HOW TO BE A GOD

A CODE OF CONDUCT FOR DEITIES-TO-BE

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• Hi, so, I’m Richard Bartle, and I’m honorary professor of game design at the University of Essex — and guest professor at the University of Uppsala, Sweden
• My specialist area is virtual worlds — massively-multiplayer online role-playing games — MMORPGS for short — MMOS for shorter
• There’s a reason they’re my speciality...
• SECRET WORLD LEGENDS, FUNCOM, 2017

• I HAD A /PLAYED OF 45 DAYS WHEN I QUIT
  – PLUS 150 DAYS ON THE SECRET WORLD...
• **STAR WARS: THE OLD REPUBLIC, BIOWARE, 2011**

• **THE MOST EXPENSIVE GAME YET MADE**

  - I played 6h/day for 137 days in 2012
WORLD OF WARCRAFT

- WORLD OF WARCRAFT, BLIZZARD, 2004:
EVEQUEST

- EVEQUEST, SONY ONLINE ENTERTAINMENT, 1999

You give 1 silver 3 copper to Parn Gylwyn.
You give 1 silver 3 copper to Parn Gylwyn.
Parn Gylwyn tells you, 'That'll be 3 silver 3 copper per Ration'.
You give 3 silver 3 copper to Parn Gylwyn.

Chrystia shouts, 'OOOO FINALLY one to the death!'

Darthen saved.

Talmadge says, 'thanks ... we'll be back soon'.
Talmadge says, 'howdy troll ... lookin good'.
Talmadge rolls on the floor laughing at Kyllum.
Talmadge bows before Kyllum.
Talmadge waves at Kyllum.
A barrel has been left here.
An angry-looking statue of Hoturi is standing here.
An angry-looking statue of Priapus is standing here.
A statue of Odin is standing behind the altar.
A Sign for Newbies is here.
You are a guest here until you save yourself.

If you need
to get to your guild, use the guild medallion in your inventory. If you lose it, pray to the statue of Odin for another.

105m/202e/38hlook
Temple of Udgaard

You are inside the small and humble village temple in Udgaard. A simple stone altar, with strange stone carvings, is placed against the north wall. A small humble donation room is to the east. The temple exit is south to the Village Square.

A barrel has been left here.
An angry-looking statue of Hoturi is standing here.
An angry-looking statue of Priapus is standing here.
A statue of Odin is standing behind the altar.
A Sign for Newbies is here.

105m/202e/38h
Your wimpy value is set to 15. See 'help change' to see what that means.

The Temple Of Paradise
You stand in the Temple of Paradise, a huge sandstone structure whose walls are decorated with ancient carvings and runes, some so old that even the priests no longer know their meanings.
A single set of steps lead south, descending the huge mound upon which the temple is built and ending in the forests below.
A roaring fire burns here. Its flames make the temple sparkle and glitter.
At your feet a huge sacrificial pit allows you to give valuables to the gods in the hope of being rewarded.
A furled umbrella lies here.

Obvious exits are:
North : Welcome Center
South : Forest Track
   Down : Forest Track

Last login: Wed Sep  7 17:43:26 2005

>
Mud, Roy Trubshaw & Richard Bartle, 1978

Narrow road between lands.
You are stood on a narrow road between The Land and whence you came.
To the north and south are the small foothills of a pair of majestic
mountains, with a large wall running round. To the west the road
continues, where in the distance you can see a thatched cottage
opposite an ancient cemetery. The way out is to the east, where a
shroud of mist covers the secret pass by which you entered The
Land. It is raining.

*W *

Narrow road.
You are on a narrow east-west road with a forest to the north and
Gorse scrub to the south. It is raining. A splendid necklace lies
on the ground.

* 

Mud didn't come from anything

I've therefore been thinking about virtual worlds for some time...
• Human beings have been creating virtual worlds for over 40 years
  – First in text, now in 3D, more to come...
• These aren’t mere games though
  – Or even mere worlds
• They’re realities
  – Self-contained spaces of existence governed by a prescriptive set of rules – their physics
• Those who control the physics of a reality are the gods of that reality
• **This means that I am a God**
  – It’s **Great**! I **Love** being a God!

• **Note that Being a God of such a reality doesn’t mean I’m the God of the reality in which we exist**
  – Although <narrows eyes> it doesn’t mean I’m **not**, either…

• I’ll be calling the (objective) reality we live in reality in these slides
  – Virtual worlds are **Sub-realities** of reality
At present

• The realities we create at the moment aren’t particularly sophisticated

• Most glaringly, the non-player characters (NPCs) we populate them with are not remotely intelligent

• What if they were intelligent, though?—as smart as us or smarter

• What if they were also conscious, self-aware and able to think?—in other words, sapient

• Creating sapience is the end goal of AI
Google it

• Now we're some way off having NPCs with the same or superior reasoning and reflective powers as us

• However, time is on our side!

• Would 100 years be enough, do you think?
  – Or 100,000? 100,000,000? 100,000,000,000?
  – The heat death of the universe is a googol years away

• You want planet-sized computers? You can have planet-sized computers!

• Take as long as you like!
• From here on, I shall assume that we will be able to create realities that are embodied digitally in computers and populated by smart-as-us NPCs.
• My aim is to point out some unusual moral and ethical questions that AI specialists of the future will face.
• Note that I’ll only be considering sapient beings with no presence in reality – except that their reality is implemented in it.
• Evil robot overlords are not today’s topic.
MORAL BEINGS

• AS HUMANS, WE ARE MORAL BEINGS

• WE EACH OPERATE UNDER OUR OWN, PERSONAL SYSTEM OF MORALITY
  – OUR SENSE OF WHAT’S RIGHT AND WRONG

• THE FIRST QUESTION WE OUGHT TO ASK IS WHETHER THE SAPIENT NPCs WE WILL CREATE ARE MORALLY-CONSIDERABLE
  – THAT IS, DOES OUR SYSTEM OF PERSONAL MORALITY APPLY TO THEM?

• FOR: THOSE ARE FREE-THINKING INDIVIDUALS

• AGAINST: THOSE ARE BITS IN A DATABASE
• For most of us, all moral beings are morally-considerable
  – although not all morally-considerable beings are moral, for example babies

• If NPCs have their own sense of morals, we’d have to be amoral ourselves not to regard them as morally-considerable

• In this talk, I take the view that our self-aware NPCs of the future are moral beings and so are morally-considerable
  – if you disagree, I’ll get back to you later
Morals and Ethics

• **A shared set of agreed-upon morals is an ethical system**

• **Difference between ethics and morals:**
  
  – Cynthia Payne was **imprisoned** in the 1980s for “keeping a disorderly house”
  
  – Her establishment was frequented by **MPS**, lawyers, CEOs, **vicars** and at least one **peer**
  
  – When asked why she wouldn’t **name** any of her famous **clients**, she replied “my **morals** is low but my **ethics** is high”

• **We’ll need an appropriate ethical system in place before making sapient NPCs**
Easy Question

• Suppose we have **created** a reality populated by morally-considerable NPCs
  – assuming it’s actually ethical to **do** so…

• Is it ethical to **switch off** the computer that this reality is running on?

• There could be 10 billion NPCs in that reality who’d be **extinguished** as a result

• You would effectively have **killed** 10 billion sapient creatures
  – if you **told** them you were about to do it, they’d be **livid**
• Does the fact that they only exist because of us in the first place mean we have the right to kill them anyway?

• We don’t think that about children, even though they only exist because of us—and often alcohol.

• Then again, we breed beef cattle specifically to kill, and they wouldn’t exist otherwise—“meat is murder, veganism is genocide”

• Let’s say we do feel bad, but our planet-sized computer is too costly to run
• **Would an acceptable solution be to dump a snapshot of the reality’s state?**

• **We could then safely power down the computer and reload the reality once our finances had improved.**

• **The NPCs wouldn’t know any different**
  - Their reality would appear seamlessly continuous to them.

• **If our finances didn’t improve, though?**
  - The reality would never emerge from stasis.
  - Pretty well the same as destroying it?
• What if we later became insanely rich?
• We could buy multiple computers and reload the save file multiple times.
• Each of these forked realities would create a new, independent timeline.
• Would it be ethical to do that?
• How about if we subsequently merged two realities together?
• It would contain two copies of people.
• Would doing that be ethical?
• WHAT IF WE MERGED BY **DELETING** ONE OF THE COPIES OF THE PEOPLE?
  - THEY’RE STILL **ALIVE**, SO HAVE WE KILLED THEM?

• **W**OULD **I**T **M**AKE A **D**IFFERENCE **I**F THE **R**EALITIES **W**ERE **D**ETERMINISTIC?
  - THEY’D ALL BE IDENTICAL

• **H**OW **A**BOUT **I**F WE HAVE JUST ONE REALITY AND **P**ERIODICALLY SAVE ITS STATE, RELOADING **I**F SOMETHING HAPPENS THAT WE **D**ON’T **L**IKE?
  - **O**NLY THE NPCS BORN **AFTER** THE **S**AVE **P**OINT **W**OULD **C**EASE TO **E**XIST
• These are relatively **easy** questions to ask, as we can do this stuff **already**
  – Just not for sapient NPCs

• They’re hard to **answer** because they’re **unlike** anything that’s stressed our morals before

• I **won’t** be trying to answer them **here**

• However, they **do** need to be answered

• What if there’s a **breakthrough** in AI and EE and these realities are **10** years away, not 100+?
• SAPIENT: CAN THINK
• SENTIENT: CAN FEEL
• A SMALL NUMBER OF HUMANS TREAT NO-ONE BUT THEMSELVES AS MORAL BEINGS
  – EXAMPLE: PSYCHOPATHS
• ALMOST EVERY HUMAN TODAY TREATS ALL SAPIENT BEINGS AS MORALLY-CONSIDERABLE
  – ALTHOUGH NOT IN THE TIME OF SLAVERY...
• MOST PEOPLE WILL ALSO TREAT SENTIENT BEINGS (E.G. DOGS) AS MORALLY-CONSIDERABLE
  – WHILE ACCEPTING THAT DOGS AREN’T MORAL BEINGS
DISTINCTION

- **People can relate to suffering**
  - Monkeys are not indifferent if you kill their babies
  - Tying a firecracker to a *cat’s tail* is not the same as tying it to a *fence*

- **Are sentient-but-not-sapient beings less important than sapient beings?**
  - Would you save a dog over saving a toddler?

- **Are beings in a created reality less important than beings in reality?**
  - Save the *real* dog or the *virtual* saint?
SUFFERING

• WHAT ABOUT THE SENTIENT-BUT-NOT-SAPIENT CREATURES IN OUR CREATED REALITIES?
• SHOULD IT TROUBLE US IF THEY SUFFER?
• WRONG QUESTION!
• RIGHT QUESTION: SHOULD WE IMPLEMENT SUFFERING AT ALL?
• WE’RE GODS!
• IF SUFFERING EXISTS IN A REALITY THAT YOU CREATED, IT’S BECAUSE YOU WANT IT THERE – OR I GUESS IT COULD BE A BUG...
• WHY WOULD YOU IMPLEMENT SUFFERING?
VERISIMILITUDE

• IN A WORD: VERISIMILITUDE
  – THERE ARE OTHER WORDS, SUCH AS SADISM, BUT EVEN THAT ONE NEEDS VERISIMILITUDE

• YOU WOULD MAKE THE MORAL BEINGS YOU CREATE BE SUBJECT TO SUFFERING BECAUSE THAT'S HOW REALITY WORKS

• WHY WOULD YOU WANT TO CREATE A REALITY THAT WORKS LIKE REALITY, THOUGH?

• BECAUSE THEN YOU CAN MORE EASILY OBSERVE AND POSSIBLY VISIT IT

• THIS LEADS TO AN IMPORTANT QUESTION...
Why would you create a reality in the first place?

Well, there are 8 reasons, which I’ll list on the following slides.

Each set of 8 reasons can be applied to 4 beneficiaries:

- you, other humans, NPCs, higher powers
- I won’t be covering that last one in depth...

Also, note that a motivation to create a reality isn’t the same as a motivation to continue running it.
• WHY CREATE A REALITY FOR YOURSELF?
  – TO PLAY IT FOR **FUN** YOURSELF
  – TO **GROW** AS A PERSON
  – TO **LEARN** HOW TO MAKE SUCH WORLDS
  – TO **TEACH** YOURSELF SOMETHING, E.G. CODING
  – AS MAKE AN **ARTISTIC** POINT
  – AS A SHOWCASE, TO DEMONSTRATE THAT YOU CAN **CREATE** IN THIS MEDIUM
  – AS A **PROTOTYPE** OF WHAT YOU REALLY WANT TO MAKE
  – FOR **MONEY**
• **WHY CREATE A REALITY FOR OTHER PEOPLE?**
  - For others to play for **FUN**
  - For players to **transform** themselves
  - To **simulate** some aspect of reality you want to test
  - To **teach** something, as a serious game
  - As **satire** on reality
  - For your players to tell you what they **really** want from the reality
  - So players can **create** sub-sub-realities
  - For your **players** to make money
Why Create a Reality for Your NPCs?

- To be glorified by your NPCs
- So your NPCs can improve themselves
- To reward the best NPCs
- To teach your NPCs
- To give the gift of life to your NPCs
- To find out what your NPCs want, so you can give it to them
- So your NPCs can worship you, and so achieve a sense of purpose
- So your NPCs can serve you
SPIRITUAL

• EXAMPLE: ANCESTOR SIMULATION
• I’M NOT GOING TO ENUMERATE THE REASONS HERE BECAUSE I DON’T WANT TO PROVOKE A RELIGIOUS ARGUMENT INADVERTENTLY
• BASICALLY, PEOPLE MIGHT CREATE A REALITY FOR REASONS TO DO WITH HOW THEY BELIEVE REALITY CAME INTO BEING
• THE 8 MOTIVATIONS DO STILL WORK, BUT I’LL LEAVE IT TO YOU TO FIGURE THEM OUT
  – OR YOU CAN EMAIL ME IF YOU DON’T BELIEVE I’VE ACTUALLY DONE THIS PART OF THE RESEARCH...
PAIRS

• THESE 8 MOTIVATIONS PAIR UP
  – REALITIES AS PRODUCTS
    • TO PROTOTYPE, TO PROFIT
    • OBJECTIFIES BOTH PLAYERS AND CONTENT
  – REALITIES AS TOOLS
    • TO LEARN, TO TEACH
    • OBJECTIFIES PLAYERS, SUBJECTIFIES CONTENT
  – REALITIES AS DESTINATIONS
    • TO BE ENJOYED, TO HELP PERSONAL GROWTH
    • SUBJECTIFIES PLAYERS, OBJECTIFIES CONTENT
  – REALITIES AS COMMUNICATION
    • TO MAKE AN ARTISTIC POINT, TO ENABLE CREATION
    • SUBJECTIFIES BOTH PLAYERS AND CONTENT
• **ALL OF THE ABOVE REQUIRE THAT WE CAN OBSERVE OUR CREATED REALITIES**

• **PERSONAL AND SOCIAL MOTIVATIONS ALSO REQUIRE THAT WE CAN VISIT THEM**
  – FOR DIVINE AND SPIRITUAL, IT’S **OPTIONAL**

• **IF WE WANT TO OBSERVE A REALITY, IT HAS TO MAKE SENSE TO US**
  – SOME **SIMILARITY WITH REALITY IS THEREFORE DESIRABLE**, ALBEIT NOT **ESSENTIAL**

• **TO VISIT IT, IT HAS TO SHARE ENOUGH CHARACTERISTICS TO PERMIT IMMERSION**
IMMERSION

• **THE CLOSER THE OVERLAP WITH REALITY, THE EASIER IT IS TO BECOME IMMERSED**
  - HENCE VERISIMILITUDE

• THE MATCH DOESN’T HAVE TO BE PERFECT

• **SOME DIFFERENCES WILL BE IRRELEVANT OR CONTEXTUALLY ACCEPTABLE**
  - NO TOILET TRIPS! MAGIC WORKS! GHOSTS EXIST! MARZIPAN TASTES NICE!

• STILL, IT MUST INTERSECT **ENOUGH** THAT WE CAN **WILL OURSELVES TO BELIEVE THAT WHAT WE KNOW IS NOT REALITY IS REALITY**
SUFFERING

• SO, BACK TO **SUFFERING**

• WHETHER WE **WANT** SUFFERING IN OUR CREATED REALITY DEPENDS ON **TWO** THINGS:
  
  – **HOW MUCH LIKE REALITY** WE WANT OUR WORLD TO BE FOR REASONS OF **IMMERSION**
  
  – **HOW IMPORTANT THE FEATURE IS** TO OUR MOTIVATION FOR **CREATING** THE REALITY
    
    • **PERHAPS HERE WE DO WANT FENCES TO FEEL PAIN**

• **DESIRING** OUR CREATED REALITY TO CONTAIN SUFFERING STILL DOESN’T MEAN IT’S **ETHICAL** TO **IMPLEMENT** IT, THOUGH
THE **DEFAULT** POSITION FOR A MORAL BEING IS THAT IT'S **IMMORAL** TO MAKE MORALLY-CONSIDERABLE INDIVIDUALS SUFFER **UNLESS**:  
- THEY **FREELY** AGREE TO IT  
- IT'S TO SAVE **THEM** OR SOMEONE **ELSE** FROM SOMETHING WORSE

**AH, YES, “SOMETHING WORSE”...**

**ARE WE GOING TO IMPLEMENT **DEATH**?**

**WE DON'T **HAVE** TO – WE CAN MAKE OUR **NPCS** LIVE **INDEFINITELY**  
- AND IGNORE **AGING** PAST MATURE, TOO!
• **WE ALREADY KNOW THAT PERMANENT DEATH IS UNNECESSARY FOR NPCs**
  - **MOST** MMOS MAKE NPCs WHO DIE **RESPAWN**

• **WHY, THEN, WOULD WE IMPLEMENT IT?**

• **WELL IT COULD BE FOR THEIR OWN BENEFIT**

• **IT SUCKS FOR INDIVIDUAL NPCs, BUT ON THE WHOLE IT’S GOOD FOR THEM**
  - **THEY GET TO DEVELOP IN WAYS THEY OTHERWISE WOULDN’T**

• **THIS DOESN’T APPLY TO OUR CURRENT, NON-SAPIENT NPCs, BUT FOR SAPIENT ONES?**
**CONSEQUENCES**

- We might be able to **persuade ourselves** that death has more **ups** than **downs**

- Are we going to allow NPCs to **kill** one another, then?

- Our NPCs have **free will**, so some will be **Jerks**

- Some jerks will **kill** other NPCs

- Do we **let** them? We **can** stop it
  - We could even make the **killer** die and the **victim** get better
  - Murder **does** seem a tad **harsh** on victims
Free Will

- You will have noticed that I mentioned Free Will back there...
- If our NPCs are sapient then they must, by definition, have free will.
- If we were to remove their free will, they would no longer be sapient - thereby killing the person who used to exist.
- Does this also prevent us from editing their minds?
  - To stop them being a jerk?
  - To imbue them with our own morals?
The arguments for **removing free will** are therefore **congruent** with those for implementing death.

This leads to an interesting situation.

One **ethical** reason for making a morally-considerable being **suffer** is “to save them from something **worse**”

If **not** having free will is equivalent to death, that **would** be something **worse**.

It could be that suffering is **necessary** for free will.
• The line of reasoning for suffering's being necessary would go like this:
  - Unless bad things happen, you can't reflect on what's right or wrong
  - You can't as a result develop morals
  - You're not therefore a moral being
  - Only moral beings can be sapient
    • Note: This is the weak link of the argument
  - Free will and sapience are mutually dependent
  - Therefore unless bad things happen, you can't have free will
We know that the realities we create are consequent on reality.

The NPCs we create don’t know this unless we tell them.

So, do we tell them?

Whether we do or not depends on why we created the reality.

For some reasons, clearly we’d tell them — if we want to be worshipped by them.

For other reasons, we wouldn’t — we’re simulating some aspect of reality.
• Because they're free-thinking, they're going to speculate on their own existence regardless.

• They may well read into the design of their reality signs that it has gods – which is true, it does.

• They will be completely wrong about our nature, though, unless we tell them – even then they may not believe us.

• Should we correct their false beliefs? – again, it depends on why we created the reality.
Players

- The situation is **Complicated** by the presence of **Players**
- Players are people from reality who **visit** the reality we have created
- We have **No Control** over them
- They could tell NPCs **anything** and we couldn’t stop them
  - Even that they’re the gods
- We merely have to clear up their **mess**
- Note that **Visitors** from reality could **expose** reality’s existence
If our NPCs know there's a higher reality, they'll ask awkward questions:
- Can we visit this reality?
- Do we get to go there when we die?
- Why do we die in the first place?
- What's the point of our existence?

You'd better have some answers:
- Yes, we can give you control of a robot
- No, you die when you die
- So everyone else can develop
- To make us pots of money
Certainty

- Is the reality we create **deterministic**?
  - Is there **uncertainty** in it?
- If there **isn’t**, our NPCs **don’t** have free will, they merely **think** they have it
  - We could **reconstruct** their reality as it is now simply by **rebooting** it from its starting conditions and **running** it awhile

- The **entirety** of a deterministic reality is embodied in its code plus starting set-up
  - **Eve Online** generated its universe procedurally
  - It used **42** as the random-number seed
A **non-deterministic universe introduces genuine uncertainty**

- For example by using a RNG

This means NPCs can have **free will**

However, it means we, the gods, are not **omniscient**

We **can’t dump the reality’s state and figure out what will happen next**

- In a **deterministic reality, we can**

Therefore NPC **free will and god omniscience are incompatible**
BUT NO!

- **Uncertainty doesn’t have to come from a random-number generator**
- **Players will introduce uncertainty into what might otherwise be an entirely deterministic reality**
- **This means that the gods can be omniscient with respect to the reality and that its NPCs can have free will**
- **So, if a reality’s gods are omniscient, then its NPCs derive their free will from visitors coming from the gods’ reality**
• Our NPCs live in a **sub-reality of reality**
• Sooner or later, they will attempt to create their **own** sub-sub-realities
• Whether we let them or not depends on why we created **their** reality
  - Some motivations care, most don’t
• It raises a **new** question, though
• How do we treat the NPCs in the realities our **own** NPCs have created?
  - Do we let our NPCs have **free rein**?
  - What if our NPCs **mistreat** their NPCs?
• Because the sub-reality and sub-sub-reality are both consequent on reality, we can in theory move NPCs between them.

• We could **ascend** a sub-sub-reality’s NPC to a sub-reality as a **regular** NPC in that sub-reality.

• We could **descend** a sub-reality’s NPC to make them an NPC in the very sub-sub-reality they **created**!

• Yes? No? How would we begin to decide whether doing this is ethical or not?
• I HAVE A **FINAL POINT WITH WHICH I’D LIKE TO END**

• **THIS TALK HAS CONCERNED THE RESPONSIBILITIES THAT WE, AS GODS OF THE REALITIES WE CREATE, HAVE FOR THE NPCs OF THOSE REALITIES**

• IN REALITY, WE’RE THE NPCs

• **MANY PEOPLE BELIEVE THAT THERE ARE ONE OR MORE GODS OF REALITY**

• EVERYTHING WE CAN DO TO OUR NPCs, ANY GOD OF REALITY CAN DO TO US
• I’ve raised a **number** of questions today about how to **treat** NPCs

• You’ll have been **pondering** how you’d answer them according to your **own moral code**
  – Those of you not playing on your phone...

• Do your own morals **match** the ones that any (presumed) god of reality seems to have **exhibited**?
  – What does that say about **you**?
  – What does that say about the **god(s)**?
• I said **earlier** that I’d get back to those of you who decided that sapient NPCs are **not** morally-considerable.

• Well, **you** are sapient NPCs.

• By your **own** argument, **you** are therefore **not** morally-considerable.

• Therefore, none of us have to pay **any** attention to your opinions whatsoever.

• **Ethics from Essex** – who’d have thought?