

THE CREATURE BEFORE GOD

Companion Essay

Against the Instrumentalists

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1 A Superb Servant

An instrument is one of the mind's finest acts of humility. The unaided eye says, "It looks about this long." The rule supplies a common length. The hand says, "It feels warm." The thermometer makes the comparison more exact. Where sensation tires, instruments continue; where impressions differ, calibration gives investigators something they can test together. A telescope does not humiliate sight by extending it. It honors sight's desire to know.

This disciplined attention belongs to the proper glory of science. Created things possess their own structures, powers, and regularities. The investigator respects them by adopting methods fitted to them, and the Church has expressly defended that proper autonomy.¹ Suspicion of instruments would therefore begin in the wrong place. The instrument is not the adversary.

The trouble begins with a small grammatical promotion. "This device does not register it" becomes "there is nothing there to know." A method for attending to certain realities has become a permission slip for reality as such. What cannot be detected, quantified, or made to produce an expected signal is assigned to a lesser country: perhaps feeling, perhaps poetry, perhaps private consolation, but not truth.

Call this habit *instrumental exclusivism*. The name needs care. Philosophers of science already use *instrumentalism* for a family of views according to which scientific theories function chiefly as instruments for organizing or predicting observations rather than as literal descriptions of unobservable reality. That is not the position considered here. Nor is ordinary empiricism, which makes experience the beginning or principal source of knowledge. The closest established relative is scientism: the refusal to recognize knowledge outside the positive sciences. Verificationism and operationalism have supplied stricter versions of the same temptation by tying factual meaning to empirical verification or the meaning of a concept to specified operations.²

One need not belong to any of those schools to acquire the habit. It can appear whenever the extraordinary success of measurement is allowed to settle an unmeasured philosophical question: whether measurement is the only road to truth.

2 No Reading Reads Itself

Place a specimen on an electronic balance. The display changes. That change is first a state of the device: these segments illuminate; these bits are stored. To say that the specimen has a certain mass requires more. The instrument must be responding to the quantity intended. Its scale and unit must be known. Its relation to a standard must have been established. The conditions must fall within its range, and the uncertainty must be judged. A displayed number may be an *indication*; a measurement result is a warranted claim about the object.³

This does not make measurement arbitrary. It explains why measurement is rational. The result is more than the event in the machine because the event has been received into an order of meaning: a defined quantity, a model of the interaction, a chain of comparison, and an inference open to correction. The machine does indispensable work. It does not perform the whole act of knowing.

Even the purest-looking datum arrives with a question attached: *a datum of what?* A pulse on a detector may be noise, malfunction, background, or the predicted trace of an event. More observations may decide among them, but only because each observation is interpreted under reasons for expecting one pattern rather than another. An absence of signal can be powerful evidence when a proposal predicts a signal under specified conditions. Apart from such a proposal, silence from this detector is only silence from this detector.

Here a pressure made famous by C. S. Lewis can be used without asking it to bear more than it can. The physical cause of a belief and the rational ground for holding it are not interchangeable descriptions. A brain event may occur because another event caused it; a conclusion is known because the premises warrant it. Likewise, an instrument's state is caused by an interaction, while its standing as evidence depends upon reasons. The two accounts need not compete, but neither can replace the other.⁴

The point is almost embarrassingly close to the laboratory. Calibration is not another flash on the same unexamined display. It is a reasoned comparison. Error is not whatever the instrument dislikes. It is a judgment that the indication fails to correspond as it should to the quantity under investigation. The very practices that make instruments

trustworthy therefore presuppose truth, reference, identity, valid inference, and the difference between seeming and being. None of these is an enemy of measurement. They are what allow a reading to be read.

3 The Rule No Instrument Reports

Suppose, then, that only claims confirmed by instruments may count as knowledge. Which instrument confirmed that rule?

A meter could print the sentence on its display, but the sentence would have been placed there by a designer. The display would not establish its truth. Nor is the rule a measurement of some hidden quantity called *knowability*. It is a philosophical judgment about the jurisdiction of a method. Taken as a factual assertion, it exempts itself from the condition it imposes upon every other assertion.

That objection is not quite decisive, because the rule may be offered as a proposal: let us call only instrument-confirmable claims knowledge. But proposals have reasons, and the usual reason is the success of the sciences. That success is real. It shows that controlled observation, mathematical description, experiment, and measurement are extraordinarily fitted to the aspects of the world they investigate. It does not show that those aspects exhaust the world. A key opens a lock with magnificent success and remains a poor argument that nothing but locks exists.

The phrase *measurable in principle* seems to enlarge the rule, but it forces a choice. If “instrumental” expands to include every rational operation by which publicly available evidence supports a conclusion, the rule becomes harmless and nearly empty. Historical testimony, mathematical demonstration, metaphysical inference, and rational reflection can enter. If it remains restricted to physical registration under experimental conditions, it becomes too narrow even to explain measurement, since models, inferential norms, and criteria of responsible inquiry do not arrive as additional readings from the same device.⁵

Nor does the refusal of this rule license whatever anyone wishes to believe. A claim about an eclipse should answer to astronomy; a claim about a treaty should answer to documents and testimony; a logical conclusion should answer to its premises; a moral judgment should answer to the human goods and acts it judges. Instruments can assist several of these inquiries. They do not turn them all into one kind of inquiry. Different objects require different forms of access, and each form may be rigorous or careless on its own terms.

This matters within science as well. No instrument determines whether a proposed experiment upon a person is just. It may predict effects, monitor injury, and preserve an exact record. The obligation not to treat a person merely as material for an experiment is not therefore less objective than the recorded effects. If it were, scientific power would carry within itself no rational limit upon its use. The rule meant to protect seriousness would have made serious moral judgment impossible.⁶

The issue is not whether instruments tell the truth. Properly used, they often do. It is whether their truthful service entitles them to define truth.

4 From Phenomenon to Foundation

Catholic philosophy need not escape from experience in order to escape instrumental exclusivism. For Aquinas, human knowledge begins with sensible things. The senses receive the concrete world; imagination retains its forms; intellect discovers within them what no sense organ encounters as one more color or pressure. This horse and that horse are sensed. What a horse is can be understood. The universal does not arrive through a second instrument hidden behind the eye. The same embodied knower passes from sensible particulars to intelligible natures.⁷

So too with change. An instrument can record that something has become warmer, faster, larger, or differently arranged. Before the change, the thing could be otherwise; in the change, that potency is made actual. The transition is not another object hiding between two measurements. It is what the measurements, once understood as measurements of change, already disclose. Metaphysical inquiry begins when reason asks what must be true for the observed order to be the order it is.

That movement is what John Paul II called the passage “from phenomenon to foundation.” Philosophy ceases to deal only with functional or measurable aspects and asks after the being of what is known. It does not compete with the sciences by proposing a finer device. It asks a different but connected question.⁸

God, therefore, is not introduced as a very faint signal that improved equipment may eventually find. If God were one more cause inside the measured field, responsible for the residue left when physical explanations finish, each scientific success would indeed reduce the assigned territory. Classical theism proposes no such rival. It reasons from effects that are better known to us toward a cause that is not another member of their order. Sensible things can lead reason to know that such a cause exists and to judge some things that must belong to it, while leaving the divine essence uncomprehended.⁹

Empirical evidence is not excluded from religious judgment. A purported healing, an ancient manuscript, or an empty tomb may present physical and historical questions to which scientific examination contributes. But an instrument would then register a created effect. The inference from an effect to agency, meaning, or first cause would still be an act of reason, and the claim that God acted would require evidence proportioned to that claim. Nothing about the limits of measurement makes credulity a virtue.

This essay consequently proves neither that God exists nor that any miracle has occurred. Its work is prior and more modest. The absence of a divine meter reading cannot disqualify metaphysical argument before its premises are heard. A balance does not fail because it cannot weigh a cause of being. It was never built to ask the question.

5 The Instrument Restored

The Christian has a further reason not to despise the measurable world. Creation is not an appearance to be escaped. Its natures and operations possess a truth given to them, and patient investigation honors that truth. The doctrine of creation makes room for the scientist’s confidence that things really act according to discoverable powers; it also denies that those powers explain why there is any acting thing at all.¹⁰

Instrumental exclusivism does not esteem the instrument too highly. It misunderstands what the instrument is. A device is a finite thing ordered to a finite work. It receives an interaction, marks a difference, and allows a rational creature to know some feature of another thing more exactly. Its limits are not embarrassing defects. They are the form of its service.

Once the instrument is made judge of all reality, that service can no longer be fully described on the criterion’s own terms. The device undergoes causal changes, but no further reading says why those changes should count as disclosure rather than occurrence; it yields useful outputs, but no output says why usefulness warrants belief; it enlarges technical possibility, but does not generate the good by which that possibility should be governed. The instrument has been placed upon a throne only by removing the rational order in which a throne could mean authority.

Returned to the bench, it becomes splendid again. It can correct the eye without replacing the intellect. It can enlarge the field of evidence without enclosing the field of being. It can show with astonishing precision how one created reality acts upon another. It cannot step outside reality and decide what may be real.

No instrument reports that only instruments report truth. No reading reads itself. The device belongs within the world it measures, and the knower who reads it is already within that world too. Measurement begins not from a sovereign height above being, but from attention to something already given. The instrument is most truthful when it is allowed to be finite: not the measure of reality, but a disciplined servant of it.

Notes

¹Second Vatican Council, *Gaudium et spes* 36 and 59, defends the sciences' proper methods; section 57 denies that those methods are the supreme rule for the whole truth.

²See the Stanford Encyclopedia of Philosophy, "Scientific Realism," sec. 4.1; "Operationalism"; and "Religious Language," sec. 2.1; and *Fides et ratio* 88 on scientism. The narrower term is project synthesis.

³See JCGM 200:2012, 2.9, 2.39, and 4.1; Stanford Encyclopedia of Philosophy, "Measurement in Science," sec. 7.1; and NIST's Engineering Statistics Handbook, sec. 2.3.

⁴The C. S. Lewis Foundation's study guide identifies ch. 3 of *Miracles* as Lewis's argument that naturalism is self-refuting and records his modification after Anscombe's criticism; the Foundation's chronology dates the revised reprint to 1960. Anscombe's published retrospective independently records the rewrite. The present cause-ground formulation and its application to measurement are project synthesis from those identified records: no Lewis wording is reproduced, the licensed revised chapter was not directly collated, and the analogy neither treats his broader argument as settled nor infers an immaterial mind.

⁵The Stanford Encyclopedia of Philosophy, "Operationalism," sec. 2.3, records the related broad-or-trivial, narrow-or-restrictive dilemma. The article applies it to a distinct coined target.

⁶*Fides et ratio* 88 connects scientism's exclusion of ethical knowledge with the confusion of technical possibility and moral admissibility.

⁷See Aquinas, ST I, q. 84, aa. 6–7, and q. 85, a. 1. This is an adopted Thomistic account, not a definition imposed upon every Catholic school.

⁸See *Fides et ratio* 82–83 and 88; compare Benedict XVI's Regensburg address on the mathematical-empirical canon and the wider range of reason.

⁹See Aquinas, ST I, q. 2, a. 2, and q. 12, a. 12. The article adopts their boundary but does not reproduce the demonstrations.

¹⁰*Gaudium et spes* 36 joins creatures' proper order with dependence upon the Creator; it neither supplies a scientific result nor chooses among scientific models.

A Scope, Method, and Qualifications

A.1 Reader, question, and claim

This companion essay to *The Creature Before God* is a discursive philosophical and theological article for a serious general reader. It asks whether the success of physical instruments warrants the conclusion that only instrument-detectable realities are real or that only instrument-confirmable propositions are knowledge. It argues that it does not: indications become measurement results only within rationally governed practices of definition, calibration, modelling, inference, and judgment, so the success of measurement cannot establish measurement as the exhaustive criterion of reality or truth.

The article uses *instrumentalist* in a deliberately coined and narrow sense. *Instrumental exclusivism* names the conversion of an appropriate scientific method into an exclusive epistemology or ontology. It is not the established philosophy-of-science position called instrumentalism, which concerns the status and function of scientific theories; it is not ordinary empiricism; and it is not identical with metaphysical naturalism. Scientism, verificationism, and operationalism are treated as related but distinct positions. The coined term and the organization of the argument are project synthesis, not received technical definitions or an ecclesial classification.

A.2 Sources and argumentative roles

Source class	Function in the article	Governing boundary
Conciliar and papal teaching	Defends the proper autonomy of science, rejects scientism, and affirms the reach of reason from empirical phenomena toward metaphysical foundation.	These sources govern the Catholic intellectual boundary; they do not turn a particular philosophy of measurement into doctrine.
Thomistic philosophy and theology	Supplies the account of knowledge beginning in sense, intellectual abstraction, and natural knowledge of God from effects without comprehension of the divine essence.	The adopted Thomistic articulation is distinguished from dogma and is not represented as the only permitted Catholic school.
Philosophy and practice of science	Distinguishes indications, measurement results, calibration, operationalism, instrumentalism, and verificationism.	Technical and reference sources describe concepts and debates; they neither prove theology nor receive magisterial authority.
Modern apologetic witness	Supplies Lewis's cause-ground pressure and the history of its revision after Anscombe's criticism.	The article uses a narrow analogy and does not claim that Lewis refuted every naturalism or demonstrated an immaterial mind.
Project synthesis	Coins instrumental exclusivism, applies the cause-ground distinction to measurement, and orders the movement from method to metaphysics.	The synthesis clears an epistemic obstacle; it does not demonstrate God or authenticate a miracle.

A.3 Included and excluded scope

Included are the legitimate scope of instrument-mediated inquiry; the distinction between instrument indication and measurement result; calibration, models, inference, and uncertainty as conditions of measurement; the self-application and domain-success objections to an exclusive criterion; the difference among several modes of rational warrant; the Thomistic movement from sensible particulars to intellectual knowledge; and the distinction between empirical causes and metaphysical inquiry into foundation.

Excluded are a comprehensive history of logical positivism or philosophy of science; adjudication between scientific realism and antirealism; a complete argument from reason; a philosophy of mind, consciousness, mathematics, or moral epistemology; arguments from quantum mechanics; a defense of any reported miracle; and the demonstrations

for God’s existence developed elsewhere in the series. The article does not claim that every unmeasurable assertion is meaningful or true, that scientific methods are unreliable, or that empirical evidence is irrelevant to historical, moral, philosophical, or theological judgment. It makes no legal, jurisdictional, or mutable disciplinary conclusion.

A.4 Material qualifications

1. Instrument indications are not dismissed as “mere data.” Their evidential force is explained through the practices that establish what they indicate.
2. Theory-dependence does not entail that measurements are subjective or circular. Models and calibration make results criticizable, comparable, and corrigible.
3. The criterion’s failure to satisfy its own demand is a real pressure, but the article also answers the stronger version in which instrumental exclusivism is proposed as a convention justified by scientific success.
4. “Measurable in principle” is not assumed to mean direct visibility. Instruments often warrant claims about unobservable entities through effects and models.
5. Rejecting an exclusive instrumental criterion does not validate superstition, private revelation, intuition, or metaphysical assertion without evidence. Claims remain accountable to warrants fitted to their objects.
6. The moral example establishes that technical power does not generate its own normative limit. It does not deny that empirical facts are indispensable to sound moral judgment.
7. Natural reason’s movement from sensible effects to God is adopted from Aquinas. The article clears the method’s admissibility but neither reproduces the demonstrations nor treats their conclusions as instrument readings.
8. God is not placed in a gap left by incomplete science. The adopted classical claim concerns the cause of the whole created order and therefore does not compete with secondary explanations within that order.

A.5 Rights, currentness, and review

The online official, technical, and scholarly witnesses were checked on 23 July 2026. No Lewis wording is quoted. The account of his argument and its revision is a focused paraphrase supported by the C. S. Lewis Foundation study guide and the identified Oxford records; the precise wording of a licensed modern edition was not independently collated for this draft. The brief phrase “from phenomenon to foundation” is attributed to *Fides et ratio*; official text, third-party wording, and translations retain their own status and are not relicensed by the project’s CC BY 4.0 grant. The surrounding prose and synthesis are project-created.

This is an internally source-audited working study. Production and artifact evidence for the current source is recorded in the repository research scope. The installed snapshot remains on hold pending exact-snapshot authorization. Independent philosophy-of-science, Thomistic, theological, literary, scientific, and ecclesiastical review remain outstanding; no release clearance, imprimatur, nihil obstat, or ecclesiastical approval is claimed.

B References

Authoritative Catholic witnesses

- Second Vatican Council, pastoral constitution *Gaudium et spes* (7 December 1965), 36, 57, and 59, on the proper autonomy and methods of the sciences, the temptation to make observable data the rule of all truth, and the distinct orders of faith and reason; official English.
- John Paul II, encyclical *Fides et ratio* (14 September 1998), 81–83 and 88, on functional knowledge, metaphysical inquiry, the movement from phenomenon to foundation, and scientism; official English.
- Benedict XVI, address at the University of Regensburg (12 September 2006), on the mathematical–empirical canon of modern science and the reduction of reason when that canon is made exhaustive; official English.

Thomistic framework

- St. Thomas Aquinas, *Summa theologiae* I, q. 2, a. 2, on demonstration from effects; q. 12, a. 12, on natural knowledge of God from sensible effects without vision of the divine essence; q. 84, aa. 6–7, and q. 85, a. 1, on sense, phantasms, and intellectual abstraction.
- Latin loci available through the Corpus Thomisticum; the New Advent Summa supplied a working public English index. Work, question, article, and reply govern rather than either site’s wording.

Measurement and philosophy of science

- Joint Committee for Guides in Metrology, *International Vocabulary of Metrology—Basic and General Concepts and Associated Terms*, 3rd ed., JCGM 200:2012, 2.9, 2.39, and 4.1; BIPM-hosted official PDF.
- National Institute of Standards and Technology, Engineering Statistics Handbook, sec. 2.3, “Calibration”; official technical reference.
- Stanford Encyclopedia of Philosophy, “Measurement in Science,” especially sec. 7.1; Spring 2025 archived edition.
- Stanford Encyclopedia of Philosophy, “Scientific Realism,” sec. 4.1; Spring 2017 archived edition; “Operationalism,” especially sec. 2.3; Spring 2022 archived edition; and “Religious Language,” sec. 2.1; current entry accessed 23 July 2026.

Lewis and the argument from reason

- C. S. Lewis, *Miracles: A Preliminary Study*, rev. ed., ch. 3, identified primary work. A HarperCollins 2009 bibliographic and limited-preview record identifies the revised work and chapter but was not used as a full-text witness. No Lewis wording is reproduced.
- The C. S. Lewis Foundation study guide supplies the checked outline and modification notice; the Foundation’s chronology records Anscombe’s 1948 criticism and the revised 1960 Fontana reprint.
- G. E. M. Anscombe, “C. S. Lewis’s Rewrite of Chapter III of *Miracles*,” in Roger White, Judith Wolfe, and Brendan N. Wolfe, eds., *C. S. Lewis and His Circle* (Oxford University Press, 2015), 15–23; publisher record and abstract.

Last revised (UTC): 2026-07-23T13:23:48Z

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