

Faith and Philosophy: Journal of the Society of Christian Philosophers

Volume 10 | Issue 2

Article 1

4-1-1993

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Recommended Citation

Koons, Robert C. (1993) "Faith, Probability and Infinite Passion: Ramseyian Decision Theory and Kierkegaard's Account of Christian Faith," *Faith and Philosophy: Journal of the Society of Christian Philosophers*: Vol. 10 : Iss. 2 , Article 1.

DOI: 10.5840/faithphil199310234

Available at: <https://place.asburyseminary.edu/faithandphilosophy/vol10/iss2/1>

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FAITH, PROBABILITY AND INFINITE PASSION: RAMSEYIAN DECISION THEORY AND KIERKEGAARD'S ACCOUNT OF CHRISTIAN FAITH

Robert C. Koons

I propose an account of Christian faith, inspired by Kierkegaard's *Concluding Unscientific Postscript*, according to which (1) belief involves a relation to factual religious propositions, but (2) the strength of religious belief is measured, not by the degree of one's confidence in the truth of these propositions, but rather by the degree to which the desirability of possible states of the world is affected by whether they include the truth of these propositions. I will defend this Kierkegaardian view by means of two mathematical tools developed in the twentieth century: Frank Ramsey's decision theory, and Robinson's theory of hyper-real numbers. I hope to show that Kierkegaard's hypothesis that Christian faith is an infinite passion can be formulated precisely and shown to be mathematically coherent.

The logical treatment of the nature of religious belief (here I will concentrate on belief in Christianity) has been distorted by the acceptance of a false dilemma. On the one hand, many (e.g., Braithwaite, Hare) have placed the significance of religious belief entirely outside the realm of intellectual cognition. According to this view, religious statements do not express factual propositions: they are not made true or false by the ways things are. Religious belief consists in a certain attitude toward the world, life, or other human beings, or in what sorts of things one values. On the other hand, others (such as Swinburne¹) have taken religious belief to include (at least) being certain of the truth of particular factual religious propositions. The strength of a person's religious belief is identified with his degree of confidence in the truth of those propositions, measured by the *subjective probability* which those propositions have for that person. I propose a third alternative, according to which, (1) contrary to the first view, religious belief does involve a relation to factual religious propositions, such as that God exists, that Jesus was God and man, etc.,—propositions which are made true or false by the way things actually are—but, (2) contrary to the second view, the strength of



religious belief is measured, not by the degree of one's confidence² in the truth of these propositions, but rather by the way in which the value or desirability to oneself of the various ways the world could be is affected by their including or not including the truth of these religious propositions. Thus, religious belief does consist in what one values or prizes, not in what one takes to be probably true, and yet this does not deprive the distinctive propositions of theology of their factual significance.

This third alternative was articulated by Kierkegaard, most explicitly in his *Concluding Unscientific Postscript*.³ I will defend this Kierkegaardian view by means of two mathematical tools developed in the twentieth century: decision theory, originating in the work of Frank Ramsey in the 30's, and the theory of hyper-real numbers (also known as "non-standard analysis"), developed by Abraham Robinson in the 60's. I hope to show that Kierkegaard's hypothesis that Christian faith is an infinite passion can be formulated precisely and shown to be mathematically coherent and scientifically plausible. I will also point out a connection between this view and recent work on an anti-foundationalism epistemology of religion by Alvin Plantinga, and I will discuss the implications of this sort of theory of faith for Christian apologetics.

1. Ramseyian Decision Theory

In a paper entitled "Truth and Probability,"⁴ Frank P. Ramsey sought to provide an operational or behavioral definition of the notion of 'degree of belief' or 'degree of confidence of truth,' as well as the correlative notion of 'desirability' or 'utility' or 'subjective value.' Ramsey imagines an idealized experimental set-up in which both the degrees of belief of the experimental subject in various propositions, i.e., the subject's 'subjective probability function,' and the degrees of desirability which the subject attaches to the states of affairs represented by such propositions, i.e., the subject's 'utility function,' may be measured. Ramsey imagines that the subject is confronted by what he (the subject) believes to be an omnipotent and totally trustworthy Bookie, who offers the subject a series of choices between pairs of options. Some of these options come in the form of simple bets: e.g., an option which might be offered to the subject might be: α if p is true; otherwise, β . If the subject's choices conform to certain principles of mutual coherency (plus an axiom of mathematical continuity, which, as we shall see later, is quite a big assumption), then there exists a unique representation of the subject's state of mind in terms of a probability function taking as its values real numbers in the interval from 0 to 1 and a utility function taking real numbers as its values.⁵

Ramsey's all-powerful Bookie is merely a vivid metaphor for the uncertainties of the world confronting any human agent. We act because we believe that our actions will change in some way the probability-of-occurrence of

conditions or states of affairs to which we assign positive or negative value. The choices made by a reflective, psychologically stable agent will reflect that agent's assessment of the various possible outcomes and his degree of belief in the various propositions of the form: if I do A, B will result. Ideally, we can, from a large number of observations of the agent's choices, reconstruct the underlying probability and utility functions guiding those choices.

Ramsey's method can be illustrated by the following step-by-step procedure. First, we must define what Ramsey calls an "ethically neutral proposition." Proposition p is ethically neutral for our subject just in case he does not care at all whether this proposition is true. A proposition like 'there are an even number of hairs on Dan Quayle's head' would be ethically neutral for just about anyone. Second, we must find an ethically neutral proposition which the subject believes with a subjective probability of exactly $1/2$. We can tell that p has a probability of $1/2$ for him if there are two states of affairs α and β ⁶ such that he prefers α to β but he is indifferent between the gamble α if p , otherwise β , and the gamble β if p , otherwise α . For example, my subjective probability that Dave will beat Mike at tennis is exactly $1/2$ if I'm indifferent between choosing a ticket which pays \$1 if Dave wins, nothing if Mike does, and a ticket which pays \$1 if Mike wins, nothing if Dave does (assuming that I prefer to be \$1 richer).

Once we've found a proposition believed with probability $1/2$, we can use this proposition to calibrate the subject's utility or desirability scale. A gamble which offers (what the subject takes to be) a 50% chance of α and a 50% chance of β will have a value to that subject which is exactly the average of the values of α and β . If the subject is indifferent between such a gamble and a state of affairs γ , then the value of γ must lie exactly half-way between the values of α and β . Once we arbitrarily fix the origin and unit of our utility scale, all possible states of affairs can be assigned a definite numerical value using this method.

Given this utility scale, we can now determine the subject's probability function, assigning a numerical probability-value to every proposition (including those which are not ethically neutral). Suppose we are trying to measure the subjective probability for the agent of the proposition p , and suppose we find states of affairs α , β and γ such that the agent is indifferent between the option of α -for-sure and the gamble: β if p , otherwise γ . Assuming that the agent always chooses by selecting the option with the greater expected value (if there is one), this means that the expected value of the gamble is equal to the value of α .⁷ Letting α , β , and γ stand for their own utility values, and letting p stand for its own subjective probability, we get the equation:

$$\alpha = p \cdot \beta + (1 - p) \gamma$$

Solving for p :

$$p = (\alpha - \gamma)/(\beta - \gamma)$$

On this basis, it is possible to prove that degrees of belief, so defined, must satisfy the axioms of classical probability theory.

Besides assuming the existence of an ethically neutral proposition believed to degree $1/2$, Ramsey assumes seven other axioms concerning the choices of the experimental subject in order to prove that this procedure will enable us to assign unique real numbers as the values of the subject's probability and utility function. Four of these axioms stipulate that the subject's choices are mutually coherent. Two others can be thought of as insubstantial idealizations, stipulating that for any real number there is a state of affairs with exactly that value. The last assumption, the axiom of Archimedes, falls under neither of these categories. It is a substantial assumption about the subject, and one which it would not be incoherent for the subject to violate. Archimedes' axiom is the assumption that any non-empty collection of values which has an upper bound has a lowest upper bound. This amounts to the denial that there are infinitely large differences between values. Especially in the context of a study of religious belief, where ultimate values are at stake, this is a very dangerous assumption to make.

In the *Concluding Unscientific Postscript*, Kierkegaard characterized faith as an infinite passion.⁸ By 'passion,' Kierkegaard clearly has in mind something like desire or striving. It is clearly the impetus of personal decision-making.⁹ Therefore, we could plausibly interpret Kierkegaard as claiming that reconciliation with God has infinite value for the religious believer, that is, a value which is infinitely greater than the value of any state of affairs which is lacking this crucial feature. Kierkegaard also claims that the degree of probability of Christianity is irrelevant to the believer (so long as it is greater than zero, so long as it is at least taken to be possibly true). Ramseyian decision theory, once it is modified to permit infinite values, can be used to support Kierkegaard's conclusion.

2. Infinite Values and Hyper-real Numbers

In the 1960's, Abraham Robinson used the techniques of mathematical logic (especially those developed by Skolem and Henkin) to rehabilitate Leibniz's intuitive theory of infinitesimals. Robinson showed how a theory which postulates infinitely large and infinitely small ('infinitesimal') quantities can be made mathematically rigorous. This achievement has great, and as of yet, largely unrealized, significance for the theory of subjective probability and subjective value. As I mentioned above, Ramsey had no justification for excluding the possibility of infinite differences in value; he simply lacked the mathematical tools for making sense of such a possibility. Consequently,

he used Archimedes' axiom to sweep the problem away. Robinson's non-standard analysis should enable us to do better.

In non-standard analysis, besides the usual real numbers, there are also what are known as 'hyper-real numbers.' Some of these numbers are infinitely large, some are infinitely small (the infinitesimals), and some are infinitely close to finite real numbers. Among the infinitely large real numbers, there are pairs of such numbers which are only finitely far apart, and there are pairs which are infinitely far apart. In fact, it is possible to find an infinite series of hyper-real numbers, each of which is infinitely larger than its predecessor. Likewise, it is possible to find an infinite series of infinitesimals each of which is infinitely smaller than its predecessor.

The combination of Ramseyian decision theory with non-standard analysis we can call 'non-standard decision theory.' To illustrate the relevance of non-standard decision theory to the study of religious belief, let me produce a more concrete example. Let p be the proposition that I enjoy forever the beatific vision. Suppose that the difference between the value to me of any state of affairs α which includes the truth of p and the value and any β which includes the falsity of p is infinitely greater than the difference between the value of β and that of any other state of affairs which includes the falsity of p , and infinitely greater than the difference between α and any other state of affairs which includes the truth of p . In such a case, we could say that the beatific vision is an object of infinite passion for me. If we try to use Ramsey's method to measure my degree of belief in p , we run into immediate trouble. Let's assume that the subjective probability of p for me is measurable by Ramsey's method. Then we can find states of affairs α , β , and γ such that I am indifferent between α -for-sure and β if p , otherwise γ . For the gamble to make sense, β must include the truth of p , and γ must include the falsity of p . State α includes either the truth or the falsity of p . Suppose α includes the falsity of p (so, in α I don't enjoy the beatific vision). As we have seen, the probability of p is the ratio of $\alpha - \gamma$ over $\beta - \gamma$. Because the second difference is infinitely greater than the first (since only in the first case is the beatific vision at stake), this means that the probability of p must be infinitesimal. In other words, I could be indifferent between a state α in which I don't enjoy the beatific vision and a gamble which leaves my chances of enjoying the beatific vision unaffected only if my estimate of the probability that I will enjoy the beatific vision is infinitesimal. Suppose instead that α includes the truth of p . Then both $\alpha - \gamma$ and $\beta - \gamma$ are infinitely greater than $\alpha - \beta$, and so the probability of p must be infinitely close to 1. Therefore, the probability of p is measurable by Ramsey's method only if it is infinitely close to zero or infinitely close to 1.

Suppose that the probability of p for me is not infinitesimal. Then there is

no way that we can find a state α including the falsity of p which I will prefer to a gamble which leaves my chances of enjoying the beatific vision unaffected. If the probability of p is also a finite distance from 1 (absolute certainty), then we run into the problem that we cannot find a state α including the beatific vision which has a low enough value to enable us to use it in measuring my confidence in p . A slight modification of Ramsey's method, however, will overcome this problem. All we must do is find two different gambles between which I am indifferent: α if p , otherwise β , and γ if p , otherwise δ . If the probability of p is not exactly $1/2$, we can use the values of α , β , γ , and δ to measure the probability of p . Since I am indifferent between the two gambles, their expected utilities must be equal:

$$p\alpha + (1 - p)\beta = p\gamma + (1 - p)\delta$$

Solving this equation for p yields the following equation:

$$p = \frac{\delta - \beta}{(\alpha - \gamma) + (\delta - \beta)}$$

This solves the problem we just encountered, because now both options include a mixture or weighted average of the value of the beatific vision and of the value of its loss. However, there is one more aspect of the impact of religious passion upon the scale of values discussed by Kierkegaard which we must consider. Kierkegaard describes Christian faith as involving a "double movement" or "double reflection" of the spirit,¹⁰ and so far I have only taken into account the first movement, the movement of resignation. The movement of resignation consists in the fact that all differences between merely worldly goods shrink to the vanishing point in comparison with the value of being related to God. I have represented this movement by stipulating that the difference between enjoying the beatific vision and not enjoying it is infinitely greater than any other difference in value.

The second movement of the spirit, the movement of faith proper, is the movement by which the affairs of this life, the details of finite history, assume a new, infinite significance as a result of the promises of God. Although the value outside God of worldly affairs remains infinitesimal, they take on a new value inside God for the believer. The tasks and responsibilities of ordinary life take on an infinite significance as opportunities to serve God. This second movement of the spirit can be represented in non-standard decision theory in the following way: if α and β include the existence of a real God to whom I am related by faith, and γ and δ exclude the existence of such a God, then, if α and β have different values at all, the difference between α and β is infinitely greater than the difference between γ and δ . In other words, the supposition of the existence of God infinitely magnifies the differences

between values which are at stake as compared to the differences between possible states of affairs in which God is supposed to be absent.

If we suppose the believer's utility function to reflect both of Kierkegaard's "movements of the spirit," what happens to the operational or behavioral significance of my degree of belief in the truth of Christianity? *So long as my degree of belief in Christianity is finite and greater than zero, my degree of belief has absolutely no behavioral significance!* If I am indifferent between a gamble of α if p , β otherwise, and one of γ if p , δ otherwise [where 'p' now represents the existence of the Christian God], then the probability of $p = (\delta - \beta)/[\alpha - \gamma + (\delta - \beta)]$, as I calculated above. But now we're supposing that the difference $\alpha - \gamma$ is infinitely greater than the difference $\delta - \beta$. Consequently, the probability of p must be infinitesimal. If it is not in fact infinitesimal, then that means that we will be unable to find two gambles of this kind between which I will be indifferent, and the probability which p has for me will not be measurable by Ramsey's method. In other words, the value which my degree of belief in Christianity actually takes will have absolutely no behavioral significance.

Thus, the distinguishing feature of faith is not that the difference between eternal salvation and loss is infinitely greater than the difference between any two this-worldly values (the crux of Pascal's wager), but that the introduction of God magnifies infinitely the differences in value between this-worldly matters, as compared with the differences that would exist for the believer in the absence of God. By saying that the introduction of God magnifies the differences in value between the various states of this world, I do not mean to imply that the relative value of these states is unaffected by this process. What I judge to be important and valuable, given the supposition that God exists, and what I would judge to be important, given the contradictory supposition, would of course be quite different. Acts of kindness toward my wife would be relatively important on either suppositions; acts of Christian witness relatively more important on the second than the first.

3. A Kierkegaardian Account of Faith

What I am supposing to be characteristic of the values of the believer is this: any difference in value between possible states of the world in which the existence of God is given is infinitely greater than any difference between possible states of the world from which God is absent. Thus, as a believer, if I suppose that there is no God, then the values which are at stake whenever I make any decision, no matter how momentous or how trivial, are infinitesimal in comparison to the values which would be at stake were I to suppose the existence of God (here, it is the "God of Abraham, Isaac, and Jacob," the "God and Father of our Lord Jesus Christ" who matters). Every decision, no matter how trivial the matter, is for the believer of infinitely greater signifi-

cance given his existence than it would be given his absence, because, given the existence of God, every decision affords the opportunity of serving God, of drawing closer to Him, of bearing fruitful witness to the world of His love.

This same analysis can be used to construct a response to the Pyrrhonian skeptic, the skeptic who calls into question the existence of a world outside one's own perceptions. The application of this analysis to skepticism about the "external world" can shed some light on its analogous application to the skeptic about religion. A sensible, man-in-the-street response to the Pyrrhonian skeptic might go something like this:

If solipsism, the non-existence of the external world, were really true, then nothing I care about deeply would be at stake in any of my decisions. My own real health and prosperity, the real welfare of my family and friends, the real success of projects and institutions with which I have identified myself—these things are infinitely more important to me than a mere succession of appearances in my own mind. Therefore, so long as there is the slightest chance that this external world familiar to me through my senses really exists, it is rational for me to base all my decisions on the hypothesis that it does exist, to act, in fact, as if I were absolutely certain of this hypothesis.

This is not a refutation of skepticism, but it is a compelling response to Pyrrhonian skepticism, to the skeptic who believes that one's doubt should have behavioral implications. The academic skeptic who, like Hume, recognizes the impossibility of demonstrative knowledge of the principles of common sense but who acts like other men as though he were certain of them is untouched by this analysis. Likewise, decision theory points out the irrationality (for the believer) of Pyrrhonian skepticism about religion but leaves the academic counterpart unscathed.

It is plausible, however, to suppose that every difference in value which presupposes God's existence is infinitely greater for the believer than any difference which presupposes His non-existence? For example, does the difference between my eating a candy bar this afternoon and my not eating one really take on infinitely greater significance once the existence of God is assumed? I think the answer is clearly, Yes. Anyone who is sure that the answer must be No or who is bewildered at how this can be so exhibits a fundamental failure to comprehend the significance of God for the believer. Whatever the believer does, no matter how trivial it may be in worldly estimation, is something which is either done "unto the Lord" (for the glory of God, for the deepening of the believer's relation to God) or is done at the cost of missing an opportunity to do this, and every good which is received as a blessing from God. If a candy bar provides some atom of innocent pleasure, the significance of that pleasure is infinitely magnified by supposing it to be a gift from God, a token of His love. If a choice concerns the disposition of some minute resource, its significance is infinitely magnified by supposing the disposition of this resource to be a responsibility of a

divinely-commissioned stewardship. I don't mean to suggest that the believer agonizes over every trivial decision, worrying about which course of action possesses this infinite value. A believer in such a state represents a pathological condition of faith. Rather, the normal believer joyfully seizes every opportunity to act as an opportunity to walk with God.

Isn't it wildly implausible, though, to suppose that the difference between two barely distinguishable pleasures for one creature, on the supposition that God exists, is infinitely more important to the believer than whether or not millions of innocent people suffer horrible deaths, on the supposition that God does not exist? Surely the intrinsic value difference in the latter case, quite apart from any theological aspects, is greater than the difference in the former case, whatever its theological ramifications.

Frankly, I am unmoved by this objection. The significance of the death of innocent persons, as compared with other matters, is increased, not diminished, by the supposition of the existence of the Christian God, since this supposition entails that all persons are created in the image of God and endowed by God with the right to life. I am only claiming that for the believer, the supposition of the truth of the Christian story confers upon all matters a magnitude of significance which is infinitely greater than whatever intrinsic significance they may have had, apart from their relationship to God.

From the perspective of faith, every finite value is radically relativized and conditioned. That is, the new value which a finite condition obtains in relation to God overwhelms, by its infinitely greater magnitude, any significance which that condition might have had in isolation from God. To treat the intrinsic (God-independent) differences in value of finite conditions as equal in magnitude to the differences they acquire in relation to the will and the glory of God is to be guilty of idolatry (in its most general form).

However, if you are unpersuaded that the supposition of God's existence can make such an infinite difference to the value of trivial matters of taste and preference, it is possible for me to adopt a somewhat weaker claim, without substantially altering the account of faith offered here. I could claim that, whenever God's existence makes any difference at all to the relative values of two states of affairs, it makes an infinitely great difference. This would enable me to concede that some matters, those for which the existence or non-existence of God has no bearing, remain of only finite significance, even on the supposition of God's existence. Perhaps God's existence makes no difference at all to the relative value of eating a candy bar or an ice cream cone. In that case I could admit that the difference between the two states of affairs, even given the existence of God, is less significant than some more important issue, even given God's non-existence.

Let α be the value of eating the candy bar in a world in which God exists, and β be the value of eating the same bar in a godless world. Let γ be the

value of eating the cone in a world in which God exists, and δ be the value of the same state in a godless world. Since by hypothesis, God's existence makes no difference in this case, $\alpha - \gamma$ is equal to $\beta - \delta$. Hence, $(\alpha - \gamma) + (\delta - \beta)$ is equal to zero. Returning again to the Ramsey equation discussed above,

$$p = \frac{\delta - \beta}{(\alpha - \gamma) + (\delta - \beta)}$$

we can see that p , the subjective probability of God's existence, cannot be measured, since the denominator of the equation is equal to zero. Thus, this concession would not change the fact that the believer's subjective probability of God's existence lacks behavioral significance.

The Kierkegaardian account of faith, as I have construed it, consists of the claim that the following two conditions are both necessary and sufficient conditions for faith in Christianity: (1) the subjective probability of Christianity is finite and non-zero,¹¹ and (2) the difference between any two states of affairs including the truth of Christianity is either zero or is infinitely greater than the difference between any two states of affairs excluding the truth of Christianity. Is there any reason to think that these two conditions are really necessary? Suppose the subjective probability of Christianity for someone is greater than one-half, but he does not satisfy the second condition above. Would it be right to say that he lacks faith? I think so. Unless the subjective probability of Christianity is one (or infinitely close to one), such a person will bring a certain kind of *calculation* to every decision of life, weighing whether each sacrifice is warranted, given the subjective probability of Christianity for him, which kind of calculation is incompatible with an attitude of genuine faith. Such a person's commitment to acting as if Christianity is true is heavily qualified and hedged. This hedging will not characterize one for whom the subjective probability of Christianity is one, but I do not think that such epistemic certainty is at all typical of the Christian believer. Moreover, the rationality of such absolute certainty is incompatible with the doctrines of the hiddenness of God and the obscurity to our present faculties of His revelation (I Corinthians 13).

Are the two Kierkegaardian conditions really *sufficient* for the existence of faith? Why not add that a believer must, in addition to those two conditions, meet the further condition of having a subjective probability of at least one-half that Christianity is true? As I demonstrated above, given that one meets the two Kierkegaardian conditions, whether one's subjective probability of the truth of Christianity takes any particular finite value has absolutely no behavioral significance. There are two ways to take this fact. Firstly, one could suppose that Ramsey's method provides an operational *definition* of the notion of 'subjective probability.' In this case, one would conclude that it makes no sense to ask whether a Kierkegaardian believer's subjective

probability of the truth of Christianity is greater or less than one-half. Of course, if the claim that it is greater than one-half makes no sense, then one cannot add this as a third condition to be met. Alternatively, one could suppose that 'subjective probability' refers to some underlying cognitive state which is partially but not exhaustively revealed in behavior. (I prefer this second option.) In this case, it does make sense to ask whether the person who meets the two Kierkegaardian conditions also assigns Christianity a subjective probability greater than one-half. Ramsey's method gives the operational significance of, but does not define, 'subjective probability.'

Nonetheless, no component of the definition of faith can lack behavioral significance, and, therefore, the two Kierkegaardian conditions are sufficient, since any further condition would be lacking such significance. In each of the three passages in the New Testament in which the nature of faith is set forth (Romans 4, Hebrews 11, James 2), the emphasis is on faith as demonstrated by action. This doesn't entail that we should identify having faith with displaying any sort of pattern of behavior, but it does indicate that the reference of 'faith' is fixed¹² in the Biblical tradition by presenting certain paradigmatic cases of faith-determined action. In other words, one can think of the biblical authors as offering the following sort of "definition" of faith:

Faith = that state of mind (whatever it may be) which caused Abraham to be willing to sacrifice Isaac, and caused Rahab to hide the Israelite spies in her home, etc.

If Abraham, Rahab, and the other heroes of faith satisfied the two Kierkegaardian conditions (as I believe they did), then any further condition pertaining to their subjective probabilities can be no part of faith, since no such condition would have any role in explaining why Abraham bound Isaac, why Rahab hid the spies, etc.

Of course, faith is also displayed by verbal action, e.g., by confessing the creed. Can one who meets the two Kierkegaardian conditions but for whom the subjective probability of Christianity is quite low confess without hypocrisy, "I believe in God the Father, maker of heaven and earth..."? To think that he cannot do so is to beg the very question at issue, *viz.*, does belief (in this context) have anything to do with the relevant subjective probability's being greater than one-half? If the two Kierkegaardian conditions are sufficient for faith, then one who meets them may truthfully confess, "I believe." Moreover, such a person should not hesitate to assert the truth of these theological propositions, since the significance of truth-telling is, along with all other values, radically dependent for him upon the truth of these very propositions.

Moreover, even if there does exist such a real cognitive state which is the subjective probability of the creed for the believer, this state is a highly theoretical object. Lacking any behavioral significance, it might also lack

introspectibility and indeed any sort of phenomenological trace. In fact, it seems quite reasonable to suppose that the state of faith would be phenomenologically indistinguishable from certainty, since the propositions of the Christian faith guide the believer's actions in exactly the same way they would if their subjective probability were one. The Christian faith provides the believer with a frame of reference within which all decisions are made: its degree of probability is never a relevant issue and thus naturally fades from view. The only residual effect of a low subjective probability might be the ability to recognize, as many Christians have, that the evidence for the truth of Christianity is, objectively speaking, quite inconclusive. But such a recognition is surely compatible with a sincere profession of the creed.

Finally, I want to reiterate and make quite clear that I am not giving an anti-realist, anti-metaphysical, deflationary account of the content of theological propositions. The cognitive content of the creed is not to be identified with its functional significance in the life of the believer—with, for example, the way in which it figures in the structure of the believer's utility function—, any more than it is to be identified with the means of verifying it. Recent work in philosophical logic, pioneered by Keith Donnellan and Saul Kripke, has produced what is known as the "causal theory of reference."¹³ This theory makes intelligible the possibility that the content of our beliefs transcends the function which those beliefs have in the internal economy of the human mind. In fact, I would argue that a deflationary, anti-metaphysical account of the content of theological propositions would make it unintelligible how such propositions could have the role they do in structuring the utility function of the believer. It is precisely because God is conceived of as a transcendent, infinite Being, the Creator and Redeemer of the world, that the supposition of His existence can make such an infinitely great difference to the believer's assessments of value.

I would like to conclude this section by comparing my account with some recent work by Alvin Plantinga on the epistemic status of religious beliefs. Plantinga has argued that there is no sustainable objection to the claim that the central propositions of theism and even of Christianity may be "properly basic" for the believer, that is, that the believer is well within his "cognitive rights" in accepting such propositions as true without any evidence or reason. He has quite effectively refuted efforts by defenders of a Cartesian or empiricist foundationalism in epistemology to demonstrate that such propositions as 'God exists' may not be included in the cognitive foundations of a rational individual. In later work, Plantinga has identified belief in these theological propositions with the state in which these propositions have a subjective probability of one. In contrast, on my account beliefs (including properly basic beliefs) would come in two kinds: those which are epistemically grounded (having a subjective probability of one, or infinitely close to

one), and those which are pragmatically grounded (propositions with respect to which the individual meets the two Kierkegaardian conditions). As I argued above, Plantinga's view that religious propositions are epistemically grounded for the believer conflicts with the doctrines of the hiddenness of God in the present age.

A defender of Plantinga might respond that my account accounts badly for the phenomenology of religious belief. The Christian believer does experience a kind of assurance or certainty of the truth of Christianity. Nonetheless, this experience can be plausibly accounted for by my account. The experience of certainty comes about as a result of a process of framing. When one acts habitually and constantly as if Christianity were true, when one consistently ignores all contrary possibilities in reaching any decision, the truth of Christianity provides a kind of frame within which all cognitive activity takes place. Typically, Christianity will be experienced as having the same quality as any proposition whose probability conditional on the frame is one. This will, of course, include all those propositions whose absolute subjective probability is one. Thus, the phenomenological similarity of pragmatically and epistemically grounded beliefs. At the same time, it is important to note that there is a phenomenological difference between religious convictions and apprehensions of self-evident truths, a difference which becomes evident in times of religious crisis. At such times, the pragmatic frame provided by Christianity is called into question. It is a peculiar advantage of my account that this phenomenological difference, as well as the similarity, can be accounted for.

4. *Contrast with Pascal's Wager*

The idea of positing infinite differences in values in giving a decision-theoretic account of religious faith obviously owes a great deal to Pascal's discussion of the Wager in his *Penseés*. Nonetheless, my Kierkegaardian account of faith differs from Pascal's in two important ways. First of all, the analysis does not depend on the claim that eternal salvation is infinitely greater than any worldly value, as does Pascal's. Instead, the crucial claim is that differences in value between this-worldly states of affairs are infinitely greater for the believer on the religious hypothesis than on its denial. Kierkegaard claimed that the touchstone of faith is to bring the "God-idea" into relation with every detail of the finite world.¹⁴

Secondly, the Kierkegaardian analysis of faith does not entail the necessity of manipulating one's intellectual judgments in order to bring them into line with one's religious affirmation. Pascal argued that it was rational to sacrifice one's rationality, one's intellectual integrity, for the sake of the greater value of salvation. In contrast, on Kierkegaard's account, faith in the objectively improbable does not require any corruption of the intellect. One can have

perfect faith, all the while recognizing that what one affirms in faith is improbable on the evidence. In fact, Kierkegaard regarded the courage which is required to launch out in the venture of faith in the face of this intellectually acknowledged improbability as the principal virtue of faith. "The conclusion of belief is not so much a conclusion as a resolution, and it is for this reason that belief excludes doubt."¹⁵

5. Implications for Apologetics

One function of traditional apologetics remains crucial on my account: the task of responding to purported refutations of theism or Christianity, such as the argument from evil. If the opponent can demonstrate that Christianity is false, then its subjective probability should be zero (or at least infinitesimal) and the rationality of religious belief collapses, whatever one's utility function. Positive natural theology, the attempt to demonstrate or increase the probability of theism by appealing to its confirmation by available evidence, would, in contrast, be lacking any relevance to faith. This does not imply that such investigations may not be valuable in their own right, as a legitimate branch of science or philosophy. It simply implies that the rationality of religious belief does not depend upon such results, and would not be affected by their absence.

There still is a legitimate place for positive apologetics for Christianity and other specific religious traditions, however. The believer will be concerned about which of those traditions which are (by virtue of the believer's utility function) live options is most probable. A religious tradition is a live option for a Christian believer if the theological facts which it posits have the same order of significance for the believer as do the central facts posited by Christianity. If a competing religious tradition posits the existence of a transcendent god or gods in relation to whom the facts of mundane existence would take on the same kind of significance as they would have if Christianity were true, then the believer must choose a way of life which takes into cognizance the relative probabilities of the competing traditions.

Moreover, I would not want to go so far as to deny that the study and presentation of evidence of design and of reported miracles are of no relevance to faith in theism itself. These can help to excite wonder and awe, to fix in the mind a conception of the majesty and grandeur of God which would otherwise be missing. And, it is only by forming the conception of the possibility of such a wonderful God that the transformation of the utility function which constitutes the second component of faith may be effected.

The principal implication of my account is, not that the intellectual estimation of probabilities be downplayed, but that the affective appreciation of value be given its right of place. This should not be understood as any kind of romantic rebellion against reason or the intellect, as a leap into irrational-

ity, subjectivity, or the unrestrained will-to-believe. In fact, religious belief as I conceive it conforms to the very paradigm of sober rationality: the calculus of decision theory. Nor is there any unleashing of idiosyncratic subjectivity. The judgments of infinite differences in value which lie at the root of religious belief are not unreasonable or idiosyncratic. Admittedly, modern decision theory, with its origins in Hobbes and Bentham, was conceived in the sin of a purely subjective theory of value. However, this subjectivism is not essential to the mathematical tool itself. One can argue that is unnatural and unreasonable not to assign values in such a way as to support Christian belief. Such argument would be one of the central tasks of Christian apologetics, as I conceive it.

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NOTES

1. Richard Swinburne, *Faith and Reason* (Oxford: Clarendon Press, 1981), Chapters 1 and 4.

2. As will be apparent in the next section, I have in mind a very specific notion of 'the degree of confidence in the truth of a proposition.' By claiming that the strength of religious faith is not essentially connected to this degree of confidence, I am not denying that a certain feeling of assurance typically (or even essentially) accompanies strong faith. In the final section, I try to give some explanation of the phenomenology of this feeling.

3. Søren Kierkegaard, *Concluding Unscientific Postscript*, translated by David F. Swenson (Princeton: Princeton University Press, 1944).

4. Frank P. Ramsey, "Truth and Probability," in R. B. Braithwaite, ed., *The Foundations of Mathematics* (New York: Routledge & Kegan Paul, 1931), pp. 156-98; reprinted in P. Gardenfors and Nils-Eric Sahlin, eds., *Decision, Probability, and Utility* (Cambridge: Cambridge University Press, 1988), pp. 19-48.

5. The resulting representation of the utility function is not actually unique, but any two acceptable representations will be such that one is a linear transformation of the other.

6. Ramsey's states of affairs are complete descriptions of a way the world could be. Thus, for any state of affairs α and any proposition q , either the truth or the falsity of q is included in α .

7. The value of a gamble is the mathematical expectation of the value of the possible outcomes. That is, we average the values of the possible outcomes, assigning proportionately greater weight to those outcomes with greater probability. Since α is valued to exactly the same degree as the gamble in question, we can identify the value of α with the value of the gamble.

8. Kierkegaard, *Postscript*, p. 181.

9. *Ibid.*, p. 182.

10. Kierkegaard, *Postscript*, pp. 363-71, 423, 435; and Søren Kierkegaard, *Fear and*

Trembling: A Dialectical Lyric by Johannes de Silentio, translated by Robert Paynes (Oxford: Oxford University Press, 1939), pp. 39-59, pp. 158-65.

11. Strictly speaking, it is not necessary that this probability be finite. It could be an infinitesimal ϵ , so long as ϵ is infinitely larger than the ratio between the largest difference in value between God-less states of affairs and the smallest difference in value between God-including states of affairs.

12. Saul Kripke, *Naming and Necessity* (Cambridge, MA: Harvard University Press, 1978).

13. Kripke, *Ibid.*; Keith Donnellan, "Proper Names and Identifying Descriptions," in D. Davidson and G. Harman, eds., *Semantics of Natural Language* (Dordrecht: D. Reidel, 1972), pp. 356-79.

14. Kierkegaard, *Postscript*, p. 423.

15. Søren Kierkegaard, *Philosophical Fragments*, translated by David F. Swenson (Princeton: Princeton University Press, 1936), p. 69.