

## The atemporal Platonic world

Do not introduce [Killing vector field](#) by hand ([R. Penrose](#)). Get professional and read [T. Padmanabhan](#):

Thus, for a single particle, the condition  $\nabla mT^{mn} = 0$  is equivalent to a geodesic equation. As we have already seen, the geodesic equation is capable of encoding the effect of external gravitational field on a material particle and — in general — will not lead to any conservation law. It follows that the equation  $\nabla mT^{mn} = 0$  describes the way material systems are influenced by external gravity and, of course, is not a conservation law either.

More from [H. Bondi](#), [H. Ohanian and L. Szabados](#), [C. Rovelli](#), and [J. Butterfield and C.J. Isham](#).

Thus, the geodesic hypothesis (read Alan Rendall [here](#)) is still a mystery, ever since the inception of GR. But instead of **solving** this mystery, the GR “experts” from LIGO wasted over **450 million EUR** for their [LISA Pathfinder](#), only to **confirm** the existence of geodesic mystery, as known since the inception of GR.

Read p. 6 (last) in [GW150914: Pink Unicorns Dancing with Red Herrings](#).

The fact mentioned by [H. Ohanian](#) “the standard form of a conservation law,  $\partial T_{\nu}^{\mu} / \partial x^{\mu} = 0$ , which shows that the gravitational field delivers no energy or momentum to the nongravitational matter” **ANYMORE**, is explained in my endnote [therein](#). As I stressed previously, the *atemporal Platonic* world **cannot** have metric properties ([C. Rovelli](#)). If you decide to somehow eliminate the *atemporal Platonic* gravity, you will end up with a **physical** gravitational field, which guides (Sic!) the material particle along its timelike path. It will be like you order a pizza from the nearby restaurant (the *left-hand* side at EFE), and once it is delivered at your doorstep you bring *exactly* the same pizza in your kitchen (the *right-hand* side at EFE).

No way. Thus, the mathematical fact that GR “is consistent with the local conservation of energy and momentum” ([Wikipedia](#)) **requires** (not “implies”) that GR is inherently [nonlocal theory](#) consistent with perpetual **nonconservation** of energy and momentum. To quote [Hermann Bondi](#), “In relativity a non-localizable form of energy is inadmissible, because any form of energy contributes to gravitation and so its location can in principle be found.” Yes, “its location can in principle be found” — once-at-a-time denoted with  $\tau$  ([C. Rovelli](#)). Nature creates *perfectly* localized and **gravitalized stress-energy-momentum** and **angular momentum** at every instant  $\tau$  read with a clock, as the *atemporal Platonic* gravity delivers no energy-momentum to the nongravitational matter **ANYMORE**. Will do it again, at the *next* instant  $\tau$ : see Fig. **3** at p. 3 in [matter-matter.pdf](#) and read p. 4 [therein](#).

Check out again my endnote in [H. Ohanian and L. Szabados](#). We need quantum gravity, based on the *atemporal* pregeometric **Platonic** world<sup>1</sup> (pp. 5-6 in [colorless.pdf](#)). **It** resembles the old Aether (p. 27 in [zenon.pdf](#)), but is placed infinitely far away “at null infinity”: no *physical* object, including a light beam, could reach **It**, ever. Thus, **It** is physically unobservable *atemporal* pregeometric **Platonic** world, which (not “Who”) wraps the *entire* physical world at actual/completed infinity, up to null- and spacelike infinity. And now we can define the *entire* physical world as ‘[isolated system](#)’ that is [isolated](#) from **It**, ... and **by It**.

Read about **It** at p. 5 in [zenon.pdf](#) and notice the **radius** of the inflating balloon in Fig. **B** at p. 21 [therein](#).

We have no choice but to define ‘the *entire* physical world’ **relationally**, but in such way that its physical, 4D spacetime can be immersed into ‘something else’ ([C.J. Isham and J. Butterfield](#)), called **It**. Otherwise we face the insoluble paradox of [infinite regress](#), also known as ‘[turtles all the way down](#)’. Needless to say, the **Platonic** world ‘**It**’ is a pregeometric entity residing “[inside](#)” every 4D geometric point/event *as well*.

Plato suggested **It** many centuries ago. **It** is the sole option we have to develop quantum gravity. Don't use [tensors](#) to model the properties of the gravitational “field”. We need *atemporal Platonic* quantum-gravitational waves. If you disagree<sup>2</sup>, I will leave you in the company of [S. Weinberg](#) and [R. Penrose](#).

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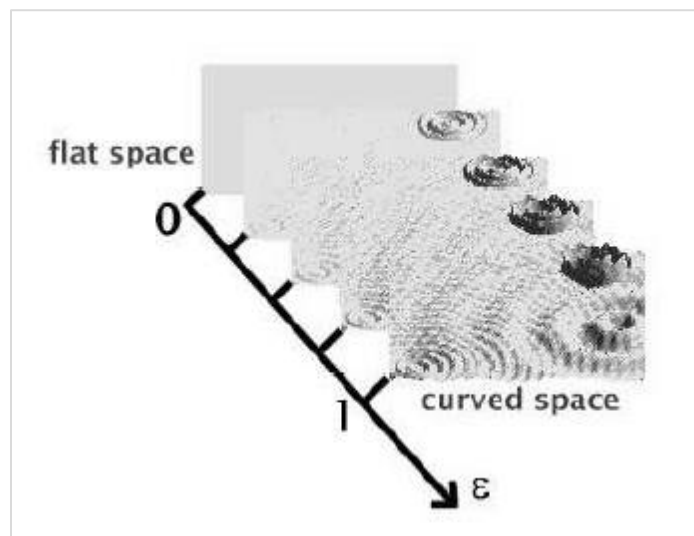
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1. **It** (not "He") is neither matter (*Res extensa*) nor mind (*Res cogitans*): read the doctrine of trialism at p. 25 in [BCCP](#) and in [colorless.pdf](#). The Platonic **matrix** is presented as 'John' in [Schrödinger's cat](#), and with a new kind of '**zero**' in [Macavity cat](#). In symbolic terms,  $1 + 0 = 1$ : all "**probabilities**" for observing [John's jackets](#) sum up *exactly* to **1**, whereas the chance to observe 'John' as Platonic **matrix** is *exactly zero* (e.g., point **A** in p. 10 in [BCCP](#)). Read Erwin Schrödinger at p. 6 in [BCCP](#) and pp. 13-14 therein. Details at p. 6 in [The Physics of Life](#) and at p. 27 in [BCCP](#). The entire Universe is unique non-relational **ONE** entity. **It** (not "He") can be reached only with [Mathematics](#).

2. Look at eq. (7.6.1) by [S. Weinberg](#), in which " $h_{\mu\nu}$  vanishes at infinity". What kind of "limit" is that? To illustrate this *effective* "limit", suppose you make BBQ at your backyard. It is a hot summer day and your air thermometer reads 28°C. You measure the temperature *very* close to your BBQ and the thermometer reads, say, 60°C. Then you walk away from the hot BBQ and notice that the air temperature decreases, until it reaches 28°C, at 5m from the BBQ, and at this point it **stops** there. You are "sufficiently" faraway, *exactly* 5m from the BBQ, and at this point the effect from the BBQ is **zero**. Simple, isn't it?

People like [S. Weinberg](#) and [R. Penrose](#) use the same *effective* "limit", only now " $h_{\mu\nu}$  vanishes at infinity" at which " $\Omega = 0$ " — not at the *finite* distance 5m, as in the BBQ example above. In the case examined by [S. Weinberg](#), the "intuitively clear" parameter  $\epsilon$ , shown in the drawing by B. Schutz below, *cannot* exist in the current version of GR ([M. Maggiore](#)). As I stressed [previously](#),  $\epsilon$  has been "derived" from something we do **not** know, by sheer wishful thinking and imagination only.



[B. Schutz](#), Mathematical and Physical Perspectives on Gravitational Radiation, 2 August 2002

