

PASCAL'S WAGER

Introduction to Philosophy

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Blaise Pascal (1623-1662) was a 17th century French physicist, mathematician, inventor, theologian, and philosopher, as well as a contemporary of René Descartes. He was a world class mathematician who developed probability theory and laid the groundwork for the branch of mathematics/economics known as decision theory.

Pascal was a child prodigy educated by his mathematician father. When Pascal was only 16 he wrote his first major mathematical study and continued making contributions to probability theory, number theory, and geometry for the rest of his life. However, on November 23, 1654 when Pascal was 31 he had a profound religious experience that affected him deeply. The experience was so moving that Pascal wrote about it and had the document sewn into the lining of his clothes so that he would be reminded of the event.

His most famous writings are called the *Pensées* (or Thoughts). Pascal intended these writings to be a defense of the Christian religion. When Pascal died the writings were unfinished and fragmented. Various editors worked hard to determine Pascal's original intent and the definitive edition of the *Pensées* by Louis Lafuma was finally published in 1952. The *Pensées* describes the human condition by discussing how people deal with and react to ordinary circumstances. The sixth and seventh sections investigate how people can find truth and happiness.

In sections 418 and 233 Pascal tries to prove that it can be reasonable to believe that God exists even if no proof can be found to establish that this is true. The main idea behind Pascal's reasoning is that either God exists or he does not. A person may believe in God's existence or not. If God does exist, then the believer receives an eternal and infinitely happy life in Heaven. If God does not exist, then nothing is really lost even if one does believe that God exists. The reasonable gamble then is to believe God exists since if the belief turns out to be true, then one receives an infinitely valuable reward and loses little otherwise. Remaining an unbeliever is to take an infinitely unreasonable risk merely because it is unknown which alternative (God exists or not) is true.

Pascal argues in his wager reasoning that it can be reasonable to believe that God exists even if there is no evidence in favor of this belief because of prudential considerations. Elliott Sober explains the differences between **evidential** reasons and **prudential** reasons in his *Core Questions in Philosophy*, p. 97. If one has a reason to think that a particular proposition P is true, then this counts as an *evidential* reason to believe that P. On the other hand, if one gains certain advantages from believing that P, then these considerations count as *prudential* reasons to believe that P. If it is in your self-interest to believe P, then this would be a prudential reason for believing. Pascal's wager argument offers believers a prudential reason in support of believing that God exists.

Pascal's wager runs as follows. Either God exists or God does not exist. The God we are talking about will give believers an infinitely happy life in Heaven upon the believer's death. No

matter what the probability or improbability is of God's existing, as long as it is not zero, the expected utility value of this choice will always be infinite. When calculating expected utilities, as Sober clearly explains on p. 99 in the box, one must multiply the expected payoff times the probability of this occurring. One does this for all four possibilities (God exists and you believe, God does not exist and you believe, God exists and you do not believe and God does not exist and you do not believe). After adding up the results one rationally chooses the belief that has the higher positive payoff.

The beauty of Pascal's reasoning here is that since the reward in Heaven has an infinite value, regardless of the probability of God's existence, as long as it is not zero, the probability of God's existence multiplied times an infinite quantity will always be calculated to produce an infinite positive value. To understand this consider taking what might seem like 50% of all of the natural numbers. For example, the set of even numbers consisting of every other number would seem to be such a set. Since we have chosen every other number to produce the set of even numbers it would seem like this is half of all of the numbers (which in a sense it is). However, when we go to compare the *number* of members in the set of all natural numbers with the *number* of members in the set of even natural numbers we discover that they have exactly the same number of elements. That is, the even natural numbers have just as many numbers in its set as the number of elements in the set of natural numbers. Because the set $\{1\ 2\ 3\ 4\ 5\ 6\ \dots\}$ can be placed into a one to one (1-1) correspondence with the set of even numbers $\{2\ 4\ 6\ 8\ 10\ 12\ \dots\}$ this can be used to establish their numerical equivalence. For each number in the natural numbers, n , there corresponds an even number, $2n$. Because each set can be paired up in a 1-1 correspondence they must have exactly the same number of elements because if they did not they could not be paired up in a one to one correspondence. Pascal knew this and so recognized that any probability (the chance of God's existing) times an infinite amount (the payoff in Heaven) will result in an infinite amount. Since the payoff is only finite if one lacks a belief in God's existence, the total value for believing in God (whether he exists or not) will always be infinitely higher than the expected utility values for lacking a belief in God's existence.

Pascal uses these mathematical ideas to prove that the expected utility of believing in God will always have a higher positive value than not believing in God. That is, according to Pascal, it will always be in one's self interest to end up with a belief in God's existence in case it turns out that God actually exists. His reasoning can be put into a chart form as follows.

	God exists	God does not exist
You believe God exists	$+\infty$	- finite
You lack belief God exists	$-\infty$ or - finite	At best + finite

When the expected utilities are calculated, regardless of what the probability of God's existing turns out to be, the highest positive value will always be to believe in God's existence and it will always be lower in the lack a belief in God's existence box.

It is important to realize that the wager reasoning is not intended to be a proof for God's existence. Pascal starts out by saying that either of the mutually exclusive claims could--for all anyone knows--be true. Hence, God could NOT exist, according to Pascal. What he strives to establish is that anyone with a belief in God's existence has the most reasonable belief from the point of view of prudential or self-interested considerations.

Equally important one needs to realize that the bottom boxes cannot be characterized as not believing that God exists. To not believe that God exists is to be an atheist. However, Pascal intends the bottom box to include also the agnostics, people who neither believe nor disbelieve that God exists. Both the agnostics and the atheists lack a belief that God exists and so all people whether they know it or not have already placed a bet on whether or not God exists. The wager is forced, according to Pascal. You cannot claim to be neutral and not participate in the debate because you will always end up on one side or the other of the fence. Fence straddling is impossible in this controversy.

OBJECTIONS TO PASCAL'S WAGER: There are two criticisms of the argument discussed by Sober. The first one Sober claims fails to be a difficulty for Pascal's wager since the objection does not affect the wager reasoning itself. This failed objection is that choosing to believe or not to believe is not something that is directly under a believer's control. Someone cannot decide to believe something simply because he or she want to. Belief does not work like this. However, Pascal recognized this and comments that a non-believer can do what others before her have done to become believers. Pascal suggests living amongst religious people and then habits of faith may permit a person to acquire the appropriate belief. In any case, as Sober points out (p. 101), Pascal was only trying to prove which belief is the best belief and not whether anyone can acquire it or not.

The second objection Sober believes is more telling. As Sober puts it, "the main problem with the wager is that it makes assumptions about God's nature that are part of one religious tradition but not part of many others. How can one tell which assumptions are true? In the absence of a convincing argument, I see no reason to think Pascal's description of the payoffs is correct." (bottom of p. 101)

I do not find this an effective objection against Pascal as stated. Let me answer Sober's question. How can one tell which assumptions are true? Pascal does not try to answer this question because *he does not need to answer it*. Pascal admits EITHER that there is such a God with these payoffs or there IS NOT. He does not have to determine which is correct. The argument goes through that belief in God is the best bet given the assumptions.

Perhaps what Sober really had in mind is better expressed with an objection I call the anti-God argument. In the anti-God argument, the objector parallels all of the reasoning used by Pascal except in the end there are more prudential considerations in favor of lacking a belief in God. It is important to notice that the beliefs remain the same but the chance of the anti-God existing is what changes. Also, if the anti-God exists, then Pascal's God cannot exist (the two Gods are incompatible and cannot exist simultaneously).

	Anti-God exists	Anti-God does not exist
You believe God exists	$-\infty$	At best + finite
You lack belief God exists	$+\infty$	At worst - finite

If the anti-God exists, then lacking belief in God is what gives one an infinite payoff and this will be a higher positive number than if you believe in God since the anti-God only rewards non-believers in God's existence with an infinite payoff in Heaven. For all we know, and this must be Sober's real point in his second criticism, the anti-God could just be God. The real God will not reward people who merely believe him in for no good reasons. If evidence is lacking then perhaps the right thing to do is to withhold assent and not have a belief about God's existence until evidence is forthcoming.

Another telling objection against Pascal is to argue that he has miscalculated the payoffs. If God does not exist and a believer were to lose his or her life as a consequence of believing in God (as the Christians did when thrown to the lions in ancient Rome), then it is false that this life is only of finite value. If it is your only life, then would you not be willing to pay an infinite amount to preserve it even for just one more day? I think that you would and so your life for you is of infinite value. (The "money" that you would use to pay off this infinite payoff can only be used to save your own life and for no other purposes just as no one else can receive your infinite reward in Heaven). If your life is infinitely valuable then both choices of believing in God or of lacking a belief in God would have infinite positive value; you would have no more prudential considerations to prefer the one over the other. Isn't this where we found ourselves before we ever heard of Pascal's wager?