

Pleasant Springs Church

12-Week Study · A Quantum Case For God

WEEK 7 OF 12

The Quantum Eraser and the Omniscience of God

The delayed-choice experiment — declaring the end from the beginning

THE BIG IDEA

The **delayed-choice quantum eraser experiment** shows something so strange most physicists will admit they do not fully understand it: a measurement made *now* can determine whether a particle, *in the past*, behaved as a wave or a particle. The decision a scientist makes today can «erase» or «preserve» information about an event that has already happened. Time, at the quantum level, does not flow in the simple one-way direction our common sense assumes. Scripture has said for three thousand years that God *declares the end from the beginning* and is unbound by time.

The setup begins where last week began: the double-slit experiment. Fire single photons at a screen with two slits; you get an interference pattern (wave behavior). Add a detector that tells you which slit each photon went through; the interference pattern collapses (particle behavior). So far, ordinary quantum weirdness.

Now the wrinkle, first proposed by John Archibald Wheeler in 1978 and experimentally realized in increasingly sophisticated forms ever since: *delay the measurement*. Send the photon on its way. Wait until *after* it has already passed through the slits. *Then* decide whether or not to measure which slit it went through. If you decide to measure, the photon retroactively behaves like a particle. If you decide not to measure, the photon retroactively behaves like a wave. The decision *now* seems to determine the behavior *then*.

The **delayed-choice quantum eraser** (Yoon-Ho Kim et al., 1999) goes one step further. Even after the «which-slit» information has been recorded, you can later *erase* that information — and the photon's past behavior switches back from particle to wave. Erasing the present record changes what happened in the past.

No serious physicist claims this is backward time travel in any usable sense. (You cannot send signals into the past.) But all serious physicists agree: time, at the quantum level, is not the simple one-way arrow our intuitions assume. The «present moment» is much more entangled with «past» and «future» than common sense imagined. Scripture says God lives on the outside of that entanglement entirely.

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SCRIPTURE

Isaiah 46:9–10 · Declaring the End From the Beginning

Septuagint (LXX) / Greek New Testament

⁹καὶ μνήσθητε τὰ πρότερα ἀπὸ τοῦ αἰῶνος, ὅτι ἐγὼ εἰμι ὁ Θεός, καὶ οὐκ ἔστιν ἕτι πλὴν ἐμοῦ·
¹⁰ἀναγγέλλων πρότερον τὰ ἔσχατα πρὶν αὐτὰ γενέσθαι, καὶ ἅμα συνετελέσθη·

English Standard Version

⁹Remember the former things of old; for I am God, and there is no other; I am God, and there is none like me, ¹⁰declaring the end from the beginning and from ancient times things not yet done, saying, 'My counsel shall stand, and I will accomplish all my purpose.'

Psalms 138:1–4 LXX (= Ps 139:1–4) · You Have Searched Me and Known Me

Septuagint (LXX) / Greek New Testament

¹Κύριε, ἐδοκίμασάς με καὶ ἔγνων με· ²σὺ ἔγνων τὴν καθέδραν μου καὶ τὴν ἔγερσίν μου, σὺ συνῆκας τοὺς διαλογισμούς μου ἀπὸ μακρόθεν·
³τὴν τρίβον μου καὶ τὴν σχοῖνόν μου σὺ ἐξιχνίασας, καὶ πάσας τὰς ὁδοὺς μου προεΐδες·
⁴ὅτι οὐκ ἔστι λόγος ἐν γλώσσει μου.

English Standard Version

¹O LORD, you have searched me and known me!
²You know when I sit down and when I rise up; you discern my thoughts from afar. ³You search out my path and my lying down and are acquainted with all my ways. ⁴Even before a word is on my tongue, behold, O LORD, you know it altogether.

Romans 8:29 · Foreknown and Predestined

Septuagint (LXX) / Greek New Testament

ὅτι οὗς προέγνω, καὶ προώρισε συμμόρφους τῆς εἰκόνης τοῦ υἱοῦ αὐτοῦ, εἰς τὸ εἶναι αὐτὸν πρωτότοκον ἐν πολλοῖς ἀδελφοῖς·

English Standard Version

For those whom he foreknew he also predestined to be conformed to the image of his Son, in order that he might be the firstborn among many brothers.

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Job 28:24–27 · He Sees Everything Under the Heavens

Septuagint (LXX) / Greek New Testament

²⁴αὐτὸς γὰρ τὴν ὑπ' οὐρανὸν πᾶσαν ἐφορᾷ,
εἰδὼς τὰ ἐν τῇ γῇ πάντα ἃ ἐποίησεν... ²⁶ὅτε
ἐποίει οὕτως, ὑετὸν ἡρίθμησε, καὶ ὁδὸν ἐν
τινάγματι φωνάς, ²⁷τότε εἶδεν αὐτὴν καὶ
ἐξηγήσατο αὐτήν, ἐτοιμάσας ἐξιχνίασεν.

English Standard Version

²⁴For he looks to the ends of the earth and sees everything under the heavens. ²⁵When he gave to the wind its weight and apportioned the waters by measure, ²⁶when he made a decree for the rain and a way for the lightning of the thunder, ²⁷then he saw it and declared it; he established it, and searched it out.

Hebrews 4:13 · All Things Naked and Open

Septuagint (LXX) / Greek New Testament

καὶ οὐκ ἔστι κτίσις ἀφανὴς ἐνώπιον αὐτοῦ,
πάντα δὲ γυμνὰ καὶ τετραχλισμένα τοῖς
ὀφθαλμοῖς αὐτοῦ, πρὸς ὃν ἡμῖν ὁ λόγος.

English Standard Version

And no creature is hidden from his sight, but all are naked and exposed to the eyes of him to whom we must give account.

1 John 3:20 · God Is Greater Than Our Heart and Knows All Things

Septuagint (LXX) / Greek New Testament

ὅτι ἐὰν καταγινώσκη ἡμῶν ἡ καρδία, ὅτι μείζων
ἐστὶν ὁ Θεὸς τῆς καρδίας ἡμῶν καὶ γινώσκει
πάντα.

English Standard Version

For whenever our heart condemns us, God is greater than our heart, and he knows everything.

Daniel 2:22 · He Reveals Deep and Hidden Things

Septuagint (LXX) / Greek New Testament

αὐτὸς ἀποκαλύπτει βαθέα καὶ ἀπόκρυφα,
γινώσκων τὰ ἐν τῷ σκότει, καὶ τὸ φῶς μετ'
αὐτοῦ ἐστι.

English Standard Version

He reveals deep and hidden things; he knows what is in the darkness, and the light dwells with him.

THE BIBLICAL CASE

What 'Omniscience' Actually Means

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Christian theology has never said God knows the future *by being a really good guesser*. God's knowledge of all events — past, present, future — flows from his being *outside time*. He does not look down the timeline and see what is coming; he is equally present to every moment of the timeline at once. Boethius (6th century) called this *totum simul*: the whole, all at once. Augustine had said much the same. It is a careful theological move that protects both divine knowledge and human freedom (a theme our Soul and Hell study took up under the heading of *middle knowledge*). The delayed-choice experiment does not *prove* divine timelessness, but it shows that even at the level of physics, «the present» is not the simple, isolated thing common sense imagines.

Past, Present, and the Quantum Eraser

What the delayed-choice eraser actually demonstrates is that for some quantum events, there is no fact of the matter about whether the particle was a wave or a particle *until* the relevant measurement is made. The «past» for the photon was, in a sense, undetermined — held open — until the «present» measurement was performed. This is deeply counterintuitive, but it is the consensus reading of the experimental data. It means time at the quantum level is not the simple sequential ledger our brains imagine. There is room in the structure of the world for what scripture has always taught: a Knower who is not bound by the ledger.

Knowledge Is Not Coercion

An old worry comes back to the surface here: if God knows what I will do, am I really free? It is the same worry the Soul and Hell study faced. The answer is the same: *knowing what someone will freely do is not the same as making them do it*. Your weather app may know it will rain tomorrow without causing the rain. God's omniscience — including his knowledge of the «future» that, from his vantage, is as visible as the past — does not erase your agency. It simply means he never gets caught off guard by your choices.

THE CONVERGENCE

The delayed-choice eraser dissolves the naive picture of time as a one-way arrow that simply ticks forward. Scripture has always said God lives outside that arrow entirely — declaring the end from the beginning, knowing words before they are on your tongue. Physics is not catching up to scripture so much as bumping into a feature of the world scripture has long described.

DISCUSSION QUESTIONS

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1. Read Psalm 139:1–6 slowly. What is most comforting in it? What is most uncomfortable?
2. If God's knowledge of your future does not coerce your present, why does it still *feel* like it might?
3. Does the strangeness of time at the quantum level help you imagine, even by analogy, what it might mean for God to be outside time?
4. Isaiah 46:10 says God declares the end from the beginning. How does that change how you read the news headlines this week?
5. Romans 8:29 talks about being foreknown and predestined to be conformed to Christ. What is one practical step you could take this week to cooperate with that foreknown shaping?

CLOSING PRAYER

*Eternal God, you live beyond the clock. You see today, yesterday, and the day after next as one single day under your gaze. You knew us before we were knit in the womb; you wrote our names in the Lamb's book of life before the foundation of the world. Forgive us for living as though the future were closed to your wisdom or the past were closed to your healing. Help us trust the One who declares the end from the beginning and who has promised that all things work together for good for those who love him. Through Jesus Christ, the Alpha and the Omega. **Amen.***

Week 7 of 12 — A Quantum Case For God, a Pleasant Springs Church discipleship series. The complete 12-week study, and every other lesson, is at ps-church.com/discipleship/quantum-case-for-god