The Psychology Of Mixed Realities
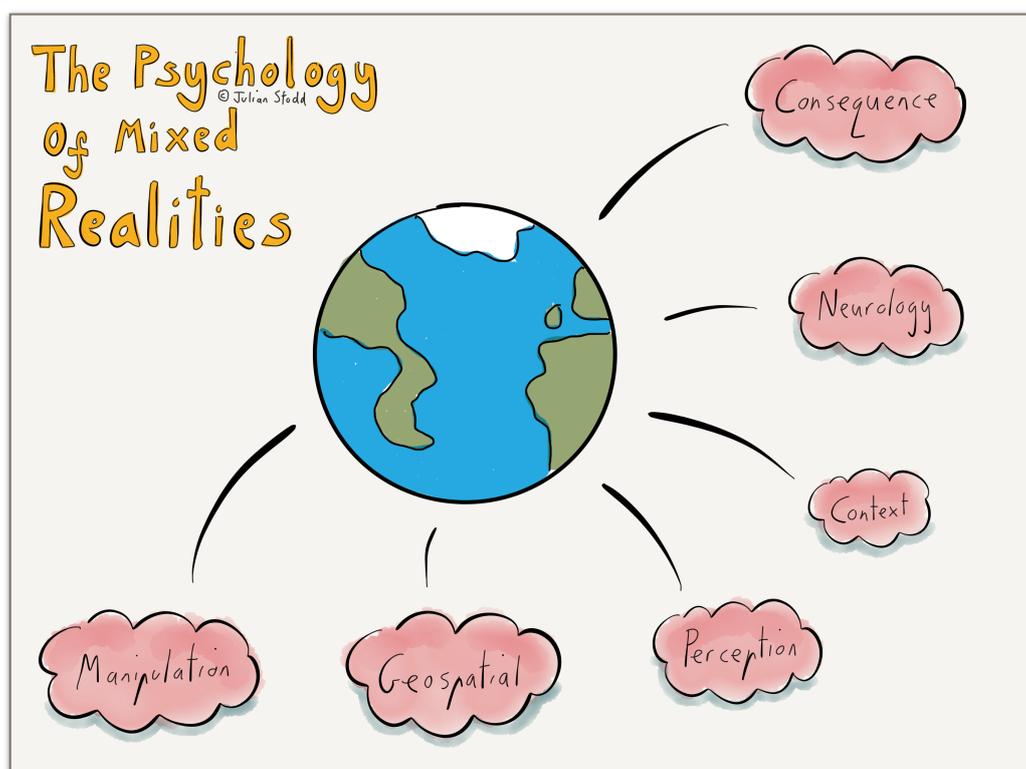
A *Sea Salt Learning* White Paper by Julian Stodd

Overview

There's a great buzz. Or certainly a great hype. Virtual, immersive, and augmented realty is a transformative event in learning: not simply from an experiential view but, if we focus on design and pedagogy, an effectiveness one. The technology is not simply emerging, it's cascading, with the price of both creative and consumer kit tumbling. But effective learning will not be caused by technology: it may be facilitated by it, if we understand the forces at play. If we understand just what changes in '*learning*' as we move from '*physical*' through to truly '*immersive*' experiences.

In this paper, i'm sharing ideas that feed into an overall Learning Architecture. I'm designing the Architecture to provide a holistic framework for organisations to explore contemporary learning design, across all modalities, to include collaborative, co-creative, and social learning. In this piece, i'm primarily interested in '*what*' is different in the experience of mixed realities and, crucially, how that influences our instructional design approach.
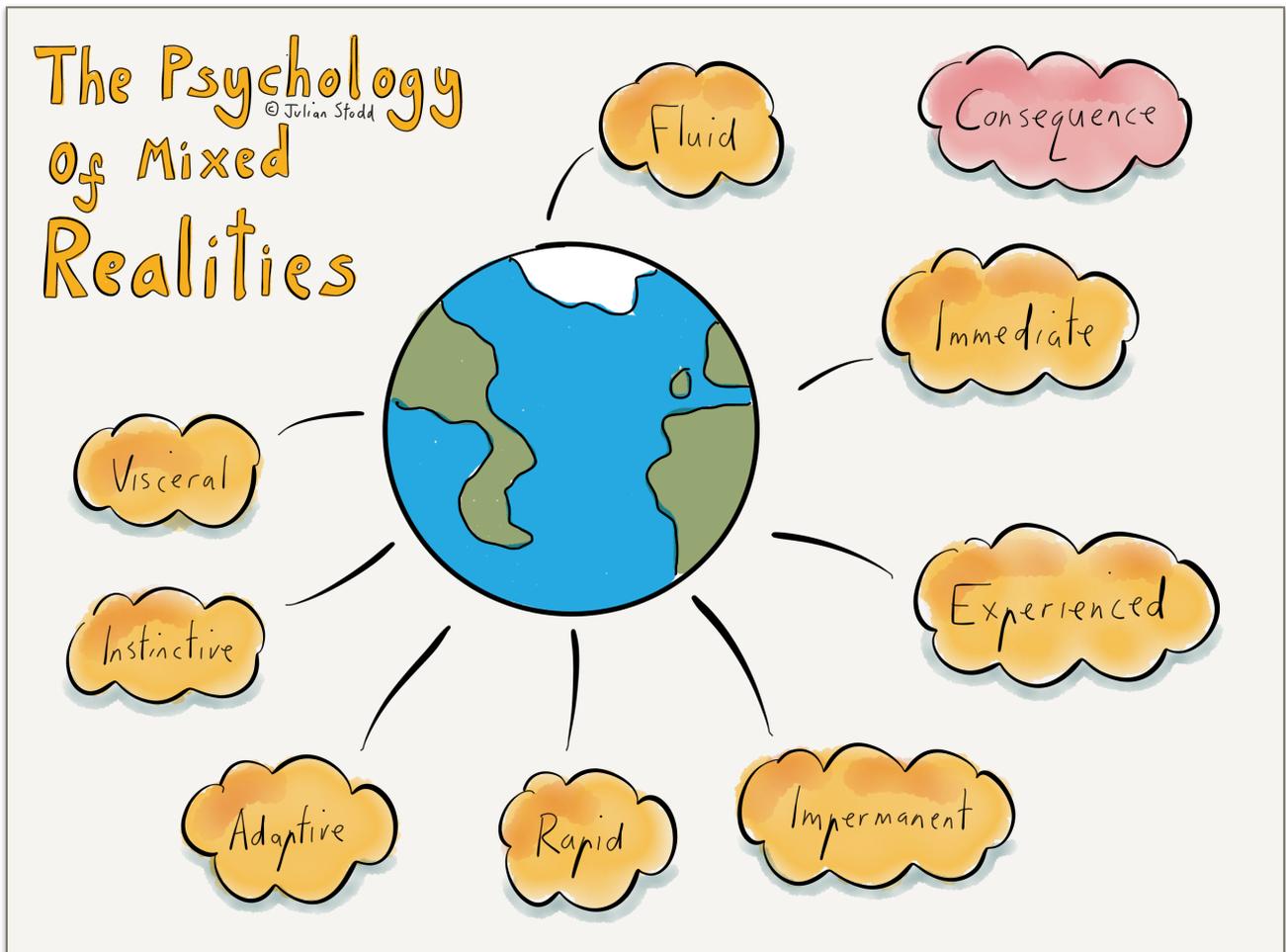
The Learning Architecture is an ongoing stream of work i'm developing, bringing together my previous books on 'Learning Methodology', '*Social Learning*', and '*Mobile Learning*', and attempting to create a holistic view of learning, with a focus on effectiveness and agility, achieved through the creation of spaces and communities to learn within.

I've sketched out six initial factors to consider: i doubt that these are the final ones that i'll use, but that's the joy of #WorkingOutLoud, i can prototype these, and see how the narrative shapes. The initial factors that i want to consider are: '***Consequence***', '***Neurology***', '***Context***', '***Contextualisation***', '***Geospatial***', and '***Manipulation***'. An eclectic selection, i'll warrant, but they let me start the thought process. I'll take a brief walk through each, to outline my thinking.

CONSEQUENCE in mixed realities

CONSEQUENCE is immediate within immersive environments: we take an action, and the consequence is as immediate as it would be in the 'real' world. I drop something, it smashes. Perhaps i should say '*physical*' consequence is immediate: reputation based, or behavioural consequence may still be delayed. But there is an immediacy of consequence to action that reflects very closely what we experience in reality: this is fundamentally different from what we experience in eLearning, or abstract classroom based approaches. Immediacy of consequence impacts learning significantly, but unlike in the real world, we can make this fluid: we can play with temporal factors, slowing things down, and allowing us to repeat actions. So, for example, we can simulate experiences, but manipulate the flow and application of consequence. We can provide narratives to overlay it. We can shape the experience beyond what is possible in either classroom or real life contexts.
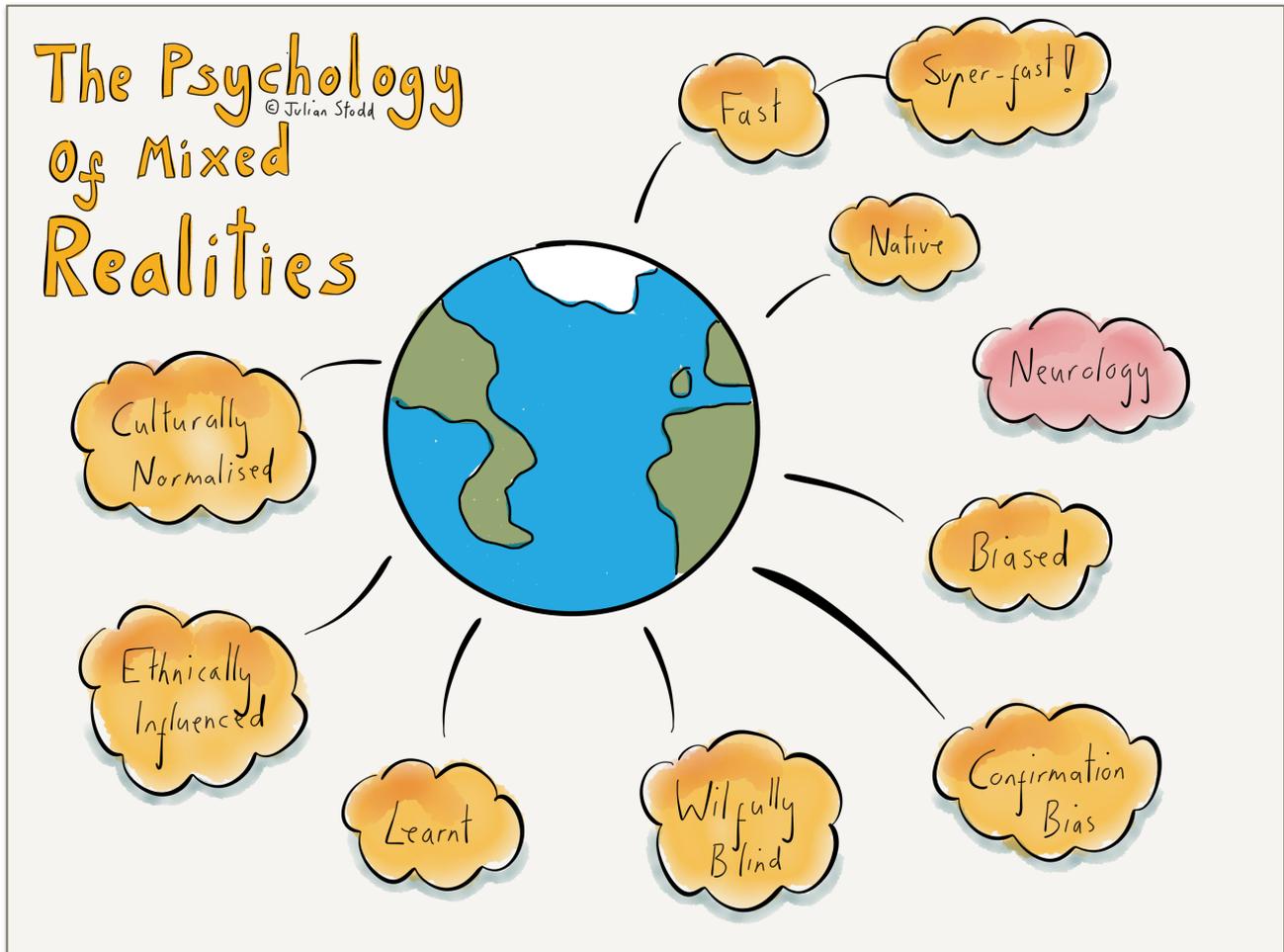

Our reflexes in immersive reality are more instinctive: the engagement of our vestibular system, the sense of movement and balance, the sensory overload, all of this makes it a more visceral experience, something that reflects in the fact that there is a persistency effect of our feeling: unlike much classroom based training on empathy, for example, experiential training on bullying in virtual environments leads to a persistency of empathy. This is one hint at the power of immersive approaches.

NEUROLOGY in mixed realities

NEUROLOGY is a section in which i want to explore the underlying cognitive experience: what's happening at an intrinsic, instinctive level, in immersive realties?
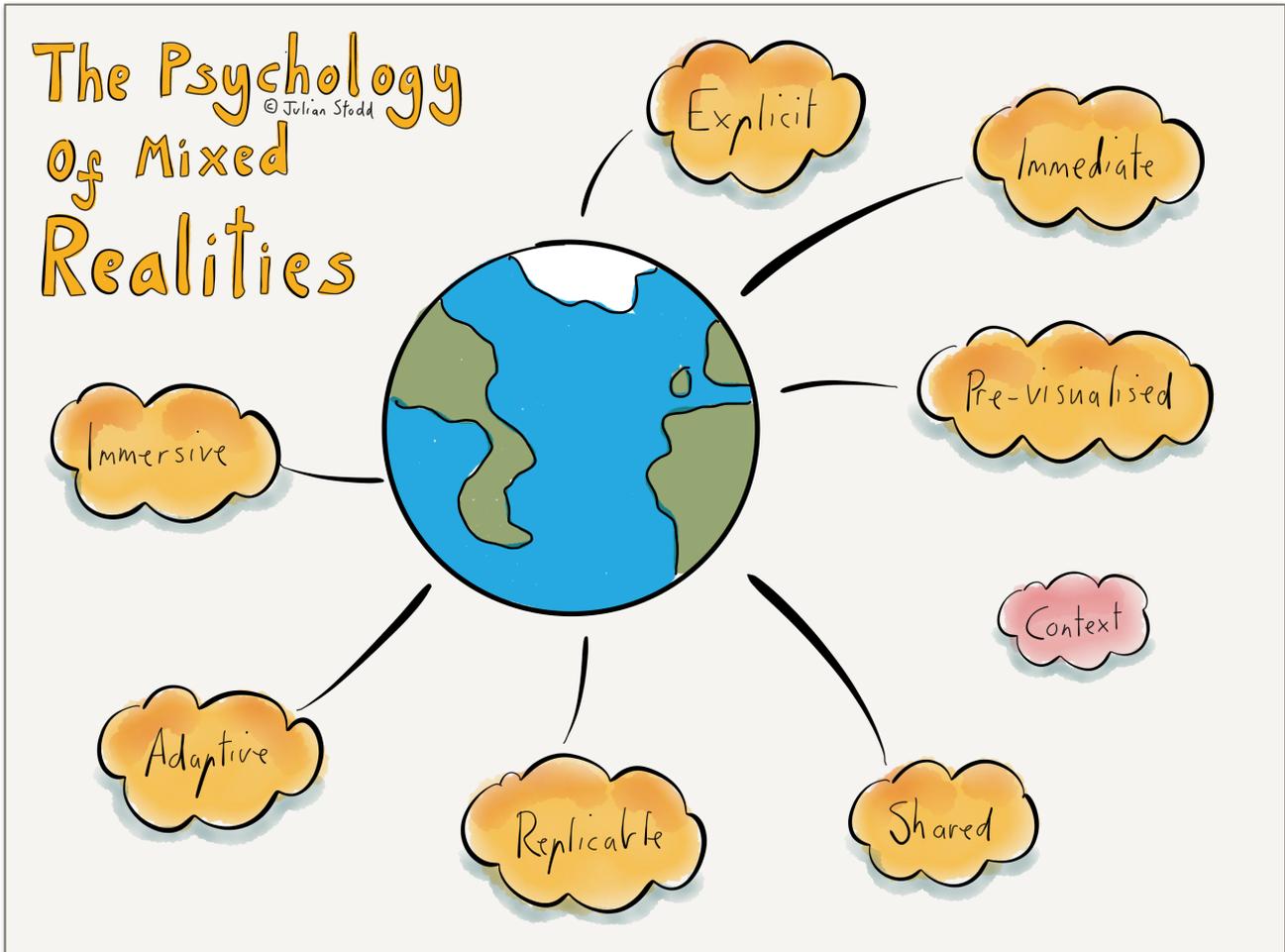

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Well, certainly our '*experience*' is immediate. Super fast in fact. We make millisecond judgements much as we do in the real world. Unlike in, for example, branching scenarios, or role-play, where we tend to have far more reflective space, we act more closely to how we do in '*real*' life.

We may be highly subject to forces of confirmation bias, be wilfully blind, we may exhibit cultural and ethnic bias in our decisions, made rapidly, according to cognitive processes of '*normalisation*', as explored in the research around implicit association and unconscious bias. The lack of reflective time (unless we wilfully manipulate the temporal flow) leaves us subject to the same bias and prejudice we exhibit in real life.

CONTEXT in mixed realities

CONTEXT is a fascinating aspect of mixed realities: because of the inherently artificial nature of the experience, we can precisely replicate the space, either to allow repetition, or to provide shared experience.
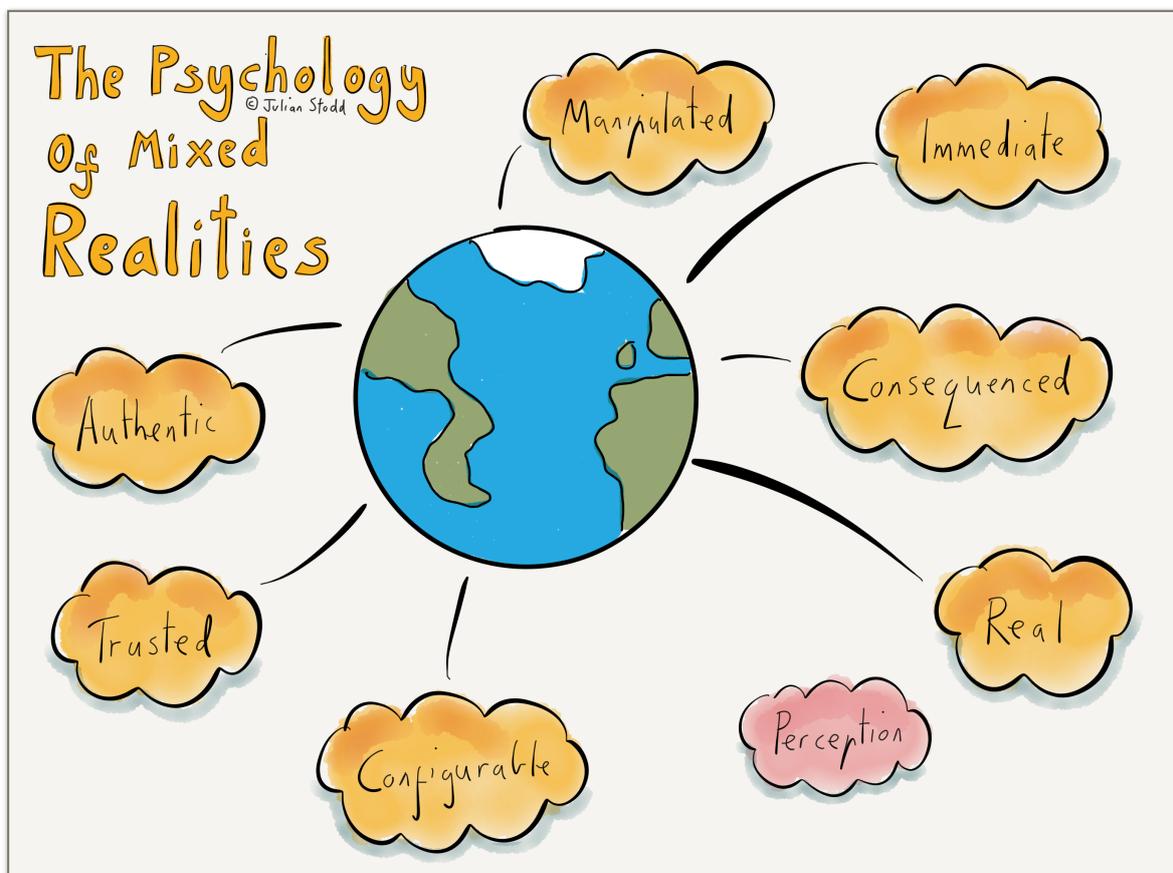

Of course, the converse is true, in that we can deliberately vary the experience, in either expected, or unexpected ways, which is particularly important for developing resilience, creativity, agility, and collaboration.

Or at least it is if we design it right! We can also prime people by pre-visualising a situation, allowing us to explicitly experiment with or test confirmation bias and presumption, stereotyping and categorisation errors. For aspects such as military or emergency service training, this can be highly valuable.

PERCEPTION in mixed realities

PERCEPTION in virtual reality is immediate, the pathway from incoming sensation, interpreted to perception (our '*sense making*') happening as fast as it does in the real world. That immediacy differentiates the experience from any form of '*imagination*' or role-play. There is no leap of faith to take. The experience is taken as '*real*', as evidenced by the clear fear people display when approaching virtual cliff edges, or when something swoops towards them: we are fooled, at least up to a certain point. The immediacy of our response is significant, because we are more likely to react in the instinctive, normalised ways that we know from real life, but the whole sequence is inherently manipulated, or manipulable: we can change aspects of the '*virtual*', to stretch credibility, or extend both sensation and understanding. Virtual environments are entirely configurable: we can make aspects visible, add contextual overlays, even change the laws of physics and consequence.
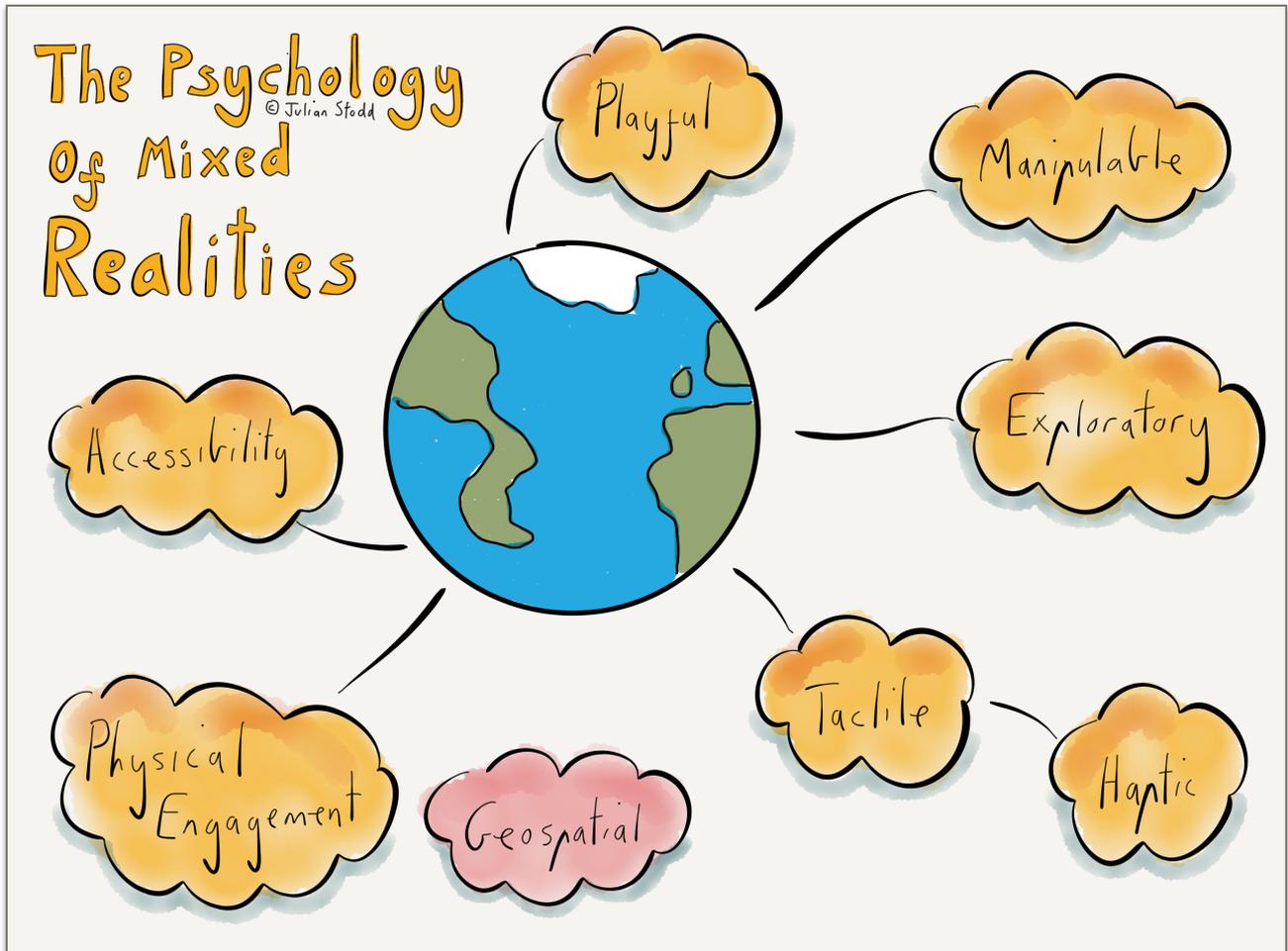

Two interesting aspects are trust and authenticity: if the environment closely reflects what we know from real life, then trust may transfer, and authenticity be transposed, but these mixed realities are not '*real*', we can vary consequence, and some consequence simply does not apply (for example, if something falls on you, it does not do damage), so in some ways, the experience, lacking consequence, may look real, but be treated as inauthentic. So the ways that people behave in immersive environments may not be true to how they will react in '*real*' ones, limiting potentially the value for assessment, unless the consequence is made explicit.

One really fascinating aspect of mixed realities is the social collaborative one: in shared social immersive experiences, we mirror the conditions in which strong social ties are built, building the potential to develop virtually facilitated broader webs of strong social ties, something that is directly relevant in induction, and explorations of organisational effectiveness.

GEOSPATIAL aspects of mixed realities

GEOSPATIAL aspects are fascinating in mixed realities: central to the benefits we have are that virtual environments are exploratory, and in the Learning Methodology, '*exploration*' is a key learning stage. There is not doubt that this exploratory ability will be central to the benefit we feel from mixed realities, at least if the experience design is solid. Our ability to physically engage with objects, even to receive tactile or haptic feedback (in the most advanced work being done on virtual touch), will further reinforce the authenticity and value.
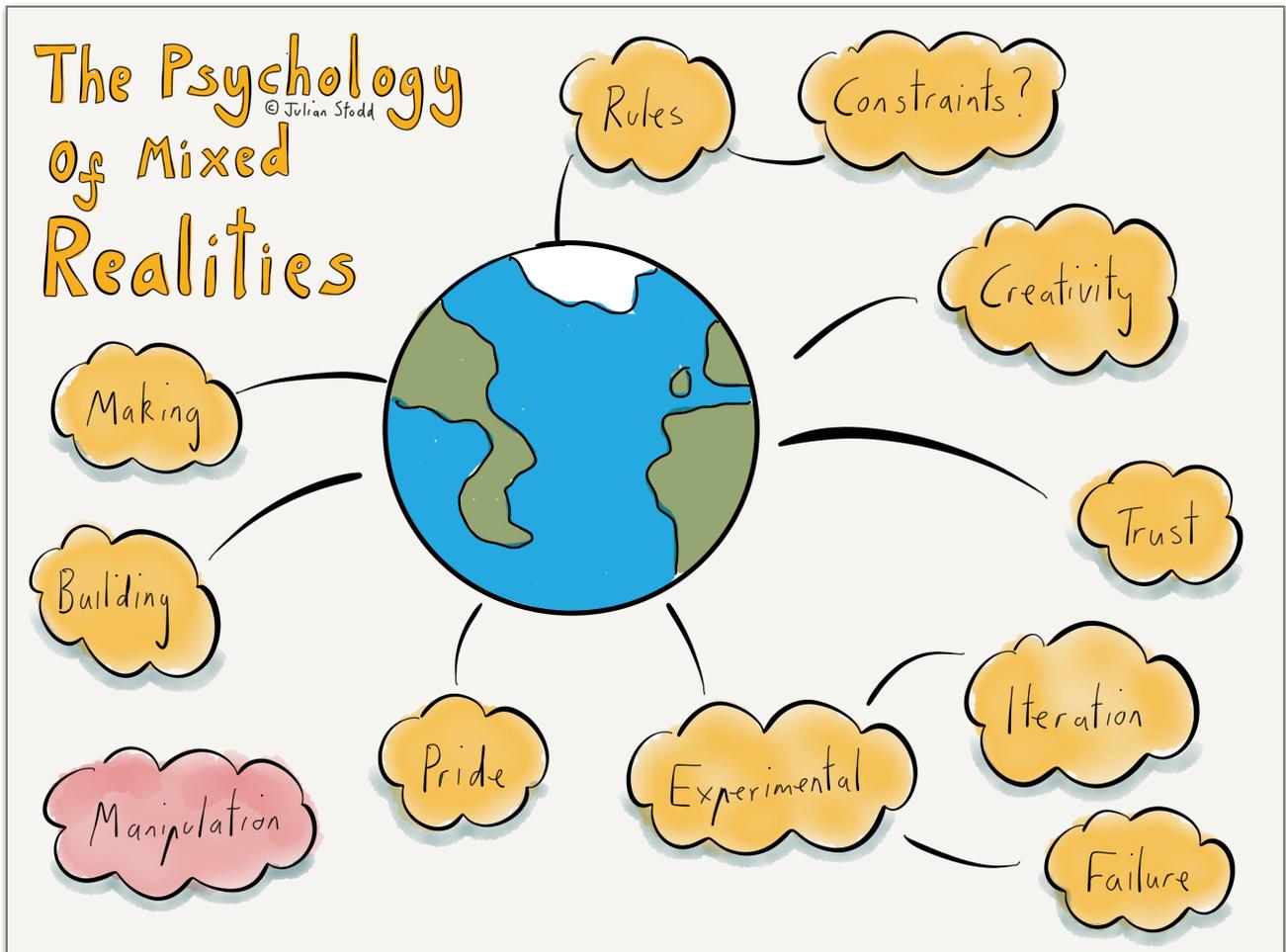

There will clearly be both risks and opportunities around accessibility: we can liberate ourselves from physical constraint, but equally people may be limited in their ability to benefit from geospatial aspects of engagement by their own capability, so at the very least, we need to be mindful of this.

Finally, geospatial engagement provides great opportunity to be playful, playful with physical constraints and physics rules, but also with the ways we engage. We can create playful co-creative and exploratory spaces, especially using puzzle based approaches, and, even better, collaborative puzzle solving spaces.

MANIPULATION in mixed realities

The last aspect to explore is **_MANIPULATION_** itself: the ability to build, to move, to interact with the environment, this is what makes these spaces so potentially exciting. Making is, itself, a powerful engager. People can experience pride through creation, and these spaces are superb for supporting rapid sketching and prototyping: some of the newest pre-visualisation tools are high speed to competency, low tech for the end user, close to intuitive. We can unlock creativity if the tools don't have steep learning curves.

Our ability to vary rules around manipulation (vary virtual weight for example) broaden the scope of our ability to experiment. Mechanisms of experimentation and failure, both the ability to participate in and, crucially, the experience of both these things, can greatly enrich a learning environment.

This has been a brief pass through aspects of the psychology of mixed realities: i wanted to include it within the Learning Architecture work because, already, we see many organisations following predictable paths to failure. If we apply existing pedagogical approaches to new spaces, we will limit or damage our potential. This is a time to explore, but to explore not simply new technologies, but new storytelling and experiential models.

About Sea Salt Learning

We are a dynamic **Social Age startup**: three years old, living the values we speak. We are virtualised, global, inclusive, and agile. We have a core team of around fifteen Crew Mates, both full and part time, who make up our core community, surrounded by a much larger layer of Social Age '*Explorers*', people who are heavily involved in '*sense making*' around our core topics of Social Learning, Social Leadership, Change, Culture, and the Socially Dynamic Organisation. We also have a network or research partner organisations around The Landscape of Trust.

Sea Salt Learning builds upon the work by Julian Stodd, author and explorer of the Social Age, recognised for his pioneering work in helping organisations to adapt to the new reality, to get fit for the Social Age.

The **Sea Salt Research Hub**, led by Emilie Reitz in DC, carries out original, creative, and large scale research, providing an evidence base for our work.

Sea Salt Publishing, led by Samantha Pearce in the UK provides a curated body of books and online publications, exploring all aspects of the Social Age.

Sea Salt Digital, led by Paul Draper, provides our technical capability and build capacity for eLearning, mobile, video, and other forms of online learning.

The Explorer Community

All alumni of Sea Salt Learning Social Leadership programmes join our global alumni community, a community of Explorers. This gives access to all of our Open Sessions, as well as dedicated Explorer events, webinars, and networking opportunities.

This is an open community, dedicated to helping explore all aspects of the Social Age: membership is free and open, based on foundations of respect and sharing, celebrating diversified views.