

# M.U.D.

## Messrs Bartle and Trubshaw's Astonishing Contrivance

The renowned **GDC ONLINE** symposium  
this Eighth day of October in the year Twenty Hundred and Ten

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*In which the Learned Professor exposits his **CREDENTIALS**.*

So, I'm here because I co-wrote the very first virtual world \*, *MUD*

*\* True for **MANY** honourable definitions of "first" and "virtual world".*

Almost all today's **MMORPGS** descend directly from *MUD*, but that's *not* actually relevant here.

We were *always* going to get such contraptions; Mr Trubshaw and I merely happened to be born before you were.

What *is* important is that we didn't write *MUD* having played any other virtual world first – for there were none to play!

We therefore had to design **EVERYTHING** from scratch, which perforced our establishment of *now forgotten* **GUIDING PRINCIPLES**

This is why my digressions **MAY** be of interest to those here  
assembled.

*In which the Learned Professor humbly constrains his* **ERUDITION.**

It is not the intention that this be a lesson in *ancient history*

To this end, do not expect to entertain:

§ anecdotes about computers the size of **EXHIBITION HALLS;**

§ a spirited defence of the superiority of text over graphics;

§ earnest forthcomings on the undeniable benefits of **PERMADEATH;**

§ a dissertation on attentive but unscaleable customer service;

§ homilies concerning endeavours to extract **MONIES** from players and the legal scrutiny thereof.

Rather, we shall consider how one might answer this question:

“If I am to create a world, how shall it be *and why?*”

*For your edification and delight!*

Here's a snowman standing in a furnace from *World of Warcraft*



*In which motivations are **ENUMERATED**.*

Mr Trubshaw's primary desire to create a world was founded in his enchantment with the wonders of **ENGINEERING**.

However, he also dreamt to construct a place separate from – dare he wish, perchance superior to? - *Reality*.

My **OWN** foremost aspirations were to build a world in which people could **BE** and **BECOME** themselves.

It was all to do with *freedom*.

However, I *also* harboured a fascination with **SYSTEMS**.

It was therefore paramount to us **BOTH** that people should believe they were *in* the virtual world.

A concept now known as *immersion*.

This would both validate our manufacture and enable what we saw as the gift of **LIBERTY**.

*In which expectations are **CONFOUNDED**.*

When Mr Trubshaw began work on *MUD*, he first sought to establish the affordances of the **technology**.

This took him approximately an **HOUR**.

His next goal was to implement the **physics** of his world-to-be.

This took him approximately a **MONTH**.

Now today, were you to indulge the whim of creating your own mechanical world, you might first ponder on the **genre** or construct a prototype cartographical representation.

This would be premature!

Such actions make **ASSUMPTIONS** about what is possible.

The physics tell you what *is* possible -

which may be **BEYOND** what you **SUPPOSED** to be possible!

*In which a maxim is **DISCLOSED**.*

Mr Trubshaw and I determined that Natural Philosophy was **FURTHER** important for an additional reason.

The great scientists of our age have ascertain'd that human beings have historically undergone several millenia of “evolution”.

The human brain expects the world to work in a **MUNDANE** fashion  
**mundane:** *adj.* Of or pertaining to the world.

[C15: from French *mondain*, via late Latin, from Latin *mundus*, world]

If we wanted people to believe they were *in* our world [which we did] then we should **PRESENT** it in such fashion that the brain would conceive of and believe it to be a **REAL** world.

To this end, we endeavoured to make the virtual world **APPEAR** to behave as realistically as our modest skills admitted.

When it didn't, players should regard this as **INTENTIONAL**, rather  
than a bug.

*In which the surprising meagreness of simulatory depth is **DIVULGED***

Our rule was: in the absence of a reason **NOT** to conform to Reality, conform to Reality.

“Conform” here is merely a **COARSE** approximation.

*Yes* : if you carry an icicle around, it’s going to melt over time.

*No* : heat transferred = heat transfer coefficient times surface area times the difference between average temperatures of air and ice;  
or  $q = h A (T_2 - T_1)$ .

The following are **EXEMPLARS** of what we implemented:

§ Light cannot pass through a closed wooden door.

§ What happens when you pour four noggins of water into a glass that holds only three noggins.

§ Plate armour doesn’t float (*quod vide* Barbarossa).

You may regard “physics” as what an **UNINFORMED** player would believe *should* happen without evidence to suppose otherwise.

*In which a past principle is **MOURNED**.*

This approach was extremely **EFFICACIOUS**.

Sadly, however, although the *principle* of mimicking reality was carried forward, the *reason* for it was not.

This has inevitably led to its dilution.

Here are some modern phenomena that would **PERPLEX** the MUD players of 20 to 30 years ago:

- § If the goblin was carrying a sword, why was it hitting me with a stick?
- § You can dye armour but not paint it? But you can paint the walls of your house? But not any other walls?
- § I can build a snowman in a fire, and neither is affected?
- § Why don't those foul creatures come to assist their allies? *I* can see them, can *they* not see me? Does this axe have a silencer?

It's not that these articles are **CHALLENGING** to implement, they merely haven't been considered.

*In which supplementary benefits of mild physics are fêted.*

Two of the objects in *MUD2* were a baton and a bow. If you **WAVED** one, it teleported you to the other.

One player dropped the bow into a **WELL**, whence it plummeted into a river running at the bottom. The river picked it up and carried it downstream until it stuck on a **GRATE** in a secret room.

The player waved the baton, picked up the bow, and realised he was safe from attack! There was *no other way* into the room.

*MUD2* also had a keg of **GUNPOWDER** (traditionally employed in shooting a door out with a cannon).

Another player put said keg in a **CORACLE** along with a burning brand and dropped the ensemble down the well. The coracle caught fire from the brand as it floated downstream to the grate. The fire spread to the gunpowder which subsequently **EXPLODED**, killing the player asleep in his “safe” room.

*In which counter-propositions are **DELIBERATED**.*

This degree of **SOPHISTICATION** was possible for 50 simultaneous players on a 33MHz Unix box!

It's neither arduous to program nor profligate to execute.

It's not “too complicated for players to understand” – complexity comes from **NOT** doing it!

It doesn't “leave the door wide open to exploits” – that only arises when it is handled **INCONSISTENTLY**.

However, it **CAN** aggravate players if taken too far.

10,000 gold sovereigns weigh about 80<sup>kg</sup>, or 176<sup>lbs</sup>, or 12<sup>st</sup>.

Recall: “in the absence of a reason not to conform” *et cetera*; wishing not to exasperate the players *is* a valid reason.

Except, if it also squanders gameplay opportunities?

Yet it's not only in basic simulation that modern *rectum universitas* are strangely **SUPERFICIAL**.

*In which somnambulant design is subject to disapprobation.*

The practice has now extended **BEYOND** the physics.

**SEEMINGLY** harmless pursuits such as giving non-player characters comical names are immersion-breaking.

They also demonstrate a paucity of imagination, but that's a different rant...

Yet is there **REALLY** any mischief in using trifling *bon mots* to brighten up otherwise tedious quest hubs?

That's not the point! The point is whether you even *contemplated* that there might be a reason **NOT** to do this!

Likewise, the horror of the following exchange:

/salute

You salute smartly.

Ask yourself this question: do you **WANT** your players to be immersed or **NOT**?

*For your attentive appreciation.*

This is Dagna the dwarf out of *Dragon Age: Origins*



*In which the vicissitudes of genre are thoughtfully* **EXAMINED**.

Mr Trubshaw's having nobly created the physics, it fell to me to create the world – or *content* as it is now often known.

What **SETTING** would I give it?

With no precedent nor paradigm, I could have chosen **ANYTHING!**

I wanted a place that was *of* Earth, but was *not* Earth.

A place that was familiar, yet *unfamiliar* in its familiarity.

I therefore rooted the world in *English* folklore, such as I knew of it, which today is called simply *Fantasy*.

I had experimented with this once in a board game of my devising.

I wanted to capture the **DISQUIET** that comes from knowing what something *may* be, rather than knowing what it *is*.

To this end, I **ESCHEWED** other interpretations, such as those of Tolkien, Howard and Gygas & Arneson.

*In which the Learned Professor **EXPOUNDS** his early whims.*

English folklore wasn't **ALONE** in meeting my criteria.

Here are some **OTHER** serious candidates that featured in my short-list:

§ *Three Musketeers* era France;

§ The world of Scheherazade's *1001 Nights*;

§ Escape from a Colditz-like prisoner of war camp;

§ The Camelot of Arthurian legend.

I eventually chose English folklore because it shaped a **CONTINUUM** into the past; it was not set in a fixed period.

This meant I could use *time* as a **METAPHOR** for menace.

The older the demesne, the more dangerous its denizens.

How many designers today have the **LUXURY** of using metaphor?

*Apart from all of them, if they cared to...*

*In which the Learned Professor gloats at your misfortune.*

It is not my intention herein to **GLOAT** at your misfortune for not having the freedom of genre choice that I had.

Rather, it's to emphasise that designers today *still have that choice!*

I picked what is now called Fantasy because of what it delivered in terms of **RESONANCE** and **DISSONANCE**.

Today, people choose Fantasy because of what it delivers in terms of solid, albeit uninspiring, expectations.

“Progressive” means your dwarves neither drink ale nor speak with bad Scottish accents.

*MUD* didn't even **HAVE** dwarves; it had dwarfs, as in *Snow White and the Seven* - and not as player characters.

“Inventive” means you concocted a new [hideous idiom] race, or yet another tiresome class hybrid.

Do you even **NEED** classes?

*For your polite instruction.*

This is a photograph of a dead ox from South Africa.



You can tell  
it's dead  
because  
of the  
lions  
eating it.

*In which a **LOOMING** catastrophe is averted.*

Some of what Mr Trubshaw and I envisaged was **OVER-AMBITIOUS**.

It was Mr Trubshaw's **HOPE** that the world he created would be sufficiently richly-featured to be self-sustaining.

He therefore did not seek to add an explicit **GAME** mechanism to it.

He *did* regard *MUD* as a game, but one with only a **PARTIAL** rule set implied by the physics.

*More EVE Online than Second Life.*

Sadly, the hardware of the day proved too **WEAK** and **PUNY** for this.

Mr Trubshaw therefore **ACQUIESCED** to my proposal to “gamify” *MUD*, to give the players some sense of direction.

By this, we meant the direct implementation of purely game-related concepts as *part of the physics*.

It was a **MAJOR** change in philosophy.

*In which **OPTIONS** are assessed and a conclusion drawn.*

I swiftly recognised that *MUD* lacked an obvious sense of **PURPOSE**.

To remedy this, I resolved to implement what I would later call an *achievement* system.

I **DELIBERATED** between multiple competing prospects, including:

§ equipment;

§ skills;

§ levels (with experience points);

§ experience points (but no levels);

§ linked quests (“choose your own adventure”);

§ plus some more *outré* ones such as democracy...

I eventually settled on **LEVELS**, which I had seen from *D&D* gave intermediate goals, were easy to understand, did not preclude rewards for varied activities, and gave players an immediate sense of their *current* place in the social order.

*In which a subversive secret is **UNCOVERED** - to your dismay!*

Yet surely others from the list could **ALSO** do that?

They could indeed! What tipped the balance in favour of levels was that final point about “*current social order*”.

Mr Trubshaw and I **RAGED** against the British class system; this was our response.

*MUD* only had **TEN** levels, each of which had its own “personality”.

Players spent enough time at each level to form an **IMPRESSION** of what being, say, level 9 (“legend”) meant.

The Learned Professor wishes to assure the audience that his choice of the level named in this example is of no particular significance.

Crucially, all that stopped you from rising levels was your own **ABILITY** and strength of **CHARACTER** (or lack thereof).

It was essentially a **POLITICAL** statement.

*In which the Learned Professor fails to **CONCEAL** his aghastness.*

The people who wrote the MUDs – and thence MMOs – that followed didn't **KNOW** this.

They employed a system that made sense in one context without appreciating **WHY** it was there, nor **WHY** it worked.

They **LIBERALLY** added many more levels, then employed other advancement mechanisms when the elder game hit.

Did they have **ANY** understanding of what they were doing?

Example: equipment (gear) is the preferred achievement system of the age once the level cap has been reached.

As such, it waxes positively on the attractions of **CONSUMERISM**.

Fair enough – but if **THAT'S** what the designers want to say, why bother with the *levelling* game at all?

Why not have the elder game *as the game*?

*For your enthrallment and satisfaction.*

Here is a man in a shop.



*In which the matter of *melée* is **BROACHED**.*

Finally, let us turn our attention to the subject of **COMBAT**.

Mr Trubshaw's starting postulation was that combat would be effected by the underlying **SIMULATION**.

The very first thing I implemented in *MUD* was an ox which, upon being struck smartly with an axe, died.

Much as would do a real ox.

We agreed that the **UNGRATIFYING** nature of this might indicate a circumstance in which it was prudent not to conform to reality.

There are two basic ways to implement combat: **MANUALLY**, command by command; **AUTOMATICALLY**, as an event stream.

Mr Trubshaw, at this time about to finish his degree, implemented the latter in a **DASH** without discussing it with me.

I'm not entirely persuaded he even considered the former.

*In which the birth of a game mechanic is celebrated.*

Not one to **WASTE** good code, I manufactured a hybrid approach in which players interceded with individual commands to change the course of an automatic correspondence.

This is much as things remain today, excepting that the **RANGE** of combat-specific options is wider while the **CHOICE** is narrower. There might be fifty spells you *could* cast, but you're only going to cycle through four of them.

Different weapons had different effects on different creatures (or *mobiles*, as I called them), and said creatures could level up.

*MUD* did not, however, have formal character **CLASSES**.

Nor did it have “races”, which Mr Trubshaw and I believed to be a fundamentally racist concept.

The idea was that if you wanted to be a magic-user, you used **MAGIC**; if you wanted to be a warrior, you used a **BLADE**.

*In which the Learned Professor expresses **BEMUSEMENT**.*

Character classes came later, with the **UNCRITICAL** wholesale adoption of *AD&D* tropes into MUDs (especially DikuMUDs).

This marked a shift in **EMPHASIS** from self-definition to guided experience which is still in effect today.

That, however, is another different rant.

The tank/DPS/healer **TRINITY** came about for a separate reason entirely, to do with the way text MUDs represented space.

I have to say, combat was one of the weaker areas of *MUD*; it seems astonishing that its underlying mechanic has barely changed in over 30 years.

Why are so few modern designers willing to **EXPERIMENT**?

I wrote a graphical space combat game with hit location in **1980!**

It's as if they're content simply to *man shop* it.

Don't they know they can do **BETTER?**

*In which the Learned Professor professes his learning.*

Mr Trubshaw and I had to think through our design for *MUD* from **FIRST** principles.

Without a paradigm to work to, we had to make our decisions for very **PARTICULAR** reasons.

Furthermore, I'm sure that Messrs Jacobs, Kietz & Alberti, Taylor & Flinn, Farmer & Morningstar, *et al* would be able to regale you with **SIMILAR** anecdotes.

My objective here today was to make **TWO** important points.

*Firstly*, it behoves all game designers to understand **WHAT** they are designing and **WHY** they are designing it.

*Secondly*, the choices available to Mr Trubshaw and I are *still available to you*, if you have the **WILL** to make your own.

Oh, and there was one other thing...

## AN EXPLANATION

- NORMALLY, MY SLIDES IN TALKS LOOK LIKE **THIS**
- WHY, THEN, DID I JUST SPEND **26** SLIDES SPEAKING FAUX **STEAMPUNK?**
- WELL, ON THE **FACE** OF IT, IT WAS TO EMPHASISE THE **OLD-FASHIONED** NATURE OF THE SUBJECT MATTER IN A GENTLY ENTERTAINING MANNER
- HOWEVER, **ACTUALLY** IT WAS A DEVICE – A **CONTRIVANCE** – TO ENABLE ME TO GET AWAY WITH **CRITICISING** CURRENT GAME DESIGN PRACTICES UNDER THE **GUISE** OF GIVING A HISTORY LESSON

## A REVELATION

- THAT'S WHAT *MUD* WAS, TOO – A **CONTRIVANCE**
- IT ENABLED ROY AND I TO SAY **UNPALATABLE** THINGS ABOUT THE **REAL** WORLD THROUGH THE PROTECTED FRAME OF “IT'S JUST A **GAME**”
- WE WANTED TO MAKE A VIRTUAL WORLD BECAUSE WE DIDN'T **LIKE** THE REAL ONE
  - OK, SO WE ALSO ENJOYED PROGRAMMING – THAT HELPED...
- **YOU** CAN DO THE **SAME KIND OF THING!**
- YOU DON'T HAVE TO **THROW AWAY** THE PARADIGM, JUST **UNDERSTAND** IT
- **THEN** YOU CAN THROW IT AWAY...

*The End*

