

BIDIRECTIONAL RESEARCH

(ILLUSTRATED USING AN UNCONVENTIONAL EXAMPLE)

DIGRA/FDG JOINT CONFERENCE

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INTRODUCTION

- AS THIS IS A **JOINT** CONFERENCE TO PROMOTE THE **EXCHANGING** OF **IDEAS** ABOUT DIGITAL GAMES, I THOUGHT I'D DO JUST **THAT**
- I'M GOING TO **DO** IT USING AN **EXAMPLE** WHICH IS, FRANKLY **BONKERS**
 - ALTHOUGH I'VE ACTUALLY BEEN **THINKING** ABOUT OVER THE COURSE OF SEVERAL **DECADES**
- MY **AIM** IS TO SHOW THAT **RESEARCH** IN GAMES CAN HELP **OTHER** DISCIPLINES IN A WAY IT **DOESN'T** AT THE MOMENT
 - WHILE NOT GETTING THINGS **THROWN** AT ME

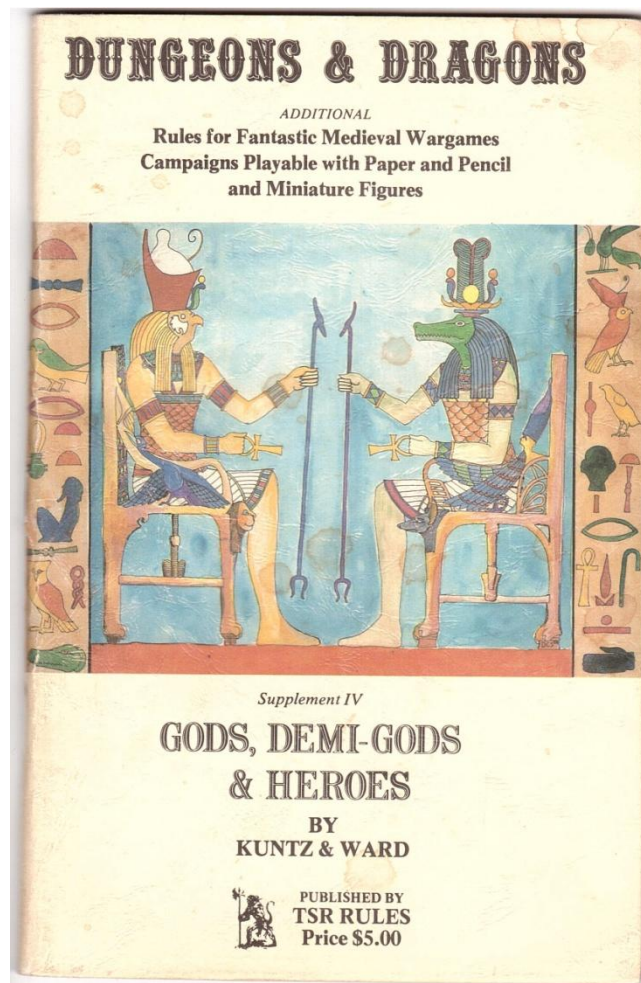
CROSS-DISCIPLINARY RESEARCH

- IN **GENERAL**, WHAT IS A RESEARCHER'S RELATIONSHIP WITH **ANOTHER** DISCIPLINE, **X**?
- **NONE** – THEY STAY IN THEIR HOME DISCIPLINE
- **IMPORT**
 - USE **X** TO EXPAND OR IMPROVE THEIR HOME DISCIPLINE
 - “HMM, BIOLOGY'S NEUROSCIENCE COULD HELP MY AI”
- **EXPORT**
 - USE THEIR HOME DISCIPLINE TO EXPAND OR IMPROVE **X**
 - “HEY, PHYSICS, TRY USING MY TENSOR FLOWS”

- SUPPOSE **X** IS COMMERCIAL **GAMES** RESEARCH
- **IMPORTING** GAMES THEORY AND PRACTICE TO HOME:
 - WHAT THEORIES OF ECONOMICS, **GENDER** STUDIES, PSYCHOLOGY, LAW EXPLAIN THIS SITUATION?
 - **GAMIFICATION**, AI, **SERIOUS** GAMES, ...
- **EXPORTING** HOME THEORY AND PRACTICE TO GAMES:
 - CALL **THAT** STORY/ECONOMICS/COMMUNITY? **THIS** IS STORY/ECONOMICS/COMMUNITY!
 - GAME **STUDIES**, LITERATURE, FILM, ANIMATION, ...

GODS, DEMI-GODS AND HEROES

- THIS IS FOR ALL YOU OLD-TIMERS OUT THERE...



COVERED?

- THE IMPORT/EXPORT METAPHOR **SEEMS** TO COVER ALL EVENTUALITIES, BUT IT **DOESN'T**
- IF YOU LOOK AT A **DIFFERENT** FIELD THROUGH THE LENS OF YOUR **OWN** FIELD, YOU ONLY SEE **ONE** SIDE OF THE COIN
 - YOU ONLY GET ANSWERS TO QUESTIONS YOU **ASK**
 - YOU WON'T EVEN **SEE** THE QUESTIONS THAT A PRACTITIONER OF THE **OTHER** FIELD WOULD ASK
- EXAMPLE: EXTENSIVE STUDY OF THE MATHEMATICS OF **ART** TELLS YOU LITTLE ABOUT THE ART OF **MATHEMATICS**

HOME GAMES

- WHAT IF YOUR **HOME** RESEARCH DISCIPLINE IS **GAMES** AND **X** IS SOME **OTHER** DISCIPLINE?
- YOU CAN:
 - WORK ONLY IN GAMES, IGNORING **X**
 - **IMPORT** IDEAS FROM **X** TO EXPAND AND IMPROVE UNDERSTANDING OF GAMES
 - **EXPORT** IDEAS FROM GAMES TO EXPAND AND IMPROVE UNDERSTANDING OF **X**
- GAMES RESEARCHERS ALMOST **ALWAYS** ONLY DO THE ONES IN **BLUE**
 - THEY **DON'T** APPLY GAMES TO **OTHER** DISCIPLINES

WHY?

- THE **REASON** FOR THIS **ISN'T** BECAUSE GAME RESEARCHERS ARE **SELFISH PARASITES**
 - THEY **MAY** BE, BUT IF SO ITS IRRELEVANT
- ITS BECAUSE THEY DON'T THINK THEY **KNOW** ENOUGH ABOUT OTHER DISCIPLINES
 - NOT THAT THIS EVER STOPPED PEOPLE **FROM** OTHER DISCIPLINES THINKING ABOUT **GAMES**
- WELL THEY NEED TO BE MORE **CONFIDENT!**
- YOU **CAN** USE GAMES TO BRING NEW **INSIGHTS** TO OTHER DISCIPLINES THAT PEOPLE LOOKING **AT** GAMES WOULDN'T **SEE**

EXAMPLE

- I'M GOING TO SPEND THE **REST** OF THIS TALK ILLUSTRATING THIS USING AN **EXAMPLE**
- IT CONCERNS WHAT DESIGNERS AND DEVELOPERS HAVE LEARNED FROM **MMORPGS**
 - BECAUSE WHY WOULD I CHOOSE SOMETHING **ELSE?**
- I'M GOING TO **USE** THIS KNOWLEDGE TO TALK ABOUT A DISCIPLINE THAT THE ATTENDANCE LIST TELLS ME **NO-ONE** HERE IS AN **EXPERT** IN
- THAT DISCIPLINE IS **THEOLOGY**
- [PAUSE FOR UNEASY **SILENCE**]

ON BEING A GOD

- SO, **I** AM A **GOD**
 - IF NOT A THEOLOGIST
- I'VE **BEEN** A GOD FOR **38 YEARS** SO FAR
 - THIS IS IN ACTUAL **PRACTICE**, NOT IN THEORY
- UNFORTUNATELY FOR **ME**, ALTHOUGH I **AM** A GOD, I'M **NOT** A GOD OF **REALITY**
 - OR AT LEAST I'VE DISCOVERED NO **EVIDENCE** TO SUGGEST I AM
- NOTE: I'M NOT SAYING I'M A PARTICULAR DEITY CALLED **GOD**, I'M SAYING I'M **A** GOD
- SO WHAT **IS** "A GOD"?

SOME DEFINITIONS

- A **REALITY** IS A SELF-CONTAINED **SPACE** OF **EXISTENCE** GOVERNED BY A GIVEN SET OF **PHYSICAL LAWS** ("LAWS OF NATURE")
 - THE ONE WE **LIVE** IN, I'M CALLING **REALITY**
- A **GOD** IS A **BEING** WHO CAN **CHANGE** THE **PHYSICAL LAWS** OF A **REALITY**
 - **CREATORS** OF REALITIES ARE THEREFORE, BY DEFINITION, **GODS** OF THOSE REALITIES
- **EXAMPLES:**
 - **PTAH** OF ANCIENT EGYPT CREATED **REALITY**
 - ROY **TRUBSHAW** AND I CREATED **MUD**

MORE DEFINITIONS

- A **DEMI-GOD** CAN'T **CHANGE** THE LAWS OF PHYSICS, BUT HAS **ACCESS** TO PHYSICS NOT GENERALLY **AVAILABLE**
- MOST DEITIES IN **MYTH** ARE LIKE THIS
 - ZEUS DIDN'T **CREATE REALITY**, BUT HE DOES HAVE **POWERS** OVER **REALITY** NOT SHARED BY OTHERS
 - EG. HURLING LIGHTNING BOLTS
 - ODIN DIDN'T **CREATE REALITY**, BUT HE CAN **DO** THINGS OTHERS CAN'T
 - EG. GIVE HUMANS THE GIFT OF LIFE
 - **SUPERNATURAL** BEINGS SUCH AS GHOSTS, SUPERHEROES AND VAMPIRES ALSO FIT HERE

AND MORE...

- A **HERO** IS A BEING FROM THE **SAME** REALITY AS A **GOD** OF A SUB-REALITY, WHO DESCENDS **INTO** THAT SUB-REALITY
 - THEY MAY HAVE **DEMI-GODLY** POWERS IN THAT SUB-REALITY
 - THEY MAY INDEED HAVE **GODLY** POWERS IN IT, BUT THAT'S **DANGEROUS...**
- AN **NPC** IS A BEING IN A **CREATED** REALITY WHO OPERATES **WITHIN** THAT REALITY USING ITS GENERAL ("NATURAL") LAWS OF PHYSICS
 - NPCs CAN'T TELL HEROES FROM NPCs **UNLESS** THE FORMER **USE** SUPERNATURAL PHYSICS

CREATION

- REALITIES DON'T **HAVE** TO BE CREATED
 - THEY CAN HAVE **ALWAYS** EXISTED
 - FOR **REALITY**, THIS IS THE **BUDDHIST** AND **JAINIST** POINT OF VIEW
- THEY CAN ALSO SIMPLY **EMERGE** FROM CHAOS
 - *CREATIO EX MATERIO*
 - AS IN THE ANCIENT **GREEK** CREATION MYTH
- THEY CAN BE CREATED FROM **NOTHING** BY A BEING FROM A **HIGHER** REALITY
 - *CREATIO EX NIHILO*
 - **ABRAHAMIC** RELIGIONS TAKE THIS VIEW

ALTERNATIVELY

- FINALLY, A GOD CAN **WILL** THEIR SELF **AND** THEIR REALITY INTO EXISTENCE TOGETHER
 - *CREATIO EX DEO* ... SORT OF
 - THIS IS WHAT **PTAH** DID
 - PTAH WAS APPARENTLY **UNCONCERNED** BY THE IMPLICATIONS OF GÖDEL'S INCOMPLETENESS THEOREM
- THERE **CAN** BE **MORE** THAN ONE CREATOR IN *CREATIO EX NIHILO*
 - VISHNU CREATED THE **WORLD**
 - BRAHMA CREATED THE **CONTENT**
 - ASIDE: ISN'T ENGLISH STRANGE?

KNOWN

- WHAT I'VE DESCRIBED SO FAR IS **WELL KNOWN** TO PHILOSOPHERS AND THEOLOGIANs
 - HENCE THE **LATIN**
- THIS IS ALL **THEORY** THOUGH
- THESE PEOPLE KNOW **NOTHING** ABOUT THE **PRACTICE** OF CREATING WORLDS
 - [ASIDE: OLD ACADEMIC JOKE. WHO COSTS LESS TO EMPLOY, A MATHEMATICIAN OR A THEOLOGIAN?]
- MMO DEVELOPERS **DO** KNOW WHAT'S INVOLVED IN **ACTUALLY** CREATING WORLDS!
- THIS CAN GIVE PHILOSOPHERS **NEW** INSIGHTS

GAMES

- SO:
 - AN MMO **DESIGNER** IN **REALITY** CREATES A **SUB-REALITY** VIRTUAL WORLD
 - THIS MAKES THEM A **GOD** OF THAT WORLD
 - THEY **POPULATE** THEIR WORLD WITH AI-CONTROLLED **AGENTS**
 - THESE ARE ITS **NPCS**
 - **PLAYERS** FROM **REALITY** **ENTER** THE MMO
 - THESE ARE THE **HEROES**
 - CUSTOMER **SERVICE** REPS ARE EMPLOYED TO SORT OUT ANY **PROBLEMS**
 - THESE REPS ARE THE **DEMI-GODS**

SIMILARLY

- THE **SAME** STRUCTURE WORKS TAKING **REALITY** AS THE SUB-REALITY:
 - AN INDIVIDUAL IN A HIGHER REALITY CREATES **REALITY**
 - THEY'RE THE **GOD** OF **REALITY**
 - THEY POPULATE **REALITY** WITH **AIS**
 - THOSE AIS WOULD BE **US**, THEN...
 - **PLAYERS** FROM THE HIGHER REALITY ENTER **REALITY**
 - WE'D ONLY NOTICE IF THEY **WANTED** US TO NOTICE
 - **CSRS** DEAL WITH ANY DAY-TO-DAY **PROBLEMS**
 - ANGELS
 - GMS WHO RUN EVENTS FOR PLAYERS ARE MAYBE DEMONS

EXPERIENCE

- MMO DEVELOPERS CREATE WORLDS **EX NIHILO**
- WHAT **THEY** KNOW ABOUT CREATING REALITIES IS **USEFUL** WHEN THINKING ABOUT ANY PRESUMED *EX NIHILO* CREATOR OF **REALITY**
- AT THE VERY **LEAST**, THIS **ILLUMINATES** SOME OF THE DECISIONS ANY HIGHER-ORDER CREATOR OF **REALITY** WOULD HAVE HAD TO MAKE
 - EXAMPLE: THE **REASON** THE PHYSICS OF MMOS MIMIC **REALITY'S** IS SO PLAYERS CAN **VISIT**
 - COULD THIS EXPLAIN **WHY** **REALITY'S** HUMANS MIGHT BE MADE IN THE IMAGE OF A CREATOR?

WRONG QUESTION

- THIS **ISN'T** ABOUT ANSWERING THE QUESTION "ARE WE LIVING IN A COMPUTER SIMULATION?"
- IT'S MORE ABOUT GAINING **INSIGHT** INTO THE **MIND** OF **REALITY'S** PRESUMED CREATOR(S)
- SURE, "ONE CANNOT KNOW THE MIND OF GOD"
 - BECAUSE, PACE PTAH, THE CREATOR OF **REALITY** WOULD HAVE TO BE IN THE **SEPARATE** REALITY WHERE **REALITY'S HARDWARE** IS LOCATED
- HOWEVER, ONE CAN **SPECULATE** BASED ON WHAT THE GODS WE HAVE **ACCESS** TO DO
 - THEOLOGY COULD BECOME A LABORATORY SUBJECT!

GO ON THEN...

- SO WHY **DO** PEOPLE IN **REALITY** CREATE **SUB-REALITIES**, AND WHAT DOES THIS **IMPLY** ABOUT THE MOTIVES OF **REALITY'S** CREATOR?
- WELL THERE ARE **MANY** REASONS, INCLUDING:
 - TO MAKE **MONEY**, TYPICALLY FROM **PLAYERS**
 - WE'RE A **COMMERCIAL** PRODUCT (WITH PERMADEATH)
 - TO **TEACH** SOMETHING TO PLAYERS
 - WE'RE A **SERIOUS GAME** (SO NOT MUCH FUN)
 - TO TEACH SOMETHING TO PEOPLE WHO ARE LEARNING TO **MAKE** REALITIES
 - WE'RE A **STUDENT PROJECT** (AND OVER-SCOPED)

MORE

- CONTINUING THESE REASONS:
 - TO LEARN SOMETHING THROUGH **SIMULATION**
 - LET'S HOPE THE SIMULATION ISN'T **SWITCHED OFF** WHEN THE **RESULTS** COME THROUGH
 - MAYBE IT **IS** AND THEY OCCASIONALLY RELOAD US FROM A **SAVE FILE** FOR OLD TIME'S SAKE
 - OUT OF **CURIOSITY** TO SEE WHAT HAPPENS WHEN THE SUB-REALITY IS LEFT **RUNNING**
 - WE'RE A **FORMICARIUM** (DO THEY SOMETIMES STIR US UP WITH A **STICK?**)
 - FOR **FUN**
 - SO IT'S A **WORK-IN-PROGRESS** AND THE **BUGS** WILL BE FIXED NEXT PATCH

AND MORE

- **ALSO** BUGGY WORKS-IN-PROGRESS...
 - TO TEST OUT SOME **IDEAS**
 - TO **SHOWCASE** OUR DESIGN/DEVELOPMENT TALENT
 - AS A **PROOF OF CONCEPT**
- TO GIVE THE GIFT OF **EXISTENCE** TO NPCs
 - SO THEY'RE **MALE**, COMPENSATING FOR NOT BEING ABLE TO BEAR CHILDREN
 - AN **ACTUAL** ANTI-AI ARGUMENT FROM THE 1970S!
- BECAUSE **REALITY SUCKS**
 - **THIS** IS WHY ROY AND I CREATED **MUD**
 - IT HAS UNFORTUNATE IMPLICATIONS REGARDING **HEAVEN**

DESCENDING

- TO AN **NPC** IN A SUB-WORLD OF **REALITY**, THAT SUB-WORLD APPEARS **SELF-CONTAINED**
- THERE IS NO REASON FOR THE NPC TO SUPPOSE THAT **REALITY EXISTS**
- OF COURSE, WE CAN **ENTER** THEIR WORLD USING OUR **PLAYER CHARACTERS** AND **TELL** THEM ABOUT **REALITY**
 - WHY WOULD THEY EVER **BELIEVE** US, THOUGH?
 - AND WHY WOULD WE EVER **DO** THAT ANYWAY?
 - OR, ALTERNATIVELY, WHY WOULDN'T WE DO IT **THE WHOLE TIME?**

POSTULATING

- THE NPC COULD ALSO **LOOK** AT THE WORLD AROUND THEM AND **POSTULATE** THAT IT WAS CREATED BY SOME **HIGHER BEING**
 - THEY'D BE **CORRECT** TOO - **WE** ARE THOSE HIGHER BEINGS
- THEY COULD **FURTHER** REASON THAT THEY WERE **MODELLED** ON THAT HIGHER BEING
 - **ALSO** CORRECT, FOR THE REASONS I GAVE EARLIER
- THEY MIGHT **REASONABLY** SUPPOSE THE HIGHER BEING **WATCHES OVER** THEM
 - **AGAIN**, CORRECT

MISCONCEPTIONS

- HOWEVER, THEY WOULD BE COMPLETELY **INCORRECT** AS TO:
 - THE **NATURE** OF THAT HIGHER BEING
 - WHAT THE HIGHER BEING'S **WORLD** IS LIKE
 - **WHY** THE HIGHER BEING **CREATED** THEIR REALITY
 - PRETTY MUCH EVERYTHING **ELSE**, TOO
- THE **SMARTEST** NPCs MIGHT FIGURE THAT WITH NO **EVIDENCE** TO SUGGEST THERE **IS** A HIGHER BEING, THEN RATIONALLY THERE PROBABLY **ISN'T** ONE
 - **ATHEIST** NPCs – WHO ARE **WRONG!**

ONTOLOGY

- NPC ATHEISTS **DO** HAVE A POINT: EXISTENCE IS **RELATIVE**
- I EXIST IN **MY** REALITY, **REALITY**, BY DEFINITION
- DO I **EXIST** IN ANY REALITY I **CREATE**?
 - WHEN I **VISIT** THAT REALITY, SURE, I EXIST THERE **THEN**
 - DO I EXIST IN IT WHEN I'M **NOT** VISITING IT, THOUGH?
- DO I EXIST IN IT WHEN I MAKE **CHANGES** TO THEIR REALITY FROM **REALITY**?
 - THEY CAN DEDUCE I EXIST IN **MY** REALITY, IF NOT **THEIRS**
 - THEY COULD **ALSO** BUILD UP AN HYPOTHETICAL **PICTURE** OF ME BASED ON MY SUPERNATURAL **INTERVENTIONS**
 - WHICH MIGHT NOT ACTUALLY **BE** SUPERNATURAL INTERVENTIONS

NON-EXISTENCE

- WHAT IF I **CAN** CHANGE A WORLD'S PHYSICS, BUT **NEVER DO**?
- DO I **EXIST** IN THAT REALITY **THEN**?
- WELL, FOR ALL INTENTS AND PURPOSES, **NO: I DON'T** EXIST IN THAT REALITY
- DO **YOU**, WHO HAVE NEVER **PLAYED** MUD AND WOULD TAKE **TIME** TO LEARN HOW TO ALTER ITS PHYSICS, **EXIST** RELATIVE TO ITS NPCs?
 - WELL NO, YOU **DON'T** – EVEN THOUGH IN **REALITY** YOU PLAINLY **DO** EXIST!
- IF A GOD DOESN'T **VISIT** A REALITY AND DOESN'T **CHANGE** IT, THAT GOD **DOESN'T EXIST** IN THAT REALITY

WRAPPING UP

- I **COULD** SAY A LOT **MORE** HERE, BUT I RAN OUT OF **TIME** A WHILE AGO...
 - HMM, WHAT DO **DESIGNERS** THINK ABOUT THE **DESIGN** (OR OTHERWISE) OF **REALITY?**
- I'VE ATTEMPTED **NOT** TO SAY ANYTHING **TOO** CONTENTIOUS FOR THE RELIGIOUS AMONG YOU
 - I DON'T WANT PTAH WORSHIPPERS **TROLLING** ME
- THE **POINT** IS, THE KNOWLEDGE GAINED FROM MMO DEVELOPMENT CAN BE USEFUL **BEYOND** MMO DEVELOPMENT
- THIS APPLIES TO GAME RESEARCH IN **GENERAL**

CONCLUSION

- PEOPLE WHO RESEARCH, DESIGN AND DEVELOP **GAMES** HAVE DEVELOPED **THEORIES** BASED ON THEIR **PRACTICE**
- THEY HAVE **NOT** APPLIED THESE THEORIES **BEYOND** THEIR OWN FIELD
- OTHER FIELDS **ROUTINELY** EXAMINE DIFFERENT DOMAINS OF RESEARCH THROUGH THE **LENS** OF THEIR OWN RESEARCH
- GAME CREATORS AND RESEARCHERS ARE NOW IN A POSITION TO **DO THE SAME**