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TOP SCHOLAR



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Scholarship 2024 Religious Studies

Time allowed: Three hours
Total score: 24

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ONE of the questions in this booklet.

Check that this booklet has pages 2–20 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (XXXX). This area will be cut off when the booklet is marked.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

DEBATE ABOUT THE COMPLEMENTARITY OF SCIENCE AND RELIGION

INSTRUCTIONS

Choose ONE of the questions below. Write an essay that answers the question you have chosen in relation to the debate about the complementarity of science and religion.

Space for planning is provided on page 4 of this booklet. Begin your answer on page 5.

EITHER: QUESTION ONE

"Sceptical scrutiny is the means, in both science and religion, by which deep thoughts can be winnowed from deep nonsense."

— Carl Sagan, cosmologist

"My view is that if your philosophy is not unsettled daily, then you are blind to all the universe has to offer."

— Neil deGrasse Tyson, astrophysicist

Questioning strongly held religious beliefs and scientific theories is difficult for some, but it has been argued that the search for truth in both science and religion needs an openness to questioning and testing.

How might a willingness to question and test beliefs and hypotheses, both religious and scientific, contribute to the debate about the complementarity of science and religion?

OR: QUESTION TWO

"Art and religion first; then philosophy; lastly science. That is the order of the great subjects of life, that's their order of importance."

— Dame Muriel Spark, novelist and short story writer

"There is a fundamental difference between religion, which is based on authority, and science, which is based on observation and reason. Science will win, because it works."

— Stephen Hawking, mathematician and physicist

The differences in scientific and religious approaches to understanding the world, and life, can be a strong combination for the betterment of humankind and the planet.

What challenges might there be to science and religion working together to address issues such as poverty, global warming, environmental disasters, pandemics, or times of societal collapse?

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The assessment continues on the following page.**

PLANNING

How might a willingness to question and test beliefs and hypotheses, both religious and scientific, contribute to the SR debate?

Kuhn

- Paradigms
 - Relativistic
 - Anomalies
 - Needs divergent thinking and convergent thinking
- Religion as a scientific paradigm

willingness to test

- Lost cause?
- Evasion
- Alternative justification
- Ultimately, paradigms refer to a status quo

Case studies:

Galileo

- Willingness to test was barred by authority - commitments
- Open-mindedness does not structure the paradigm (for reasons other than religion)

Al-Ghazali

- Interpretation rules
- Absolutely willing to test beliefs
- Logical prohibition against another logical paradigm

Modern Day Relevance

Cautions:

- Closed-minded and elusive
- It is a paradigm
- Makes retroactive recourse to religion - structured by alternative motives
- Alternatives to literalism available

- often unfettered by ulterior commitments, science and religion compare

- Willingness to question beliefs is always tied to some bias

- In a vacuum, two principle stands.

- Augustine / Al-Ghazali interpretational hermeneutics
- Paradigms function as it around science
- Science is inherently convergent
- If we can look to an egalitarian mode of both paradigms, we can unify science and religion
- Both can preclude this egalitarianism if convergent

→
Quantum
Physics?

Select (✓) ONE essay question to answer.

☒ Question One

☐ Question Two

Both science and religion are founded on sets of beliefs that traditionally aren't self-critical. The established principles and scriptures of both typically take themselves for granted. The willingness to question and test beliefs and hypotheses opens up the possibility of convergence - but the possibility of this is always hampered by the institutional issues and commitments of the order purported to be 'questioned'. This essay aims to use the philosophical theories of Thomas Kuhn to elucidate the possibility of scientific-religious harmony (which, as will be shown, occupy the same field) through self-questioning, while also pointing out the limits and contingencies of this ideal. 'Willingness' does not equal ability.

Thomas Kuhn is a famed philosopher of science who expounded his theories in his seminal text 'The Structure of Scientific Revolutions'. In this, he proposed a model of scientific history that involves a unified consensus of scientific principles (a paradigm), continuously ~~supplanted by~~ faced with anomalies in which the paradigm cannot solve, and eventually being completely supplanted (in a 'revolution') by a new paradigm, which can solve the anomalies. He states that each paradigm of 'normal science' has no claim of being absolute, since it is prone to revolution, and that ~~no two~~ paradigms are 'incommensurable'.

with one another. He also identifies entrenched conservatism within revolutions, as the old paradigm with its 'convergent thinking' resists the 'divergent' thinking of the new paradigm. This relativistic understanding of science also elucidates, better than prior theories, the bias available to a paradigm that insists on seeing the world through its own lens, and builds itself up on a certain set of rules which it would never subject to scrutiny since they affirm the status quo and their ways of thinking themselves. What this means is that the 'willingness to question and test beliefs and hypotheses' does not apply to most of scientific paradigms ~~not~~, especially their axioms - students are educated and educated based on a large theoretic network which precludes any ability to see outside the status quo - this does not claim them to be false, but just demonstrates their inherent complications when it comes to self-questioning.

This essay would then also apply this line of reasoning to religion - proposing a complementarity of science and religion insofar as religions are almost always beholden to scientific paradigms that comport with their world views. ~~Upon~~ Modern theories of "Non-overlapping Magisteria" between science and religion tend to assume 'science' to mean 'the accepted scientific paradigm', homogenizing both categories into ~~ecumenical~~ and unified traditions. In reality, religious institutions hold a set of world views, and these often comprise a scientific paradigm - subject, like with science above,

to 'questioning and testing'. Thus, the churches' commitment to an Aristotelian - Ptolemaic paradigm during the Copernican and Galilean affairs still represented a complementarity insofar as the catholic church was defending their worldview with a scientific paradigm (which needn't be the accepted one.) This means that even creationists enact a complementarity since they justify themselves, using scientific principles (flawed ones, but still beholden to a paradigm.) This ~~modern~~ view places science and religion on the same, reconcilable playing field in terms of worldview - both comprise of a concrete set of scientific views in a paradigm. Sometimes they conflict, sometimes they harmonize. This makes the question easier to answer, with a Kuhnian view. The willingness to question and test beliefs ~~is occurring~~ must occur between two or more scientific ^{paradigms}, justifying themselves for different purposes. For the sake of Kuhn's philosophy, justifications with recourse to scripture ~~are~~ equally hold equal weight since the secular scientific paradigm is also justified towards the worldview of secular scientists. Thus, the 'questioning' is always affected by these worldviews, and the aim is not to reconcile the worldviews, but the truths they ^{necessarily} methodologically derive through scientific practice by altering the worldviews to accommodate.

We can extend on this with appeal to a historical case study, to view how the world views behind scientific paradigms, which are justified upon them, always affect the so-called 'questioning of beliefs' one may take. The Galileo affair occurred in the 16th century and involved the trial of Galileo Galilei for supporting Copernican heliocentrism, judged to be heretical and ~~and~~ in contravention of the Catholic Church. This affair involved two conflicting paradigms of science; the Church supported the Aristotelian - Ptolemaic paradigm that posited a geo-centric universe, with the earth near the eccentric ~~earth~~ (center) of the solar system and the rest of the planets and sun orbiting it while rotating on an ellipse. Galileo supported a Copernican Heliocentrism, with the sun at the center of the universe. Both were scientific beliefs; both were justified on empirical and theological evidence. Science and religion were complimentary under geocentric paradigm. Now, ~~the Catholic Church~~, under the premises of an affirmative to the statement, the propositions of Galileo would have led the dominant paradigm to 'question its and test its beliefs and hypotheses', and then affirm the correctness of Heliocentrism and promptly overthrow the paradigm. Under Kuhnian scientific theory, this is not possible, or is highly improbable. The paradigm of the church was justified and tied so heavily

to their world view that any empirical evidence would negate Galileo anyway. Their commitment to Aristotelianism was complex. Firstly, geocentrism seemed to be biblically affirmed: "He has fixed the earth to its foundations; it cannot move" (Psalm 104) ~~or "The sun stayed still, the moon stayed, until they had defeated their enemies"~~ seemed to point to a Ptolemaic geocentrism. There was also mention of God stopping the Sun in its motion, like in Joshua 3, interpreted literally. This commitment shaped their worldview, but it was not a necessary commitment - it was provoked by the contemporary threat to their interpretational authority that ~~was~~ posed by the Protestant sola scriptura doctrine that led them to hold the council of Trent, which censured the Church Fathers' readings and interpretations as law. Thus, their paradigm was upheld by a worldview contingent upon political/historical factors - and shaped their scientific methodology. The point is, that Galileo's claims were investigated, they had 'tested their beliefs'; but as Kuhn states, ~~there~~ both the means of interpreting empirical data, and the ability to falsify evidence are contingent on the paradigm, and that paradigm here was contingent on politics and historical authority. ~~Then~~ Various inquisitors persecuted to falsify Galilean claims. Cardinal Bellarmine stated that

in the case of "demonstrative proof," ~~even~~ he could accept heliocentrism - but because the paradigm was investigating itself, none was found. Galileo couldn't explain the lack of stellar parallax, nor then why a dropped object isn't displaced as the earth moves. The point here is that the "willingness to question" is rendered irrelevant when paradigms are beholden to worldviews that subject methodology to bias. It is possible to have a self-critical paradigm, but because of the Council of Trent, and also personal grievances against Galileo's personality, the Aristotelian paradigm could not falsify itself. So in this case it's not the "questioning" that is difficult, but the answering. ~~The bias is~~

~~There are, however, cases in religious history~~
 There are more noted cases in Religious history where religion and science have opened themselves up to questioning - though, again, the paradigm with the strongest institutional commitments prevailed. This can be seen in ~~the~~ the late medieval Abbasid caliphate, where the decline of the robust scientific activity occurring in the Islamic Golden Age was attributed largely to the attack written by the theologian Al-Ghazali, "The Incoherence of the Philosophers." This alleged attack on science actually boasts remarkable harmony between paradigms. Al-Ghazali

was making an attack on the ↓ Falsafa school of philosophers, whom he believed to be interpreting scripture with undue authority. In a critique similar to Kuhn, he accused them of ~~blatantly~~ making conclusions off of their own paradigmatic authority when interpreting the Quran, then insisting on and presupposing their premises without actually "testing and ~~debating~~" or "questioning" them. To achieve his polemic, his book interrogates them using their own philosophical principles, to prove their metaphysical and scientific ~~standards~~ ~~don't~~ ~~meet~~ conclusions don't meet the ~~own~~ standards of their own scientific paradigm. In effect, he was presaging Kuhn. Al-Ghazali's views on scriptural interpretation were very liberal, while also being scientific. He believed that Quranic interpretation could be taken non-literally so long as their conclusions could be "demonstratively proven". Thus, if one could falsify a literal interpretation of scripture, you could accept ~~an alternative~~ a "sensible" interpretation (based on describing the senses of the prophet Muhammad) or a "metaphorical interpretation". In effect, he was open to the questioning of held religious beliefs based on logical or scientific evidence. This comports with the Quranic support of reasoning "Is he who knows unequal to he who does not know? None can be mindful of this but those with reason (Surah 39). But the importance here is precisely the liberality available

in that worldview. The criticism of the Falsafa school was done on their own grounds to demonstrate that they had no authority for their interpretations (Al-Ghazali identified only 3 heretical (kufr) interpretations - including the Aristotelian belief in re-embodiment). ~~the falsafa~~ But this ~~was~~ critique was enabled by the external properties of his paradigm - that differ from the church in the Galileo affair. That is to say, this prevalence of ~~an ability to~~ questioning beliefs (Al-Ghazali even critiqued some beliefs that he had himself, just to prove that they could not be reached through the Falsafa paradigm) was allowed not due to any superiority in the religious ~~para~~ religion itself, but by the external conditions of its paradigm. While the Galileo affair involved the dominant paradigm in a complex political state that affected its paradigmatic leanings to cause heavy bias in its self-questioning, thus making the clash between the opposed scientific paradigms largely ~~unfair~~ unfair and unopen to legitimate questioning, the critique of Al-Ghazali had no such constraints, and ~~was~~ his contention of the superiority of his own paradigm against the Falsafa paradigm was far more of a rational argument - justified with logic. Important to ~~note~~ is that this does not mean he was correct or at all free of bias, but

that the paradigmatic conclusions he made through his self-questioning were allowed because:

a) his contemporary religious institution supported and allowed for the ~~sorting out of~~ sorting of religious conclusions through rational and scientific thought

b) he was not encumbered by ~~any~~ the dogmatic adherence to an ultimately contingent (i.e. not required in his religion) system like Aristotelianism

whether he was correct or not is irrelevant;

~~He~~ holds that ~~as~~ he was making paradigmatic, scientific justifications. ~~Thus~~ sort He arguably had much bias behind him, serving such an institutionalised religion - but it was ~~less~~ ~~or~~ a far more scientific ~~than~~ questioning than happened with Galileo, and so ~~seems~~ to free from bias. Thus, it follows that the paradigmatic scientific conclusions that one takes up in response to their ~~sphere~~ are by no means inherent to the religion itself. It is contingent on external ~~circumstances~~, and according to hermeneutical principles is never concrete. The conflict between scientific paradigms (one purporting to be "religion" and one purporting to be "science") have always just been two scientific systems clashing, beholden to various external biases - some religious, some not. The clearing away of ~~these~~ ~~biases~~ the unnecessary biases, like political, traditional, or ~~institutional~~

prejudicial ones, can generally allow for more clear scientific justification, allowing for the clash of paradigms to occur without undue bias (which is not all bias) - This helps the "willingness to question" convert into an actually contributive dialogue, reaching harmony.

With these two case studies strengthening this argument, we can thus apply it to a contemporary context. ~~There are~~ Most scientific paradigms have been reconciled today - with the Catholic church ~~now~~ apologizing for Galileo and acknowledging Communism. This represents a partial unity between scientific and religious paradigms. It's worth asking the question of commensurability here - Kuhn maintained that conflicting paradigms are either "methodologically incommensurable" or "observationally incommensurable". In the case with most religious paradigms, their modes of scientific investigations are methodologically commensurable with "scientific" paradigms due to methodological naturalism; i.e. the fact that despite being observationally incommensurate, like one views the world believing in a higher power, and the other doesn't; they both are the same in investigating the world. It is the difference between metaphysical naturalism and metaphysical supernaturalism - which apply to the way of seeing, not acting, that provide

incommensurability. To the Christian Scientist, for example, "The heavens proclaim the glory of God," the stones speak this language" (Psalm 19) as they view natural phenomena differently from the atheist scientist, creating inherent or biases in empirical interpretation. This does not mean they need to be reconciled, but that they can never be the same paradigm. The "incommensurability" to test and question beliefs thus ~~must occur~~ has some non-overlapping faculties between the paradigms. Religion is able to check scientific reasoning, but some elements of religious paradigms are unavailable to scientific reasoning. For example, teleology is non-empirically verifiable - science cannot determine purposiveness except through statistical probabilities. ~~Religious sciences~~ see there is also an inability of science to impede on the moral/spiritual/metaphysical conclusions of the religious paradigm. Some historical examples show scientific paradigms trying to explain these characteristics - like phenomenology, for example, trying to determine internal metaphysical or epistemological elements from a scientific perspective, however, these elements of the religious paradigm have been shown to also be non-empirically verifiable. But this is all of no consequence if one considers the fact that this outlook is extended to the methodological paradigm - the "conflicts" between science

are religion are always related to natural phenomena because they always occur on the grounds of science - that is to say, they are able to be methodologically handled. The science physically cannot impede on the metaphysical elements or religious views. Thus, the modes of "questioning strongly held religious beliefs" are either:

- a) only able to be done with religious principles; in which case they have no bearing on science anyway since they fall outside the realm of scientific conclusion
- or b) able to be done with religious and scientific principles, in which case both are able to come to the same conclusion (assuming liberal interpretational doctrine) and are thus reconcilable scientific paradigms.

With all the above in mind, it's worth mentioning one of the fringe religious paradigms that alleges a "conflict" with science: Creationism. First and foremost; creationism justifies itself based on scientific principles - and is thus a competing scientific paradigm. This science has been continuously disproven, but it still exists within the paradigm. The fact

that scientific justifications have been made within the paradigm proves the thesis here: they clearly are "willing to question" themselves - and that questioning has returned the very science we deem irrational. Willingness $\neq$ ability. This is the same with the Galilean issue, where their paradigm is beholden to so many external principles that their self-questioning affirms their correctness in a feed back loop. Like the Galileo affair, these principles are political. Continuous justification is made by the creationists with recourse to scripture - i.e. Genesis in particular. Young earth creationism holds to the Ussher estimate of 4004 BC for Genesis; old earth creationists believe the day-age theory claiming Genesis is longer than 6 "days". But the justification is irrelevant because the conclusions are never inherent in the scripture. The official Catholic Church view is one of accommodationism - i.e., they subscribe to the accepted paradigm and believe the authors of the bible or God himself dictated the Old Testament to fit the accepted paradigm of the time. This is in line with the openness of ~~the~~ biblical hermeneutics espoused by ~~various~~ various Catholic Christian figures: Philo, Augustine; Aquinas. Augustine states in his *de Genesi ad litteram* that if "the authority of the sacred scriptures conflicted with clear

justifying their stances on abortion and gay marriage with
 leviticus, or capital punishment, etc. This means that
 pre-existing moral, political, personal stances pre-empt their
 recourse to religion which then justifies their scientific
 paradigm. One common personal stance that does
 this even outside of the south is anti-establishmentarianism
 or anti-science stances. The truth is, if
 "religion" was the sole influence of their scientific
 paradigm, then there would be no interpretational
 doctrine to comport with scientific consensus.
 In reality, "religion" is a small part next to
 politics, morals, location, etc. And ~~that~~ this
 is the case for conflictive paradigms derived
 from religion entirely. If Nazi Germany was "willing
 to question" its paradigm of Eugenics and Phrenology,
 or Soviet Russia its paradigm of Lysenkoism,
 they would also return results that affirm
 their own paradigm. Even with the dominant
 modern scientific paradigm, this occurs. Oil companies
 with paradigmatic biases proclaim the lack of
 danger in their actions for the climate. Pharmaceutical
 companies suppress dissenting opposing studies since
 they threaten their paradigms. "Willingness to
 question" "sceptical scrutiny" "openness to questioning"
 is useless when that questioning is self-reflexive.
 Paradigms are constructed on their own beliefs and thus
 affirm their own beliefs.

Thus, the contributions towards a debate of the complementarity

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 can only occur with the paradigmatic removal of bias (or at least, conflicting biases, since some bias is necessary/good/inherent). Openness means nothing if the field is not truly open. ~~Belief systems about extra~~
~~extra-scientific matters~~ Kuhn would attest that the paradigms can never truly be free of bias, and it is true that they have some negligible irreducible presuppositions, but the progress made with compartment is promising. There is no point in absolutism - saying "all" bias must be free is hermeneutically and epistemologically impossible. But within the debate, the question should not be of an openness to question one's beliefs and views - but a more deconstructionist view against questioning the origins of those beliefs and views - which are always contingent on both sides. Exegesis and empiricism are skewed by our views, but a critical questioning of their operations can help with reconciliation. Religion has always used science to combat science, and it is thus possible to ~~use science to harmonise with science~~
 harmonise ~~the~~ science with science.

Acknowledgements

Material from the following sources has been adapted for use in this assessment:

Page 2

First quote: BrainyQuote.com. BrainyMedia Inc, 2024. Accessed 8 February, 2024.
https://www.brainyquote.com/quotes/carl_sagan_141359

Second quote: <https://www.goodreads.com/quotes/460763-my-view-is-that-if-your-philosophy-is-not-unsettled>

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<https://abcnews.go.com/WW/Technology/stephen-hawking-religion-science-win/story?id=10830164#:~:text=When%20Sawyer%20asked%20if%20there,will%20win%20because%20it%20works.%22>