Reason within the Bounds of Religion. Nicholas Wolterstorff. Grand Rapids, Michigan: Eerdmans, 1999.

About the Author
Wolterstorff, now retired, was the Noah Porter Professor of Philosophical Theology at Yale Divinity School in New Haven, Connecticut. He is what has been dubbed a Reformed Epistemologist. Others of this ilk are Alvin Platinga and William Alston.

About the Book
With a view to addressing the relationship of religion to science (*Wissenschaft*) Wolterstorff seeks to determine what implications one's identity as a Christian has for the practice of scholarship. In his Preface Wolterstorff speaks of this book as "a tract for Christians" (11) and as a kind of soliloquy in which Wolterstorff is asking himself "what my own fundamental identity as a Christian has to do with my practice of scholarship and, more importantly, what it *ought* to have to do with it."

Every scholar must make decisions in two major areas:
1. What matters to investigate.
2. Which views to hold.

The first part of the book (Faith & Theory) is concerned with the impact one's Christian faith has upon the views a Christian scholar will hold. The second part of the book (Theory & Praxis) is concerned with which matters to investigate.

In the first part of the book the focus is upon the devising and weighing of theories. Wolterstorff presents a theory concerning the proper relation of Christian commitment to the devising and weighing of theories. His theory is that the Christian scholar should approach scholarship as a follower of Christ, exhibiting authentic commitment and allowing the belief-content of that commitment to function as control within one's devising and weighing of theories (98). Here Wolterstorff is parting company with a tradition of foundationalism which tries to base knowledge on reason. Against this he insists that knowledge must be based on faith.

The Failure of Foundationalism
Foundationalism Explained
Foundationalism is the classic theory of theorizing in the Western world among both Christians and non-Christians, dating back to Aristotle and revived in the West since the Middle Ages. Aquinas, Descartes, Leibniz, Berkeley and many others were foundationalists. Foundationalism presupposes that there are some certitudes which form a foundation upon which a (scientific) theory can be built using methods of inference (demonstration) which are most certainly reliable. According to this view foundational certitudes can be know noninferentially. That is, these are things that can be known for certain without knowledge of this certainty being derived from something else. That is, the certainty of these things is self-evident.

Wolterstorff identifies three types of foundationalism:
1. Complementarism, represented by Aquinas.
2. Preconditionalist foundationalism, represented by Augustine.
3. Incorporationism, represented by many Protestants.

Complementarism

Aquinas believed that truth is a composite of a believing apprehension of truth and a knowing apprehension of truth. Aquinas considers the propositions God reveals to us and which we ought to accept. We must simply believe most of these propositions on the ground of the credibility of the revealer since most of them cannot be known, that is, they are neither self-evident and nor may they be inferred from propositions knowable by the natural light of reason. An exception to this, Aquinas maintains, is the proposition that God exists, which Aquinas argues can be inferred from rationally knowable propositions. Self-evident and rationally inferred propositions – the realm of reason - belong to our knowing apprehension of truth. Our total apprehension of truth adds to this knowing apprehension those propositions we believe because of our confidence in God as revealer. So for Aquinas faith complements reason, hence his position is an example of the *complementarist* view. This has profound implications since propositions that can only be believed and not known (that is, are not self-evident or rationally inferred) are irrelevant to the weighing and assessing of theories in the sciences.

The irrelevance of faith to scientific theorizing means that believers and unbelievers may *know* the same things, though Aquinas argued that unbelief is of such a profound nature that it will usually result in the unbeliever being lazy, hasty or indifferent to truth.

Preconditionalist Foundationalism

Augustine and Calvin represent *preconditionalist* foundationalism. Not all preconditionalism is necessarily foundationalistic, but it can be. Augustine said, "I believe in order that I might understand." Preconditionalists who travel along foundationalist lines reason that there are certitudes that can be known directly and noninferentially. However, unbelief prevents such apprehension, at least in some instances. Wolterstorff fails to find any adequate explanation by proponents of this view as to why unbelief should have this effect on theorizing.

Incorporationism

Those who hold this position begin from the position that the Bible is infallible. It is therefore argued that everything the Bible teaches, the entire doctrinal content of the Christian faith, is incorporated within a body of foundational certitudes.

Whichever of these three forms foundationalism might assume it involves the essential idea that there is a foundation of certitudes upon which (scientific) theorizing can be built.

The Demise of Foundationalism

Foundationalists accept those theories as belonging to genuine science which are deemed to be *justified* by some foundation propositions which are *known with noninferential certitude*.

Classically, foundationalists believe a theory is *deducible* from the foundation. But deductivism has virtually collapsed because many theories that seemingly warrant acceptance are *not deducible* from any foundation. For example, we are warranted in accepting the theory that all swans have wings. Yet this theory cannot be deduced

from any foundation, even from one's personal observation of swans having wings, since to deduce that all swans have wings requires being certain that one has seen all the swans that exist.

Given the untenability of deductivism many foundationalists have resorted to *probabilism*. Traditionally, foundationalists have viewed this as an unacceptable lowering of standards since for them knowledge and genuine science is characterized by certainty. An argument according to probablism would reason, for example, that on the basis of one's observation that swans have wings it can be concluded that *probably* all swans have wings. This, however, depends on another assumption – the uniformity of nature. The conclusion is only justified *if* nature is uniform. But it is impossible to say with certainty that nature is uniform in parts of unobserved nature with parts of observed nature. One might argue that it is probably uniform. However, this is unacceptable because we are now using an inductive argument to justify the very principle which we need in order to justify an inductive argument. That is, we still lack a justification for induction.

Which theories then belong to genuine science? There are many acceptable theories, but few of them are provable with respect to foundationalism and *none of them* are probable with respect to the foundation.

Having demonstrated the irrelevance of foundationalism to determining whether or not a theory is warranted Wolterstorff later proceeds to demolish foundationalism altogether by arguing there are in fact no foundational propositions (Chapter 6), that is, no propositions that we can know noninferentially (not inferred from other propositions) and with certitude (indubitably) to be true.

He considers whether I can know noninferentially and indubitably that *My desk is brown*. Observation is the only way most singular propositions about physical objects can be known. Does the use of my perceptual abilities enable me to acquire a noninferential and indubitable knowledge that my desk is brown? Of course, if I am blind or my perceptual capacities are strongly affected by alcohol, drugs or medication or poor conditions for observation (e.g. poor or deceptive lighting), then this is ruled out immediately. It follows that in order to have a noninferential and indubitable knowledge that my desk is brown I must know noninferentially and indubitably that there is no discrepancy between my perceptual capacities and how the desk actually is. This is impossible because on any one occasion I cannot know noninferentially and indubitably that I am taking proper account of all discrepancy-making conditions and, even if I could, I am still incapable of knowing noninferentially and indubitably that none of them is operating right now as I look at my desk.

I cannot know noninferentially and indubitably that my perceptual capacities are in their normal state without also knowing noninferentially and indubitably that my perceptual capacities are already in a normal state that enables me to test and confirm that my perceptual capacities are operating normally. Further, my beliefs and expectations may be strongly influencing the way things appear to me. But this means that if, as I look at my desk, it is indeed brown, then *my beliefs* are confirmed as

accurate. Consequently, my perception that the desk is brown is dependent on the accuracy of my theory that the desk is brown.[1]

In Chapter 8 Wolterstorff also argues that the Bible is unable to save foundationalism. The argument of some Christians is that the Bible, being the Word of God, contains inerrant propositions and thus an inventory of indubitables. Wolterstorff's repudiation of this position allows for the possibility that the Bible is in fact infallible in the strongest sense. Even so, Wolterstorff argues, we lack a set of foundational certitudes adequate for theorizing since, for example, "neither Bohr's theory of the atom nor its denial can be derived from the Scriptures" (59). But, even if the Bible is infallible, we cannot arrive at a noninferential and indubitable knowledge of what is contains:

1. I cannot know noninferentially and indubitably that the copy of the Bible I am using has not been corrupted[2] or, I might add, has been translated adequately[3].
2. I cannot know noninferentially and indubitably that what stood in the original autograph is exactly what God revealed.[4] Nor, presumably, did the biblical authors themselves, **in the foundationalist's sense**.
3. I cannot know noninferentially and indubitably that I am properly understanding what is said in the Bible.

Wolterstorff concludes that "our reading and interpreting of Scripture does not provide us with a body of indubitably known propositions by reference to which we can govern all our acceptance and nonacceptance of theories" (62).

Having debunked foundationalism Wolterstorff is at pains to point out what he has *not* said (56):

- He has not denied "that there is an objective reality with a nature independent of what we all conceive and believe".
- His arguments have not required "the affirmation that man is the creator of that which is".
- He has not denied the ability of persons to attain a true belief concerning objective reality.
- He has not opened the way for someone to think they are warranted to pick and choose as they wish "among the thicket of human beliefs".
- He, "most emphatically", is not implying "that the Christian cannot have any confidence in what he believes. Nor does it follow that none of what the Christian believes has the status of knowledge" (62).

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[1] I can't even know noninferentially and indubitably that *some object* is perceptually appearing to me brown and desk-like. I can only *believe* that *something* is appearing brown and desk-like to me.

[2] The extent and quality of manuscript evidence gives textual scholars a high level of confidence to *believe* that corruption in the text is minimal. But remember foundationalism depends on noninferential and indubitable knowledge, so Wolterstorff's point remains valid.

[3] Unless I know noninferentially and indubitably that I have a perfect ability to translate the original text myself.

[4] Remember again the point here is not whether I have excellent grounds for having the conviction (belief) such is the case. Again, "the testimony of the Holy Spirit", while leading us to the conviction (belief) that the Bible is indeed the Word of God, is not the same as noninferential and indubitable knowledge, in the foundationalist's sense.

The Floundering of Falsification

Is falsification an alternative to foundationalism? According to falsification a theory does not belong to genuine science if it contradicts the foundation, provided it is possible to know with certitude that it is inconsistent with the foundation.

However, falsification flounders because in practice this principle seldom leads to the rejection of a theory since no theory ever stands alone, but is part of a whole web of theoretical and non-theoretical beliefs. The falsification principle provides no guidance as to which of these theories should collapse, even *if* - and this is not necessarily the case at all - it would seem wisest to discard the theory under consideration.

For example, the Congregation of the Inquisition began with a belief in the geocentric theory of the motion of heavenly bodies, due to their own interpretation of Scripture. But if they discovered some fact that was an anomaly for this theory it does not follow that they would conclude Scripture taught falsehood. Other options include:

1. Sticking to the geocentric theory and surrendering other ancillary natural-scientifc hypotheses.
2. Concluding that they had depended on a corrupted text.
3. Concluding that while the biblical authors themselves *believed* the sun traveled around the earth they had no intention to *teach* this.
4. Concluding that the biblical authors did not teach the sun *actually* traveled around the earth but only that it *appeared* to do so.
5. Concluding that the Bible is only authoritative on religious, but not secular matters.

Clearly, the principle of falsification provides little to no help in determining what adjusted position should be adopted.

Along similar lines Wolterstorff cites from Imre Lakatos who conjectured what might have happened in the pre-Einsteinian period if Newton's law of gravity came into question due to the fact that a newly discovered planet deviated from the path it should have followed according to calculations made using Newton's theory. Rather than Newton's theory being dismissed the research physicist conjectures that another as yet unknown planet, though too small to be seen by available telescopes, must be perturbing the path of the discovered planet. A few years later a far bigger telescope fails to locate this postulated planet so the research scientist hypothesizes that a cloud of cosmic dust must be hiding it. When a satellite's instruments fail to support this hypothesis the research scientist still does not reject Newton's theory but hypothesizes that some magnetic field must be disturbing the instruments of the satellite, etc.

Wolterstorff has already debunked foundationalism, questioning the possibility of determining a set of foundational propositions. He now points out that even if there is a set of such propositions "no one has yet succeeded in stating what relation the theories that we are warranted in accepting or rejecting bear to members of that set" (45). Consequently, even the existence of a set of foundational propositions does not enable a general logic of the sciences and provides no general rule for determining whether a theory is warranted or not.

The Weighing of Theories
When it comes to the devising and weighing of theories three types of beliefs are distinguished according to the function they perform "relative to a given person's weighing of a given theory on a given occasion" (69):

- Data beliefs
- Data-background beliefs
- Control beliefs

Whether theories are predictive or explanatory all theories specify that some pattern is present within the theory's scope (64). To weigh such a theory involves having beliefs about the entities within its scope, with some functioning as data beliefs.

Data Beliefs and Data-Background Beliefs
Data beliefs are those beliefs about the entities within the theory's scope which the scholar decides to treat as data for his/her weighing of the theory (66). These are data *beliefs* because there is no such thing as foundational certitudes. The scholar has no option but to take as data that which he finds himself believing to be true.

But why does one believe that to be true which one takes as data? Because there is always a large set of beliefs that explain why one accepts as data that which one does, that is, data-background beliefs (67).

For example, assume I am considering some theory that the same people working at brown desks work more efficiently than they would working at white desks (my example). I look at a particular desk and take it as datum that this desk is brown. That is, I believe it to be brown (otherwise, the weighing of the theory will not proceed) and I do so because of data-background beliefs, e.g. I believe when I observed it that my senses were working properly and that the lighting was as it should be for making the judgment that it was brown.

Control Beliefs
Control beliefs are those beliefs which the scholar uses in weighing a theory and assessing whether it constitutes an acceptable sort of theory on the matter under consideration (67). For example, we believe that to be acceptable the theory must conform to a certain logical or aesthetic structure.

Control beliefs will cause us to reject some theories because they are inconsistent with our control beliefs or do not comport well with them. They will also lead us to devise theories, since we desire to have theories that are consistent with our control beliefs or comport as well as possible with them.

In this *Preface* Wolterstorff makes it clear that all religionists, whether Christian, Buddhist, whatever, if they are acting with integrity, will use their religious beliefs as control within their devising and weighing of theories.

Not surprisingly, given the central concern about the relationship of religion and science, Wolterstorff begins the book with the 17th century rejection by the Church of Rome of the Copernican theory, then defended by Galileo. He points out that they rejected this theory because it violated their control beliefs. They believed Scripture to be authoritatively true and this belief functioned as a control over the scientific

theories they were willing to accept. It was their belief that the Copernican theory contradicted the Scriptures.

But before we put the boot into the Church of Rome consider what happened less than a century after this. The theory of Copernicus was not well accepted. In 1687 Newton presented his theory of universal gravitational attraction. This was attacked by the Cartesians whose *philosophical* beliefs now functioned as a control over the scientific theories they were willing to accept.[5] For Descartes had speculated "that matter can be moved only by the motion of contiguous matter" and "that there can be no action at a distance" (17).

Two centuries later we find a philosophical belief – "that the task of the natural scientist is to find simple and regular connections between elements of reality" (sensations) – functioning for physicist Ernst Mach as a control within the practice of science, rejecting theories that postulated a nonsensory entity but also devising theories (reconstructing physics) on a sensationalistic basis. By contrast, logical positivists "used the conviction that the body of natural science is quite all right as it is, as a control within their philosophical activities" (20). Significantly, Wolterstorff finds that many contemporary Christians, like the logical positivists, have accepted science as it is.

If the Christian scholar simply accepts science as it is then it becomes necessary to rethink what is meant by authentic Christian commitment. So some Christian thinkers define authentic commitment in a way that in principle involves no conflict with science. That is, science and authentic commitment concern different, separated spheres. This is *conformism*, with respect to science. There are three ways in which Christian scholars "have tried to harmonise the belief-content of their actually Christian commitment with the results of theorizing" (81):

1. By "introducing revisions into their view of what constitutes authentic commitment".
2. By trying "to set the theories and data of science within a larger Christian context".
3. By proposing "distinctively Christian applications of the results of scientific theorizing to the problems of human life".

Wolterstorff observes that in "none of them does Christian commitment enter into the devising and weighing of theories within the sciences" (82).

Anthony Flew contested that religious convictions do not constitute any claim on actuality, that they are not genuine assertions because people "treat them as compatible with the happening of anything whatsoever" (24). But many have noted "that scientists convinced of the truth of some scientific theory behave exactly the way Flew says religious believers do" (24).

In Chapter 10 Wolterstorff takes a closer look at "authentic Christian commitment", first describing *actual* commitment as being part of a community whose members are fundamentally committed to being Christ-followers, looking to Scripture as the authoritative guide for thought and life and, therefore, doing and believing certain

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[5] Rooted in Descartes' speculative proposal that "matter can be moved only by the motion of contiguous matter, that there can be no action at a distance" (17).

things. By authentic Christian commitment Wolterstorff means the complex of action and belief in which actual commitment *ought* to be realized. Wolterstorff, seeking to express this, attempts,

> One's following of Christ…ought to be actualized by taking up in decisively ultimate fashion God's call to share in the task of being witness, agent, and evidence of the coming of his kingdom (73).

Wolterstorff, observing that authentic Christian commitment varies from person to person and time to time maintains it "is not to be identified with believing certain things" (74), but nevertheless has a belief-content. It is this belief-content of a Christian's authentic Christian commitment (not actual commitment) that functions as control within his devising and weighing of theories. So Christian scholars ought to reject the theories of those behaviorists and Freudians who "either deny human freedom and responsibility entirely, or deny them at points where the Christian would affirm their presence" (77). They should also "develop theories in psychology which do comport with, or are consistent with, the belief-content of our authentic commitment" (77). However, since "by and large the Christian scholar arrives at the data for his theory weighing by using the same strategies as everyone else – by observing and reflecting on the world about him", it follows "that it will often be insufficient for a Christian scholar to propose as his reason for holding some theory the fact that he is a Christian" (80).

If the Christian scholar becomes convinced that at some point there is incompatability between the results of science and what he views as the belief-content of his authentic commitment he has two options:
1. The revision of the scholar's scientific views, possibly even setting out to reconstruct some branch of science.
2. Conformism: The revision of the scholar's views as to what constitutes the belief-content of his authentic commitment, which also leads to the revision of his actual commitment – the standard response Christians have adopted in the past. Sometimes this is the way Christians, having been mistaken, should respond. Here, remembering the error of the Congregation of the Inquisition, the key word is "views", since developments in science have moved some Christian scholars "toward a better view as to what constitutes authentic Christian commitment" (94). Since we "are all profoundly *historical* creatures" (97) scientific developments may indeed produce changes in our authentic commitment, e.g. knowledge that eating mercury-infected fish damages humans leads Christians acting consistently with their beliefs to "cease to allow mercury to be poured into the world's streams" (96).

Faith and Knowledge
Wolterstorff distances himself from preconditionalism and the view that true faith is the condition of true learning, since:
1. A "theory which satisfies the control beliefs of a Christian may also satisfy those of some non-Christians" (98).
2. Those who exhibit authentic commitment are not "*guaranteed* of arriving at a wholly satisfactory body of theories" (99) because:
   a. None of us exhibit authentic commitment.
   b. Even if we did "various alternative conflicting theories might jointly comport with and be consistent with its belief-content" (99).

       c. Not "all theories can simply be extracted from the belief-content of one's authentic commitment" (99). Indeed, many, "if they are to be obtained at all must be imaginatively devised", an ability which a person exhibiting authentic commitment may lack.

       d. Not all that belongs to the belief-content of one's authentic commitment may be true.

   3. Non-Christian opposition "to what they knew as Christianity", has sometimes caused them to explore "lines of thought that proved fruitful and important" (99). As Wolterstorff observes, "The Christian and the non-Christian alike accomplish God's purpose in history" (100).

Wolterstorff observes that the efforts of Christian scholars to 'integrate faith and learning' seldom "suggest any research programs within the sciences" (105). He takes this as indicating deficiencies on the part of Christian scholars, either failing to "see how their commitment can and should be related to theory-weighing, or of weakness of imagination" (105). He comments,

> Christian scholarship will be a poor and paltry thing, worth little attention, until the Christian scholar, under the control of his authentic commitment, devises theories that lead to promising, interesting, fruitful, challenging lines of research (106).

This failure of Christian scholarship is due in part to the fact "that many twentieth-century Christians scarcely see the world as Christians" (107) but have patterns of thought induced by the scientific worldview and not by Christianity. It is also due to ignorance of Christian theology and Christian philosophy, resulting in a failure "to see the *pattern* of our authentic commitment and its wide ramifications" (108). Indeed, Christian theology and philosophy must stand at the centre of Christian scholarship since "it is in these two disciplines that the Christian scholar engages in systematic self-examination" (108).

Pure Theory and Praxis-Oriented Theory
In the West there is a long tradition that "scholarship is justified by the value of the noncognitive effects and utility of the knowledge attained" (praxis-oriented theory) and also a long tradition "of those who hold that some of it at least is justified simply by the inherent value of the cognitive states of consciousness it yields" (pure theory; 125). But these justifications of theorizing operate at a "second level". At the "first level" the scholar invokes "choice-principles" to determine the direction of their investigations, whether to adopt a pure theory or a praxis-oriented theory approach. For example, the choice-principle "that certain cognitive states of consciousness are of inherent worth" (128) might serve to determine the direction of a scholar's inquiries, namely to "choose those directions of inquiry which hold the greatest promise of yielding cognitive states of intrinsic worth" (129).

With respect to pure theory the *Pythagorean justification* is often invoked, that theoretical knowledge itself produces self-improvement. Some vary this viewpoint by maintaining it doesn't even matter if any theoretical knowledge is attained since it is the process, not the product, which produces self-improvement, e.g. the *Aquinian justification* that "some learning… is justified by the inherent worth of the cognitive states which result" (119), though Aquinas, Augustine and Kant believed some cognitive states were of more worth than others. Kant's own view that "the more complete and unified a body of knowledge" the greater the inherent worth of the knowledge so attained, "has gripped the conviction of many if not most scholars in the

Western world" (121). The *Baconian justification* of theoretical knowledge is that the value of knowledge lies in its power to change one's circumstances and this has "so firmly gripped the conviction of Western man" (124) that we go beyond merely applying the power of *technological* knowledge to change *physical* circumstances, but also seek to apply *behavioral* knowledge to changing the actions of other *humans* in accord with our goals.

Many accept that pure theory and praxis-oriented theory complement each other, e.g. "by claiming that more technologically beneficial knowledge is likely to result if there are a number of researchers who direct their investigations with no regard to technological benefit" (130). The decision concerning which matters to investigate involves the scholar assessing the priority of the one against the other when it comes to weighing pure theory and praxis-oriented theory[6]. For both the intrinsic worth of knowledge and the beneficial results and utility of knowledge have legitimate claims on him (133). Wolterstorff maintains that the Christian scholar will assess the relative weight of pure theory and praxis-oriented theory by applying the following choice-principle: "deciding which holds the most promise of contributing most substantially to the cause of in-justice shalom[7]" (133-134). This end of seeking shalom is distinguished from the intellectual elitism of Augustine and Aquinas who saw the intellectual contemplation of God as the key to union with God, the summit of human happiness. It is also distinguished from the world-humanising emphasis of the traditional Protestant view which fails in three respects: (1) "That the scholar must consider the needs of his fellow human beings in directing his scholarship is never recognized" (141); (2) "...that *particular* mode of the scholar's service to his fellow human beings which consists in his aiding in the cause of lifting the burdens of deprivation and oppression imposed by his fellow human beings goes unnoticed" (141-142); and (3) "In lordly fashion the scholar remains above the strife, 'developing culture,' writing his books while the Reichstag burns" (142(. Consequently, "the Protestant view, by virtue of ignoring these factors, has all too often encouraged the irresponsible pursuit of pure theory when praxis-oriented theory was called for", treating culture as something "removed from history and from society", as "a 'world' of its own" (143).

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[6] In Chapter 22 Wolterstorff explains why he does not accept the cynical view of those who claim the existence of pure theory is an illusion; that those who claim to seek knowledge for its own inherent worth are actually seeking to perpetuate "the position of privilege and power enjoyed by themselves and their class" (145). Wolterstorff concedes this is very often correct and argues, however, that this will be avoided if the scholar, in making a responsible decision on the priority of pure theory vs. praxis-oriented theory, does so as a *self-conscious* scholar, looking especially to the Bible, "that great masker of deceit", as the superlative path to self-consciousness, while also attentive to the cries he hears from those who claim deprivation and oppression.

[7] Here Wolterstorff is going beyond the question asked by the Westminster Divines, namely "What is the chief end of man?", with the answer, "To glorify God and enjoy him forever." His question is: "What is God's goal for human existence, to which human beings are called to contribute?" By "in-justice shalom" Wolterstorff means that the "goal of human existence is that man should dwell at peace in all his relationships: with God, with himself, with his fellows, with nature, a peace which is not merely the absence of hostility, though certainly it is that, but a peace which at its highest is *enjoyment*." It is understood that a "condition of shalom is justice", though shalom is greater than justice: "Justice can be grim. In shalom there is delight" (114).