

The Lonely Companion

GRIAN, Hazel¹
Independent Artist

Abstract. This Science Fiction Prototype explores both the possibilities of Brain-Computer Interfaces with Artificial Intelligence and writing autobiographical Science Fiction. The paper proceeds in three parts. The context for the story is introduced in the first section, outlining the particularly personal circumstances from which the story has been written. In the second section the story is presented as a script, a dialogue between various characters, which are denoted by differing typefaces. Finally, in the third section, I reflect upon future work I would like to carry out that continues and builds on the ideas and themes presented in the story.

Keywords: BCI, HCI, AI, robotics, relationships, emotions, companionship

Introduction

Can Science Fiction writing be autobiographical? Generally, autobiographically inspired fiction is regarded as the first port of call of the novice or indeed a refuge of the amateur. I hold up my hands to either of these accusations. No matter how experienced you are as a writer, when you are trying to launch yourself into any new piece, you feel like a total amateur every time. It's not until, some way into the journey, that you find yourself drifting into a distant and unknown part of the mind where, to continue my metaphor of the early sea faring spice traders, you may plunder the fruits of the mysterious, tiny island called Artistry. In my story *The Lonely Companion*, Gen Rains is my protagonist and her recent experiences are based on my own. At the time of writing, I am six months into recovering from being attacked by a burglar in my house in the middle of the night. A series of very extreme actions took place during which I fought for my life and he left me for dead. However I escaped and am here to tell the tale. Much more than the acts of violence against me, it is the outpouring of care towards me from the whole community which has been life changing. I'm therefore treating this call from the *Creative Science Foundation* as a particular challenge; for me to take a small step forward, both professionally and personally. To return to the question: can Science Fiction writing, as a genre itself be autobiographical? I hope that this Prototype is at least an interesting and useful experiment. My prototype imagines how we might feel tomorrow morning if, overnight, current Brain Computer Interface (BCI) technology has received ten years of research and development and five years of consumer use. As a Mac and iPhone devotee myself, I find it plausible to imagine that sometime around the year 2016, Apple have gained the upper hand on the BCI market. In *The Lonely Companion*, the 'iWish' hardware comprises of a miniscule chip implanted under the scalp, connected wirelessly to a small home hub, which in turn stores everything on a secure server. The iWish runs the 'Daemon OS4' software; an Artificial Intelligence (AI) that translates the user's brain activity into their emotional and physical needs and then carries out practical solutions. It does this by being coupled with ubiquitous smart environments, which I'm

¹ Corresponding Author: Hazel Grian, Email: Hhgrian@googlemail.com

imagining exist in the home, in cafes, shopping malls, transport etc. I should explain that the 'Daemon' system here is not the *Daemon Tools* imaging software that already exists for Microsoft *Windows*. The 'Daemon' in *The Lonely Companion* comes from a social robot project I began in 2010 when on an Artists Residency at the Pervasive Media Studio in Bristol (where I've been a senior resident since its opening in 2008). The *Daemon* [1] robot I made for that project is named from Philip Pullman's *His Dark Materials* novels [2], in which each human's daemon is a visible soul or alter ego in animal form that remains by the side of the human throughout life. My *Daemon* [1] robot is the beginning of an exploration into the idea of empathetic companion robots that engage with us on a deeper and more personal level than the current relationships we have with our devices. I explored the idea that this soft robot acts as a comfort in times of loneliness and emotional need and also performs all the tasks of a useful everyday assistant. The *Daemon* robot project is also inspired by aspects of Science Fiction stories; The 'grey' ETs that Roy Neary empathises with in Spielberg's film *Close Encounters of the Third Kind* [3]; *The Chrysalids* [4] and *Chocky* [5] novels by John Wyndham in which the voice in the head comes from a source outside the protagonists' own minds. In *The Lonely Companion*, the *Daemon* software has the option of producing a voice in the head with which the user converses. The voice is based on the user's own inner voice so it feels like 'second nature'. The story explores the question of whether this becomes invasive, like a separate personality from which we feel we must hide the truth. Like social networks, might it become another energy consuming performance? Or could we indeed learn to feel at ease with an enhancement of our own inner thoughts? Can we use BCI and wireless technology to control our environments based on our conscious and subconscious emotional needs? *The Lonely Companion* is written as a script, entirely made up of dialogue and without directions. This is quite a tough challenge in itself. In order for the story to be readable on the page, I have tried to make the different voices clear by using a different typeface for each voice. Gen speaking in her head to her *Daemon* is in Times New Roman; -Gen speaking to someone else out loud is preceded by a dash; *the Daemon speaks only to Gen and is in Italic Arial*; others speaking to Gen are in American Typewriter Condensed. The story takes place over one day, with six scenes running in real time broken by a short move forward in time as the day progresses.

1. The Lonely Companion

Gen wake up. There's someone in the house.

Huh?

There's someone downstairs, in the kitchen.

Oh!

I've locked the door, he can't get in this room.

Call the police. I've got to press the button, where's the button?

I've done it, they're on their way. I activated the panic alarm.

He's coming up stairs!

No I've locked the hall door. I can see him, he's just walking around down there.

Oh God! Oh God!

It's ok, just hold on. ID is hidden, tall man in his thirties.

Oh God!

You're doing the right thing. Just stay quiet. The police are on their way.

Where are they?! Oh God! I can't do this again! Not again!

It's OK. Just stay still.

I'm going to go down. I'm going to smack him with ...Oh Christ! He's coming!

No, it's OK. I can see him, he's in the living room. He's heard the police cars outside.

Oh God! Oh God! Blues and twos, blues and twos.

The police are here, they're coming in now.

Oh God!

He's trying to get away.

Oh my God...

They've got him.

Oh God, thank God...What about me? Is someone going to come and help me?

Breathe darling, breathe. You're OK. There's a call coming in from the police.

-Hello?

Ms Rains. This is Constable Storm of the South West Constabulary we've apprehended the intruder. Are you OK?

-Yes, yes I'm OK.

I understand your situation. Obviously because of what has happened to you before, we're all made aware. A female officer will come over to see you right away. Can you let her in to take a statement?

-I don't want to let anyone in.

Gen, I can help with that.

-Er...Officer...no you don't need to send anyone. You can just access the house memory. If you're sure you're OK with us doing that.

Yes, it'll be easier for you Gen. I can let them see everything I recorded.

-Yes, yes. You can have the camera footage and all the door data and everything.

OK Ms Rains we'll do that now. I don't want to leave you on your own. Would you like me to call someone for you?

I'll call Becky, she'll come.

-It's OK, I'll call my friend who lives down the road, she'll come.

OK Ms Rains. CSI will come over to see you in a couple of days.

That's good Gen.

-OK thank you, thank you very much.

We did it Gen. It's OK, you're safe. Breathe, darling breathe.

Call Becky.

I'm calling her now.

What time is it?

3.30 am it's still dark outside...It's still ringing, she'll be asleep.

Oh God! What if she doesn't answer?

Don't worry, it's OK. She keeps her phone on all night since what happened to you last time.

Hullo?

-Becky it's Gen.

Gen are you OK?

-Someone broke in but the police have got him. I'm OK.

Oh my God Gen, not again! I'm coming over right now.

Just relax now Gen. I'll let you know when she gets here and I'll let her in.
We did it didn't we?

Yes we did it, we did OK. You're safe now.

I'm not sure I should drink coffee. My heart's pounding.

Ah but you were feeling relaxed when we got here. Your heart rate's not up all that much since you drank it, it was Becky leaving and then that rough guy shouting that made you anxious.

I think coffee makes me feel even more freaked out when I'm out in public like this.

Yeh well maybe I'll order Decaffacino for you next time if you're feeling nervy.

OK, I'll try to relax and just enjoy being in a cafe. How am I doing?

You're a lot more relaxed than you were yesterday. You're hungry now.

Oh yeh. What do I fancy?

You want some protein, salt and fat because you're tired. There's Tunalike melt Panini but you said you didn't want to eat Tunalike again.

Oh yeh. What have they got that I can eat?

They've got Emental and basil omelet on the menu, made with local eggs.

Yes, that's what I want, yellow food.

I'll order that for you. Done...You'd like to hear some music now. I think you'd like something soothing and classical. How about Elgar?

Yeh, I don't mind. Play that and then random similar if I don't respond well.

Yes. Volume and reverb is set so it's as if it's playing here in the cafe.

OK don't tell me all that stuff. Let me listen for a bit then let me know if anyone else is listening to something similar will you?

Gen, there's a guy on table 8 listening to Bruch's Adagio.

Where's table 8?

Left hand window.

Ah interesting. He looks nice but he's reading.

He's reading a kind of self-help book that would annoy you. Do you want to see a bit of it in case I'm wrong?

No thanks I don't want to read.

The guy two tables away is listening to that album you heard a bit of and wished you could get into. I can tell you about the band.

No just play it and if I don't respond well put the Elgar back on...How old is that guy?

He's two years younger than you.

Nice.

He's just started a relationship.

Bloody typical.

You should think about putting your info up again some time. Then you can meet new people; boyfriends.

Yeh well I don't want any one knowing anything about me, especially since it happened.

I don't trust people.

I know. That's sensible. I'm just saying at some point in future you might want to meet someone new. I'll keep it secure for you. Omelet's ready. Waitress is bringing it over.

Omelet?

-Yes please.

That looks good but you're thirsty.

Can I get anything else for you?

-Could I just have some water please?

Still or sparkling?

-Er...

Sparkling makes you burp.

-Sparkling please.

Gen, Emma has sent a message about going shopping today. She says she'll see at the Circus at 1 O'clock outside House of Fraser. Do you want to try walking there or shall I order you a cab?

I dunno. Maybe I should try getting a cab, I mean it is daylight...but I can't help being scared.

I know but don't worry you're not really on your own, I'm here. I'll order a cab for you. I'm fairly certain the driver won't try to hurt you. But at the slightest bit of trouble I'll trigger the panic alarm and the police will come to you. OK?

Yes OK.

The cab's on its way. I called the company you used before, the one that on the whole got to you much faster than other companies you tried.

Is it the company with that nice big fat driver who's like the only socialist cab driver ever?

Yes that's the company, you've enjoyed riding with their drivers 70% of the time over the past four years.

Have I been using them for four years? Doesn't seem that long.

Yes you've called them sixty-eight times...

It's OK don't tell me any more info.

I'll just tell you the cab will be here in ninety seconds.

OK.

You're feeling anxious Gen. But not as much as the last time you got in a cab. And you were with Becky and Simon then. That means you are getting more used to it. You're feeling better.

I don't know about that. Where's the cab? I hate standing on the street like this.

Go back in the cafe if you like. I'll know when it's outside.

Nah I'm OK.

Here's your cab. Do you want to speak to the driver or shall I just tell his sat nav?

He looks OK, I'll talk to him.

He's been working for this company for two years and has no accidents or complaints made against him.

-Hullo, I want to go to the Circus please.

OK. The Circus, sure! Do you mean the one with the elephants or the new shopping centre?

-I would love to see the elephants but I don't think they're in town are they? How about you just take me to the horrible new shopping mall instead?

OK. Ha ha ha.

I told you, you like this company.

Yep. Was I happy there for a second?

Yes, you were happy for four seconds.

Shush now.

-Hi Emma.

Ah. It's lovely to see you Gen. Give me a hug. It's amazing. You look so much better!

-Do I?

My God yes! Your scars have healed so much. You're looking like your old self a bit more!

-Oh right.

What was my old self like? What does she mean?

What she said just made you feel good. Doesn't matter what it meant.

So my darling where do you want to go first?

-Er, dunno...

How about we look at handbags first?

-OK, I'm not very good at handbags.

'Course you are. I want a new handbag anyway! Here they are. Oh, where's the Polly Painton bags? I love her bags, I'm sure you'd really like them... Ah apparently they're upstairs near the shoes for some reason. Shall we go up and have a look?

-Yeh sure.

Gen, as we're going up the escalators do you want any suggestions from the store about what you might want to buy?

-Nah nothing.

Go on be honest.

-Well may be the handbags. Oh and shoes as well. I want to look at shoes.

OK. And also I want to remind you that you wanted to go to the Apple store and see the doctor. You could do that today.

Oh yeh, crap. OK. After. Now tell me about Polly Painton handbags and any shoes I'll like.

And do you want to hear the same background music as Emma?

-Hey Em, what music are you listening to?

Dunno not really listening, I just got some really old random muzak on... Oh, it's an old Massive Attack album from the 1990's.

Yeh, same muzak as Emma.

Hey Gen, these are the handbags, beautiful aren't they?

-I suppose so, yeh. They look handmade.

Here's the label.

-Oh, they are hand made. And really expensive.

I know but they're made in England. They smell so nice too.

Do you want to see the factory where they're made?

Nah. I want to the same sort of thing but in shoes.

OK.

-Em, I'm going to look at the shoes just over here.

OK sweetheart.

So, you know what I want; something I can run in that's also nice and smart and sexy and tough. You know, me in shoe form.

OK Gen, if you look at the range on display to the left and now look at the screen you can see what you could order by the same brand.

Hey they're Polly Painton shoes.

Yes but they haven't got those in stock and they haven't got your size in the one you like.

They've definitely not got my size in this one?

No.

It feels so nice.

These shoes on the screen are made in England. They'll fit you really snugly after you've worn them three times because they're Approx-Leather.

Ah right. Yes I want those.

Done. You're feeling happy with that. And you can feel safe because you know Emma's just there. You can go to see the doctor now. Just go and tell Emma.

-Em, I need to go to the Apple store and see the doctor.

Will you be OK?

-Yes I'm fine.

You don't have to lie.

You sure you're OK?

-Yep I'm fine.

Good, I'll come and find you in an hour then. Where's the new Apple store moved to?

-It's just at the top of the Tesco Village street.

-Hello. I'd really like to see a doctor... I usually see Christine but...

No problem, do you have an appointment?

-No I haven't got an appointment, that's the thing I...

Hmm. I'm afraid she's only taking advance bookings today.

Stay calm Gen.

-Yes but a lot of people don't turn up, do they?

I'm afraid there's twelve people waiting already.

I can't see anyone waiting, they're just buying things, they're not waiting.

Take it easy Gen, remember to breathe. There are other doctors here.

-There are other doctors here, right?

Yes but they've all got long waiting lists. I'm afraid we're extremely busy today because of the new store opening. We have special offers on everything including time with the doctors. How old is this guy, like eighteen? Why has he got his hair all sticking out to one side like that? It looks ridiculous.

Breathe Gen, breathe, calm. Think.

-Well who's got the shortest list? You see I can't be out long, I'm, I'm...

All the lists are pretty long...Oh wait a second, yes, there's Jim. Jim's in today and he has no one waiting.

-Why hasn't Jim got anyone waiting? What's wrong with Jim?

Nothing's wrong with Jim, he's just new and he's in today.

-OK I'll see Jim.

Well done Gen. He's just swiping the details from me.

There you go, no problem.

Stop saying no problem.

Jim'll be with you in five minutes madam.

Five minutes is OK to wait Gen.

He called me madam.

-OK, thanks.

No problem. Is there anything else you need today?

-I don't know yet.

No problem.

Of course it's not a problem, I'm not apologising for not buying anything. I'm saying I don't know yet.

It's OK Gen.

At least I didn't say it out loud.

Hi I'm Jim. Do you want to come through?

Please take a seat. So... Gen. What can I do for you?

He doesn't know. He doesn't what happened to me.

You're just going to have to tell him.

-Don't you have my notes?

I'm really sorry but it looks like all the notes from the other store somehow got deleted in the move. I'm afraid we'll have to start again.

-Oh. So you don't know anything about me?

Well, I have your basic ID notes. And I know you have an iWish Daemon OS4 implanted.

How's that going?

-She's...it's...we're OK.

He doesn't know.

It's all right Gen, don't be anxious...look at his face...you can trust him.

-We're OK...now.

Did something happen?

I can't bare it.

Go on, just tell him... slowly.

-A burglar broke in to my house...at night..I was on my own...I was attacked.

Oh, I'm sorry...

-It...It was very extreme...a lot of things happened...I very nearly died.

Oh . . .

He can't handle it.

Yes he can. You're doing it right, keep going.

-I saved myself, I escaped.

Oh I see...

-No you don't see. I was alone you see...all alone. I'd disconnected the implant...the Daemon. I can't help thinking things would've been all right if I'd had it on. But if I had he would have known...he'd have taken it...

But the memory is all stored remotely and protected...it couldn't have been accessed.

He's got it all wrong.

No he's right.

-He'd have tried to cut the tag out of my head.

There wouldn't have been any point, they're not worth much in themselves...

Don't be angry...he's trying to help Gen.

...I mean...sorry...I mean that's unlikely to have happened.

Tell him more.

-But...but...what I'm trying to say is...I managed with out it...her...I saved myself...I got through it...as if she was there...I carried on as if she was there talking to me, helping me...but she was disconnected...the only difference then was that she couldn't call the

police because she wasn't connected. I got out and shouted for help. The neighbours called the police. The neighbours I'd never met before.

So...are you saying things are better without it...her?

Gen it's OK, be honest.

-I don't know.

Do you feel guilty that you might not need it or want it anymore?

-I don't know.

Are you saying you feel the implant is a part of your mind, a part of your consciousness?

-I don't know, I think so.

Do you think your own mind has adapted to the implant? So that it feels like it's connected even when it's not?

-Yes.

We get a lot of that. It's perfectly normal.

-Is it?

What er... happened to you obviously isn't normal. But your feelings of guilt and conflict about the implant, as if it's a person, that's normal. Everyone has inner voices but we have always been dismissive of them. Culturally we're still getting used to the idea of our inner voices being both a part of us and also objective. It's not really been studied or written about properly yet...I...er...that's what I'm studying...usually...I'm doing a PhD.

-Oh, I see.

Gen, I mean I'm Gen you're not Gen, I mean Daemon this is me talking to you. I'm going to disconnect you for a bit.

OK. I sense you're frightened and angry. That's OK, whatever you want. Would you like me to tell Emma to come and meet you now?

No just...just shut down will you?

What are you feeling now?

-It's OK I've disconnected her... it.

Did you feel you wanted to talk without it hearing?

-Yes... I feel guilty.

Look, everyone finds the Daemon works best when it uses your own inner head voice to speak to you. But that can get confusing, as it's the same voice whether the implant is connected or not. The advice, the counseling, yes they come from outside sources just like the social media and mapping do. The personality comes largely from you, you're triggering its learning by thinking the thoughts you think.

-But it knows my feelings when I don't know them myself.

Yes but that's one of its main functions isn't it? To give you what you need according to your emotional state. It's an EEG device so it knows when you are happy, sad, angry, frightened...

-Disappointed. That's always been my default emotion.

Well...yes it recognises all the grey areas...

-I was kind of joking...but actually I think life's a series of accidents and I find being miserable is one of the joys of life.

Ha, well. Look, you don't have to defend yourself to the Daemon or me. It translates your emotions but its other great function is that it also learns semantics. The language you think in, the words you think to yourself are, as it were, on top of your emotions. The Daemon just learns the kinds of words you use and the sound of your voice and it speaks to you using

those. Some people find they'd rather use the old external type with the headset and pad. Then they feel sure it's not their own thoughts. Along with that, the images appearing on the pad rather than in the mind's eye helps to keep things separate too. Some people have the implant connected but don't have the voice on. Then it's just responding to emotions, organising and making calls, things like that.

-I know but I like having the...you know, the companionship. It doesn't cut me off from people, it helps me be more socialable, more confident. It's just that I haven't adjusted yet to it being entirely me and not me talking to another person in my head isn't it?

I think so. The Daemon is a piece of technology, which is meant to help you and make life easier. It frees you up to be more social and emotional, it enhances what's already there if you like. You know, people have always felt a strong bond with their personal machinery since the 20th century; they loved their petrol cars and felt lost with out their mobile phone.

-Yes but you see that's why I've never given my Daemon a name. Even if I really rely on it and like it being there, I've always wanted it to stay like a piece of technology and not a person inside my head. When I had the Daemon toy companion, the cuddly alien, I gave that a name. Even though it was reacting to my feelings, my brain patterns, whatever you call them. Because it was outside of me and it was something I could cuddle and hold on to.

What did you call it?

-I called it Harold Wilson.

Uhuh.

-Why are you writing that down?

I'm not I was doodling to hide the fact that I wanted to laugh. I mean... I understand. Naming a Daemon toy makes sense to you but you think naming your iWish Daemon OS 4 would make it seem like a living personality invading your private thoughts. But actually a lot of people find giving it a name helps. It stops it being so confusing.

-Hmm.

Have a think about that.

-Hmm. Maybe I'll call it Jim.

No, really I wouldn't. I'm sorry we're going to have to stop now.

-Really?

Yes I'm sorry, time's up. I actually now have other people queuing to see me, believe it or not.

-I didn't realise the time.

Your Daemon usually tells you I suppose.

-Oh yes.

It was really nice to meet you. I mean that... and I'm so sorry to hear about the terrible thing that happened to you.

-Thank you. Yes you've been good, thanks.

Will you come and see me again?

-Er... no I can't afford it. Also it's always so busy and the guy on the desk with the horizontal hair is really annoying.

No problem.... I'm joking. Let me get the door. Well look after yourself anyway.

-Er...where do you study your PhD?

Me? I er...well my tutor's at the University. I hang round the library in town a lot. They've still got a few ancient books in the back room you can ask to see. I like the smell of old books. Boring really... but that's me.

-No it's not boring. You're not boring. I mean they've got a cafe there, right?

Yeh, I'm always in there.

-OK, well maybe I'll see you there. You can tell me more about it. Maybe we can go to a book smelling afterwards.

Sure yes. Oh I see yes, like wine. Yes, that'll be good. Yes. No problem.

Are you sure you'll be all right on your own tonight Gen?

-Yeh, I think so Emma. Thank you for taking me shopping and thanks for dinner.

A pleasure darling. I'll watch you go in.

-You don't need to.

Gen it's dark and the shouty man's over there fighting himself again. I'll watch you go in through the door.

Hello can you unlock the door please? Unlock the door please...Oh, I forgot. Daemon, wake up.

Hello Gen.

Can you open the door please?

Yes.

-Emma, I'm fine. It's open now, bye.

Now double lock it behind me please.

Done. I'll put 'winter cosy' lights on and the FXfire. The kettle's on now and I'll put on an old episode of Emerald City Law...Sit down Gen and just relax for a minute. That's better.

Do you know what guilt is?

I know how you feel when you feel guilty. You feel unnecessarily guilty most of the time.

I felt guilty about turning you off today.

You never have to feel guilty about me. You can't hurt my feelings. I'm a service designed to help you. I'm here to totally support you.

Like a therapist.

Well yes.

You mean, I do all the talking and you nod sagely.

Yes.

You ask a few questions and I discover for myself how to be happier and have a better life.

If you like.

I'm so tired.

Yes you are. Take your pills.

OK now turn everything off and let's go to bed.

Gen, you said 'let us' go to bed.

I know that's kind of freaky.

Not really. But wouldn't it be good if you were to really believe that you can get a boyfriend?

Yeh. Maybe I'll pop in the old library and have a Decaffacino with Doctor Jim.

Why not? Sounds like a nice idea.

What the hell am I going to do if I ever sleep with someone? With you there it'll be like a threesome.

No you can do what other people do, put me on 'house management auto' or disconnect me completely.

OK but I could keep you on until the last minute so that I can have like the music and the lights or the bed responding to how I feel. I'm just thinking; if a Daemon could be paired with another Daemon then we could have like a whole symphony of things happening around us while we're having sex.

That's not been developed yet Gen. You should write the idea down and send it to someone! Tomorrow I'll find out more about it for you.

Thanks but I think we'll find that in the morning it doesn't seem like such a brilliant idea.

Go to sleep now Gen. The doors are all locked, you're safe. Shush now Gen, go to sleep.

I'm going to give you a name.

Think about it tomorrow.

I'll dream about it while I'm asleep...I'll call you...I'll call you...Genevieve.

That's your name.

2. Conclusion

My plan for 2011 is to work with several different partners towards developing current BCI tool kits, particularly the *Emotiv* suite, to create a prototype interface that allows severely disabled young people to express themselves creatively. This SFP depicts the use of BCI as a mass-market phenomenon, illustrating its particular use for sufferers of social isolation and Post Traumatic Stress Disorder. Ultimately I would like to see the technology used by everyone and the most inspiring place to start is with young adults with PMLD (physical multiple learning difficulties). The *Zone Club* is a Bristol based creative club that provides the opportunity for around twenty PMLD participants to engage with music, performance and digital arts. Some of the participants have little movement or vocal communication; they are unable to speak or use facial expressions, the extent of their movement is to use a finger to control a wheelchair. We will be looking at developing an interface that allow the participants to express themselves directly through their thoughts and emotions. This may involve things like expressive on-screen avatars directly controlled by the user through BCI. They may also be able to create digital games and give live audio-visual performances using the interface we develop. I feel this could be a massive and emotional step in communication of the mind.

3. References

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