



Institute for Advanced Physics

What is the One Ring that Rules them all?

by Anthony Rizzi



One Ring to rule them all, One Ring to find them, One Ring to bring them all and in the darkness bind them.

There is in our world a ring that rules all other dark powers in our world, but few know that it exists or what it is. I speak for the Institute for Advanced Physics which, in this telling, is represented by the hobbits: Frodo and Sam. You, the good reader, will be represented by noble Faramir at the time of his intercepting the hobbits on their way to Mordor. Like Faramir, you are (hopefully) aware that a deep darkness is upon the land of our fathers, these United States of America and our world. Indeed, if you are very aware you will know, like Faramir, that the battle *appears* to be hopelessly lost. “What hope have we?” says Faramir. “It is long since we had any hope. The sword of Elendil, if it returns indeed, may rekindle it, but I do not think that it will do more than put off the evil day, unless other help unlooked-for also comes... For the Enemy increases and we decrease. We are a failing people, a springless autumn.”¹

You and the Ring

I will count the reader, like Faramir, as ***unaware of the true problem*** that faces our culture, but ***aware of the dire evil attack*** that increases in strength everyday, while we weaken and divide, fighting among ourselves. We are happy to repeat old failed remedies, even those that have failed many times,

thinking enthusiasm and/or compassion is sufficient substitute for understanding.

Like Faramir’s skepticism of Frodo, you cannot fathom that someone might have profound truth and a mission essentially relevant to your life that might call you to a life-changing decision.

Indeed, like Faramir, you are skeptical of all travelers in the dark regions and are under orders to suspect all you see. Though, unlike Faramir, you are largely unaware of those orders, given as they are deep in your education. Nonetheless, it makes no difference, as you naturally suspect everything claiming to be too smart and too good anyway. The ring has begun to bind you more than you know. You have been deprived in your education of any clear principle-based understanding and the leadership of anyone who had such understanding in any real depth. Through this, you have become so starkly skeptical as to be naturally repelled by someone who would claim to know anything truly important to your life. How could it be that someone might know profoundly more about the evil that attacks us than yourself? It must be a trick. Though his credentials and words be profound, it’s just unreasonably interruptive that someone could call you out of your planned activities and deep busyness. You conclude this, not because you are evil, but because you have been deceived or seen deception so often that you *feel* it unlikely (as you say to yourself anyone would) that radical life-changing truth, one opposed to your *felt* “call,” could really be true. For many of us,

¹ The Two Towers, J.R.R. Tolkien, Ballantine Books, New York, 1966, p.321

making explicit this last sentiment (through an unintended misuse of His name) by focusing on the easy choice between a highly inconvenient life-changing call and “one’s call from God” can strengthen the force of the lie to deceive us into accepting it.

There are many like Boromir, Faramir’s brother, who want to (and some do) use the power of the ring for their side, not caring about its deep evil. It’s no surprise that Mordor has such a strong hold on earth, as the making of the ring and its power began over 400 years ago. Today, its attractive quality draws our attention so much that we are drawn to activity for its own sake or the sake of the human respect it garners. Like Gollum, we are so immersed in activity that we have no time for true thought or friendship; indeed, who each of us is is hidden even from our own selves. The ring has done this!

IAP and the Ring

Despite your genuine doubts and deep skepticism, we (the people of IAP) continue, like Sam and Frodo, to try to convey to you that we do have a crucial mission that must be performed for the battle to be won. We know that we are the bearers of the “other help unlooked-for” that you, like Faramir truly don’t expect. You cross examine us to test us, to test our story, to see if us and it are real. We know that the one ring has to be unmade but you don’t. While you would want to resist the attractiveness of the ring, you, nonetheless, inadvertently detain and deeply hinder us. Hopefully, by the time this interview is over, like Faramir, you will see the truth of our words and the uprightness of our intent.

What is the ring that is the source of the evil? How is it to be unmade?

The Ring

The evil attacks us at the core of our being, our thinking, our thinking about the physical world. It is a deep error. The physical world is the starting point of our knowledge because everything we know comes through what we know through the senses. If this knowledge is damaged, to that degree is all of our knowledge.

Starting 400 years ago, man started down a route to a powerful new understanding of physics (and math), a physics (and math) that uses equations.² The new method is the scientific method. This new method, the empiriological method,³ was necessary for the advance beyond the generic understanding of math and physics given more directly through

² Descartes, along with a few others, accomplished this revolution in math whereby for the first time a logical system took center stage in mathematics, leading to discoveries in math at rates inconceivably higher than that of any previous time or place. This is the advent of modern math. Galileo inaugurated the parallel revolution in physics. See *The Science Before Science: A Guide to Thinking in the 21st Century*, A. Rizzi (2004) (SBS), Rizzi, A. “How a Neglect of Physics Has Turned Christianity into a Myth for Modern Man.” *New Oxford Review* two part article: “Neglect of Physics is Strangling Christianity.” (April 2013) and “Is Physics Necessary for Salvation?” (May 2013) (NOR) and *The Science before Science: Reintegration of the Modern Mind and its Science*, A. Rizzi, October 2006 plenary talk at the American Maritain Conference, Published: *Reading the Cosmos: Nature, Science and Wisdom*, American Maritain Association Publication (2011) (AMA) for full explanation.

³ The particular type of empiriological method used in math is called *quantiological* (see NOR and *A Kid’s Introduction to Physics (and Beyond)*, Anthony Rizzi (2012) (KIP)). That used in physics is called empiriometric. These areas are where the strength of the method is. See footnote 16 for the definition of empiriological.

the senses.⁴ It was an essential development and good in itself, opening the way for further specification, not only of math and physics⁵ but all subjects from art, history, literature and music to psychology and even theology.

However, the new method was not properly digested, and a path was set to substituting the empiriological method for understanding of the world. The good equational system of logic and symbols that makes predictions about the world should have been used to reveal the world. Instead, it, through habit of neglect and lack of clarity about starting points, more and more came to substitute for the world. The empiriological method, so good in its right context, began to grow into an equation-*alone* physics, where the essence of things was replaced by the equation. The symbols and systems of logic themselves, our own organizing principles, instead of nature which they were meant to shed light on, increasingly became for us (by habit of use without thought) effectively the only reality. By a paradox of gross proportions, the tool, the empiriological method, became the meaning and the end. This, in turn, centered us on our own thoughts. It made us, who made the organizing principles, the creator. We increasingly think and live as if we define reality. Everything, in this mode, becomes a mental construct, an artifact, something that only exists in my mind.⁶ Everything becomes like a computer. Computers, in so far as they are computers, don't have an essence, an

internal nature; they are many things put together so that they act in such a way that they can be interpreted to give us answers.⁷ Their meaning is wholly imposed by us. They have nothing intrinsic imposing any unity, for they have no substance to them. This is unlike you and I and your dog and every actual substance in the world. But, you ask: how so? Our question here and our general trouble with the statement is more evidence of the power of the equation-alone physics, i.e., the power of the ring! For, this sharp differentiation between us and other things made of pieces obviously cannot exist in the equation-alone universe. In that world, everything is a construct of our own minds. The world is pure potency from which things are made. The forms, the principles of the world (what things are actually), are not in the world but in our minds; they are equations. This is why Hawking could ask: "What gives fire to the equations?" as if they were what needed a cause!⁸

As physics is the first science, its thinking of nature spreads to all thinking about nature. It spread beyond the physicist (and mathematician) who actually could see reality, though confusedly, by some close contact provided by the effectiveness of the method in that realm, which results in a tight regulation by, and a close contact with, experiment. But, other disciplines, depending on a physics that they do not understand and using a method that works less and less well the higher the science, have weaker and weaker contact with reality. The higher disciplines thus are more affected by a dark confusion that more freely makes constructs, constructs less and less

⁴ For further explanation, see KIP, SBS, and AMA. See Rizzi, A.. "A Brief History of Nothing." *Physics and Culture* (January 2014)

⁵ Physics here is taken in the large sense as the study of the physical world, which clearly thus includes chemistry and biology. The most general elements (now called physics) are affected first, followed by the more specific studies of chemistry and biology.

⁶ See SBS.

⁷ See Rizzi, A. "Is Your Computer Real? What is it Anyway?," *Physics and Culture* (June 2014)

⁸ See Rizzi, A. "What is Science?" *Physics and Culture* (Feb 2019)

tethered to the depths of the reality they attempt to describe.

Said another way, since human nature is infinitely higher than the generic principles studied by the subject now called physics (in which the empiriological method works the best),⁹ the weak understanding of the physical world passed up through the vague words¹⁰ translated from the equations to the human sciences leaves one with an highly-privated understanding of human nature that completely misses, even in its methodology, the core of what it means to be human. Everything from politics and entertainment to school and even relationships of family and friend¹¹ are changed. The power of the ring, of the equation-alone physics, is all reaching. Infecting the source infects the entire stream.

The result is an evil so deep that nature herself is unmade in our minds. Even men of light use the light to darken. And, our prayers are few and ill directed.¹²

The problem is so insidious because of how great and good the method that has been corrupted is. The greater the good, the greater

⁹ The same is true of the more specific disciplines of the study of the physical world of chemistry and biology in which the empiriological method works, respectively, much less well and dramatically less well, but still works in a respectable way (unlike the fields beyond those that study the physical world).

¹⁰ The equations are interpreted, but in terms of a kind of soup of beings of reason and metaphors (a kind of poetry) that helps one navigate the equation and its attending logical structure and relation to experimental measurements.

¹¹ It changes how we view those relationships and how we live them, changes even their content including what we value, think, and say in them. It changes who we define as family and who we want to be friends with.

¹² Christian tradition's emphasis on right reason as our *natural* light is present in St. Thomas's (possibly archaic) etymology: "According to Cassiodorus ... prayer (oratio) spoken reason [oris ratio]."

the evil when the thing is corrupted.¹³ No one cares about a worm gone bad, but a great man, (strong in body, mind, and will) gone bad can destroy the entire world.

The empiriological method is so good that, over its life, it has allowed and contributed to growth of the culture in many essential ways while also corrupting it, at its core, by gradually distorting that growth towards its own narrow empty end. It creates good things that it then feeds on!

For example, take politics. In 1776, in one part of the world a principle-based country, the first one, is created. In another, in 1789, some of the outgrowth principles of this country, namely liberty, fraternity, and equality, are vaunted in words, not in thought or deed. In fact, in that place, those words are twisted away from their natural meaning to an empty chaos, which at the principled core was driven by the scientism,² whose core, in turn, is the equation-alone physics. The words are twisted into an attempt to annihilate France's deep history and traditions and eventually to kill thousands of people (including many nuns and priests) in the name of "public safety"! ¹⁴ But, politically, this was only the beginning.

The culture, maturing in its symbol-first view of nature, eventually developed a more efficient implementation of its horrifying politics in Nazism. Still, the most clear expression known of the politics that results from our culture's deeply artifact view of nature is communism. Through these systems, the slaughter of the French Revolution in the 18th

¹³ Evil is a privation of a good, not a thing itself.

¹⁴ During the Reign of Terror, at least 300,000 suspects were arrested; 17,000 were officially executed, and perhaps 10,000 died in prison or without trial; from britannica.com/event/Reign-of-Terror

century was dwarfed in the 20th century by the millions of innocent people killed by the Nazis, and further dwarfed by the over 100 million killed by the communists.¹⁵

The ring we speak of is deadly to the body but only by first being deadly to the mind.

Today, the family, the central unit of society, is already deep in the process of being dismantled and replaced. Man is being redefined as a cog in a tightly controlled top-down bureaucracy which does our thinking for us in exchange for requiring us to abandon nature, including our own. It teaches that we should neither give nor expect anything human from our fellowman. He is not our brother for whom we should have concern for his objective spiritual, physical, and mental health towards growth in truth but only that which we share common tasks with. Indeed, objective concern for the state of an individual man would muck up the empiriological ability to predict economies and human behavior generally. Nature (especially high level natures) should not form our thinking, instead our social and political constructs should.

Everything is damaged, including our own thinking and action. The ring, the equation-alone physics, helps in order to destroy. It allows cultural growth mostly in the distorted way that assimilates the new elements into the humanly empty system, into a system that will increasingly bring our *scientia*, our knowledge, to its own inhuman end, a growing machine whose empiriometric knowledge increasingly successfully predicts all interactions, inanimate, animate, and human. In the end, it finally reaches---the physics of our culture hopes and believes-- our god, our ultimate "truth," which

¹⁵ See, for example, estimates by Rudolph Rummel given in his Wikipedia article in December 2019.

is the final theory, an equation that describes all these things.¹⁶

We lose our knowledge of our end, indeed of what we are and thus of who we are. We lose our humanity.

With these explanations, we hope you now see something of the reality and great power of the hidden dark force attacking us and can glimpse the deep inroads it has made into our culture and psyches. And, we hope, like Faramir, you wish to learn what can be done and how you can help. Unlike with Faramir and his men relative to Frodo and Sam, there is a sense in which we all must go the same way.

What is to be done to undue the damage of the equation alone physics? Are we doomed?

Unmaking the Ring

We need to first recognize that the equation-centered physics, called the empiriometric method,¹⁷ is, in itself, a good thing, indeed an essential thing. Science generally taken, that is knowledge, could not have advanced (and cannot further advance) beyond a certain basic level without it. Clearly, unlike the ring, modern science should not be destroyed. Perish the thought! It must be redeemed. Its nature must be, for the first time in human history, understood by and absorbed by the culture.

Who is the enemy? Who do Gondor and Rohan attack? Not Orks, not a separate enemy so much as our own mis-education and

¹⁶ Note the final theory, as such, is not an ignoble (intermediate) end, but it is when it replaces our final end. Directed rightly it is a great intermediate end!

¹⁷ The empiriological method looks at the world (empirio) through the property of quantity, using a system of symbols and rules (logical), especially equations, to make laws that can make predictions about the world. See, for example, KIP.

misunderstanding. The Institute for Advanced Physics (IAP) knows the problem and the answer. It is the only institution that does! To redeem the situation, in our metaphor unmake the ring, we must know clearly what it is.

What is the Ring?

What is drawing us down?

The *central theorem of IAP* reveals the problem.

A. Everything we know comes through what we know through the senses, i.e. the physical world. This means physics, the study of the physical world, is the first science. Everything we know depends on our physics.

B. If our physics is wrong, to that degree everything we know is wrong.

C. Our physics is a physics that focuses on equations and thus does *not explicitly* and rigorously recognize its foundations in the things we get directly through the senses and thus never builds its understanding in this grounded way. This leaves the explanation of the physics to analogies and metaphors that have little rational content outside of facilitating the use of the equations for making experimental predictions and for further growth of empiriological theory.

D. Thus, all of our thinking is damaged, missing key elements and confused and even wrong about fundamental principles and fundamental conclusions in all fields.

E. Each one of us is formed in his understanding of physics and all subjects by the culture that has these misunderstandings. Therefore, all of us have these fundamental errors in our thinking. No one is immune!

This is the most powerful enemy that one can imagine. It is an enemy that attaches at the root of our very nature, our ability to know anything and everything. It is no wonder it attracts us so successfully and increasingly so. It

is no wonder that it is damaging us so deeply and yet we keep asking for more. Are we not like Golem every time we accept the status quo created by it? Aren't we just happy with "the precious" as it is and not interested in the world for which we are really made? Does Golem not sound like us when it comes to studying and learning for its own sake, simply to grow in truth:

*Cautious, my precious! More haste less speed. We musstn't rissk our neck, musst we, precious? No, precious---gollum!' He lifted his head again, blinked at the moon, and quickly shut his eyes. 'We hate it,' he hissed. 'Nassty, nassty shivery light it is---sss---it spies on us, precious---it hurts our eyes.'*¹⁸

Don't we lull ourselves into thinking that we are happy being small, contenting ourselves with our all-consuming activities, inconsequential, empty (and even negative) though they be. Don't we say interiorly, though perhaps subconsciously: Isn't thinking too much of a challenge, too much work...the bigger world (if it exists) cannot be worth that much effort. By contrast, think how silly it is to expect knowing the Supreme Being to not be intellectual work; indeed, think how silly to think that one can live any kind of life without real knowledge, which, in turn, requires studying! This is us under the dulling influence of the ring. To fix it, we must confront our own ill-will toward the intellectual life and the work it entails.

Over time for us and our culture, the number of activities increases, intelligent deliberate thought decreases! In the limit, this is as close to literally "running around like a chicken with its head cut off" as a man can get.

¹⁸ The Two Towers, J.R.R. Tolkien, Ballantine Books, New York, 1966, p.244

Unmaking the Ring: Our Part

As we have said, we must not destroy the ring in a volcano of heat as Frodo did, but reform it, redeem it. We have to act against our long-standing bad habits given by our equation-alone physics at the base of our culture. To do this, we must have a proper physics to replace it. That is, we need a physics that scientifically (full sense of the word) builds from what we learn directly through our senses to the height of everything learned by the empiriological method, but at the moment our physics is encapsulated in a system and expressed only in a confused mix of half formed and ill-formed analogies and metaphors.

This reformation requires the work of active cutting-edge physicists that also know the first physics,¹⁹ the one that is obtained simply by rigorously thinking about the physical things around us. Now, this gives us only a generic understanding of the world. The world is particular, not general, so it needs the work of the empiriological method to fill out the specifics one layer at a time.

The work of truly recovering the first physics (that was known by all infra-scientifically before the scientific revolution) requires knowledge of modern science so as to properly disentangle the truths found by modern science while maintaining those things given directly through the senses that actually begin and found the work of modern science. After all, if we didn't see and think about what we see, modern science would have nothing to talk about.

It is possible, with a lot of concentrated work with very intelligent people, to recover the first physics (it has been done once

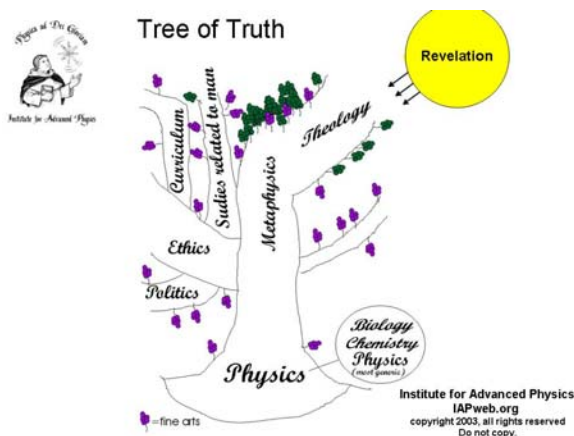
briefly²⁰), but it cannot be properly digested even by those people if they don't know modern physics; therefore, it will be no help to them (or others). To the degree it survives, it will necessarily become a corner of ones' life because 13th century-level physics, such as was understood so well by St. Thomas Aquinas, cannot grow in the empiriological-alone dominated culture that we all live in. In short, such a rediscovery of first physics will never truly enter the mainstream of thought of those individuals because it has no connection with their actual everyday thinking. It will be trotted out of the corner room only to wow oneself and acquaintances with its strangeness and intricacies. It will inevitably be just one among many systems; moreover, it will be seen as an antiquated and useless system, and one that was useless even in its own day. It will be and has been seen as unfortunate, common-sense-intensive ideas that should have been abandoned long ago to make way for the scientific method.

The darkness can only be overcome by lighting up the real meaning of the profound discoveries of modern science by grounding and building them from the first physics, showing how wonderful and beautiful they truly are. They must be freed of the fetters and bonds that keep them from manifesting the very nature they are meant to manifest!

²⁰ The first physics was so far out of mind that when a deliberate call to recover the teaching of St. Thomas Aquinas was made by Pope Leo XIII (*Aeterni Patris*, 1879), the epistemological primacy of the first physics was discovered only in the 1950's (by a group of American Dominicans who founded The Albertus Magnus Lyceum) but, even then, did not reach the understanding of any active scientists (or the larger culture) and remained completely outside of modern science and thus our scientia, our knowledge.

¹⁹ See KIP (ref. 3) for first physics.

All this and more is what the IAP has done. IAP has discovered the first physics and shown its place generically.²¹ IAP has uncovered the fully physical meaning of the core of modern science up to quantum mechanics. That means you can now fully understand the physics of Newton, the physics of Maxwell (which is electricity and magnetism--which includes light and radio waves), and quantum mechanics and special relativity. IAP is now researching general relativity and quantum field theory! But IAP has done even more. IAP has started the process of bringing this new physics up to all branches of learning. The order of the sciences is represented in the tree of truth here:²²



Physics being the ground of all of our thinking, we must take the physics up to every field, because as the physics is incomplete and distorted, more so are all the subjects that build on top of it. Deep and profound light has been shed on fields from morality and politics to psychology and economics. Much more work is needed, but it is being done only at IAP. IAP

alone knows the problem and the solution and has been fixing it for the last 16 years.

To unmake the ring, we must *all* join the IAP in its work. This is done by each of us making the commitment to learning and acting on what we learn. Contribute to the work in ways appropriate to your current state and situation. Begin to shift your mindset by learning as much of the material as you can. Contribute financially to the IAP to help begin to shift your own attention as well as to directly help in meeting the physical needs of the IAP. Get the books and begin reading and discussing and challenging each other in study groups. Start your own study group (see iapweb.org/resources.htm and iapweb.org/sbs-group.html to get the material for doing so). All the information needed can be found at iapweb.org. Tell people the essential things you learn from IAP; defend IAP and disseminate its material. Pray for IAP and its mission. Pray for yourself, family, and friends to love truth and hate error enough to do the work getting truth requires. Pray to put Truth in the center of your thought, word and action. Call or write us for more information.

In this way, you will respond like Faramir, whose character we can all have if we but seek to. And, in responding, you will become part of the “unlooked for help” required to unmake the ring.

Anthony Rizzi, Ph.D., Director of the Institute for Advanced Physics, gained worldwide recognition in theoretical physics by solving an 80-year old problem in Einstein's theory; has physics degrees from MIT and Princeton University; has been senior scientist for Cal-Tech's Laser Interferometer Gravitational-wave Observatory (LIGO), which won the Nobel Prize in physics 2017 and taught graduate courses at LSU; worked on the Manned Mars Craft and the Mars Observer spacecraft; received the

²¹ See SBS and AMA and NOR, cf. footnote 1.
²² For examples of the way having a proper first physics brought up into the higher sciences radically changes them and reveals their true meaning, see the articles in *Physics and Culture* at iapweb.org/iapmagazine.htm.

NASA Award, as well as, a Martin Marietta New Technology Award.

He is author of The Science Before Science: A Guide to Thinking in the 21st Century and A Kid's Introduction to Physics (and Beyond); he has been interviewed in many media outlets. In addition to his professional articles, Dr. Rizzi authored the ground breaking texts Physics for Realists-Mechanics and Physics for Realists-Electricity and Magnetism (both recommended by the journal of the American Association of Physics Teachers) and, recently, Physics for Realists-Quantum Mechanics. He has recently made groundbreaking discoveries in quantum mechanics.

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