Paper Title: "The Science and Religion Dialogue: Are Philosophical Foundations

Necessary?"

Author: Ventimiglia, Michael

Institutional Affiliation: Assistant Professor of Philosophy, Sacred Heart University

This paper was prepared for "Science and Religion: Global Perspectives," January 4-8, 2005, in Philadelphia, PA, USA, a program of the Metanexus Institute (www.metanexus.net).

Abstract:

William James is well-known for arguing that different words which describe the same practical state of affairs are, in fact, equivalent in meaning. This theory of meaning is one important strain of American pragmatism, the movement which remains America's primary philosophical contribution to intellectual history, and it invites us to consider a unique perspective on the contemporary dialogue between science and religion. Specifically, it raises the question of the necessity of philosophical foundations when there is practical agreement.

This paper argues that when practical agreement can be reached there are certain purposes for which philosophical foundations can be strategically ignored. For certain purposes, our concern should be to explore whether an imperative to other-regarding behavior can be grounded on *both* naturalistic and metaphysical premises. It is therefore at times prudent to abstract from divisive questions of philosophical foundations and focus on the practical consensus that can potentially be forged regarding the desirability of other-regarding behavior. Put bluntly, if a case for traditionally ethical, other-regarding, behavior can be made with or without traditional metaphysical underpinnings, then there are contexts in which it is best to make do without addressing the metaphysical question.

As a deliberately challenging "test case" the paper examines the work of biologist David Sloan Wilson and philosopher Eliot Sober in juxtaposition with a traditional account of Christian love. This paper attempts to provide a realistic assessment of the extent to which these two perspectives on altruism can provide similar accounts of desirable behavior, arguing finally that much practical agreement exists. To the extent that practical agreement can be negotiated, in this case and others, the paper argues that the divisive issue of philosophical foundations should be de-emphasized.

Biography:

Michael Ventimiglia received his doctorate in philosophy from the Pennsylvania State University in December of 2001. His dissertation, "Evolutionary Love in Theory and Practice" applies Charles Peirce's ideas on cosmic love and growth to the problem of how and why love tends to foster spiritual growth in the self. His primary current interest is in exploring whatever practical consensus exists between naturalistic and metaphysical accounts of other-regarding behavior. Related articles include "Science and Sentiment: Peirce, Lamarck and Evolutionary Love," published by the Metanexus Institute on Metanexus.net (January, 2002) and "Peircean Agape as a Philosophy of Education," forthcoming in Studies in Philosophy and Education. Related presentations include "Agape and Spiritual Growth," presented at the 2003 Metanexus Institute yearly conference and

participation in *Works of Love*, a summer seminar sponsored by the *Seminars in Christian Scholarship* at Calvin College. He is currently Assistant Professor of Philosophy and co-Director of the Hersher Institute for Applied Ethics at Sacred Heart University in Fairfield, CT.

Paper:

In the second chapter of William James' *Pragmatism*, James begins with an entertaining, if not mildly disturbing, anecdote about a philosophical dispute. During a camping trip, James returns from a solitary ramble to find the group vigorously debating whether a man chasing a squirrel around a tree could be said to "go around" the squirrel: "This human witness tries to get sight of the squirrel by moving rapidly around the tree, but no matter how fast he goes," James writes "the squirrel moves as fast in the opposite direction . . . The resultant metaphysical problem now is this: Does the man go round the squirrel or not? . . Which party is right, I said, depends upon what we practically mean by going 'round the squirrel' " (James, 1975). James goes on to demonstrate what we might have suspected ourselves, that this is merely a verbal dispute, and that once the meaning of the term "around" is clarified through an explanation of its practical consequences, the difficulty evaporates:

The pragmatic method is primarily a method of settling metaphysical disputes that otherwise might be interminable. Is the world one or many?-fated or free?--material or spiritual--here are notions either of which may or may not hold good of the world; and disputes over such notions are unending. The pragmatic method in such cases is to try to interpret each notion by tracing its respective practical consequences. What difference would it practically make to anyone if this notion rather than the other notion were true? If no practical difference whatever can be traced, then the alternatives mean practically the same thing, and all dispute it idle. (*ibid.*)

The problem of philosophical foundations in the science and religion dialogue is not trivial, and it is not merely verbal. It is a serious difficulty which involves basic philosophical questions, questions which, in many cases, can be seen as variations on the essential questions of the history of philosophy. The claim I would like to make in this paper is not that the search for philosophical foundations is unimportant or unnecessary, but that *for certain purposes*, including a number of non-trivial purposes, it can, and perhaps should, be ignored. To the question: "Are philosophical foundations necessary for the science and religion dialogue?" my answer will be, "It depends." It depends upon the purpose and the context of the inquiry.

On the one hand, for the purposes of *theory*, philosophical foundations are surely necessary. Most disciplines of human thought function within the space of explicit or implicit philosophical foundations. These foundations are not, as the metaphor suggests, Cartesian building blocks upon which the discipline is methodically built, but functional assumptions which make it possible for those within the discipline to discern "what counts" as evidence for a truth claim. These foundations need not be articulated in advance of the pursuit; they may evolve or change radically as the discipline requires;

and their character as philosophical assumptions may even be denied. But they are there, and their reality is evidenced by both the specific agreements that are reached within disciplines and the fundamental disagreements that often exist between disciplines. If only as an attempt to remove obstacles to effective cross-disciplinary communication, the continued pursuit of shared philosophical foundations is essential. For this reason alone, the attempt to articulate a theoretical framework by which theologians, biologists, physicists and philosophers can communicate is of the first importance.

But for most people—and, I suspect, even for most of us--the search for philosophical foundations is more than just a theoretical pursuit. This creates a problem. The problem that arises is that while the community of human inquirers can wait generations upon generations for adequate cross-disciplinary foundations, each of us, individually, as finite human beings, cannot. We must make practical choices. Either consciously or by default each of us must make a single basic decision, the answer to which will solve many of our day-to-day practical dilemmas in advance: "What sort of person should I be?" Or, in pragmatic terms, "How shall I treat my fellow human beings?" The answer to this question cannot wait for interdisciplinary consensus about philosophical foundations. And for those of us who are also educators, the stakes are even higher. We are charged with a significant portion of the responsibility for assisting the younger members of our community in making this basic decision. Students in the United States are likely to come to college with values they have learned through a religious tradition. Many of them sense that they are faced with a choice between, on the one hand, science or religion or, on the other hand, living in an uneasy "intellectual schizophrenia"-- believers one day a week, hard-headed empiricists from Monday to Friday. Again, they are not in position to wait for the intellectual community to synthesize diverse religious traditions and the empirical sciences into a tidy digestible package.

This paper is written for the person inside of each of us who is not a theorist. I suppose, to be perfectly honest, it is written for the person inside of me who is not a theorist. For this person, and for those of us who are also educators, I would like to offer the following humble Jamesian observation: It is of profound importance if some recommendation to other-regarding or pro-social behavior can be grounded independently on both naturalistic and metaphysical premises. Independent but reasonably harmonious conclusions about desirable behavior can be established while, for practical purposes, abstracting from the difficult and divisive question of which set of premises is correct. Put bluntly, if a case for some traditionally ethical, other-regarding behavior can be made from disciplines with different philosophical foundations, then we are in position to answer our practical question without addressing the question of broader philosophical foundations. If a naturalist and a theologian can both agree about the importance of pro-social behavior, they have reached a practical consensus from different philosophical starting points. And from the point of view of a pragmatist, for certain purposes, this may be good enough. Indeed, it is, for the moment, the best we can do.

The basic claim of this paper is philosophical. It is a suggestion about how we should think about the idea of reconciliation between science and religion for the purposes of practice and education. In order to illustrate how this method may produce tangible outcomes, I would like to address the topic of pro-social behavior in light of both

the Christian tradition and evolutionary biology. Needless to say, what follows will be very incomplete, premised on brief accounts of agape-love and some influential work in evolutionary biology. But the value of the suggestion, if it has any, does not stand or fall with the "test case" which follows. Indeed, I suspect that an easier case for my claim about method could have been made by appealing to work which documents the psychological and physiological benefits of pro-social behavior without raising the challenges that evolutionary biology surely must. If the pragmatic method can bear even some fruit on this rugged terrain, however, perhaps it will have proven its fitness for other challenges.

James' pragmatic method is at times employed in a somewhat positivistic manner (as it was, initially, applied by its original author, Charles Peirce), appealing primarily to the external consequences of beliefs or ideas. It is also at times employed with an emphasis on internal consequences, the practical psychological consequences of beliefs or ideas. My analysis is skewed towards the first, somewhat cruder, approach. What sort of *behavior* is implied by a commitment to the ideal of Christian love? Are there any biologically premised arguments which recommend such behavior for its fitness consequences? Once we have addressed this question, we can then address the question of motive. I will offer my *apologia* for such a strategy in the concluding section.

A Pragmatic Assessment of Christian Love

The basic organization of this section is as follows:

- (1) If we temporarily abstract from the question of motive, we can examine a pragmatic account of what it means, in terms of external behavior, to be committed to a basic Christian ethical principle.
- (2) Such practice is, to a substantial extent, equivalent to practices that have been shown to be advantageous, under certain conditions, in terms of fitness consequences.
- (3) It is then possible to address the issue of motive and argue for the likelihood that genuine altruistic desires may be partly to explain for the positive fitness consequences.

The noun "agape" is a derivative of the Greek verb *agapan* which is suggestive of a "respectful or unselfish love" (Viard, 1979). Christian writers have traditionally emphasized a semantic continuity between its vernacular usage and the Greek translators' usage of *agapan* and agape in the Septuagint, noting in particular that *agapan* was likely chosen because of its semantic similarity to the Hebrew *hesed* and its semantic difference from the Greek *eros*. In the Septuagint we have the beginning of the history of the Judeo-Christian usage of *agapan* and agape—the verb appears two-hundred times and the noun appears forty times. It is with the Christian writings of the first century—most famously in Matthew's claim that the law may be

¹ James Barr, who is generally suspicious of reading theological meanings back into etymological origins, agrees: *agapan* "existed in Greek as early as Homer and already in classical times was used with senses quite close to those found in the [Septuagint] and the New Testament" (Barr, 1987, p. 8).

summarized in the commandment of agape (Mt. 22:37-40) and in John's claim that God is agape (1 Jn. 4:16)--that agape becomes synonymous with Christianity. As Barr notes, whereas *agapan* in the Septuagint may have denoted not only nurturing love but also erotic love, agape, in the New Testament, is unequivocal: The paradigm of agape in the New Testament is the love of the Christian God for his creation.

A pragmatic account of the meaning of Christian agape asks, "What sort of practical effects would we expect to observe if someone were committed to agape as a central ethical principle?" Numerous interpretations have been offered. Important strains of Christianity have recommended everything from self-preference to self-denial (cf. Hallett, 1989). Because of the nature of this analysis, however, it is not necessary to converge on a single articulation of Christian love. In fact, it suits our purposes better to provide two possible interpretations of Christian love. We will then be in position to see how robust and rich a version of agapic love can be recommended on purely biological grounds.

For the sake of our analysis, I will distinguish two models of agapic behavior: (i) agape expressed as a commitment to justice, and (ii) agape expressed as a commitment to mercy.

(i) A commitment to agape as justice means, in practical terms, that the individual is committed to a combination of altruism and fairness. She is disposed to act altruistically, which is to say that she is willing to act in a pro-social manner and risk being exploited, in the short-term, for the sake of creating trusting relationships and engaging in pro-social behavior with others. She is honest and helpful when she encounters others, and she gives complete strangers the benefit of the doubt. She does not envy others. Her commitment to fairness, however, means that she not willing to be taken advantage of repeatedly. If she is wronged, she withdraws her cooperativeness. If, however, the guilty party expresses repentance through action, she is quick to forgive.

This is, no doubt, not the most generous description of agapic behavior that could be offered, but it is still substantially pro-social. In fact, we have probably set a practical standard that many people do not meet. Restraint from deception and anti-social behavior coupled with a preference for genuinely pro-social behavior is indeed a standard by which many of us would not wish to be judged. Consider what is rejected by such a disposition. Someone committed to agape as fairness does not cheat on her taxes; she honors agreements, both personal and financial, such as marriage or employment contracts. She tells cashiers when they have given her change on a twenty rather than a ten. She tips for good service, and she doesn't steal cable television. How many of us can still be said to possesses even this agapic disposition once its pragmatic consequences are clarified? At the risk of incrimination, I will confess that in the social environment where my values were formed—the north Bronx--such a disposition would kiddingly, but tellingly, be referred to as "saintly."

Agape as justice, once given pragmatic meaning, is a thinly veiled personification of the famous game theory strategy TIT-FOR-TAT. TIT-FOR-TAT, recall, is the successful strategy for the iterated Prinsoner's Dilemma invented by Anatol Rapoport. In evolutionary game theory, this strategy has a preference for altruistic behavior. TFT begins each interaction as an altruist and then copies its partner's strategy. Groups of cooperators turn out to be more fit than groups of selfish actors, but selfish actors do best when they can exploit altruists. TFT does not exploit others (i.e. it begins new

interactions as trustworthy). It assumes, provisionally, that others are trustworthy. It does not like being exploited (it retaliates when "deceived") and it is willing to trust again, provisionally, when others "apologize" for past transgressions through pro-social actions. Sober and Wilson point out that the Iterated Prisoners Dilemma is an experiment about groups of individuals (Sober and Wilson, 1998). Of course the classic difficulty with group selection is that altruists within the groups are subject to exploitation from selfish individuals. TFT, as a moderately altruistic strategy, is somewhat vulnerable to exploitation. This, again, has nothing to do with motive. It is significant to realize that while group selection is sometimes invokes as an explanation of the evolution of altruism, multi-level selection theory does not itself require psychological altruism. Although group selection is one possible explanation of how psychological altruism could have evolved, group selection does not require motives or "minds" at all. It simply requires vehicles of fitness that are the primary explanation for the fate of some group of lower order units. The moral, irrespective of motive, is that groups of altruists can out-compete selfish groups depending upon the frequency of the altruistic trait.

But TFT is obviously a very simple strategy operating in a very artificial environment. What happens when we add social mechanisms that are more reflective of actual social contexts? In a 2002 article Sober and Wilson create a model of behavioral disposition which fits well with our pragmatic analysis. The "helpful nature" is the person with a disposition to engage in pro-social behavior, behavior that is consistent with our commitment to agape as justice: "people who do not exploit others, who avoid being exploited, and who punish exploiters" are "helpful natures" (Wilson and Sober 2002, 189). The category "helpful nature" is neutral with respect to motive. We do not know if a helpful nature's altruistic desires are ultimate or instrumental. But we do know that a helpful nature will act in a way consistent with our agape as justice model with or without an environment of social control. In other words, the helpful nature is not opportunistic. She is not continually maximizing self-interest. What is important about this category for us is that when a helpful nature is an environment of strong social controls, he or she will actually *out-compete* "unhelpful natures." Someone exhibiting a disposition consistent with our first category of agapic commitment will out-compete people who are willing to exploit others (people who fail to meet the pragmatic requirements of agape as justice). According to Sober and Wilson this could be for at least three reasons: First, unhelpful natures who cannot predict the presence and relevance of social controls perfectly will probably be punished. Second, unhelpful natures need to continually monitor their social environment for the presence of social controls. Third, because, in part, of reasons one and two, unhelpful natures may be punished preemptively before they have the opportunity to exploit again. The point Sober and Wilson make is consistent with common sense: in an environment of social control (including, we would assume, both state sponsored punishers and informal punishments based on reputation) helpful natures should, more often than not, out-compete unhelpful natures.

In sum, there is reason to believe that our first model of agape is an evolutionary successful strategy. It performs reasonably well in a vacuum, and even better when we account for a common condition of human social environments. The "helpful nature" is, in the right conditions, a good evolutionary strategy.

(ii) Agape as mercy: Agape as mercy is defined by the Christian maxim to "love the enemy" or "turn the other cheek". This actor is altruistic and disposed to pro-social behavior just like the first, but his altruism is less conditional. In terms of patterns of behavior, we would expect this actor to be trustworthy and honest—like his predecessor—but he exceeds the standard of fairness. He forgoes justice: When he is wronged, he does not retaliate. He embraces the ideal of unconditional love which translates, in practice, to a willingness to be exploited. We should note that such an extreme interpretation of agape has, as we might expect, had relatively few pragmatic converts in the history of Christianity.

Is there any hope for the pure altruist, the altruist who is willing to engage an exploiter (the enemy) and suffer the consequences? It does seem as if game theory can take us a bit further down the road towards agape as mercy. Interestingly, in game theory, when the environment is altered in ways which make it more like a human society, even more forgiving strategies, such as Generous TFT, are likely to perform well. Ostracism, punishment of selfish individuals, memory of one's own prior actions, memory of partners' actions--all of these aid cooperative strategies (cf. Dukatkin, 1997, 28). Another real world consideration is the value of honesty. The agape as mercy actor has a reputation which ensures others of his value as a partner. As D.S. Wilson notes, citing Robert Frank, "your commitment to honesty makes you a valuable social partner, which can offset your vulnerability to selfishness. Saintly unconditional altruism can evolve in this fashion, although it seldom takes over the whole population" (Wilson, 2002, 192). Frank notes that to the extent that honesty traits are discernable in a person, the honest person has an advantage over others for social situations which require commitment: "The opportunist's goal is to appear honest while availing himself of every prudent opportunity for personal gain. He wants to seem like a good guy to the people who count If character traits are discernible however, this may not be possible. In order to appear honest, it may be necessary, or at least very helpful, to be honest." (Frank, 1988, 18). At best we can say that the saintly agapic actor will always do well when surrounded by like-minded people, and will have some social value to help protect him from exploiters in a mixed environment.

In sum, the general tenor of much of the work on cooperation and altruism is that nice guys do indeed finish first, sometimes. Within the context of a society with social controls and efficient mechanisms for sharing information about reputation, something between agape as fairness and agape as mercy may be the best policy. It is worth adding, I think, that in industrialized democracies we seem to be witnessing a transformation in the mechanisms of social control. Beyond the proliferation of new surveillance technologies (both visual surveillance and informational surveillance) we have also created efficient technologies for sharing our opinions of other reputations for fairness and honesty. As information becomes more available, individual and cooperate reputations become more valuable, creating a stronger disincentive for anti-social behavior. Ironically, as technology progresses we may be inching closer to mimicking ancestral environments in which one's reputation was of paramount importance. One false move on *Ebay*, as we all know, and millions of potential cooperators can be easily and effectively notified.

Thus far we have not addressed the question of motive. I would like to once again rely on Sober and Wilson to point out that successful strategies mentioned above do not necessarily entail any theory of human motivation. Despite the fact that they are often used to confirm the presupposition of psychological egoism (that claim that all motives are irreducibly selfish), they are consistent with at least one alternate theory of human motivation--motivational pluralism--which claims that human beings do sometimes have irreducibly altruistic or other-regarding desires. Success does not necessarily imply selfishness.

The question Sober and Wilson ask is, "Given the advantageous nature of altruistic behavior for the group and, under certain conditions, for the individual, what mechanism(s) for this advantageous behavior was (were) most likely to evolve? Sober and Wilson argue that psychological altruism may have evolved as one proximate mechanism for reproductive fitness. It may be that genuinely altruistic desires could have evolved because this mechanism was evolutionarily advantageous. Why this mechanism as opposed to merely instrumental altruism? Because amongst the possible proximate mechanisms which could have been selected to produce the pro-social behavior that is beneficial, a redundancy of independent hedonistic and altruistic concerns for others would have been the most reliable mechanism. Since genuine altruism (altruism as an ultimate end) is a more reliable proximate mechanism for producing advantageous behavior than egoism alone (altruism only as an instrumental desire), then genuine altruism may very well have evolved in conjunction with egosim. Since two proximate mechanisms are better than one, and since psychological altruism is a more direct indicator of how others are doing, there is reason to believe what seems commonsensical, that people have both altruistic and egoistic motives. The result is Sober and Wilson's motivational pluralism, which denies that altruistic motives are entirely instrumental all the time.

Much work has been done to explain the evolution of cooperative behavior. Obviously, this sketch just scratches the surface. But work performed with the intent of explaining how cooperation could evolve amongst psychological egoists proves nothing about the actual motives. If there is reason to believe that psychological altruism could have evolved as one proximate mechanism along with egoism, the arguments which point out the success of cooperative behaviors can be used, ironically, to help undermine the basic assumption that all motives are ultimately egositic.

The Pragmatic argument for pro-social behavior

It is said that the sign of a good compromise is that neither side is happy. I suspect that by this standard the pragmatic approach succeeds wonderfully. I suspect that representatives from both traditions invoked in the above discussion will have serious and understandable reservations with my pragmatic compromise. For the devoted Christian, reducing belief in the Christian God, the embodiment of agape, to a number of beneficial consequences for behavior seems to impoverish the tradition immeasurably. Does not Paul write, "If I give everything I have to feed the poor . .. but have not love, I gain nothing (1 Cor 13:2-3)? When agape is recommended as a recipe for biological success, has not something gone horribly awry? Biologists, I suspect, may be uneasy with my

brief and selective account of game theory and my choice to rely at times on Multi-Level Selection theory.

The arguments above, however, need not *merely* be appeals to self interest, though they surely do point out the advantageous consequences of agapic behavior in certain contexts. They may appeal, independently, to both egoistic and altruistic components of the human psyche. Pointing out the successfulness of pro-social strategies is not necessarily an appeal to crass egoism. It may be an appeal to dual motivations This said, however, there may be cases in which such an egoistic appeal is still warranted. Recall the context of our analysis. The pragmatic alternative to the quest for philosophical foundations is performed with the intent to answer the urgent question "How shall I live?" Just as Sober and Wilson appeal to the "Two are better than one principle" (Sober and Wilson, 1988, 307) in their case for altruism, so do I appeal to this principle in my case for answering this important question. Two independent arguments for pro-social behavior are better than one. If they each follow from different sets of premises—or appeal to different sides of us--then all the better. Limitations do exist for this method, but I do not think it necessary to apologize for them. As theorists, we are right to be skeptical of compromise. But for practical purposes we are faced with an urgency that makes compromise at times necessary. We must each decide how we are to conduct ourselves in the world. The pragmatic approach to pro-social behavior points out that acting on behalf of the other is, in most cases that we would likely encounter, recommended on both theological and biological grounds, both metaphysical and naturalistic premises. It can be agreed upon in the absence of deeper philosophical foundations.

And, perhaps most importantly, the pragmatic approach to pro-social behavior provides one with a compelling pedagogical tool. The fact is that fewer and fewer students will accept purely theological or philosophical arguments for ethical principles. The best argument for adopting pro-social ethics used to be the reality of the some metaphysical ethical foundation, perhaps the reality of a deity. The current wave of public religiosity in America notwithstanding, I believe that as educators we need more persuasive tools for fostering pro-social behavior than arguing merely from metaphysical foundations. This strategy has simply become unpersuasive. I argue for an effective redundancy in pedagogical method for bringing about pro-social behavior. It is true that biological premises cannot take us all the way to the ethical principle that is, in various articulations, at the heart of numerous world religions. But we should realize as educators that more and more young people see the lack of evidence for the metaphysical as a positive argument against pro-social behavior. More and more young people assume that if there is no metaphysical foundation for ethics then there is no foundation whatsoever for ethics. Recommending pro-social behavior on both theological and naturalistic grounds is the most persuasive tool that I have found as an educator. It allows the student to answer an urgent and answerable question---How shall I live? without answering the more speculative and difficult question, "Is this all there is?" If it is indeed the case that there truly are theological grounds to agapic love, I suspect that we could do worse than give a confused and thoughtful young person advice that has saved many from a life of addiction and despair: "When all else fails, fake it 'till you make it." As theorists we may not get what we want, but as human beings, we will get what we need.

Works Cited

- Axelrod, Robert. (1984). The Evolution of Cooperation. Basic Books: New York.
- Barr, James. (1987) Words for Love in Biblical Greek. In *The Glory of Christ in the New Testament: Studies in Christology in Memory of George Bradford Caird*. L.D. Hurst and N.T. Wright, eds. New York: Oxford University Press.
- Dugatkin, Lee Alan and Reeve, Hudson Kern. (1998). *Game Theory and Animal Behavior*. New York: Oxford University Press.
- Frank, Robert H. *Passions within Reason*. (1988). New York: W.W. Norton and Company.
- Hallett, Garth. (1989). Christian Neighbor Love. Georgetown University Press.
- James, William (1975). *Pragmatism and The Meaning of Truth*. Cambridge: Harvard University Press
- Sober, Elliot & Wilson, David Sloan (2002). The Fall and Rise and Fall and Rise and Fall and Rise of Altruism in Evolutionary Biology. In Post, Stephen G. et. al.(Ed.), *Altruism and Altruistic Love* (pp.182-191). New York, NY: Oxford University Press.
- Sober, Elliot & Wilson, David Sloan (1998). *Unto Others: The Evolution and Psychology of Unselfish Behavior*. Cambridge, Massachusetts: Harvard University Press.
- Viard, A. (1979) Agape. In *Encyclopedic Dictionary of Religion*. Paul Kevin Meagher, ed. Philadelphia: Sisters of St. Joseph of Philadelphia.
- Wilson, David Sloan (2002). *Darwin's Cathedral: Evolution, Religion, and The Nature of Society*. Chicago, Illinois: The University of Chicago Press.