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HOW TO MEASURE NOTHING

Or, how quantum theory can
help evaluate the absence of
action



**Every cigarette we smoke makes
fatty deposits stick in our arteries.**

We'll help you give up before you clog up completely. bhf.org.uk



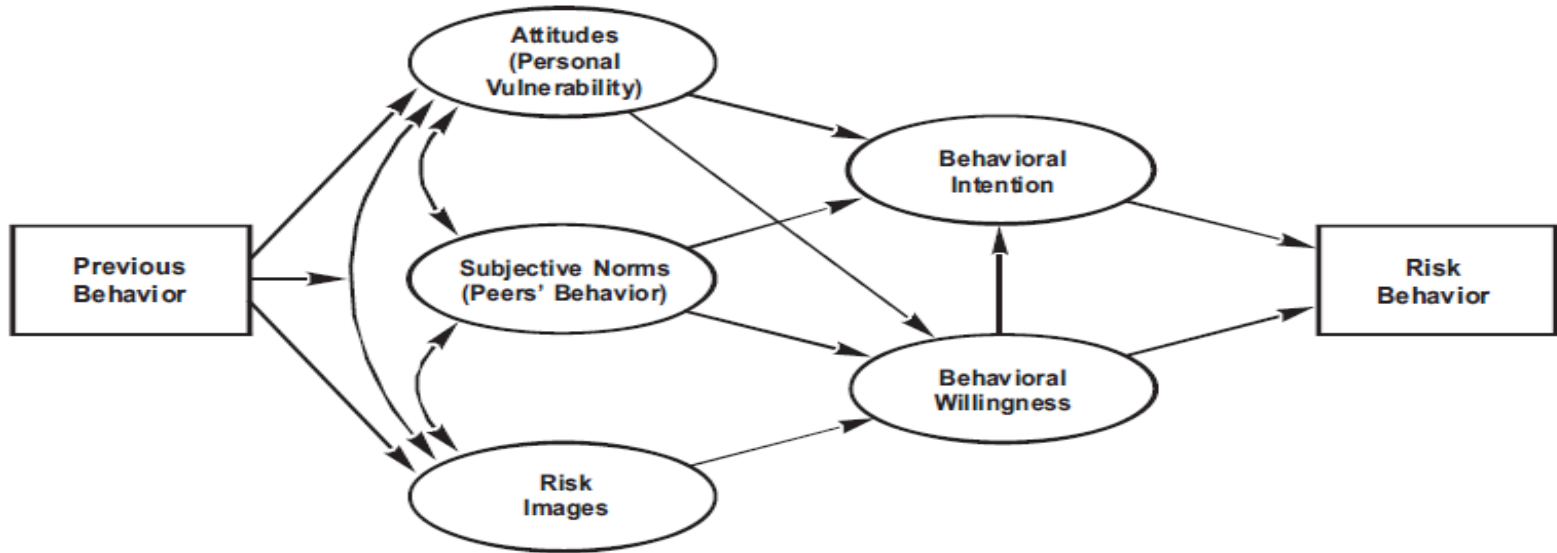






The **Gerrard & Gibbons model** remains the most appropriate model for analysing youth behaviour

The model assumes that adolescents' risk behaviour, although volitional, is not intended or planned; rather, it is a response to circumstances that are risk conducive



RISE
ABOVE

READY UP

Rise Above is about us all sharing our experiences, questions and challenges to get us ready for anything life throws at us.

play ▶

**Should I talk to my parents
about things even if I might
be embarrassed?**

[Find out >>](#)

Play Relationsticks

How would you get out of these sticky situations?

[Have a go >>](#)

Play Up to You

Play your way through some tricky social situations in this pick-a-path adventure.

[Have a go >>](#)



$$E_{\text{photon}} = hf = h \frac{c}{\lambda}$$

$$\Delta x \cdot \Delta p > h$$



$$\Delta x > \lambda$$

$$\Delta p > \frac{h}{\lambda}$$

$$K_{\text{max}} = eV_{\text{stop}}$$

$$|\Psi(x, y, z)|^2 dV$$

$$\frac{d^2 \Psi}{dx^2} + \frac{8\pi^2 m}{h^2} [E - U] \Psi = 0$$

$$E = \frac{p^2}{2m}$$



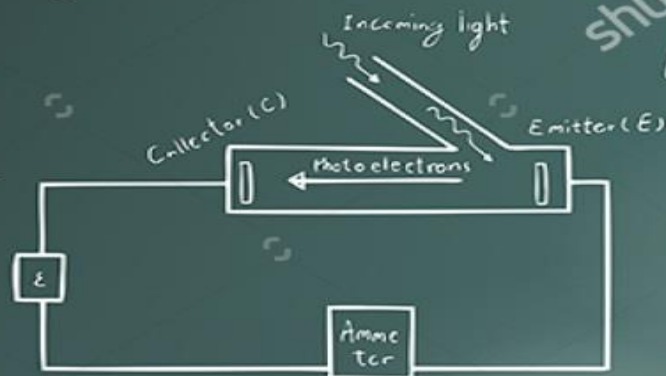
$$\Delta x \cdot \Delta p \geq \hbar$$

\downarrow \downarrow
 ∞ 0

$$U(x) =$$

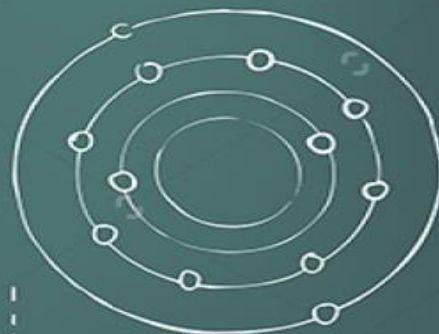
Quantum Theory

$$b = \sqrt{\frac{8\pi^2 m (U_0 - E)}{h^2}}$$



$$V_{\text{stop}} = \frac{h}{e} f - \frac{\phi}{e}$$

$$\psi(r) = -\frac{1}{4\pi\epsilon_0} \frac{e^2}{r}$$



$$k = \frac{2\pi}{h} p$$

$$\Psi(x) \approx \begin{cases} Ae^{ikx} + Be^{-ikx} & : x < 0 \\ Ce^{-bLx} & : 0 \leq x \leq L \\ De^{ikx} & : x > L \end{cases}$$



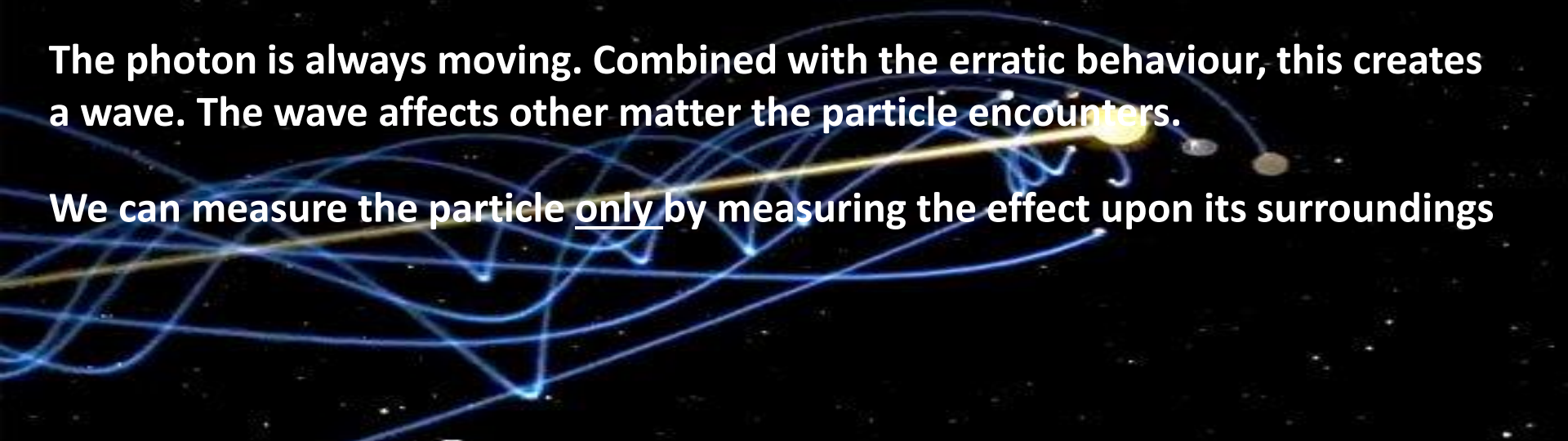
Welcome to the world of the massless particle

A photon is a particle without mass. It is impossible to measure the fact that it exists, using normal approaches.

The nucleus is not in the centre of the particle but occurs erratically in the particle. The behaviour of the nucleus cannot be accurately predicted.

The photon is always moving. Combined with the erratic behaviour, this creates a wave. The wave affects other matter the particle encounters.

We can measure the particle only by measuring the effect upon its surroundings



Principles of the Quantum World

An abstract visualization of a quantum field. It features a central, bright, glowing core of yellow and orange light. From this core, a series of concentric, wavy, translucent bands of light radiate outwards, transitioning in color from orange to yellow, then green, and finally blue. The background is dark, filled with a complex network of thin, glowing lines and small, colorful dots in various colors (red, green, blue, yellow), suggesting a complex, interconnected quantum system.

You can measure an electron's position, or you can measure the wave's momentum, but you can't measure both.

A quantum object can't be said to manifest in ordinary space time until we observe it as a particle (collapsing the wave).

Observation (or measurement) makes the wave collapse.

The way we observe the quantum field decides what we see – and thus our belief systems determine the reality we experience.

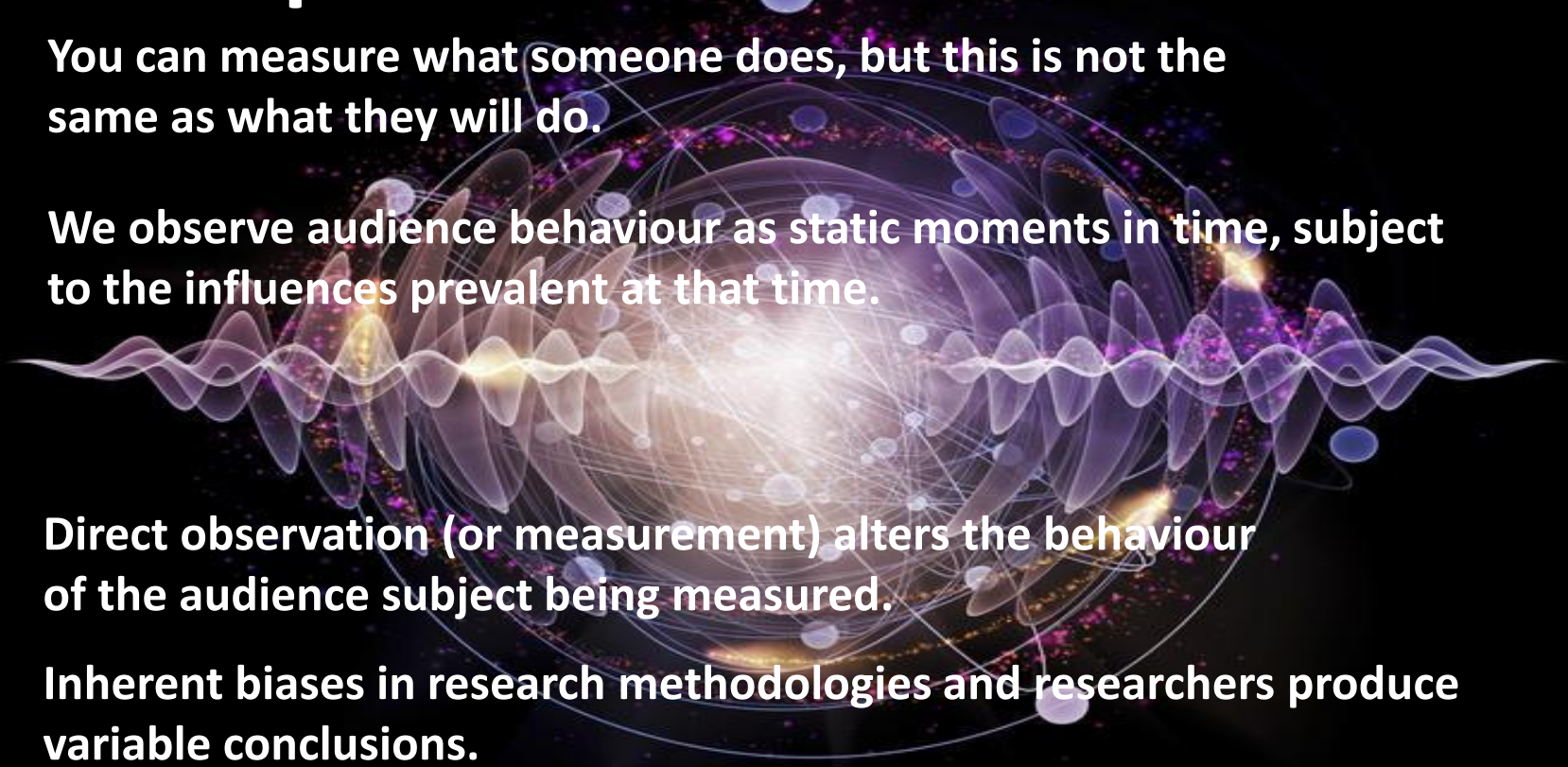
Principles for our World

You can measure what someone does, but this is not the same as what they will do.

We observe audience behaviour as static moments in time, subject to the influences prevalent at that time.

Direct observation (or measurement) alters the behaviour of the audience subject being measured.

Inherent biases in research methodologies and researchers produce variable conclusions.



What does that mean in practice?

- **Overreliance on Key Performance Indicators can create unintended consequences.**
- **There is no inherent value to a page view or a click through.**
- **Multiple methodologies need to be used to avoid system bias.**
- **Dynamic tracking provides a far truer picture than regular dips.**
- **Final outcome measures can only be trusted if they correlate to data from all parts of the evaluation framework .**

Metrics don't matter (in and of themselves), ratios do

- When measuring the absence of action, the ratios between your metrics reveal the truth.
- They explain how your audience truly interacts with your brand or campaign.
- You can build a contextual map of how the audience thinks and feels, in order to be able to see what they do.
- The GCS evaluation framework allows for an evaluation journey to map onto the customer journey.

