Time Is Not Global

Disambiguating the Timeless Light Model from Wheeler–DeWitt, Page–Wootters, and Relational Quantum Time

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Abstract

Several approaches to quantum gravity and quantum foundations remove, internalize, or reconstruct the ordinary time parameter. The Wheeler–DeWitt framework does not contain the ordinary external Schrödinger time parameter in its fundamental constraint. Page and Wootters showed that a globally stationary system can nevertheless exhibit clock-relative dynamics to an internal observer. Rovelli developed a framework for observable evolution in a regime in which a fundamental time variable is not defined. These approaches therefore should not be characterized as theories that simply retain a universal master time.

The Timeless Light Model (TLM) makes a different claim. Its starting point is not the absence of a time symbol from an equation. Its starting point is the architecture of physical law. The laws of the universe determine which relations and interactions are allowed. They are not events occurring inside the universe and are not themselves subject to time. A mathematical expression of a law may contain a temporal parameter where the physical relation being described includes temporal structure; this does not make the law itself temporal.

TLM therefore proposes that time is not global. Temporal structure applies only where the lawful physical relation possesses it. In particular, special and general relativity govern the temporal and geometric structure of spacetime registration. A massive timelike system may accumulate proper time. The photon relation does not: its proper-time interval is null. Under TLM this is not interpreted as zero elapsed time on an unseen universal clock. It means that no proper-time interior belongs to the photon relation itself. Likewise, an entanglement correlation need not be treated as a third time-bearing process traveling between two local registrations.

The consequence is a domain restriction on temporal language. A phenomenon can violate temporal order only if temporal order applies to that relation in the first place. Expressions such as "instantaneous," "backward in time," or "faster than light"

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can otherwise import temporal or transit structure into a lawful relation that does not possess it.

This paper compares TLM with Wheeler–DeWitt, Page–Wootters, and relational quantum time without treating those approaches as straw men. Considerable compatibility may exist among them. The distinctive TLM claim is narrower and architectural: lawful structure is prior to the physical relations it permits, time is not a universal variable of that structure, and temporal properties apply only within the lawful relations for which temporal structure is supplied.

Technical terms marked with a superscript dagger (†) link to their formal definition in Section 3.

The laws define what may occur.

The laws themselves do not occur in time.

Time is not global.

A temporal violation requires a relation to which time applies.

Contents

1 Introduction

The Timeless Light Model makes a simple claim that can become obscured when it is placed beside the sophisticated literature on the problem of time.

Time is not global.

This does not mean that physics contains no temporal variables. It does not mean that clocks are unreal, that duration is unreal, or that equations containing t are mistaken. It means that temporal structure should not be presumed to apply to every lawful physical relation merely because it applies to some.

The distinction begins with physical law.

The laws of the universe specify the boundaries of allowed physical relation and interaction. In the terminology of the Timeless Light Model, the coordinated set of those laws is lawful structure[†].

The familiar analogy is a lawbook. The analogy should not be taken to mean that a literal book exists outside the universe. Its purpose is to make the logical hierarchy clear. The rules determine what physical relations are permitted. The rules are not themselves physical events occurring under those same relations.

The laws are therefore architecturally prior to the events and relations they govern.

"Prior" here does not mean earlier in time.

There can be no temporal claim that the laws existed for some duration and then the universe began. Rather, the statement is one of logical dependence: whatever physical interactions occur must be lawful in order to occur at all.

Thus,

$$\boxed{\text{law} \longrightarrow \text{boundary of permitted physical relation}}$$

does not mean

$$\text{law first in time} \longrightarrow \text{physical event later in time.}$$

The distinction matters because a mathematical law may contain a temporal quantity without the law itself becoming temporal.

A law governing a relation involving t does not age as t changes. It does not wait for the next value of t. It continuously specifies the allowed relation.

The Timeless Light Model therefore separates two propositions:

$$\boxed{\text{a lawful physical relation contains temporal structure}}$$

and

$$\boxed{\text{law itself is subject to time.}}$$

The first may be true.

The second does not follow.

This architecture was developed in the published TLM corpus and stated directly in *Physics Has Always Been Unified: General Timelessness, Null Proper Time, and the Clarified Architecture* [1].

The purpose of the present paper is narrower. Several important approaches to quantum gravity also use the language of timelessness. It is therefore necessary to determine whether TLM merely restates those approaches, differs from them, or is substantially compatible with them while making an additional architectural distinction.

That inquiry should begin without caricaturing the neighboring theories.

2 The Lawbook and the Domain of Time

The central TLM hierarchy is:

LAWFUL STRUCTURE

followed not temporally, but logically, by

THE PHYSICAL RELATIONS IT PERMITS.

Some of those lawful relations possess temporal structure.

Others do not.

This suggests a useful concept: the *domain of time*.

3 Definitions

Definition 3.1 (Lawful structure)**.** Lawful structure is the coordinated specification of the physical laws, relations, constraints, conservation principles, symmetries, selection rules, boundary conditions, and coupling structure governing what physical relations and outcomes are admissible. It is not an event, object, region, or medium within spacetime.

Definition 3.2 (Architectural priority)**.** Architectural priority is logical dependence rather than temporal precedence. The laws are architecturally prior to a physical relation in the sense that the relation must conform to the governing law in order to be physically admissible. Architectural priority makes no claim that the laws existed at an earlier time.

Definition 3.3 (Temporal domain)**.** The temporal domain is the class of lawful physical relations to which temporal quantities such as temporal ordering, duration, causal ordering, or proper-time accumulation apply.

Definition 3.4 (Registration)**.** Registration is the lawful participation of a physical outcome within spacetime such that it possesses geometric localization, causal and temporal relation, and the possibility of observation or interaction by other registered physical systems.

Definition 3.5 (No-global-time principle)**.** The no-global-time principle is the TLM claim that temporal structure is not presumed to apply to every lawful physical relation. Time applies where the governing physical relation supplies temporal structure. The existence of timed relations does not imply a universal temporal variable governing all lawful structure.

The last definition is the central claim of this paper.

It can be stated more simply:

$$\boxed{\text{Time applies where time applies.}}$$

This statement is intentionally tautological in appearance because it removes an additional assumption usually inserted without notice: that if time applies to ordinary spacetime processes, then some form of time must also govern every physical relation whatsoever.

TLM denies that inference.

A relation possessing a temporal variable is temporal in that respect.

A relation possessing proper time accumulates proper time.

A relation possessing coordinate-time ordering can be described using that coordinate structure.

But nothing follows about a separate universal variable that must also govern lawful relations lacking those properties.

4 A Law Can Contain Time Without Being in Time

An important source of confusion is the distinction between a law and the variables appearing in its mathematical representation.

Consider schematically

$$F(x,t) = 0.$$

The law describes an allowed relationship involving a temporal quantity t.

Nothing about this notation requires the law itself to pass from t_1 to t_2.

The law is not younger at t_1 and older at t_2.

It does not develop as the physical system develops.

The relation described by the law may possess temporal structure. The law specifies the allowed relation.

This distinction permits temporal variables wherever physics requires them without promoting time into a universal background governing the lawbook itself.

Proposition 4.1 (Law–variable distinction)**.** *The occurrence of a time variable in the mathematical representation of a physical law establishes that the represented relation has temporal structure in the relevant description. It does not establish that the law itself is subject to time.*

This proposition is important for comparing TLM with ordinary quantum mechanics as well as relativity.

The time-dependent Schrödinger equation, for example, contains t:

$$i\hbar\frac{\partial}{\partial t}\Psi = \hat{H}\Psi.$$

TLM need not remove the variable.

The equation may describe lawful relations involving temporal structure.

The point is only that the law represented by the equation remains the rule specifying the allowed relation; it is not itself another time-evolving physical participant.

Special and general relativity make the distinction particularly concrete because they supply the temporal and geometric organization of registered spacetime relations.

Thus TLM does not say:

$$t \text{ is forbidden.}$$

It says:

$$\boxed{t \text{ has a domain of application.}}$$

5 Null Proper Time Is the Diagnostic Case

The physical case that motivated the TLM reversal is the photon.

For a timelike worldline,

$$d\tau > 0$$

and proper time accumulates along the worldline.

For a null worldline,

$$ds^2 = 0,$$

and therefore

$$d\tau = 0.$$

For light in flat spacetime,

$$c^2 dt^2 - dx^2 = 0.$$

The usual interpretation notes correctly that a photon has no rest frame and that proper time along a null worldline is zero.

TLM asks what ontological conclusion should follow.

The conventional traveler picture easily encourages the following intuition:

> A universal time still exists everywhere, but the photon's clock somehow reads zero while the photon travels through it.

TLM rejects the need for that extra picture.

There is no global temporal variable that must secretly remain attached to the photon relation.

The emission event registers.

The absorption event registers.

Those endpoints possess coordinate relations within spacetime and are temporally ordered for registered observers according to relativity.

But the lawful relation called the photon has

$$\Delta\tau = 0.$$

Under TLM, this means exactly what the physical relation supplies: there is no accumulated proper-time interior belonging to that relation.

It does not mean

zero units on an otherwise universal hidden clock.

It means

$$\boxed{\text{no proper-time variable is supplied to the photon relation itself.}}$$

Proposition 5.1 (Null-domain result)**.** *Null proper time does not require the interpretation that a photon experiences zero elapsed time relative to a deeper universal time. Under TLM, the null relation simply lacks an intrinsic proper-time history. Temporal and geometric ordering belong to the registered endpoints and to the spacetime description supplied by relativity.*

This is why null proper time is diagnostic rather than merely numerical.

If time were necessarily global, every physical relation would require a time-bearing interior even where proper time is exactly zero.

The null case shows that physics itself does not require such universality.

6 A Temporal Violation Requires a Temporal Domain

The no-global-time principle produces a simple test.

Before describing a physical phenomenon as violating time, ask:

> What law assigns temporal structure to the relation alleged to violate it?

If the relation lies within the temporal domain, then temporal statements are meaningful.

One can ask whether event A occurs before event B, whether a signal travels faster than a permitted propagation speed, or whether a worldline accumulates a particular proper-time interval.

But if the relation itself contains no corresponding temporal structure, then applying such language to it imports an additional variable not supplied by the physical description.

Proposition 6.1 (Temporal-violation criterion)**.** *A lawful relation can violate a temporal constraint only if that temporal constraint applies to the relation in the first place.*

This yields the compact TLM statement:

$$\boxed{\text{A phenomenon that “violates time” may be violating nothing.}}$$

The quotation marks are important.

The proposition does not license violations of relativity within the domain where relativity applies.

A massive object does not evade its timelike worldline.

A controllable signal is not licensed to propagate outside the relativistic causal structure.

Rather, TLM denies the prior move of assigning a propagation history or temporal variable to a relation that is not itself a spacetime transmission.

7 Retrocausality and the Photon

Retrocausal interpretations illustrate the importance of the domain test.

To describe a physical influence as retrocausal ordinarily requires a temporal history within which something associated with a later condition acts backward toward an earlier condition.

Schematically,

$$t_2 \longrightarrow t_1, \qquad t_2 > t_1.$$

For ordinary time-bearing processes, such a proposition is intelligible whether or not it is correct.

The photon relation presents a different case under TLM.

Its registered endpoints may be ordered:

$$E_{\text{emit}} \prec E_{\text{absorb}}$$

within the spacetime description.

But the lawful photon relation itself has no accumulated proper-time interior.

Assigning to that relation a forward internal history and then reversing part of that history therefore introduces precisely the structure that the null case does not supply.

Under TLM, the issue is not that the photon travels forward rather than backward through a hidden time.

The claim is:

$$\boxed{\text{there is no photon proper-time history available to reverse.}}$$

The retrocausal problem is therefore dissolved rather than solved by a different causal mechanism [5].

This does not erase the coordinate ordering of emission and absorption.

It rejects the additional traveler history inserted between them.

8 Entanglement and the Absence of Temporal Transit

Quantum entanglement provides a second application.

An entangled system produces correlated local outcomes.

Each detector event is a registration.

Each detector has a spacetime location.

Each registered outcome participates in temporal and causal relations.

Relativity applies to those registrations and to any ordinary physical signal exchanged between them.

The entanglement correlation is different in kind.

Under TLM, the joint correlation belongs to the lawful structure governing the pair.

It is not a third detector event.

It is not an object traveling from detector A to detector B.

It is not a signal whose speed must be calculated by

$$v = \frac{\Delta x}{\Delta t}.$$

Consequently, describing the correlation as "instantaneous" already risks assigning a temporal transit variable to something that is not a transit.

The architecture is instead:

$$\boxed{\text{one lawful relation}}$$

with

$$\boxed{\text{two local spacetime registrations.}}$$

The registrations are timed.

The lawful correlation need not be.

Proposition 8.1 (Entanglement-domain result)**.** *Under TLM, the temporal and causal constraints of relativity govern the local registrations of an entangled system and any physical communication between them. The joint correlation is not thereby required to possess a propagation time between the registrations.*

Thus the familiar question

How does the correlation travel between the detectors so quickly?

contains a TLM category error.

It assumes that there is a traveling correlation-bearing process to which speed and duration apply.

If there is no such process, there is no superluminal temporal violation to explain.

There is a lawful joint relation and there are relativistically organized local registrations [1].

9 What Wheeler–DeWitt Actually Says

The preceding architecture should now be compared with the quantum-gravity literature without simplifying that literature into a foil.

In canonical quantum gravity, the Wheeler–DeWitt constraint is written schematically as

$$\hat{\mathcal{H}}\Psi = 0.$$

Unlike the ordinary Schrödinger equation, this expression contains no external time derivative of the familiar form

$$i\hbar\frac{\partial}{\partial t}\Psi.$$

DeWitt's canonical treatment makes the point more carefully than the common popular description of a "timeless equation." For a finite world, the constraints govern the dynamics; the coordinate label x^0 is irrelevant, and "time" must be determined intrinsically [6].

This already rejects a simple external universal clock.

TLM should therefore not claim that Wheeler–DeWitt retains one.

The difference lies elsewhere.

The Wheeler–DeWitt problem is a problem within a physical formalism:

> How is dynamical physics represented when ordinary external Schrödinger time is absent?

The TLM question is architectural:

> Which lawful relations possess temporal structure at all?

The absence of t from an equation is neither necessary nor sufficient for the TLM conclusion.

A law may contain t while the law itself remains timeless.

A law may omit t without thereby proving anything about the global ontology of time.

Thus,

$$\boxed{\text{formal absence of external } t \neq \text{TLM no-global-time principle.}}$$

The two claims may be compatible without being identical.

10 Page–Wootters: Clock Relations Without External Time

Page and Wootters begin even closer to the issue.

They observe that the time parameter in the Schrödinger equation is not itself observable and show that it is consistent with observation to treat a closed system such as the universe as stationary. Observed dynamical evolution can then be described through dependence upon internal clock readings [7].

Schematically, let the total system contain a clock subsystem C and another subsystem S:

$$\mathcal{H} = \mathcal{H}_C \otimes \mathcal{H}_S.$$

The internal observer obtains relational structure such as

$$C_i \leftrightarrow S_i.$$

Page–Wootters therefore should not be presented as a theory in which a master external time continues to control the universe.

It explicitly shows how ordinary dynamics can be represented without one.

This creates a genuine point of contact with TLM.

The TLM question becomes:

> What ontological conclusion should be drawn from $C_i \leftrightarrow S_i$?

One possible description is that time has emerged.

TLM permits a more economical description:

$$\boxed{\text{a clock-relative temporal relation has been established.}}$$

The clock states and the compared system states provide registered physical relations.

That is sufficient for ordering and temporal description.

Nothing further requires lawful structure itself to acquire a global time variable.

Remark 10.1 (Compatibility with Page–Wootters)*.* The present paper does not claim that Page–Wootters is incompatible with TLM. To the extent that Page–Wootters eliminates external time and treats observable dynamics relationally, the frameworks may be strongly compatible. The TLM contribution is the additional architectural claim that the clock-relative temporal structure should not automatically be promoted into a universal property of all lawful relations.

11 Moreva et al.: What the Experiment Shows

Moreva et al. experimentally illustrated the Page–Wootters mechanism using entangled photon polarizations [8].

Their description is particularly useful because it cleanly distinguishes two viewpoints.

An internal observer correlated with the clock subsystem sees the other subsystem evolve.

An external observer considering the appropriate global properties can show that the joint state is static.

The experiment therefore illustrates that clock-relative dynamics can exist within a globally stationary description.

TLM need not dispute any part of this result.

The question is instead how to name what has been established.

The physical observations include:

$$\text{clock states,}$$

$$\text{system states,}$$

and

$$\text{correlations between them.}$$

Those relations can supply an operational temporal description.

Calling that description "emergent time" is unobjectionable if *emergent time* means only that temporal ordering becomes available to an internal observer through physical clock relations.

A stronger conclusion would be that a global physical constituent called time has thereby been created.

That stronger conclusion is not required by the experiment itself.

The TLM description is simply:

$$\boxed{\text{clock-relative temporal structure appears where the physical relation supplies it.}}$$

12 Rovelli: Physics Without a Fundamental Time Variable

Rovelli comes still closer to the no-global-time question.

He explicitly considers the hypothesis that time is not defined at the fundamental level and develops gauge-invariant observables capable of describing observable evolution in that regime [10]. Earlier work likewise studied quantum mechanics in a regime where unitary time evolution appears only as an approximation [9].

It would therefore be particularly misleading to characterize Rovelli as assuming that a universal time variable remains present underneath the theory.

He explicitly investigates the opposite possibility.

The proper comparison is consequently not

Rovelli has global time versus TLM does not.

It is:

$$\boxed{\text{What does “no fundamental time” mean in each architecture?}}$$

Rovelli develops a formalism for observable physics in the absence of a fundamental time variable.

TLM develops an ontological classification of physical law and physical relation in which temporal structure has a restricted domain.

These may be complementary statements.

TLM adds the specific claim that relations such as the null photon relation and the entanglement correlation should not be assigned a temporal history merely because their registered endpoints or outcomes participate in spacetime.

13 The Difference Between Emergent Time and Domain-Limited Time

The comparison suggests that the phrase *emergent time* can obscure two different ideas.

The first is operational.

A subsystem can serve as a clock.

Correlated states can be ordered.

An internal observer can describe evolution.

A macroscopic description can contain durations and histories.

TLM has no objection to calling this operational temporal emergence.

The second idea is ontological:

> A fundamentally timeless reality must somehow generate a new global physical factor called time.

TLM does not require this step.

The TLM architecture is not

$$\text{timeless reality} \longrightarrow \text{time comes into existence} \longrightarrow \text{temporal universe.}$$

Such a picture is already awkward because the arrow appears to describe a temporal transition occurring before time exists.

The TLM architecture is instead domain-based:

$$\boxed{\text{lawful structure}}$$

contains lawful relations of different kinds.

Some possess temporal structure.

Some do not.

Where spacetime registration occurs, temporal and geometric relations are governed by special and general relativity.

Where a lawful relation contains no internal temporal variable, TLM does not add one.

There is therefore no universal transition from timelessness into time.

There is only a distinction between relations to which temporal structure applies and relations to which it does not.

14 The Central Comparison

The neighboring approaches can now be compared without assigning claims to them that they do not make.

Framework	Central time question	Relation to TLM
Wheeler–DeWitt	How is quantum-gravitational dynamics represented when ordinary external Schrödinger time is absent?	Compatible with no external master clock. TLM additionally asks which lawful relations possess temporal structure at all.
Page–Wootters	How can observed dynamics be described relationally using an internal physical clock while the closed global system is stationary?	Strongly compatible with relational temporal description. TLM does not infer from clock relations that time must be global.
Moreva et al.	Can Page–Wootters clock-relative dynamics be experimentally illustrated?	The observed correlations demonstrate clock-relative temporal structure; they need not establish a new universal time constituent.
Rovelli	How can observable evolution be described when a fundamental time variable is not defined?	Close conceptual neighbor. TLM adds a domain-based ontology connecting no-global-time to null proper time, photon interpretation, entanglement, and registration.
Timeless Light Model	Which lawful relations possess temporal structure, and which do not?	Time is not global. Laws define the permitted relations; temporal structure applies only where the physical relation supplies it.

15 What TLM Adds

If Wheeler–DeWitt, Page–Wootters, and Rovelli already remove external or fundamental time in important respects, what remains distinctive about TLM?

The answer is not that TLM discovered mathematical timelessness first.

It did not.

Nor is the answer that existing approaches secretly retain universal time.

They need not.

The TLM contribution proposed here consists of three connected claims.

First, lawful structure is architecturally senior to the physical relations it permits. Laws determine the boundaries of admissible interaction and relation but are not themselves events passing through time.

Second, temporal structure has a domain rather than universal scope.

$$\boxed{\text{Time is not global.}}$$

Third, this domain restriction is applied directly to physical puzzles normally formulated using global temporal language.

For the photon:

$$\Delta\tau = 0$$

is read as the absence of a proper-time interior rather than as zero progress on an unseen universal clock.

For entanglement:

$$\text{one lawful relation} + \text{two timed local registrations}$$

does not require a time-bearing signal crossing between the detectors.

For retrocausality:

$$\text{no internal photon time history}$$

means that there is no such history to reverse.

These are not three independent interpretive tricks.

They are applications of one rule:

$$\boxed{\text{Do not assign time to a lawful relation unless its governing physical structure supplies time.}}$$

16 What This Paper Does Not Claim

The distinction is intentionally narrow.

Remark 16.1. This paper does not claim that Wheeler–DeWitt, Page–Wootters, or Rovelli assume an external universal master clock. Their published work explicitly moves away from such a description.

Remark 16.2. This paper does not claim that equations containing a time parameter are incorrect or less fundamental merely because the parameter appears.

Remark 16.3. This paper does not claim that clocks, duration, temporal order, causal structure, or proper time are unreal.

Remark 16.4. This paper does not claim that the registered endpoints of a null relation lack coordinate-time ordering for ordinary spacetime observers.

Remark 16.5. This paper does not permit controllable signals to violate the relativistic causal structure. Its claim concerning entanglement is that the correlation itself should not first be assumed to be a propagating signal.

Remark 16.6. This paper does not provide a replacement quantum-gravity formalism.

Remark 16.7. This paper does not claim that all uses of the phrase "emergent time" are incompatible with TLM. If the phrase means the appearance of operational clock-relative temporal description, the two may be entirely compatible.

17 Discussion

The problem of time may contain more than one problem.

There is a formal problem concerning the representation of dynamics when the ordinary external time parameter disappears.

There is an operational problem concerning how internal observers construct clocks and temporal descriptions.

There is a relational problem concerning how one physical quantity changes with respect to another.

And there is an ontological question:

> Must time be assigned globally to every lawful physical relation?

TLM answers no.

This answer is intentionally simple.

The laws specify what may happen.

They do not themselves happen in time.

Some of the relations permitted by those laws participate within spacetime and possess temporal structure.

Others do not contain an internal temporal variable.

There is no requirement that a second hidden time continue running behind the relations for which the physical description supplies none.

This is why null proper time matters so strongly.

The equation

$$\Delta\tau = 0$$

does not need to be translated into

> zero elapsed units of a deeper time that still universally exists.

It can be read literally as a limit on the temporal structure assigned to the null relation.

The same discipline clarifies entanglement.

The two registrations have temporal coordinates.

The lawful correlation need not have a transit time.

And it clarifies retrocausality.

The registered endpoints have temporal order.

The photon relation need not possess an intermediate proper-time history that can be made to run backward.

Thus the TLM maxim can be stated:

$$\boxed{\text{Temporal predicates apply only inside the temporal domain.}}$$

The statement sounds modest.

Its consequences are not.

If correct, several phenomena described as challenging temporal order may instead expose the mistaken assumption that temporal order was universal.

18 Conclusion

The Timeless Light Model and the existing problem-of-time literature share substantial conceptual territory.

Wheeler–DeWitt removes the ordinary external Schrödinger time parameter from the canonical quantum-gravity constraint and requires time to be treated intrinsically.

Page and Wootters show that a closed stationary system can nevertheless support observed dynamics through internal clock readings.

Moreva et al. experimentally illustrate such clock-relative dynamics.

Rovelli explicitly develops quantum description in a regime where a fundamental time variable is not defined.

TLM need not oppose any of these results.

Its claim lies at another level.

The laws of the universe define the boundaries of permitted interaction and relation.

The laws are not themselves events.

They do not wait, age, or evolve.

A law may describe a relation containing temporal variables without the law itself becoming subject to time.

Most importantly,

$$\boxed{\text{time is not global.}}$$

Temporal structure applies where the governing physical relation supplies it.

For timelike spacetime relations, proper time applies.

For registered spacetime events, temporal and causal ordering apply.

For the null photon relation,

$$\Delta\tau = 0,$$

and TLM adds no hidden proper-time history behind that result.

For an entanglement correlation, the local outcomes register within spacetime, but the correlation need not be assigned a propagation time between them.

The resulting principle is therefore:

> A phenomenon can violate time only where time applies. If a lawful relation does not possess the relevant temporal structure, descriptions such as instantaneous, retrocausal, or faster than light may import a variable that the relation itself does not contain.

Timelessness in TLM is therefore not the claim that the entire universe is frozen at zero time.

It is not the claim that temporal variables should be removed from physics.

It is not the claim that clocks are illusions.

It is the simpler claim that the universe does not possess one global time variable that must govern every lawful relation.

The laws define what is allowed.

Where those laws supply time, time applies.

Where they do not, nothing is missing.

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