

Science & Faith
and the search for certainty: ideas from the
sermons of John Henry Newman

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Now faith is being sure of what we hope for and certain of what we do not see. -Heb. xi,1 (NIV)

or

Now faith is the substance of things hoped for, the evidence of things not seen. -Heb. xi,1 (NKJV,KJV,NASV¹,TMB,D-R)

First, it is an honor for me to address this group of future leaders, and it is a pleasure for me to acknowledge Jon Dahl's excellent leadership in the IVCF. Looking back on this year in Madison, I can say that one of the greatest privileges afforded to me was to witness John's rare combination of humbleness and wisdom. This IV chapter is indeed a lucky group. I would also like to thank Tony Gerig for the excellent job he does of leading IV Grad Science Group. And to those of you who come to those meetings week by week grappling with issues of science and faith, to each of you let me say that I have admired your faith, deep and sincere, and your mind, keen and eager.

T.S. Elliot once said "Immature poets borrow. Mature poets steal". While I am by no means a poet, as I will prove at length, I will steal and present thoughts for your reflection on the topic of Science & Faith that were first written 174 years ago by John Henry Newman, then a young Anglican Priest at Oxford, and who is by far the deepest thinker in this field that I have ever read. I figure stealing is ok if you warn everybody, and this frees me from incessantly repeating "Newman said" or "Newman observers", and so forth. He would begin, if he were here, something like this: It is fit for us scholars and researchers, people training to pursue truth and evaluate certainty for a living, to compare the means whereby we do this in our secular and sacred pursuits. Our understanding of the similarities of and differences between those methods has the deepest consequences not only for our own Faith individually, but how we offer it to others. Our sensitivities, naturally, are quite different in these two pursuits:

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¹This is translation is contained in a footnote in the NASV

faith is not an exercise of scientific reasoning, nor is science an exercise of faith. Instead, faith is the reasoning of what Scripture calls a right or renewed heart, which acts rather more on presumption or predisposition than on evidence, which takes the venture and hazard when it cannot make sure of it, a view which I think Scripture amply supports. The conviction that rises in our hearts as we *both* hear *and* obey God is the conviction that God cares most for. This is really my entire message. As we are becoming fit for a life in the research community, we must also seek to become fit witnesses in that world. This requires us to learn and be conscious of the ways of gaining knowledge, both scientific and sacred.

Let me begin by asking a few questions.

1 Questioning certainty

On what does our Faith rest? What makes us as believers certain of what we believe? Notice carefully that in the two translations of Hebrews xi.1, the first and most modern one actually describes the subjective experience of the person that has faith, whereas the older one, the Newman read, says something about faith itself—that it is the substance of things hoped for and the evidence of things not seen. Let’s also try to have these two sensibilities about us as we examine Faith, first of course as we ourselves hold it and experience it, but also as it itself, apart and beyond ourselves. Does Faith embrace only what is first warranted on the foundation of evidence and demonstrated as true to our faculty of reason? Is that what being ‘sure’ means? Does the warrant for Faith come from fearless and ceaseless sifting of evidence bearing on the fundamental facts, and is that evidence sufficient for a demonstration? Or are we satisfied by what we count likely? And how do we decide what is likely? How were *you* convinced? On what does *your* certainty rest? Though I doubt I can say anything really new about these questions I do believe they are worthy of our attention considering our context: our secular training prescribes a path for attaining certainty about cardinal truths and you *will* become familiar with its means and methods. I want to contrast these methods with the ones typically in operation in our spiritual training and in our faith, and to consider some of the consequences of those differences.

The cardinal truth of Christianity, as Dorothy Sayers² says in the introduction to the second volume of Dante’s *Divine Comedy*, is not that ‘humanity manifests certain adumbrations of the Divine’, or, still less so, that nature does, but this: that Christ Jesus “suffered under Pontius Pilate, and the third day rose again”, and that “*This* man was very God... On that pivot of singularity the whole Christian interpretation of phenomena uncompromisingly turns.” Though these facts indeed are quite singular, they are yet definite, and amenable to the scrutiny of reason. Scientists too arrive, at cardinal facts. Examples from physics, chemistry, and biology are: the position and momentum of quantum

²The Comedy of Ante Aligheri, Cantica II, Purgatory, Translated with an Introduction by Dorothy Sayers, p.39, Penguin Books, 1955

particles are not simultaneously observable, the speed of light is the same constant in all frames of reference (two facts which ruin all conventional thinking about very big things and very small things), atoms exist and have parts, and species first appear on earth over very long times scales (compared, say, with seven days) How are all these facts established and on what basis are they considered certain?

The approach to certainty is quite different between these two camps, the camps of science and faith; their methodologies are quite different, not just their objects, and because this is so, their members are often suspicious, dismissive, and uncomprehending of each other. It is your great challenge an opportunity, to live in both camps, to interpret the one to the other, using words if necessary³, to lessen suspicion and dismissiveness on both sides, and to build a bridge of understanding between them, between the world of science and the world of faith.

What an awesome task! Let us humbly try to be equal to it. So then, how do we become certain?

2 Contrasting Methodologies

Certainty for scientists comes from data, empirical testing. While mathematical reasoning and demonstration are indispensable guides, they are not the final warrant for what is to be believed about nature. Let me illustrate by taking us to the University of Pisa in Italy, early in the 17th century, into a conference room filled with graduate students, and one faculty member who had only recently gained tenure: Galileo. Galileo won some fame for deriving the parabolic trajectories of projectiles, but the question remained whether the trajectories of cannon balls⁴ really do describe parabolas. Can you imagine Galileo surrounded by grad students and a few post docs as he gives a talk on the subject? After writing his equations on the chalkboard, he puts the chalk down, and instantly the room is all abuzz, and several hands go up: ‘How can you verify the trajectory? Have you left anything important out of your model? If the canon ball traverses the predicted range, does that alone prove your theory correct or do you need to verify other things as well? What is the minimum data set required for a demonstration? What if it rains, or if the wind blows?’ Galileo then raises his, gesturing for quiet, and congratulates them for their questions, for they didn’t simply accept what he said as if he were an Authority, but they respected, even cultivated their own uncertainty and doubt because such things lead to an accurate assessment of what is known on the one hand, and to good questions, better experiments, and ultimately a deeper grasp of the truth on the other. “But you still have not answered our questions!” pipes up one of the first year students in the back. Then Galileo launches into his answers describing the experiments that must be done, “Well, one digs a mine shaft down a mile,

³“Preach the Gospel at all times, if necessary, use words”, is a quote attributed to St. Francis of Assis

⁴His work was funded by DARPA or its rough equivalent.

an hollows out an immense cavern and lines it with photomultiplier tubes, and an array of little diode lasers, which is to provide the appropriate instrument set and to get rid of the wind and the rain...”

Then one of the older ones, clearly a post doc, simply speaks out and says, speaking italian in a thick russian accent, “Vot eef de eart, az you haf asserted elsevere, has a diuuurnal mohshn. Vill de projectile shar dees mohshn oar nut? Vee do dees esperihment at de nort pool. Vat hahpens den?” The room goes quiet instantly. Everyone can see from the equations on the board that Galileo left it out of his model. Was that ok or not? No one, not even Galileo had thought about that before. Realizing that his answer had religious implications, Galileo eyed his visitor dubiously. Was this guy from Rome he wondered, sent to check up on whether he was holding to his bargain neither to assert or defend the Copernican System? Can you tell Christians by looking at them he thought? Nah, couldn’t be, besides, there was that whole Rome and Constantanople split thing, and it wasn’t likely that a cyrillic would work for a latin. But what if he was from Rome? Those guys were much much bigger than DARPA. Worse things than loosing one’s funding could happen.

The point of this illustration of course is that the questions are important, the freedom to ask questions is important, and the cultivation of doubt and uncertainty is important, and science has no fear of these because they motivate scientists to do what they do best, i.e. critically evaluate the state of knowledge and to carefully consider, perhaps even invent lines along which knowledge can be made more certain, and although questions sometimes arise in a mathematical context, they must be answered experimentally before something like certainty can be attained, and that certainty is approached asymptotically through continual and minute sifting of data bearing directly on the assertion of truth. Indirect experiments are second best. If authority really counted for anything in science, which it doesn’t, then entertaining doubt and uncertainty, casting a critical eye on what is asserted to be knowlege, would seem to be irreverant and unfaithful. Uncertainty then is an honored feature of the scientific aquisition of knowlege.

Scientists are, by training, not people of faith so much as they are seasoned doubters. No one believes in electrons because J.J. Thompson testified that he saw one, or in atoms because John Dalton simply said so, nor in the creation of matter out of light because Dirac thought it possible. While the attribution of ideas to their rightful owners is an important reason for publications, the publications harolding those ideas serve also as procedures whereby others may verify those ideas. Incessant and uniform reproducability alone is the warrant for the acceptance of those ideas. No scientist accepts the idea because of the names in the author list. Authority counts for nothing. Scientists wont buy a theory unless it is supported a foundation of empirical evidence that is both deep and wide. Authority is no surrogate for a demonstration. Dogma is ok, as long as it stands justified by the (overwhelming) weight of empirical evidence. In any case, scientists are irrepresible epistemologists, taught to ask incessantly “how do I know this is true”. This is the color, stain, and flavor of the one steeped in science.

Believers on the other hand are not so skeptical about the facts that underlie their belief. They believe in miracles, angels and demons, an immaterial soul, an afterlife, and above all, God, having seen these things rarely, or not at all. Believers are not fundamentally troubled, for example, by the idea of an afterlife, even though the empirical data base supporting the idea is quite small, and the only telling experiment would be to die. Believers require less evidence to believe in their singular and miraculous cardinal truths than would a scientist.

Let me try to illustrate this graphically. Imagine⁵ a graph or function of the amount of evidence required to believe something. The farther away from believing some proposition one is, say, that some singular event has occurred, the less data or evidence one has, presumably. The more evidence one has, the closer one is to belief. Let's suppose however that the assertion to be believed is especially singular, or miraculous, such as a miracle, such as the Resurrection. Borrowing from the mathematics of singular functions, let's imagine that the curve rises asymptotically to infinity, evidence needed to believe becomes infinite. Let's ask where we are on the graph. How much evidence do we think we have, and how far are we from belief based on the evidence alone?

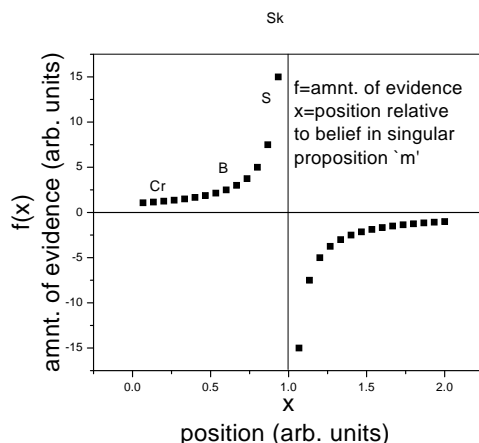


Figure 1: The more singular the event, the greater amount of evidence required to believe. As the evidence mounts, one is closer to believing, on the basis of the evidence. This of course is a supposal and belief surely depends on other factors. For the skeptics, no amount will do, while for the credulous, just about any amount will do. Where would you put yourself on the diagram. I assert that the scientist needs requires more than the believer.

We might also construe the curve as meaning the amount of evidence we need in order to believe. The graph shows the continuum from the credulous to the skeptic, with believers and scientists in between. For the skeptic, no finite amount of data will do for something singular. The scientist is more pragmatic. Clearly a great deal of evidence is required, but there is actually a finite amount

⁵This is the modified Morgenthaller-Severn model of belief:)

that can serve at least to get his or her attention. The credulous person will believe in just about anything with little evidence. I would like to make a couple of observations and assertions. First, I would assert that the believer needs less evidence than the scientist. Perhaps it would be helpful and instructive for us to benchmark ourselves against an unbelieving scientist, whom we respect and whose scientific judgement we admire, someone we know. Do we need as much evidence as they do in order to believe? Where would we put ourselves on this continuum? The second observation and assertion I would make is that we as believers do indeed possess evidence that speaks for the singular cardinal facts that we hold as true. While it is not overwhelming evidence for the one who takes a critical, sober view of it, it is enough to show that these cardinal facts *could* be true. This is enough for a defense against dismissive counter claims against those cardinal facts. But I also assert that we as believers close the gap and embrace those singular things with something beyond the evidence that can be seen. This can only seem unscientific to the scientists. This leads to the last observation. Scientists by training are most keenly aware of the gaps in the evidence and the more miraculous the assertion, the greater weight of evidence they require. Believers require less. But often scientists look at believers and, looking right past them, see only the credulous. They do so since they underestimate the data available or are most conscious of its limitations. Believers, not to be outdone, overestimating the evidence they possess, or perhaps are simply most conscious of its adequacy for them, look at scientists and, peering right past them, see only skeptics. Neither view is accurate. Clearly we all need a sober view of the evidence. My assertion is that while the believer is in possession of substantial evidence, it is not enough to persuade scientists, as scientists. I think this is a fair assessment, though for some it will be a troubling one.

What is true is that believers need less evidence. Why is this so? What closes the gap for them? We believe in an afterlife, miracles, and so on, for two reasons, maybe just one: someone we have come to trust said that such things are true, and that someone is speaking for God, or is God. “Faith cometh by hearing, and hearing by the word of God”. Faith simply accepts testimony. We are very, very persuaded by the “Author List”, just as we are persuaded by the merits of the person delivering the message. But beyond this, there is something more that leads us to believe. Clearly if God is on the author list, the publication is worthy of attention. That much, even a scientist can see. But how one goes about becoming certain of the assertions in the publication is very different depending on whether one is a believer (or even becoming one) or whether one is approaching the question scientifically. For the believer, the question becomes: is this really God who speaks? Our answer depends critically on our predisposition. Do we not as believers ‘reason’ something like this: upon hearing the love of God revealed in the Gospel, we have a keen sense of the surpassing excellence of God’s righteousness and love, that we find within us a desire for its truth rooted in a perceived need of a remedy for our own self condemnation—we want it to be true, and we say to ourselves that if God were to reveal Himself, surely this is the way He would do it, and just as surely God would reveal Himself in his essence rather than remain forever hidden. Are

not these the prepossessions of many (if not all) who come to believe? Scholarly believers possess, more or less consciously one thing more: we believe that evidence not stronger than testimony is the only way that the next world can be revealed in this one. By ‘reasoning’ thus, we can see why the scientific community views that reason as *weak* reason, because it doesn’t involve the same standard of proof or procedure for acquiring a demonstration; instead the ‘reason’ of the believer is highly personal, and subjective, seeming to owe rather more to predisposition than to the weight of evidence. Such reasoning critically affects what we think probable. Procedurally, believers care a great deal more, exert a great deal of effort determining whether God said something or not and comparatively little on searching out evidence that substantiates (that is a very important word) the fundamental facts (i.e., the resurrection, Christ’s miracles, and so on). Can it be that the state of our heart and mind matters, plays a critical role, in our estimation of the data surrounding the cardinal facts of Christianity? I think so, and I think Scripture supports this view.

Jesus of Nazareth won some fame once, among many other things, standing up in a boat tossed about furiously by wind and waves saying, “Peace, be still.”, and it was so. Though Jesus did refer to such miraculous works like these as a warrant for faith, He referred to them as a warrant of last resort. Instead He appealed to faith. So let me take you to another conference room, this time in Jerusalem sometime early in the first century, to a room where Jesus was talking with his graduate students. We will return presently to this seen, but for the moment, let’s consider a different scene, where Jesus spoke with his students on the way to Caesarea Philippi. The disciple had recently witnessed the miraculous feeding of thousands, had heard Jesus sharply criticize the Sadducees and Pharisees for the wickedness in seeking signs, and had been puzzled by yet another cryptic, ‘parabolic’ message from their Ph.D. advisor about the ‘leaven of the Pharisees and Sadducees’. They came to realize that Jesus was warning them against having a cold and hard heart. Isn’t it interesting that the Pharisees & Sadducees had plenty of compelling testimony about Christ’s works, some of them had most likely been witnesses of them, but they couldn’t believe, because of the predisposition of their heart. And Jesus warned his students about that sort of thing. So Jesus asks Peter, “Who do you say that I am”, Peter responds “Thou art the Christ, the Son of God”. How did Jesus respond? “You are very observant Peter: you notice everything, you search out the details and you really put it all together. You’re one smart guy.”. No⁶. He said “Blessed art thou Simon, for flesh and blood did not reveal this to you, but My Father in Heaven”. The true persuasion for Peter came not from what his physical eyes could see, but from what he sensed through faith was the activity of God incarnate. And when push came to shove, as it did more than once for Jesus and his disciples, and many deserted Him, Jesus asked Peter something more, “Will you leave me also?”, what did Peter say? “No, I’ve seen too many miracles, and the tokens of your claim to be linked to the Davidic line are unassailable,

⁶see Matt. xvi, esp. 13-20. Older versions say flesh & blood instead of ‘man’, but it amounts to the same thing.

though there are some details in your genealogy needing attention before we publish; but it isn't important: you're the guy." No⁷. He spoke for all of us when he said, "To whom shall we go? You have the words of eternal life." What is not said here about the state of Peter's heart his moral perception, and his love for his Master? Another time, and here we return to the first scene indicated above: Jesus appeared again to His students, to one in particular who waited for the overwhelming weight of empirical evidence before he would believe. Jesus willingly granted to him what He has hidden from essentially all other Christians who has ever lived, and said to Thomas⁸, "Blessed are those who have not seen but who still believe". Jesus did not want to make his appeal principally to fleshly eyes.

What then are the true eyes of Faith? What is the point of these illustrations? It is that the final warrant of belief is found in a prepared heart, and in an exercised conscience that through constant use is convicted of sin and righteousness, and recognizes, behind conscience and way above it, the voice of Christ. He said, "My sheep hear my voice, a stranger they will not follow" He spoke God's words to see if anyone was really listening. His words and his deeds carried the conviction of sin, of surpassing righteousness, and of judgement to...to whom? That's just the question. Certainly not to everyone who saw or had compelling testimony about the miracles. Seeing is not believing. To whom is the arm of the Lord revealed? That's the question for all the ages. The answer? To the prepared heart. To the heart with the right predisposition. Jesus said that His words would find a home only in good ground⁹, in the person ready to turn from sin to a righteous and loving God. Jesus promised that God would make his home¹⁰ in the heart of one who *both* heard God's words *and* obeyed them. To perceive or hear, and to obey, that is faith, that is what Jesus called to, in us. There is something that plays the role of evidence, something that stands in its stead when we don't possess all the data we could wish. and that something is faith.

Faith is precious in God's sight and he cares the world whether we have it or not. He would willingly hide from our fleshly eyes, so that eyes of faith might truly see. He would willingly die, and let Himself be crushed in order to show us how much He loves us, and how righteous he is. He did it to awaken our faith. And Faith is not sight. God's way was not to send information to the news networks just to make sure no one would get confused, nor video documenting the miracles, nor a timecapsule holding all the relevant birth and death certificates, directions to the tomb, and the true shroud and bandages. Doubtless, more telling tokens might have been preserved. No, in God's economy, even the heralding angels were sent to shepards and not to the Sanhedrin, nor to Pilate, nor to Ceasar. God's way to prepare the world to believe was to send prophets, and just before the Advent, He sent a prophet to awaken and sharpen the conscience, to convict of sin, righteousness, and judgement— John the Baptist, who

⁷see Jn. vi. 41ff, esp. 61-71

⁸Jn. xx.24-29

⁹see Matt xiii.1-23

¹⁰see Jn. xiv,22,23

came that our hearts might be prepared.

And you know what is more amazing than all of that? God sends each of you, and me, into the world that the hearts of the scholarly unbelievers might be prepared to sense Him near, and to hear his call.

3 Concerns for the Scholarly Christian

1. We are trained to seek Knowledge as the prize. We are bent on Knowledge creation, it is in our blood somehow to do it. We work so that we can know. But in Christianity, we know so that we can work, and the end is a deed; knowing something produces a blessing on one condition only, that we do what we know. We know so that we can work. We scholarly believers are most apt, of all people, to stop at the knowing part.
2. We want to argue others into the Kingdom of God, just as we want to argue other colleagues into a better knowledge of knowledge, especially that which we have created or specially know. We love to argue and debate. But it can't be done, and we of all people should know this. We can gently and respectfully show that there is evidence sufficient to show that our cardinal facts could be true, we recognize that the evidences for the Faith are not so overpowering as to command assent all by themselves. We will have more credibility this way. And we can then point to the way of Faith. Scientist too know about faith, since they too defer to conscience out of a perception of right and wrong. Many of them can teach us a great deal about integrity and commitment to goodness. Such is the substance of faith, and we should explore all things we possess in common.
3. One way that Scripture gives as an example of the way pagans will come to praise God is when they see us obey God in particularly difficult circumstances, when we suffer unfairly, and in another example, we are told that we will be called 'sons of God' when they see us make for peace in difficult circumstances. It may be that God will send just such circumstances in order for us to be a light to unbelievers. May we be ready on the day that the Lord visits, may we be imbued with watchfulness, ready to perceive and to obey His righteous and loving will. And that day is today.