into his mind. Picturing our family growing roots here, staying for the duration.

*Dwyfan:* I ...

*Dolasilla:* The *one* time I remember him planning ahead, for us, together, you see.

*Dwyfan:* OK, I can see ...

*Dolasilla:* Shh! Only that Sis says this is all bullshit, that I remember it all wrong. She says he had to plant the trees because he violated a plant protection order and cut down the old ones at the same place, because ... well because, something about them must have annoyed him, or, just because, who knows. Trees that had been growing there for centuries, cut down just like that, in minutes.

Sis says he lost interest in the trees we planted the moment they were in the earth, and it was us who measured each other, and sometimes the old gardener helped.

But you see, I don't care. It is my memory, not hers. And I can fight her, and shout at her. What I can't fight, and can't take, is some digital ghost that pretends to be the authentic version of him and pronounces on how it "really" was. And don't tell me I'm alone with this, or that people would not think of them as authentic. Our family lawyer went to school with dad, they grew up together, heck, they even got arrested together more than once. Apart maybe from mother, nobody knew him better. And yet he relies more on dad's legacy AI to interpret his testament than his own memory of him, even when it is obviously just bollocks programming. But that way he is less likely to get sued for malpractice, I guess, even if it would be making the right call. Or maybe the AI has really changed how he remembers father. Can you see what's going wrong here?

They mustn't be allowed to take our memory away from us, control how we remember them, not totally at least. We must be allowed to write the next chapter in the chain novel of our family, and that means also to redact old chapters. It's a chain novel, not a blockchain novel.

*Dwyfan:* Lares et Penates!

*Dolasilla:* Pardon?

*Dwyfan:* Lares et Penates. It's a pun. But you are right, and they got it all wrong, or at least half of it wrong.

*Dolasilla:* That alcohol issue ...

*Dwyfan:* No, I'm serious. You know the main provider of legacy AIs, Lares et Penates?

*Dolasilla:* The ones that has been in the news recently? You know, like five min ago.

*Dwyfan:* But you know why they are called this?

*Dolasilla:* Pretty much everybody who's been online in the past 30 years knows. Lars and Penny Ates, German-Turkish entrepreneurs; their combined name is a pun on Roman ancestor worship, very apt for a platform that hosts the digital ghosts of dead people.

*Dwyfan:* YES, exactly. Keeping your ancestors alive, asking them for guidance, be referential to them. But that was just half of it. In Rome, it was not just about any specific ancestor, a father or grandfather. There were also spirits *of* the family, something that went beyond the individual and their wishes and transcended them. Something that could do both, grow and change as the family grows and changes, and still connect it somehow with the past. Something malleable, not fixed, and changeable by the present, like a well-written constitution.

But our AIs never did that. As much as they can interact, and learn, they are always just the effort of one man or woman, not "the family," nothing we can create and recreate together.

But you know I think they could be. Maybe we don't need that new law, just a different type of code.

<gets excited, moves papers and computers on the table>

I think I have just the right idea how to code for that. Imagine, we could set up our own platform, and do it right this time.

*Dolasilla:* We could do that. But maybe not today. Today, I think we should do something else.

*Dwyfan:* Mmm?

*Dolasilla:* Today we should work hard on that next chapter for our family, make sure there will be one ...

*Dwyfan* <looks up from papers>: Oh ...

*Dolasilla* <turning away going up the stairs>: Just not right yet, oh husband. You've forgotten one small thing you need to do first

*Dwyfan*: Mmm?

*Dolasilla*: FILL IN THAT FRIGGING BALLOT!

**Curtain**

## POSTLUDE

Stage empty and dark.

On the empty stage, the Roomba returns and moves to the sound of *Every Breath You Take* by The Police.

On Screen: "Recipe for Kaiserschmarrn, from my grandmother"

6 eggs  
350–400 ml milk  
180–200 g finely ground flour  
3 tbsp. crystal sugar, for the topping  
2 tbsp. raisins  
1 packet (8g) vanilla sugar  
A large dash of rum  
Some grated lemon rind  
A pinch of salt  
Approx. 50 g butter for frying  
1 tablespoon of butter shavings and crystal sugar, for caramelizing  
Icing sugar and cinnamon for dusting

Place the raisins in a bowl, mix with the rum and leave to stand for approx. 15 minutes. Separate the eggs and place the yolks in a mixing bowl. Pour in the milk, flavor with some grated lemon rind and vanilla sugar, and add the flour. Mix to form a smooth dough.

Beat the egg whites with the crystal sugar and a small pinch of salt until it forms a firm peak, and fold into the dough mix. Pre-heat the oven to 180 °C.

Let the butter melt and bubble up in one large, or two small (coated) heatproof dishes. Pour in the mixture and after 1-2 minutes scatter the soaked raisins over the top. Cook the underside until light brown, turn over using a spatula, and bake for 6-8 minutes in the pre-heated oven until golden brown.

Tear the *Schmarren* into small pieces, using two forks. Scatter the butter shavings over the top, sprinkle with some crystal sugar, and caramelize under the grill at a high heat.

Remove from the grill and arrange on pre-heated plates. Dust with icing sugar and cinnamon. Serve with baked plums.

## **BURKHARD SCHAFER**

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Burkhard Schafer studied philosophy, logic, computational linguistics, and law, joining the University of Edinburgh in 1996. In 2010, he became chair of computational legal theory. Furthermore, he is director of the SCRIPT

Centre for IT and IP Law and Co-I of Creative Informatics. Don't ask: my program crashed, what should I do? Do ask: what vision of a just society should we have when building legal technology?