This material is a supplement to the opening chapters of Part Five of *Only Man Bears His Image*.

Niels Bohr and the Truth about Quantum Mechanics

The correct view of the nature of Quantum Theory comes from none other than one of the founders of Quantum Theory, Niels Bohr, regarded by many as *the* Father of Quantum Mechanics. Born in 1885, Dr. Bohr was a Danish physicist and 1922 Nobel Prize winner after whom one of the elements on the periodic table (107—bohrium) is named. He is universally regarded as one of the preeminent physicists of the century. He famously insisted (although this is actually a paraphrase of his own views by scholars who have summarized them) that, "**there is no Quantum *reality*; there is only a Quantum *description***." Dr. Jan Faye goes into more detail on Bohr's explanation of the very field of study he founded. He states:

> "...**the entire formalism is to be considered as a tool for deriving predictions** of definite and statistical character" [direct quote from Bohr]. ... Real numbers can be associated with the recording of measurement values in ordinary space and time, whereas imaginary numbers [used in Quantum theory] function only in abstract vector spaces and have **no counterparts in measurement**. … in Bohr's opinion there was **no possibility for an interpretation of the quantum formalism that postulates an ontological [i.e., *real*] structure ...** mathematical objects [which define Quantum Theory] acquire algebraic and numerical **properties that the physical objects do not have**... if you, like Bohr, do not take the wave function to designate an objective property of the system but to be **a manual for thinking about the system, then the problem becomes a figment of the imagination**. The claim that there is a problem simply presupposes [contrary to Bohr] ... that scientific theories [in Quantum physics] tell us how the world really is.[ccxvi]

I have added the bracketed remarks above to emphasize that my intent here is not to endorse a broad "formalism" wherein science *in general* is taken as only assuming an internally consistent structure,

and not describing reality. My intent is only to demonstrate that this is clearly the correct view of *certain themes within* Quantum Theory and other similar propositions (e.g. String Theory, "Interdimensional Physics," and the like).

Bohr's view, then—the *correct* view--can be summarized as follows: when engaged in certain explorations within Quantum Theory, one is exploring the intricacies of a *story* that has been told to attempt to systematize certain experiments undertaken within a very particular field of study. It has one *and only one* useful exhibition: dialogues between scientists engaged professionally in this study who seek to better calibrate their methodologies and further their efforts. Such elements of Quantum theory *cannot* describe really-existing-things because its own premises begin with counterfactual (decidedly *un*real) suppositions. And one cannot detach *premises* from reality while at the same time pretending that the *conclusions* which flow from them *do* pertain to reality.

Analogously, when computer scientists design a computer programing language, they know that their goal is only to produce something helpful for their own goals of designing useful programs. They must ensure these languages are *internally consistent*; otherwise, their software will be filled with "bugs." But it does not matter if they write some algorithm in a way that bears no resemblance to a pattern observed in the real world; it only matters that the algorithm proves a helpful contribution to the end-goal of the functionality of the program itself.

Thankfully, computer programmers realize that the various strings they define within their codes do not give them any license whatsoever to pretend these definitions also describe the real world. Equally thankfully, most people would immediately realize how futile any such attempt would be. Tragically, most people ignore (or reject) this same recognition when it comes to certain esoteric elements of Quantum Theory—which, not unlike computer programming languages, are only internally consistent methodologies.

Now, a critic who insists that these aspects of Quantum Theory *do* directly describe objective reality may point to, for example, the fact that microchip designers heed their precepts in dealing with the various phenomena they encounter when attempting to pack as much computing power as possible into a small package. "*Quantum entanglement is a serious problem in these contexts*," this critic may say. But he is begging the question. Indeed, certain problems arise in such design scenarios, and *one way to speak about* these problems is to pretend there is something called an "electron" which, under certain conditions, may become "quantum entangled" with another electron somewhere

else, or teleport, or be fundamentally indeterminant prior to observation, or what have you. However, we have no right (much less reason) to regard these hypotheses as *real descriptions of real things*. At least, we have no more reason to suppose this than we do to suppose that the microchip really hosts a steady stream of microscopic gods from Mt. Olympus traversing its circuitry on chariots, mystically communicating with each other as they choose what paths to follow and how to behave.

The "entanglement" theory is obviously easier to take seriously, and, indeed, is more helpful for calculations, predictions, optimizations, etc. But at no point has this (or any such esoteric Quantum Theory postulation) *ever* been ontologically tied to a *demonstratively* really existing thing. Instead, they remain—always and everywhere—*categorically distinct* from the reality you inhabit and with which you interact with via your God-given senses. Nothing can bridge that infinite divide, since there is no connection between fiction and nonfiction save within the imagination.

Yet another critic may protest that all elements of Quantum Theory must directly describe real things due to their amazingly accurate power of prediction. This move also fails. One can model pedestrian traffic extremely well by treating it like the flow of particles through channels. Does it follow that each human being walking along the sidewalk is only a hunk of matter? Of course not. Treating a model as if it were a description of what is really there merely because a model does what a model is supposed to do is a recipe for philosophical delusion.

In this regard, the most fallacious of the stories certain scientists tell is macroevolution. Refusing to concede that God simply *designed* the various species the way they are, most evolutionary biologists have written a fable in which "beneficial mutations" arising from mere chance, combined with "natural selection," are and were the sole driving force behind all the functional order we observe in living creatures.

Despite the manifestly unreal nature of such assertions, not everything said in relation to them is useless. As in Quantum Theory, so in macroevolution, the experts therein have chosen to *model* reality with a story that has no reality to it, but because they have carefully constructed this model, it can often be helpful and make perfect *internally consistent* sense--so long as the conclusions reached are restricted to the proper domain. For example, an evolutionary biologist will describe the purpose of an animal's physiological features or instinctual

behaviors in terms of mere chance and historical environmental pressures endured by that species' ancestors. What he is really describing is God's wisdom in the design of one of His creatures, but this does not render the macroevolution-believing biologist incapable of explaining these same physiological features accurately, situating their importance appropriately within an ecosystem, or giving advice on predicting how this species will behave in some important context.

Indeed, the error of mistaking a fictitious story (to try and make sense of reality) with the reality itself, is an error that does not necessarily eliminate the usefulness of the work done by one who succumbs to this mistake. He may still do an excellent job describing a species' biological functions. That description, in turn, may prove quite helpful in developing treatment plans for those animals if they are sick or injured. Such success may give the appearance of a vindication of the fable of macroevolution; when, in fact, it has no connection whatsoever, much less a vindicating one, thereto.

Now, I am not designating Quantum Physics as equally fictitious to macroevolution, but only observing some similarities. Thankfully, many experts in Quantum Theory realize that Bohr was correct, and they approach their profession in a philosophically sound manner. It is not so much those participle physicists with expertise in Quantum Mechanics who are to blame for the many deceptions ostensibly built on this field—this is mostly due to outsiders (including outsiders who present themselves as insiders). Whether they are other scientists or simply influential authors or leaders elsewhere, they use Quantum Theory like a grocery store tabloid uses real news—surgically extracting only a few truthful tidbits to build a grand fiction upon them.

The present matter, however, is not merely about avoiding silly stories in tabloids. It touches, rather, on the very essence of a human being's ability to discern soul-saving truth and distinguish it from soul-destroying error.

The Quantum Trojan Horse in the City of God

Whoever feels perplexed by anything described above need not be for long. A simple application of common sense undertaken by anyone who has surpassed the age of reason can easily ascertain that certain propositions within Quantum Theory are not descriptions of reality, even if we leave aside the more technical explanations of Bohr (and the protestations of his critics).

Let us take one of the most famous principles within Quantum Theory, namely, "quantum superposition." According to the corollaries of this "principle" (story), a given particle can *literally be* contradictory states at the same time, and only "resolve into" one state or

the other upon being observed. Astute students, when first introduced to this notion, usually assume this means that even something so simple as a photon bouncing off another particle causes that particle to settle into another state it did not have prior, thus pragmatically ensuring that the act of observation (which would *at least* require the interplay of photons) causes a change in the thing being observed. Indeed, they are wise to assume this interpretation. Common sense assures us that there is such a thing as reality and that its own intrinsic nature cannot *ever* be said to be *ontologically contingent* upon *mere* observation. (Saying otherwise is nothing other than a reformulation of the 2,500-year-old heresy of subjectivism first popularized by the ancient Greek Sophists and recurring each generation since with a new twist.)

Such students, however, are often promptly reprimanded by their professors, who "correct" them by assuring the entire class that: "no, the thing *itself* really depends upon *observation itself*–not merely some interplay of forces regarded as inseparable from observation--in order for it to become one thing or another."

The most famous thought-experiment in Quantum Mechanics itself, however, immediately illustrates the sheer absurdity of this view. The experiment, "Schrödinger's cat," imagines a cat in a closed box hooked up to a device that will kill it if triggered. The trigger is actuated by a Geiger counter or other monitor which is causally activated by a given *unobserved* Quantum-situation subject to superposition. Obviously, the cat is either alive or dead. It cannot be both, and it cannot be neither. Common sense *infallibly* assures us of this fact.

Esoteric approaches to Quantum Mechanics, however, would have us regard the cat as simultaneously alive and dead until the particle (which activates the Geiger counter) is observed, whereupon *observation itself* causes it to be only one or the other, and accordingly kills the cat or permits it to live.[87] A simple *reductio ad absurdum* (a "reduction to absurdity," that is, "by that logic, ___") demonstrates that whatever premises lead to an absurd scenario such as this *must* themselves be rejected. Although this is considered "indirect reasoning" or "proof by contradiction," that is no mark against its efficacy. Any claim can be fully established as logically *certain* if one can point out that its opposite leads to absurdity. Such "Quantum" delusions as this one, however—if regarded as describing reality—constitute premises that unavoidably collapse into logical impossibilities, therefore they can and must be rejected.[88]

To escape the paradox, many physicists today will instead assert that each Quantum state is indeed real, regardless of observation,

but simply generates a new universe for every such eventuality. Thus, they arrive at the infinite (or quasi-infinite) version of "multiverse theory" (addressed in earlier chapters) by way of yet another deception. Of course, anyone with a modicum of sanity left in his soul will only laugh at such a suggestion. Unfortunately, sanity is becoming an increasingly rare trait today—particularly among PhDs.

Now, my insistence that some assertions of Quantum Theory stand in flagrant contradiction to the most basic tenets of common sense (and therefore *cannot* apply to *reality*) is not some "fringe" claim. Even the *Encyclopedia Britannica*, in its own introduction to Quantum Mechanics, notes:

> The behaviour of matter and radiation on the atomic scale often seems peculiar, and the consequences of quantum theory are accordingly difficult to understand and to believe. Its concepts frequently conflict with common-sense notions derived from observations of the everyday world. [ccxvii]

The passage above is absolutely correct (in stark contrast, we will presently see, to what follows it). Carefully note that the encyclopedia does not merely claim that Quantum Theory can "seem to" conflict with common sense. Rather, it openly concedes that it *does* often do precisely this. The authors fail to not note, however, what we will discuss in the next section: the *entirety* of empirical science—including physics in general and Quantum Physics in particular—is inherently and *fully* built upon those very "*common-sense notions derived from observations of the everyday world*." Science has no other basis on which to operate. (It can only *pretend* to have other foundations by looking only at a given field's more proximate premises; just as a man standing on the 100th floor of a skyscraper can pretend the building does not require bedrock on account of how far above it he resides.) Therefore, pretending that one area within science can contradict the foundation of science itself is futile, and a guarantee of succumbing to error.

Equally significant is the solemn and patronizing assurance this same encyclopedia gives in the following sentences:

> There is no reason, however, why the behaviour of the atomic world should conform to that of the familiar, large-scale world. It is important to realize that quantum mechanics is a branch of physics and that the business of physics is to describe and account for the way the world—on both the large and the small scale—actually is and not how one imagines it or would like it to be.[ccxviii]

Indeed, even the most ostensibly serious and professional of sources cannot resist descending into pseudo-religious pronouncements when discussing Quantum Theory. "This is about how the world is,"

is how those who believe in logic and common sense are lectured, "not how we want the world to be." In other words, whoever believes in critical thinking better remain quiet, "stay in his lane," and blindly accept the assurances of "the experts;" after all, they do experiments in particle physics, we do not! But if even common sense itself must be sacrificed on the altar of modern science, man has no weapons left with which to defend himself from whatsoever science's elites decree tomorrow. Thus given *carte blanche*, "the science" can exercise a tyranny the likes of which the world has never seen.

> "We trust the first pagan prophet we see who speaks to us in some newspaper, and we run behind him and ask him if he has the formula for true life… [doubt has] entered through the windows that should have been open to the light: science." —Pope St. Paul VI. June 29, 1972

Every student who is first introduced to certain particulars of Quantum Mechanics recognizes the latent absurdity of their teachings if applied to reality. Most, however, are promptly bullied by their professors (who take the same line as *Britannica* above). These students are gaslit into thinking that common sense has no place existing wherever the word "Quantum" is invoked. They are pressured to leave behind their "classical" mindset. This is not merely misleading; it is diabolical. If common sense is to be rejected, we are left with no choice but to succumb to existential relativistic nihilism, and that is precisely the Devil's plan.

It is one thing to refine common sense and scrutinize it in order to ensure unwarranted claims are not attributed to it. But it is quite another thing to simply assert that common sense has no right to supply the indispensable premises or impose the impenetrable boundaries upon a field. That latter claim is the evil one. One cannot chase away common sense without chasing away God. For it is precisely common sense that has lead men of every age throughout history to seek God and obey Him.

Consequently, a thorough defense of common sense is in order.

Endnote:

Opposing determinism is, too, (at least superficially) a noble goal. Determinism is also a heresy and a lie. However, there is absolutely no need to embrace Quantum-mystique or other deceptions in order to oppose it. It is easy to allow for the introduction of free will, Divine grace, etc., into the material universe with innumerable other methods. For example, the age-old "Three Body Problem" can easily

achieve this. The Three Body Problem indicates that it is completely impossible (not merely difficult or unrealistic) to determine the future status of even the simplest of systems involving only three "bodies" (particles, planets, or anything in between) moving under the influence of an inverse-square force such as gravity or the electromagnetic force. As determining the future of even the simplest systems is impossible (even for a demon), it goes without saying that determining the future of incomprehensibly complex systems (such as neurochemical operations in the brain) based on their current state is a meaningless notion. Since, therefore, the future is not contained in the present, here alone is found all that is needed to allow for a thoroughly Godly and Christian view of the material universe (and a decidedly non-Deterministic one) without needing to defer to "Quantum" based esotericism. Here, moreover, is found an astounding Divine Wisdom in how God created the universe. Just as God is Three Persons in One Divine Nature, so too the smallest of created relational realities bears the imprint of the Trinity. Just as the Father, the Son, and the Holy Spirit are three Persons "bound" by relations of love—entirely free but also entirely consistent, coherent, and never violating Divine Wisdom—so too only three particles, bound by a universal force, will never move by mere randomness, but are nevertheless "quasi-free," in that their future cannot be known by their present. Indeed, the "Three Body Problem" should actually be called the "Three Body Solution," for it provides (at least a glimpse into) the solution to the question of how the universe can be at once ordered and lawful, while also not mechanistically determined.