

TOO REAL?

ADDING THE REAL TO THE IMAGINARY DROP BY DROP

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INTRODUCTION

- MY TALK THIS AFTERNOON IS ABOUT MAKING **IMAGINARY** WORLDS MORE **REAL**
- THE GAMES INDUSTRY HAS FOR **DECADES** BEEN PUSHING IN THE DIRECTION OF **REALISM**
- THE THEORY IS THAT THE MORE **REAL** A GAME WORLD **SEEMS**, THE MORE **IMMERSIVE** IT WILL BE
 - PLAYERS **LOVE** IMMERSION!
- I'M GOING TO **FOLLOW** THIS ARGUMENT **THROUGH** AND **SEE** WHERE IT **LEADS**

THE BASICS

- THE ONLY THING THAT YOU CAN BE **SURE** EXISTS IS **YOU**
 - *COGITO, ERGO SUM* AND ALL THAT
- AN ARRAY OF **SENSES** PRESENTS YOU WITH A **STREAM OF INPUTS**
- THESE INPUTS SUGGEST THE EXISTENCE OF AN **OBJECTIVE** REALITY **IN** WHICH YOU EXIST
- YOU CONSTRUCT AND CONTINUALLY **UPDATE** A **MODEL** OF THIS REALITY IN YOUR **MIND**
 - USING WHAT YOUR **SENSES** AND **REASON** SAY
- **THIS** IS WHAT REALITY IS TO **YOU**

OTHER WORLDS

- THE WORLD IN YOUR HEAD **USUALLY** REFLECTS REALITY, BUT IT DOESN'T **HAVE** TO DO SO
- IT'S BUILT IN YOUR **IMAGINATION**
- YOU CAN USE IT **PREDICTIVELY**
 - “WHERE WILL THIS BALL GO?”
- YOU CAN USE IT **REFLECTIVELY**
 - “WHY DIDN'T THAT WORK?”
- YOU CAN USE IT **CREATIVELY**
 - “CAN I IMAGINE A COLOUR I CAN'T SEE?”
- YOU CAN DEPLOY IT ON **IMAGINARY** WORLDS

PARACOSMS

- PEOPLE HAVE **LONG** CREATED WORLDS IN THEIR IMAGINATION
 - ARISTOPHENES, MORE, **SWIFT**, CARROLL, ABBOTT, WRIGHT, TOLKIEN, MOST **CHILDREN**, ...
- SUCH WORLDS ARE CALLED **PARACOSMS**
- THEY WERE ORIGINALLY **DESCRIBED** USING **WORDS** OR **DRAMA** OR **IMAGES**
- **BASED** ON THESE DESCRIPTIONS, PEOPLE COULD **IMAGINE** THE WORLDS IN THEIR **OWN** MINDS
- THEY COULD **VISIT** THEM, TOO, BECAUSE THEIR MINDS **ALSO** MODELLED THE WORLDS' PHYSICS

SOLO

- ONLY **YOU** CAN VISIT THE WORLD MAINTAINED IN **YOUR** IMAGINATION
- OTHERS **CAN** VISIT IT **WITH** YOU IF YOU TELL THEM HOW TO **UPDATE** THEIR MODELS OF IT
 - THIS IS HOW **D&D** DOES IT
- THIS KIND OF WORLD IS **SUBJECTIVE**
- IT REQUIRES **POWERFUL** IMAGINATIONS
 - TO CREATE AND TO DESCRIBE THE WORLD
 - TO RECONSTRUCT/UPDATE THE WORLD FROM CUES
- NOT EVERYONE **HAS** A POWERFUL IMAGINATION

ONE DROP

- LET'S ADD A **DROP OF REALITY**
- LET'S MAKE THE WORLD **OBJECTIVE** BY HAVING A **COMPUTER** SIMULATE ITS PHYSICS
 - THE **COMPUTER** PROVIDES THE SENSORY INPUTS
- THE WORLD IN YOUR **HEAD** IS ALWAYS **SUBJECTIVE**, BUT NOW THERE'S A SINGLE **OBJECTIVE** WORLD OTHERS CAN **SHARE**
- MOREOVER, THE WORLD CAN **PERSIST** WHEN YOU STOP PLAYING
 - THIS MAKES IT A **SUB-REALITY**
- I CO-WROTE THE **FIRST** SUCH WORLD, **MUD**

MUD

- 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.

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- THIS IS A **MOCK-UP** OF WHAT THE SCREEN LOOKED LIKE, BECAUSE IN 1978 WE **HAD NO SCREENS...**

PICTURE THIS

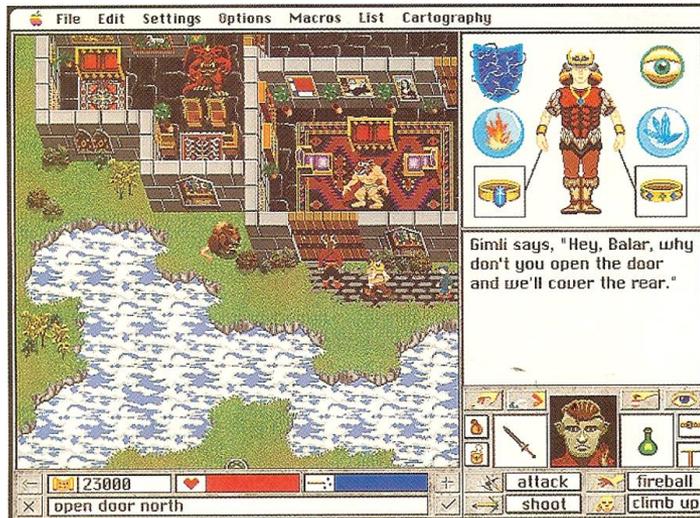
- MUD USED **WORDS** TO DESCRIBE ITS WORLD
- WORD WORLDS **STILL** REQUIRE THOSE WHO VISIT THEM TO HAVE A POWERFUL IMAGINATION
- THANKS TO MILLIONS OF YEARS OF EVOLUTION, THE HUMAN **BRAIN** HAS A VISUAL **CORTEX**
- IT CAN INTERPRET **IMAGES** AS **OBJECTS** AMAZINGLY **FAST**
- LET'S ADD A **SECOND** DROP OF REALITY
- IF WE ADD **PICTURES**, WE CAN **LESSEN** THE IMAGINATIVE **LOAD**

- *HABITAT*, RANDY FARMER & CHIP MORNINGSTAR, 1985



TOP-DOWN 2D

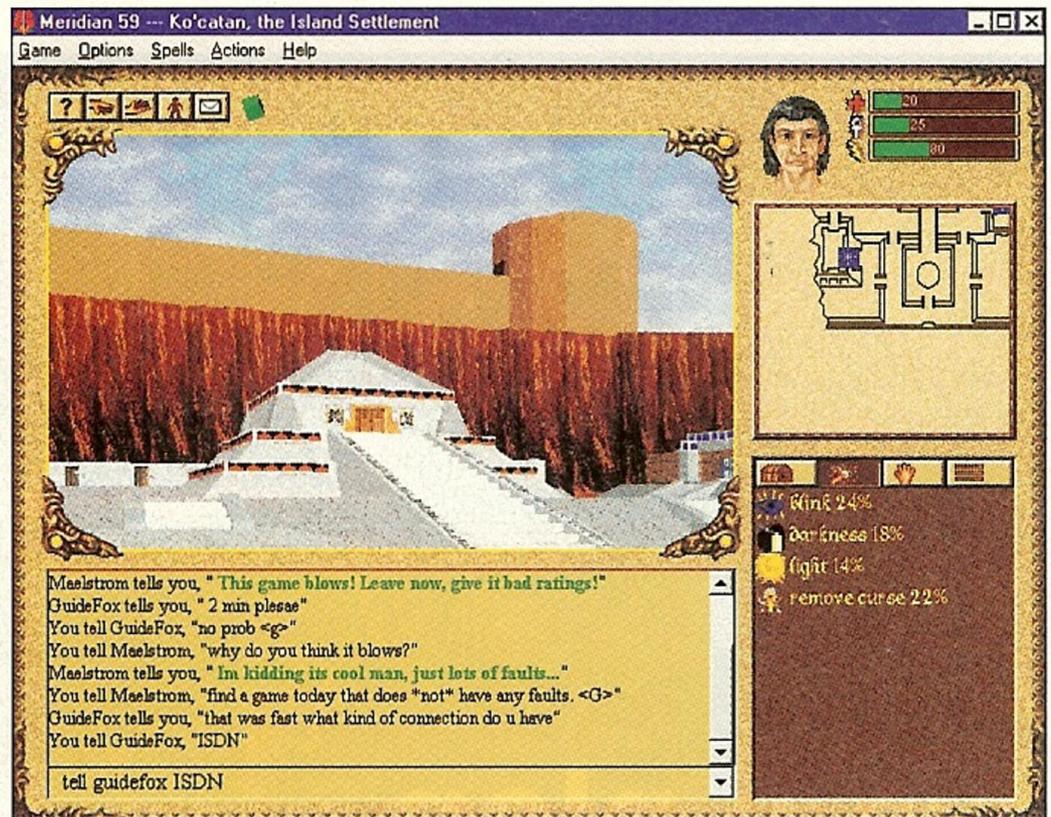
- *NEVERWINTER NIGHTS*, DON DAGLOW, 1991



KINGDOM OF DRAKKAR,
BRAD LINEBERGER, 1992

2.5D, 3D

- MODERN MMORPGS USE 3D (OR 2½D)
- MERIDIAN 59, MIKE SELLERS & DAMION SCHUBERT, 1996



SOUND ADVICE

- THE BRAIN HAS TO EXPEND LESS **EFFORT** INTERPRETING **WORDS** AS **SENSES** IF WE PROVIDE SENSORY INFORMATION **DIRECTLY**
- SO, LET'S ADD **SOUND**, TOO
- **CO-ORDINATING** SOUND SO IT SUPPORTS THE GRAPHICS ENHANCES **BELIEVABILITY**
- WHAT TO DO ABOUT **COMMUNICATION**?
- WELL, TODAY'S MMOS STILL USE **TEXT**
- THE **PLAYERS**, HOWEVER, USE **DISCORD**
- THIS IS **EXTRADIEGETIC!**

PROBLEM?

- IF YOU ADD REAL-WORLD **SPEECH** WITH REAL-WORLD **VOICES**, YOU'RE INTRODUCING **REALITY** INTO THE MMO
- YOU'RE NOT SIMULATING **A** REALITY, YOU'RE PUTTING **REALITY** IN THE **SIMULATION**
- NOW PLAYERS HAVE TO **WILL** THEMSELVES TO BELIEVE THAT THE FEMALE NIGHT ELF THEY **SEE** SPEAKS LIKE THE MALE TRUCKER THEY **HEAR**
 - ADDING BACK **COGNITIVE LOAD**
- LET'S **HELP** BY MAKING THE WORLD SEEM EVEN **MORE REAL**

- **3D** WORLDS ON A FLAT **2D** SCREEN **LOOK 2D**
- WE CAN MAKE THEM **STEREOSCOPIC 3D** FAIRLY **EASILY**
 - 3D HDMI HAS BEEN A **STANDARD** SINCE **2010**
- WE HAVE INDEED **DONE** THIS
- THERE'S BEEN VERY LITTLE **TAKE-UP**, THOUGH
- PLAYERS CAN'T BE **BOTHERED** TO WEAR **3D GLASSES** FOR THE **MINOR** GAINS THEY GET
 - PLUS THEY HATE STUFF COMING OUT OF THE SCREEN AT THEM...
- SO HOW ABOUT **VR** THEN?

VR

- VR **HIJACKS** THE VISUAL SENSES
- THE PLAYER **ONLY** SEES THE VIRTUAL WORLD
- **HEAD** MOVEMENT IS CO-ORDINATED WITH VISION TO INCREASE **VERISIMILITUDE**
- SO **STRONG** IS THE EFFECT THAT PLAYERS HAVE TO USE WILLPOWER IF THEY **DON'T** WANT TO BELIEVE IT
- TAKE-UP IS **LOW**, THOUGH, EVEN AMONG PEOPLE WHO HAVE **TRIED** VR AND **LIKED** IT
 - IT'S FINE FOR **SHORT** EXPERIENCES, BUT APPARENTLY **NOT** FOR 2-4 HOURS EVERY NIGHT

AR

- AUGMENTED REALITY ADDS **MORE** REALITY BY USING **ACTUAL** REALITY AS PART OF ITS **SCREEN**
- THIS HAS FEWER UNPLEASANT **SIDE-EFFECTS** THAN VR, BUT REAL LIFE **INTRUDES** MORE
- YOU'RE NO LONGER IN A SPACE **SEPARATE** FROM REALITY, YOU'RE IN A **REAL** SPACE
 - WHICH IS **LIMITED** AND CAN CONTAIN **RAIN**
- IT'LL BE GREAT IN LARP-STYLE **CONTROLLED** ENVIRONMENTS
- NOT SO GOOD FOR **SUB-CREATED** WORLDS

FLOTATION TANKS

- VR'S **LONG-TERM** PROBLEM IS THAT YOU HAVE TO MOVE IN THE **REAL** WORLD TO MOVE IN THE **VIRTUAL** WORLD
- REALITY'S PHYSICS ARE USED **ALONGSIDE** THE PHYSICS OF THE GAME WORLD
 - HENCE, **MOTION** SICKNESS
- WHAT WE **NEED** TO DO IS TO HIJACK **ALL** THE SENSES LIKE WE DID VISION AND HEARING
- FLOTATION TANKS COULD DO **MOST** OF THIS
 - HEAT, SKIN PRESSURE, PERHAPS BALANCE
- THEY ONLY HELP INPUT **TO** THE PLAYER, THOUGH

OUTPUT

- VR CONTROLLERS **SUCK**
 - MORE SO, LYING IN A FLOTATION TANK
- TO ADD ANOTHER DROP OF REALITY, WE HAVE TO FIND A WAY TO HAVE OUTPUT **FROM** THE PLAYER FEEL REAL **TO** THE PLAYER
- LET'S SKIP FORWARD TO A *CYBERPUNK* FUTURE
- PEOPLE HAVE NEURAL **IMPLANTS** AND CAN **JACK INTO** A SIMULATED WORLD
- IF WE **INTERCEPT** THEIR **SENSES** AND **MOTOR** FUNCTIONS, WE **CONTROL** THEIR OBJECTIVE REALITY

SO..?

- WELL WE **DO**, YES, BUT SO **WHAT?**
- WE'RE EFFECTIVELY REPLACING **REALITY** WITH A DIFFERENT, (HOPEFULLY) **SUPERIOR** REALITY
- WHAT WOULD PLAYERS **DO** IN SUCH A WORLD?
- WELL, THEY'D SEEK TO **ESCAPE** IT
- YOU NEED **NO** IMAGINATION TO **BE** IN THIS WORLD, BUT PLAYERS **HAVE** IMAGINATION
- THE WORLD TALKS TO THE **SENSES**, BUT **NOT** TO THE **IMAGINATION**
 - UNLESS YOU'RE THE WORLD'S **DESIGNER**

EXPERIENCE POINTERS

- THE MORE YOU TRY TO MAKE AN **IMAGINARY** WORLD **REAL**, THE REALER IT **BECOMES**
- THE REALER IT **BECOMES**, THE LESS IMAGINATION IT REQUIRES TO **SUSTAIN** IT
- THE **LESS** IMAGINATION REQUIRED TO SUSTAIN IT, THE **MORE** THE WORLD BECOMES **EXPERIENTIAL**
 - YOU GO THERE FOR AN **EXPERIENCE**
- THIS IS **FINE!** WELL-DESIGNED EXPERIENCES ARE THRILLING, EXCITING, EXHILERATING **FUN!**
 - THEY'RE **SHORT**, THOUGH

IMMERSION

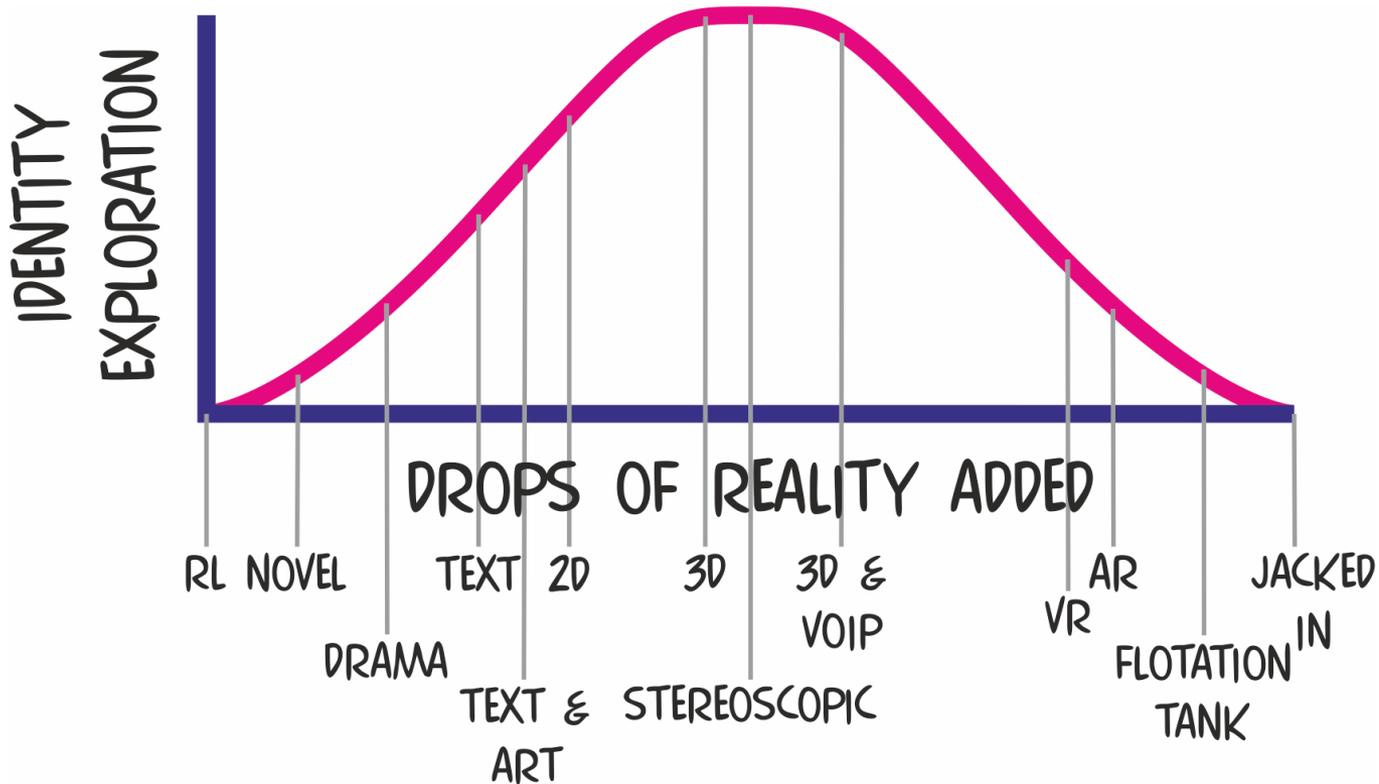
- IF YOU RIDE A ROLLERCOASTER ~~14~~ TIMES IN A **ROW**, IT **STOPS** BEING AN EXPERIENCE
 - **BELIEVE** ME, I'VE DONE IT
- "BUT PLAYERS **LIKE** BEING IMMERSED!"
- THAT'S **TRUE**, BUT **NOT** IN A **WORLD**
 - THEY'RE **ALREADY** IMMERSED IN ONE - REALITY!
- THEY LIKE BEING IMMERSED IN THEIR **CHARACTER**
- THEY WANT TO FEEL THAT **THEY** AND THEIR **PRETEND** SELF ARE THE **SAME** PERSON

DROPS

- PLAYERS VISIT WORLDS TO **BE** SOMEONE ELSE SO THEY CAN **BECOME** THEMSELVES
- THE WORLD MUST **DIFFER** FROM REALITY SO **THEY** CAN DIFFER FROM THE PERSON THEY'RE STUCK AS **IN** REALITY
- DROPS OF REALITY HAVE TO BE **ADDED** SO THE PRETEND WORLD FEELS **AS IF** IT'S REAL
- ADDING **TOO** MANY **MAKES** IT REAL, THOUGH
- IF IT'S REAL, IT'S **NO LONGER** PRETEND
- YOU CAN'T BE FREE TO BE SOMEONE **ELSE** IF YOU'RE STUCK AS **YOU**

GRAPH!

- THIS IS WHAT IT LOOKS LIKE FOR MOST PEOPLE



- SHIFT **VERTICAL** LINES **RIGHT** THE MORE **IMAGINATION** YOU HAVE

SLOW & STEADY

- WHEN PEOPLE USE VR THEY ALIGN THEIR **IN-WORLD** CHARACTER WITH THEIR **REAL-WORLD** SELF BECAUSE IT FEELS **TOO REAL**
- THIS **MAY** BE OVERCOME IN TIME
- FILM USED TO **BE FRIGHTENINGLY** REAL, BUT PEOPLE GOT **USED** TO IT
- AS VR BECOMES **WIDESPREAD**, PEOPLE WILL **ALSO** GET USED TO **THAT**
- WHEN THEY SEE IT AS AN **INTERFACE** RATHER THAN A **TECHNOLOGY**, IT SHOULD **THRIVE**
– I'M SURE IT'S "ONLY 10 YEARS AWAY"

CONCLUSION

- THE **QUEST** TO CREATE EVER-MORE-REAL WORLDS IS NO LONGER **DELIVERING**
- PLAYERS ARE HAPPY WITH WHAT THEY **HAVE**
 - **REALISTIC**, YES! **REAL**, NO
- THEY'RE PLAYING TO BE SOMEONE **OTHER THAN** THEIR REAL-WORLD SELF
 - THE **RP** IN **RPG**
- IF THE WORLD FEELS **TOO** REAL, THEY'LL ALIGN WITH THEIR **REAL-WORLD** SELF
- TIME **MAY** HELP
 - IMAGINATION WILL **ALWAYS** HELP!