Galileo, Aristotelian Science, and the Rotation of the Earth

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St. Thomas Aquinas and Charles Hartshorne's Process Philosophy

Steven Baldner

Charles Hartshorne, currently the most eminent among process philosophers, claims that the need for process philosophy is demonstrated by the failures of what he calls "traditional" or "classical" theism. The best exponent of traditional theism is St. Thomas Aquinas, and the failures of Thomas' doctrine are nowhere more evident to Hartshorne than in the Thomistic tenet that God has no real relation to creatures. Briefly, the import of this tenet is that God has absolutely no dependence upon creatures, that creatures do not affect or influence him in any way. A real relation, according to Thomas, involves four things: the subject (that which is related), the term (that to which the subject is related), the ground (the quality, quantity, or action/passion upon which the relation is founded), and the relation itself (a real accident which inheres in the subject).[1] When a subject is really related to a term, the subject's relation is really dependent upon the term; if the term should cease to exist, then the relation would cease to exist. Thus the subject is really dependent upon the term insofar as its really inhering accident, the relation itself, is really dependent upon the term. To say, then, that God is really related to creatures would be to say that there are real accidents inhering in God and that these accidents are dependent upon creatures. Thomas wishes to deny both that God has any real accidents and that God depends, in any way, upon creatures.

To Hartshorne, this notion of God's complete independence of creatures has absurd and irreligious consequences. First, it seems obvious to Hartshorne that a God who is not really related to creatures cannot know them, for to know something is to be really related to, really dependent upon, the thing known. Second, if *per impossible* there is some way of maintaining

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[1] For a discussion of the Thomistic understanding of relation, including relevant texts from St. Thomas, see Joseph Owens, AN ELEMENTARY CHRISTIAN METAPHYSICS, (Milwaukee: Bruce Publishing Co., 1963), ch. 13.

that the Thomistic God does know creatures, then the fact that God is independent of and unchanged by the creatures he knows will mean that his knowledge of them will be absolutely immutable and necessary knowledge. It must therefore follow that the world he knows is necessary, lacking all contingency and freedom. Third, and worst of all, the Thomistic notion of God's non-dependence on creatures is completely incompatible with the idea that God loves his creatures. To love, as Hartshorne often explains, is to enter into a sympathetic relationship with the beloved, to take joy in the joys of the beloved, to feel the sorrows of the beloved. Hartshorne's criticism of Thomistic doctrine amounts to an accusation that Thomas has attempted to substitute the "god of the philosophers," especially the god of certain Greek philosophers, for the God of Christian faith: a cold, Aristotelian, unmoved, first-mover in place of the loving, social God of Jewish and Christian faith.

> If, then, God is wholly absolute, a term but never a subject of relations, it follows that God does not know or love or will us, his creatures. At most, we can say only that we are known, loved, and willed by him. Here all analogy fails us. 'I am loved by you, but it is untrue that you love me' -- does this strange combination of words mean anything, even if we suppose them addressed to deity.[2]
>
> Thomas Aquinas actually goes so far (some other Schoolmen do not) as to say that the relation of God to the contingent world is a relation with respect to the world but not with respect to God. How could one make clearer that Thomism, whatever it is, is not a religious doctrine? In it God says to man, 'I love you, but so far as I am concerned I am not related to you in any way, my relation of love to you is literally nothing to me.'[3]

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[2] Charles Hartshorne, The Divine Relativity, A SOCIAL CONCEPTION OF GOD, (New Haven: Yale University Press, 1948), p. 16.

[3] Charles Hartshorne, MAN'S VISION OF GOD AND THE LOGIC OF THEISM, (Hamden, CT: Archon Books, 1964), p. 235

In this essay I shall answer this accusation and shall discuss each of the problems raised by Hartshorne: first, the problem of God's knowledge of creatures; second, creaturely contingency and freedom; third, the meaning of God's love for creatures. In each case, Hartshorne's criticisms can be answered.

I

> Aristotle drew an important consequence from the assumed immutability of deity. A being that could not change can have no unactualized potentiality in its reality; whatever it could be it is. It is pure actuality. Any contingency with respect to it can only mean at most that some effects it might have produced have not occurred. But in itself it is, necessarily, all that it is capable of being. Any relations between deity and contingent events in the world (relations that might have been otherwise, since the events might have been otherwise) will qualify the events but not deity. Had the events and their relations been otherwise, deity would not have been otherwise. Just this is what Aquinas asserts when he says that relations between God and the world are relations for the world but not for God. So far there is agreement with 'the [Greek] philosopher.' But Aristotle deduces a momentous corollary: since to know something is to be really related to it, to really have it as a relatum, God cannot know contingent or changeable things. ...To know is to sustain a genuine relation to the known, a relation that must be contingent if the known is so; hence, a being without internal contingency cannot know contingent things.[4]

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[4] Charles Hartshorne, AQUINAS TO WHITEHEAD: SEVEN CENTURIES OF METAPHYSICS OF RELIGION, (Milwaukee: Marquette University Publications, 1976), pp. 5-7.

Hartshorne is correct here in seeing that an immutable God could not possibly have a real relation to contingent, mutable creatures. The very meaning of immutability would be violated by such a relation. Since, however, Hartshorne regards the immutability of God as an arbitrary assumption that he would willingly surrender in order to save God's knowledge of contingent things, it is worth considering that there is a compelling reason for claiming that God is not really related to creatures. The fact that God creates the world out of nothing demands that God not be really related to creatures. If we examine the meaning of *creatio ex nihilo* we can see that this is so.

There are two ways to look at creation: we can either look at the cause of creation (God) or we can look at the effect of creation (the creature). In Thomistic and Scholastic terms, we can look at creation either in the active sense or in the passive sense.[5] In the active sense, creation is nothing more than God's activity. Creation is out of nothing (*ex nihilo*), and this fact means that there is no material cause involved in the activity of creation.[6] There is no stuff or matter for God to work on, out of which he could make a creature. God's infinite power, without pre-existent matter, is sufficient to produce the creature entirely into being. Thus God's creative activity is entirely independent of anything other than himself, and since it is independent, there is nothing for God to be related to. On the other hand, in the passive sense of creation, the creature is entirely dependent upon, and hence related to, the creator.[7] That the creature exists at all, that the creature continues to exist, is entirely attributable to the creative cause of its existence, God. Thus it is that the seeming paradox is demanded: God is not

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[5] St. Thomas Aquinas, 2 SENT., d. 1, q. 1, a. 2, ad 4^{m}; DE POTENTIA, q. 3, a. 3, Resp.; SUMMA THEOLOGIAE, I, q. 45, a. 3, ad 1^{m} & 2^{m}.

[6] "...causalitas creantis se extendit ad omne id quod est in re; et ideo creatio ex nihilo dicitur esse, quia nihil est quod creationi praeexistat, quasi non creatum." St. Thomas Aquinas, 2 SENT., d. 1, q. 1, a. 2, Resp. (Parma, 1856) vol. 6, pp. 386-387. DE POTENTIA, q. 3, a. 1, ad 7^{m}; SUMMA THEOLOGIA, 1, q. 44, aa. 1 & 2; I, q. 45, a. 1.

[7] "...res creata si sibi relinquatur, consequitur non esse, cum esse non habeat nisi ex influentia causae superioris." St. Thomas Aquinas, 2 SENT., d. 1, q. 1, a. 2, Resp. (Parma, 1856) vol. 6, p. 387.

really related to creatures, but creatures are really related to God. This asymmetrical relation follows from the very meaning of *creatio ex nihilo*.

With the doctrine of creation it is possible to explain how God knows creatures in a way that is different from, but analogous to, creaturely knowing. He knows creatures simply by knowing his own activity of creating them.[8] Creatures are limited and varied imitations of God's pure and infinite being. Since God creates each creature in its entirety -- there is absolutely nothing of the creature that God does not create --, God knows precisely and completely the imitation that each creature is of his own being.

God's knowledge of creatures is like the craftsman's knowledge of the table that he makes.[9] When a craftsman has made a table, he knows most of what he knows about it as anyone else would: by seeing or touching the table. That is, he knows the table by being really related to it. But the craftsman has some special knowledge, normally peculiar to himself alone, which comes from the fact that he knows also his own activity of making the table. Thus, for example, he might know that the joints of the table are well or poorly glued, that hidden surfaces are properly or improperly finished. He has privileged knowledge of the table, which the mere observer of the finished product cannot have, because he knows intimately the activity of making the table. But the amount of privileged knowledge that the craftsman can have is severely limited for two reasons. First, the craftsman does not make the table in its entirety, that is, he does not make the materials out of which the table is made. A creature that makes something can only bring about the existence of a new form in matter that is already pre-existent. Second, the table exists independently of the craftsman. It is dependent upon him only for the process of its coming to be a table; once it is a table it ceases to be dependent upon the craftsman in any way. It is dependent upon him for the short duration of its *fieri*, but never for its *esse*.

If we think of God as a super-human craftsman, he is not limited in what he can know of his product simply by knowing his own activity of making

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[8] St. Thomas Aquinas, DE VERITATE, q. 2. a. 4; SUMMA THEOLOGIAE, I, q. 14, a. 5.

[9] This analogy is similar to one used by Thomas, DE VERITATE, q. 2, a. 5, RESP.

it. God makes the enirety of the creature, so that there is nothing that escapes his creative activity. If he knows his own actions perfectly, there would be no reason for him not to know his effects perfectly. Also, the creature never stands apart as something independently existing without God's causality. Creatures are constantly being completely created by God, so long as they exist.

The result of this doctrine is that God has absolutely perfect knowledge of the creature in knowing himself as the cause of the creature. Further, God's knowledge of a creature must be better than what a creature could possibly have of itself.[10] What is opaque to creaturely understanding is particular matter. We can understand substantial and accidental forms, because forms are of the universal, of what is common, but particular matter can only be sensed and not understood. God, however, understands even what is radically individual in each unique existent creature, for the uniqueness of every creature is as much subject to God's causation, and hence knowledge, as is that which is common.

Hartshorne regards knowledge as necessarily implying a real relation between knower and the thing known, but Thomas follows Aristotle in seeing that the essence of knowledge is the knowledge of causes.

> We think that we know each [thing] without qualification, but not in the sophistical manner with respect to an attribute, when we think that (a) we know the cause through which the thing exists as being the cause of that thing and that (b) the thing cannot be other than what it is.[11]

There is no need for God to be really related to creatures in order to know them since he can know the cause of creatures perfectly by knowing himself.

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[10] DE VERITATE, q. 2, aa. 6 & 7.

[11] Aristotle, POSTERIOR ANALYTICS, 1.2 (71b10-12), trans., H.G. Apostle and L.P. Gerson, ARISTOTLE SELECTED WORKS (Grinnell, 10: Peripatetic Press, 1982) p. 98.

Thus there is at least one instance of knowing in which it is not necessary for the knower to be really related to the known.

Here, however, Hartshorne raises two objections, the first a baffling one, to a Thomist. According to Hartshorne, the doctrine of *creatio ex nihilo* is self-contradictory because the notion of an absolute temporal beginning is self-contradictory.[12] Thomas, however, was always very careful to distinguish the problem of the temporal beginning of the universe from that of the creation of the universe.[13] It makes perfectly good sense in Thomas' doctrine of creation to say that the universe has existed eternally, that it had no temporal beginning, and that nevertheless it is created out of nothing. The question of the temporal beginning of the universe is thus irrelevant to the question of the creation of the universe; whether eternal or temporally begun, the universe is still created out of nothing. Creation is on-going: God is creating the universe now out of nothing, as he did yesterday and as he will do, presumably, tomorrow. It is odd, therefore, to have the Thomistic doctrine of creation out of nothing attacked by arguments against a temporal beginning. Even were the arguments against a temporal beginning effective (and they are not), they would be powerless against the essential doctrine of creation. Hartshorne's first objection, therefore, to the Thomistic doctrine of creation is based on a fundamental misunderstanding of that doctrine.

Hartshorne's second objection concerns causality. To know a cause, he says, is not to know actual effects but at most to know only possible effects.

> ...to know a cause adequately is indeed to know its *possible* results. However, causes never imply any precise actual results, but only a range of possible ones. Thus God, merely

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[12] Charles Hartshorne, MAN'S VISION OF GOD, p. 233; INSIGHTS AND OVERSIGHTS OF GREAT THINKERS: AN EVALUATION OF WESTERN PHILOSOPHY, (Albany, NY: State University of New York Press, 1983), p. 77. For an account of how process philosophers, especially Hartshorne, differ from traditional thinkers on the meaning of creation, see D.W.D. Shaw, "Process Thought and Creation," THEOLOGY 78 (1975) 346-355.

[13] St. Thomas Aquinas, 2 SENT., d. 1, q. 1, aa. 1 & 5; DE POTENTIA, q. 3, a. 17; SUMMA THEOLOGIAE, I, q. 46, a. 2.

> in knowing his eternal essence, would know 'possible worlds' so far as these are eternally implied by the essence; but he would not thereby know the actual world. Causes always leave results somewhat open for further decision.[14]

This objection, however, rests upon a confusion of potential or remote causes with actual or immediate causes. A cause is an actual or immediate cause only when it is actually producing an effect; an actual cause is perfectly simultaneous with its effect.[15] It is true that from an examination of a potential cause we can only determine possible effects, but if we examine an actual cause we must *eo ipso* be examining an actual effect. Since cause and effect are really but two aspects of one event, knowledge of an actual cause must also imply knowledge of an actual event.

The confusion of actual with potential causes arises most forcefully in Western philosophy with David Hume. When Hume claims that it is impossible from the examination of a cause to know an effect, it is manifest, from the example he uses, that he is speaking of potential, not of actual, causes. When, to use his famous example, we see one billiard ball rolling

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[14] Charles Hartshorne, AQUINAS TO WHITEHEAD, p. 11.

[15] See Aristotle, POSTERIOR ANALYTICS 2.12 (95a10-96a19); PHYSICS 2.3 (195b16-21); St. Thomas Aquinas, IN 2 POSTERIORUM ANALYTICORUM, lect. 10-12; IN 2 PHYSICORUM, lect. 6; SUMMA CONTRA GENTILES 3.68. It is true that natural occurances are often experienced as processes, in which we speak of the beginning of the process as the cause of the end of the process. Thus, for example, we say that the taking of medicine is the cause of being cured, even though the taking of the medicine is the beginning of the process and is temporally prior to the end of the pocess, the being cured. But the process can be sub-divided, infinitely, to reveal that at each part of the process a given cause is simultaneous with its own immediate effect. Thus, when the medicine is actually in the mouth it is actually causing the sensation of taste, or when it is actually in the stomach it is actually neutralizing acidity, and so on. William Wallace points out that Thomas, more than Aristotle, allows for an appreciation of causal processes that are based on an underlying reality of causal simultaneity, "Aquinas on the temporal Relation between Cause and Effect," REVIEW OF METAPHYSICS 27 (1973-1974) 569-584. For a good discussion of the problem see J.S. Wilkie, "The Problem of the Temporal Relation of Cause and Effect," THE BRITISH JOURNAL FOR THE PHILOSOPHY OF SCIENCE 1 (1950) 211-229.

across the table, we do not see, while it is rolling, the actual but only the potential cause of the motion of the second ball. The first ball is only the actual cause of the second ball's motion, when for a duration that can be measured and observed only with instruments, the first ball is in contact with the second ball. When the second ball is moving and the first ball is at rest, the first ball has already ceased to be an actual cause. Since the actual causing and the actual being caused in this example take place so quickly as to be unobservable by the unaided human eye, the example is well suited to obscure the distinction between actual and potential causes. If Hume had chosen, let us say, the example of a boy pulling a wagon, he would not have fared so well. It is clear that the boy is only a potential cause before he starts pulling (when he starts walking up to the wagon). When he is actually pulling, it is obvious that the effect, the motion of the wagon, is also actually taking place. Hume's example obscures and my example makes clear that actual causes and effects are perfectly simultaneous.

Although Hartshorne has striven to put some distance between his notion of causality and Hume's, in that, unlike Hume, he thinks that there is some necessary relation between causes and ranges of possible effects,[16] still his view is fundamentally Humean in that causes are seen to be temporally distinct from effects. Hartshorne's Humean assumptions concerning causality render his criticisms of Thomas irrelevant, for in Thomistic doctrine, God as the actual, and not merely potential, cause of the universe can have intimate knowledge of particular effects through a knowledge of his own causality.

The traditional, Christian doctrine of creation, which Hartshorne rejects, demands that God not be really related to the world, but this same doctrine also provides the solution to Hartshorne's problem of how a God who is not really related to creatures can know them perfectly. Hartshorne's process thought cannot admit the doctrine of creation, because, as we shall see more and more, it does not recognize that creatures are *existent things*. For process thought, reality is composed of evanescent events, not of things; and events do not require a creative cause. They are rather self-creative: they

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[16] Charles Hartshorne, "Causal Necessities: An Alternative to Hume," PHILOSOPHICAL REVIEW 63 (1954) 479-499.

happen and cease to happen all on their own. They can be influenced, lured, or persuaded by God, but they cannot be created by him, since they possess no being or existence that could be created.

II

The second problem raised by Hartshorne is two-fold. First, if God causes everything, as the creator does, do creatures really cause anything at all? Second, if God infallibly knows our world, is it not the case that every event in this world must infallibly take place exactly as God knows it? If so, it seems that the world, including all human actions and the entire future, is necessarily determined according to God's constant and unchanging knowledge.

The Thomistic solution to the first problem is to distinguish between the being of things and their operations, or, if being itself be thought of as an operation, between primary and secondary operations. The fact that things exist, that they have being, is one thing; the fact that they operate, that they do things, is another. To say that God causes all things is to speak about being, the primary operation of any thing. If we wonder why things exist rather than not, then we are asking about the cause of being, the creator. If, on the other hand, we wonder why grass grows in the spring, why continents move, or why men build cities, then we are asking about the secondary operations of things. The study of natural science, of human nature, or of morality is the study of secondary operations. To know that God is the cause of the being of the whole universe is to know a great deal, but it still tells us nothing about how, or whether, the species evolve, how the climates change, and how men ought and do behave.

Thus, Thomas distinguishes between two levels of causality: God as primary cause, and creatures as secondary causes. Creatures as secondary causes truly cause their own operations, but the being of all things, including even the being of the secondary causes and of their operations, is caused by God alone. Thus secondary causes are truly operative and causing, but God operates even within the secondary causes, by giving them and all that they do their very being.

God is even the cause of these things [the secondary causes], operating in them more intimately than other moving causes, because he himself gives being to things. Other causes, as it were, determine that being. For the entire being of no thing has its origin in any creature, since matter is from God alone. But being is more intimate to any thing than those things through which being is determined. Whence it [being] remains even when those [determinations] are removed, as is said in the *Liber de causis* (prop. 1). Whence the operation of the creator pertains to what is intimate in a thing more than does the operation of secondary causes. Therefore, the fact that a created thing is the cause of another creature does not preclude that God operate immediately in all things, insofar as his power is like a medium that joins the power of any secondary cause with its effect. For the power of any creature is ineffective except through the power of the creator, from whom is all power, all conservation of power, and all order [of cause] to effect, because, as is said in the *Liber de causis*, the causality of the secondary cause relies upon the causality of the first cause.[17]

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[17] "Horum tamen causa etiam Deus est, magis intime in eis operans quam aliae causae moventes: quia ipse est dans esse rebus. Cause autem aliae sunt quasi determantes illud esse. Nullius enim rei totum esse ab aliqua creatura principium sumit, cum materia a Deo solum sit; esse autem est magis intimum cuilibet rei quam ea per quae esse determinatur; unde et remanet, illis remotis, ut in libro de Causis (prop. 1) dictur. Unde operatio Creatoris magis pertingit ad intima rei quam operatio causarum secundarum: et ideo hoc quod creatum est causa alii creaturae, non excludit quin Deus immediate in rebus omnibus operetur, inquantum virtus sua est sicut medium conjungens virtutem cujuslibet causae secundae cum suo effectu: non enim virtus alicujus creaturae posset in suum effectum, nisi per virtutem Creatoris, a quo est omnis virtus, et virtutis conservtito, et ordo ad effectum; quia, ut in libro de causis (ibid) dicitur, causalitas causae secundae firmatur per causalitem causae primae." St. Thomas Aquinas, 2 SENT., d. 1, q. 1, a. 4, Resp. (Parma, 1856) vol. 6, p. 389.

If the effect in question is being, then God is the cause. If the effect in question is an operation, a secondary operation, then the creature is the cause. Only God gives being, but creatures rarely determine or specify it.

Unlike Thomistic metaphysics, process metephysics cannot distinguish between being and operations, for according to it, what exists are not beings but discrete events. In process philosophy, what Thomas would call a secondary operation is the only reality that exists. To Hartshorne, there is nothing more about a thing than its operations, its process; there is no being, no substance, no matter to account for. Thus, Hartshorne quite logically concludes that if God is causing everything, God is causing all operations (what Thomas would cause secondary operations), and therefore that there is nothing left over for creatures to cause. But Thomas does not make Hartshorne's initial metaphysical assumption, that reality is composed only of events. For Thomas, the universe is composed only of things, things that both exist and operate. *Both* their existence and their operations need to be explained, according to Thomas; for Hartshorne only the secondary operations are considered.

The second problem concerns God's knowledge of contingent events. If God infallibly and necessarily knows our seemingly contingent world, then it must be the case that whatever happens in this world happens infallibly and necessarily just as God knows it.

> To say, then, as the view I combat does, that God is a 'necessary being,' in a sense in which the world is not (otherwise, nothing distinctive is conveyed by 'necessary'), and that *qua* necessary he knows the world to exist as not necessary, is to utter purely emotional or simple nonsensical language, void of logical significance, hence of intellectual import. It simply cannot be that everything in God is necessary, including his knowledge that this world exists, unless the world is in some sense necessary and there is no contingency whatever.[18]

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[18] Charles Hartshorne, THE DIVINE RELATIVITY, p. 14.

Thomas' answer to this old problem is well known and derives principally from the work of St. Augustine and Boethius.[19] It is possible for man to have necessary knowledge of what is past or present, but man cannot have necessary knowledge of the future. God, however, does not exist in time; his duration is a completely whole and simultaneous present that *contains* all of time without itself being temporal or successive. God knows the whole of creaturely time -- past, present, and future -- with the sort of immediacy and presence with which we know only the present. God's knowledge of creatures in all times does not impose any more necessity on creatures than does human knowledge of the past or of the future. This is so because the divine eternity is not temporal or successive.

This understanding of divine eternity, however, cannot be admitted by a process philosopher like Hartshorne. Since, to Hartshorne, process is what is most deeply characteristic of all reality, including of God, even God must be in process and hence must be changing and temporal. Hartshorne's God is just as much a part of the unending temporal process as is any other part of the universe: to such a God the future is as unknown as it is to any human knower. Hartshorne is correct in thinking that if *his* God has necessary knowledge of the future, the future would be entirely pre-determined with absolute necessity, but he is wrong in thinking that his argument applies to *ipsum esse subsistens*, the Pure Being who is not temporal.

III

The Thomistic doctrine that God has no dependence upon and no real relation to creatures show itself as most cold and irreligious, Hartshorne claims, when it attempts to account for the fact that God loves his creatures.

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[19] St. Augustine, DE LIBERO ARBITRIO 3.3.21-3.4.41; Boethius, DE CONSOLATIONE PHILOSOPHAIE, lib. 5, prosae 5 & 6; St. Thomas Aquinas, DE VERITATE, q. 2, a. 12; 1 SENT., d. 38, q. 1, a. 5. See also Hugo Meynell, "The Theology of Hartshorne," JOURNAL OF THEOLOGICAL STUDIES, n.s., 24 (1973) 153-154 and John H. Wright, "Divine Knowledge and Human Freedom: The God who Dialogues," THEOLOGICAL STUDIES 38 (1977) 466-472.

As Hartshorne often explains, the lover is the one who feels the joys and sorrows of the beloved; the happiness of the lover is necessarily dependent in part upon the happiness of the beloved. If God's happiness is not at least partially dependent upon ours, then God cannot love us.

> The lover is not merely the one who unwaveringly understands and tries to help; the lover is just as emphatically the one who takes unto himself the varying joys and sorrows of others, and whose own happiness is capable of alteration thereby.[20]
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> ...to love is to find joy in the joys of others, and sorrow in the sorrows of others, and thus to depend partly upon them for one's joy and sorrow.[21]

The essence of love, according to Hartshorne, is the sympathetic union of the lover with the beloved. To love someone is to take the feelings of the beloved upon one's self and to act accordingly. No external motive is required to explain the action of the lover: he acts to benefit the beloved because he feels as the beloved does.[22] Benefitting the beloved feels to the lover like benefitting himself. If God, therefore, does not feel our joys and sorrows, then he cannot love us.

The thought of Thomas Aquinas recognizes many different kinds of love; God's love, either for himself or for his creatures; natural human love, which may arise either out of the sense appetite or out of the will; and supernatural God-given human love, which is called charity. The kinds of love differ, but there are three common elements essential to all love.

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[20] Charles Hartshorne, MAN'S VISION OF GOD, p. 111.

[21] Charles Hartshorne, REALITY AS SOCIAL PROCESS. STUDIES IN METAPHYSICS AND RELIGION, (Glencoe, IL: The Free Press, 1953) p. 158.

[22] IBID., pp. 104.105.

First, the motive or cause of love is that which is good.[23] Love is aroused by what is good and intends to do good. Love makes no sense except in the context of what is good. Even when man loves what he ought not to love, or when he loves in the wrong way, there will always be some good, however incorrectly understood, that motivates his love. Love always presupposed some good, either in actual existence or to be done, and it presupposes in the lover a natural orientation or tendency toward the good. This orientation Thomas calls the *complacentia boni* and is the fundamental motive behind all appetite and all will.

Second, the act of love is always *benevolentia*: the willing of what is good for someone, whether one's self or another.[24] This is love as active. The good calls forth a response; the loving respose to good is the attempt to direct the good to benefit someone.

Third, love results in a union of the lover and the beloved.[25] Sexual love unites the two lovers, friends wish to be together, and the Christian desires to be with God for all eternity. If *benevolentia* is love as active, union is love as resting or enjoying, although the enjoying may be only intended and not yet achieved. Human union will always involve the emotions, and thus human love will always be emotional to some extent, but intelligent beings

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[23] St. Thomas Aquinas, SUMMA THEOLOGIAE I-II, q. 25, a. 2, RESP.; I-II, q. 27, a. 1, RESP.

[24] St. Thomas Aquinas, SUMMA THEOLOGIAE II-II, q. 27, a. 2. It may appear that some love, such as that in the sensitive appetite, say, for wine or for food, does not involve BENEVOLENTIA, but in fact it does. Such love, which Thomas calls AMOR CONCUPISCENTIAE, is love which always presupposes another sort of love, AMOR AMICITIAE. (SUMMA THEOLOGIAE I-II, q. 26, a. 4, Resp.) That is, if I love wine, I do not simply have a love for the wine in and of itself; I love the wine for someone, in this case, for myself. Thus, even love in the sensitive appetite always involves BENEVOLENTIA, for such love always has a dual object: there is the thing loved, but this is always secondary to the one for whom the thing is loved. In loving the one for whom the thing is loved, BENEVOLENTIA always comes into play.

[25] St. Thomas Aquinas, SUMMA THEOLOGIA I-II, q. 28, aa. 1-4; II-II, q. 27, a. 2, Resp. I am using the term "union" broadly, as Thomas himself does at times, to include all the effects of love, such as mutual indwelling, ecstasy, and zeal.

without an animal nature, such as angels and God, do not have an emotional life and hence would enjoy a loving union that is not emotional. The essential element in love is the union and not the feelings; in man the union in love necessarily involves feelings, but in angels or in God the union does not.

Clearly, then, the God of Thomistic theology and philosophy is able to love his creatures. Such a God has a fundamental orientation toward the good; he is in fact essentially, necessarily good, and as good he wishes to propagate good: *bonum est diffusivum sui*. He wills what is good for his creatures, in creating them and in providentially providing for them. And he is united with the creatures he loves, imperfectly in this life, and perfectly in heaven. This is real love: its motivation is the good, it accomplishes the good, and it unites the lover and the beloved, thus satisfying the three requirements for love. It is not *emotional* love; God does not, on this account, share our feelings, but it is recognizably and really love.

Hartshorne cannot recognize love which is not emotional, because he cannot imagine intelligence without process and, hence, without emotions. Once again, since Hartshorne insists that all of reality must be in process, he must insist that God is in process and that God's love is emotional love. It is true that for Hartshorne's God to love is to feel, but the God who is Pure Act can love fully and really without loving emotionally.

Conclusion

As we have seen, all of the criticisms that Hartshorne brings against Thomas Aquinas rest upon a peculiar and extreme assumption: the assumption that all of reality is in process. Hartshorne makes this assumption in the strictest possible way. Thus, if all reality is in process, then there is nothing that escapes from process, nothing that underlies process. There is no substance, no being, no underlying substrate, no matter in Hartshorne's metaphysics. But if all of reality is in process, and there is nothing which is not in process, then reality is not composed of things but of events. And the events must each be discrete, one from another.[26] There is nothing which is

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[26] Charles Hartshorne, CREATIVE SYNTHESIS AND PHILOSOPHIC METHOD, (London: SCM Press, 1970), pp. 194-195.

not in process, and therefore there is nothing to underlie process or to connect one event with another.

I may think of myself as having identity from the time of my conception to the present, but, according to Hartshorne, I am really a succession of new and different selves: thousands and thousands of new selves even in one day: innumerable new selves in a whole life-time. Yesterday I was a Thomist; today I am a process philosopher. Have I contradicted myself? Not according to Hartshorne, because there are at least two selves involved: the self which yesterday claimed to be a Thomist and the self which today claims to be a process philosopher. "If I change my beliefs -- and in subtle ways they are ever-changing -- this means that there are really successive believers all belonging, to be sure, to the same personal sequence, and readily distinguished from any member of the sequence constituting a different human life history."[27] We expect, because of the laws of probability, that there will be a predictable consistency in what we call the "same man," but there is no metaphysical basis, in Hartshorne's thought, for any sameness or identity to connect one self with its successor.

The character of all process, whether we wish to call it substantial change or accidental change, is "the creation of a new unit of definite reality, not the insertion of new predicates in a old unit."[28] What we called change is really the spontaneous creation from moment to moment of new events. This is the meaning of "creativity" in process philosophy. With no underlying substrate, there are only successions of discrete, unconected events. These discrete events pop into existence, one after another, spontaneously: this is "universal creativity."

This metaphysical view arises, as I have said, from the assumption that all of reality is in process. This assumption, in turn, is based upon one that is more fundamental yet, concerning what is given in human experience. According to Hartshorne, we may *think* that we experience reality as continuous, but, really, our experience is given in a vague way, and the vaqueness of our experience is open to interpretation. The correct

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[27] IBID., p. 181.

[28] IBID., p. 181.

interpetation, Hartshorne would insist, of such vagueness is that experience is of the discrete.

> Is process given as continuous, or is it merely not given as discrete? There is all the difference, but the answer is often rendered with gay heedlessness. The answer which seems to meet all the essentials of the situation is that experiece is merely vague as to any discreteness which may be there. This vagueness is misread as a revelation of actual continuity. Experience is at most quasi-continuous, or psuedo-continuous. To say more implies a fundamental error in theory of perception, of what it could possibly accomplish.[29]

Here is the fundamental assumption upon which Hartshorne's metaphysics either stands or falls. Is our given experience, properly interpreted, of the discrete or of the continuous? If we follow Hartshorne and claim that it is of the discrete, then we are also commited to his conclusions, some of which we have seen in this essay. But if we think that our given experience is of the continuous (of process, certainly, but of process that is continuous without gaps in reality), then we must begin to ask ourselves what underlies the process that we observe, what gives our experience its continuity. The Aristotelian ideas of matter and of substance would be two excellent ideas to begin with in a search for an answer.

Saint Thomas More
Saskatoon, Saskatchewan

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[29] IBID., p. 194.

Subject, Unity, and Method in Aristotle's *Metaphysics*

Hippocrates G. Apostle

In almost all of Aristotle's works, the first Book begins by laying down the subject. For example, in *De Anima*, the subject mentioned at the start is the soul; in the *Nicomachean Ethics*, it is the human good or happiness; in *Prior Analytics*, it is the syllogism; in *Posterior Analytics*, it is scientific knowledge; and in *De Interpretatione*, it is propositions. And, in all these, the subject is either sufficiently evident, or else new, in which case the science begins scientifically. The *Physics*, too, begins by using the expression "science of nature" in the first paragraph, although one has to wait until the second Book to get a clear idea of the various senses of the term "nature"; but we are told at the start that the manner of proceeding will be from what is clearer to us to what is clearer by nature, for the terms in the *Physics* are more universal than those of, say, *De Anima* or the *Ethics*.

When we turn to the *Metaphysics*, the method of identifying the subject progresses slowly. This work begins with "All men by nature desire to understand," and understanding here is posited to be knowing the causes and principles of things. It then proceeds to list a number of beliefs commonly attributed to a wise man, and these may be briefly summarized in the following sentence: "A wise man knows accurately and can teach universally all things as far as possible, and he pursues philosophy for its own sake." This description of a wise man and of wisdom does not quite specify the subject of philosophy but it somehow gives us a hint or leads to it. To start by defining philosophy as a science whose subject is being *qua* being would be abrupt, somewhat incomprehensible, perhaps arbitrary, and not likely to convince the serious student, but to introduce as premises statements which are commonly accepted and then proceed from them to identify the subject makes the task easier. Now from *De Anima* we know that the ability to reason is proper to man; in the *Ethics* we are told that man will best fulfill his function if he cultivates the best part of his soul most, and this is the intellectual part; and if we add to these a study of the past philosophers, the difficulty of accepting later what Aristotle regards to be the subject of philosophy will be appreciably

reduced. It is for this reason, then, that, scientifically taken, the definition of philosophy as the science whose subject is being *qua* being appears in Book Gamma and not at the beginning.

In short, the method of proceeding to identify the subject of first philosophy is dialectical, for it starts from premises which are generally accepted as true, not by all or most of the people, but by all or most of those who are lovers of wisdom and are dedicated to the pursuit of philosophy for its own sake.

We also notice that there is some difference between the initial aim of the dialectical method used in *De Anima* and that used in the *Metaphysics*. In *De Anima*, the subject is posited at the start as being the soul, at least in name, and dialectic is used mainly to arrive at the definition of the soul; and the procedure used in getting the definition is to make a list of the accepted attributes or essential parts of the soul and then by the use of the intellect, or of *NOUS* if you wish, posit the definition sought. Definitions, of course, are principles, and as such they are scientifically indemonstrable; and definitions which cannot include causes can be conceived only directly, while those which include causes can also be sought by qualified demonstrations, although not demonstrations through the cause, as discussed in *Posterior Analytics*. In the *Metaphysics*, on the other hand, what we have by the end of Book Alpha is a list of attributes of philosophy and of the philosopher and also some attributes of the subject, such as cause and principle and element, but without a definite specification of the subject. Sometimes the subject appears indefinitely, as in such phrases as "the elements of things," "the causes of things," and "the investigation of all things," in all of which the term "things" appears; but being *qua* being is not identical with things or with all things. For in the phrase "being *qua* being" the word "*qua*" signifies a definite universality, in fact the highest universality, whereas the term "things" or "all things" extends to lower universalities and to individuals also, and philosophy is not concerned with lower universalities or with individuals as such.

Up to now, then, we are told that philosophy is concerned with ultimate causes, and from Aristotle's discussion of his predecessors and colleagues we learn that there are four kinds of causes. Now if those causes are to be viewed as related to the subject of philosophy in the same way in which a property of a subject is related to that subject, they should be in a way

adequate to proceed and arrive at the subject. But a cause is a relation, for it is relative to the effect which is caused, and that which is caused is caused by a cause; and the same applies to a principle and an element. Further, causes and principles are numerically the same, even if to be a cause and to be a principle differ in essence. So since the causes are principles, and since theorems follow from principles, knowledge of causes can lead to knowledge of theorems also, and so philosophy can be regarded as a science.

But there is a problem. For if the causes of things are infinite, scientific knowledge of the properties of a subject is impossible, and so philosophy cannot be a science; and, in fact, there can be no science at all. This problem is considered in the second Book of the *Metaphysics*, Book Small Alpha, in which arguments in favor of a finite number of causes of a thing are sketchily given; but the problem is discussed at length in the *Posterior Analytics*, where it is shown that the causes of a thing must be finite. Accordingly, philosophy *is* a science.

Evidently, in saying that the causes of a thing are finite, Aristotle considers finiteness as an attribute of those causes, where the causes themselves are attributes of the subject of philosophy. Similarly, some thinkers say that philosophy is the science of truth, and they are right in a sense; for truth is an attribute and not the definition of philosophy, and the subject is not given. In fact, truth belongs to every science, and philosophy is not every science.

The third Book, Book Beta, lists a number of problems faced by philosophers and gives arguments for and against their being problems within philosophy. These problems raise a doubt as to whether they come under one science, philosophy, but the arguments given suggest also the difficulties which follow if they do not. Further, these problems form some basis upon which Aristotle's definition of philosophy will be formed. Solutions to all of these problems are given in the *Metaphysics* as we have it.[1]

Book Gamma begins by stating the subject of philosophy, which is being *qua* being, and some analysis of the phrase "being *qua* being" is given along with many dialectical reasons for it; for philosophy does not possess the

[1] The places where they appear are listed on pages 272-273 of my translation of the METAPHYSICS.

kind of unity which one finds in the subordinate sciences because of the complexity of the subject. In this respect, philosophy resembles politics; for the subject of politics is a political association, and of associations, a household has less unity than a man, a village has less unity than a household, and a political association has the least unity.

Now the term "being" does not signify a single nature but many irreducible natures, but there is one among them upon which the others depend and because of which they exist. This primary nature is a substance, and it exists separately from all the others and seems to be independent of all of them for its existence. Thus separateness and independence seem to belong to being in the primary sense, and inseparability and dependence to all the others, each of which is given the name "being". According to Aristotle there is also a hierarchy of substances, and some of which are eternal while others are destructible. Of the eternal, one or some of them are pure forms and separate and independent without qualification, and the others have also matter but change only with respect to place and are partly dependent on pure forms for their type of existence. The remaining substances are separate composites of matter and form, are partly dependent on others for their existence, and are destructible. Of the pure forms, the prime mover of the universe is the most honorable; then there are other movers; next come the celestial bodies, and finally we have the separate and destructible substances around us, of which man is perhaps the most honorable.

The Greek term for substance was given also other meanings by Greek thinkers, for example, essence, universal, genus, and subject in its various forms. All of them are discussed in the *Metaphysics*.

It appears, then, that separability, independence, the contrary of these, and duration of existence are the attributes according to which the kinds of being are differentiated and ordered and understood. So the term "being" has no unique meaning but is used analogically. Similarly, the unity which is signified by the term "being" is, if at all, only analogous, and perhaps philosophy as understood by Aristotle should be regarded as having unity not univocally but analogically. By "analogically" we mean the kind of proportionality in which one pair of terms is primary and the rest are secondary. For example, in the proportion, man:animal :: five:number, the first pair refers to substances, which are primary, but the second refers to

attributes, which are secondary. Similarly, the terms "genus," "species," "sameness," "equality," "unity," and even "analogy" have primary and also secondary meanings.

Here one may raise the problem of why Aristotle uses being *qua* being as the subject of philosophy and not unity *qua* unity; for unity and being are coextensive and analogous and imply each other, since whatever is one is a being and whatever is a being is one. Perhaps the difference between the two may be somewhat understood if we consider their opposites. As Aristotle says, some things may be known by considering their opposites, and the kinds of opposites are contraries, contradictories, relatives, and possession and privation. Now the contrary of unity is plurality, but there is no contrary to a substance, which is a being in the primary sense; and further, a substance is a subject, whereas plurality and number as contraries are, if anything, attributes of substances, and so their contrary, which is unity, must be an attribute also and not a subject. And if one were to assert that the contrary of being is nonbeing, then, since contraries are furthest removed from each other, and since the contrary of being as an object which is furthest removed is an impossibility, like a number which is both odd and even at the same time, it would follow that being has no contrary; for contraries are either genera or come under the same genus and must therefore be beings and not impossibilities. Again, contraries in their primary sense are not substances but attributes, like oddness and evenness or virtue and vice. But being in its primary sense, which is a substance and a subject without qualification, cannot be an attribute and hence cannot have a contrary. Similar results follow if we take as opposites, contradictories or relatives or possession or privation. It is evident from these arguments, then, that being *qua* being is the subject of philosophy and that unity or oneness is an attribute or property of being.

As Aristotle stated in the *Posterior Analytics*, there are three things with which a science, including philosophy, is concerned: the genus, the principles of a science, and the properties and essential attributes of a subject. The kinds of principles are definitions, hypotheses, and axioms; and one may add also concepts as principles, but they are implied in the three kinds of principles mentioned and are either indefinable or definable. If indefinable, they are either apprehended by the intellect or not at all, and if they are definable, they are either directly apprehended or acquired by a qualified

demonstration. Furthermore, science deals with what exists, whether actually or potentially, but not with impossibilities, except accidentally; for anyone can lay down hypotheses of what is impossible or false and proceed to produce consequences of what exists or does not exist, but there is neither dignity nor value in such activity. There is a reason for this; for if a truth follows logically from false premises, it is neither demonstrable from them nor caused by them since no existing object can be demonstrated from what is impossible; and if a falsity follows from false principles, there is no dignity or value either in the consequences or in the corresponding human activity.

Now that the subject of philosophy has been identified, Aristotle turns next to the first axiom of being *qua* being and the consequent axiom of demonstration. But a distinction must be made between axioms of being and the corresponding axioms of expressions signifying being; for an axiom of being *qua* being is a truth about all things, whereas the corresponding axiom of demonstration is truth limited disjunctively to each science and to scientific statements, in fact, to all statements, and does not extend to all things. As Aristotle states it in the *Categories*, the existence of a man and the statement that a man exists imply each other, but man's existence is prior as a cause to the statement that man exists; and philosophy is concerned primarily with causes and accidentally or secondarily with what is caused. It is evident, then, that Aristotle's first axiom of being *qua* being is prior as a cause to the corresponding axiom of all logic, that is, that it is impossible for the same object to be and not be at the same time and in the same respect. The corresponding axiom of logic states that contradictory statements cannot be true at the same time and in the same respect. An alternative to this axiom is that the same statement cannot be both true and false in the same way.

One may wonder why modern logicians give a simplistic account of Aristotle's logic and pay little or no attention to the *Posterior Analytics* where the function of axioms is discussed. They hastily conclude that Aristotle's logic is inadequate for demonstration, especially mathematical demonstration. For one thing, Aristotle's *Prior Analytics* has only a limited function, for it is concerned only with the syllogism, whereas scientific demonstration is considered in the *Posterior Analytics*. The two works taken together may be called "his logic," but his general theory of science includes other elements as well, and these are distributed in his *Metaphysics*, *De Anima*, the *Categories*,

and other works where they belong. Contrary to the opinion of most other thinkers, it is my opinion that Aristotle's logic, viewed as I have stated it, is adequate for demonstration in general, including mathematical demonstration.[2]

Let us list the important senses of the term "being" and consider some of the consequences, for without adequate knowledge of those senses it is easy to be misled and to criticize Aristotle unfairly.

In one sense, the term "being" means each of the ten categories which are listed in the treatise on *Categories*. For example, any substance is a being, and so is any quality or quantity or relation or any of the remaining categories; and all of them are called "beings" not univocally but analogically; for substances are to all others as wholes to parts, so to say, or as separables to inseparables, or as independent things to things that depend on them, as we pointed out earlier. For just as angles are attributes of lines or of surfaces and must be defined in terms of lines or surfaces, respectively, so all attributes must be philosophically defined in terms of substances. Mathematical definitions are no exceptions; for mathematical objects are separable not ontologically but by the intellect, and their definitions which are given by the mathematician without the substances to which they belong are abstracted and convenient, and not philosophical. In general, philosophical definitions of attributes depend on other things, for their existence must reflect that dependence in their definitions.

Linguistically, the word "being" sometimes includes the predicate, which may be the copula "is" or the expression "is B," where B is any of the categories, and so we have the two sentences "A is" and "A is B." We may use the expression "A exists" instead of the expression "A is." Since A and B can come under any category, there can be 10 different expressions of the form "A exists" with respect to category and 100 different expressions of the form "A is B" in the same respect. Again, there are four of the so-called "predicaments," namely, definition, genus, property, and accident, but

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[2] In my translation of Aristotle's POSTERIOR ANALYTICS, pages 250-260, I have given a mathematical demonstration of a theorem by using only Aristotle's principles of demonstration, and I have discussed the various kinds of axioms and other principles which are used.

differentia may be added also; and so B may be related to A in four or five different ways as a predicament. Again, the expression "A exists" may mean either that A exists of necessity, or that A exists actually but not of necessity, or that A exists potentially in either of the two ways in which a thing can exist potentially; and the same applies to the expression "A is B." With simple mathematics, then, we see that there are over 1000 ways in which being can be expressed linguistically with respect to category and modality and to predicament, if these three are combined. Further, Aristotle adds also the expression "to belong," which is wider in meaning and application than the expression "is B" and which is proper to logic. For example, Aristotle says that a line belongs to a triangle and that the equality of the angles of a triangle to two right angles belongs to the triangle; but many thinkers, unaware of the meaning of Aristotle's expression "to belong," raise problems and objections. Anyway, if in the expressions "A is B" and "B belongs to A" we know what A is, then there are at least 100 ways in which B may belong to A with respect to category and modality and predicament combined. Now Aristotle has made all the above distinctions and does not stop to indicate them as he writes; he assumes that the reader is mature enough to figure them out. But a reader who does not go over these distinctions carefully can easily be misled into thinking that a predicate is a definition when it is not, or is a property when it is not, or is not a relation when it is, or that Aristotle's predicate in his logic cannot handle relations and such complex propositions as "if A is greater than B, and B is greater than C, then A is greater than C," and so on. For example, one might think that Aristotle is defining a quantity when in Book Delta of the *Metaphysics* he speaks of quantity as a being that which is divisible into constituents in a certain way; but it can be shown by the use of Aristotle's principles that he gives a property and not a definition.

There is still another meaning of the term "being," viz., truth which exists in the mind of man. Aristotle says in *De Anima* that the soul of man is in a certain sense all things; and perhaps by this he means that corresponding to every truth as a thought there is a being, and corresponding to every being there can be a truth, using the word "truth" in the primary sense. But more on this later.

Let us now turn to essential attributes of being *qua* being; for philosophy is a science, and a science investigates attributes proper to its

subject. Book Delta of the *Metaphysics* lists a number of such attributes: unity, sameness, otherness, equality, priority, completeness, part, whole, principle, cause, the dependent categories, intelligibility, and others; for all or most of these are either direct attributes of substances, or attributes which belong also to attributes of substances. Thus sameness belongs to substances as well as to quantities, for some quantities are the same but not equal, like two triangles as figures but with unequal areas, while other quantities are equal but not the same, like triangles and squares as figures but with equal areas. Further, a term corresponding to each of those attributes usually has many related meanings, as in the case of the terms "substance," "sameness," "priority," and the like, for Aristotle is not inclined to introduce new terms for things which are closely related; and if one is not aware of those meanings, one may misread or misrepresent the text, as is often done. Again, since such attributes are attributes of a part of being as well, all or most or many of them are used by all the other sciences; and, for this reason, a specialist should be familiar with at least those distinctions and principles in philosophy which are presupposed by or used in the corresponding special science. We may add that most of the expressions in Book Delta are principles and not theorems, and knowledge of them is acquired for the most part by the intellect or *NOUS* and not by demonstration.

One may wonder how truth as one of the senses of being is related to the other senses of being. But this follows from the definition of truth; for truth as an expression or knowledge is a thought of that which is, that it is, or of that which is not, that it is not, and so being in the other senses is to being as truth as that which is known is to that which knows it. In short, being in the other senses is related to truth by being knowable, and so knowability is an attribute of being *qua* being. Now there are certain problems concerning knowledge which every specific science must face, and such problems do not belong to any specific science, otherwise there would be duplication. Consequently, at least some of these problems belong to the highest science, which is philosophy. For example, definition is knowledge of a certain kind and has parts; and one may raise the problem of how a definition, which has many parts, signifies one thing and not many, and how those parts should be related to each other if they are to signify something which is one. This and other related problems are discussed in Book Z and elsewhere. In short,

there are problems of being *qua* knowable which every specific science must use, and many such problems belong to philosophy.

Sciences may be distinguished according to aim as well as according to subject, and a science may be pursued either for the sake of truth or for the sake of production or for the sake of action. Since man's best part is reason, the activities according to reason for its own sake would be best, for the other activities subordinate reason to action and production. Now activities pursued for the sake of reason have truth as their aim. Hence the theoretical sciences, whose aim is truth, are the most noble and honorable for a man to possess. Further, just as a substance, which in general is separate and independent of its attributes, is prior to those attributes, so a substance which is separate and independent without qualification and eternal and a cause without being caused has the greatest priority over all other things. Such is the prime mover, which is followed in priority by other movers and the eternal celestial objects. Hence the science of these eternal beings would be more noble and honorable than physics, which is the science of changeable objects *qua* changeable. The science which follows physics is mathematics, for its objects are quantities, and these are inseparable from physical substances and are investigated *qua* motionless. Of the three theoretical sciences generally taken, then, philosophy is the most honorable, for its objects are most honorable. But how many specific sciences are there? Perhaps infinite, according to Aristotle, and this follows from his principles; for every differentia is a principle and gives rise to a new science, and differentiae are indefinite in number and irreducible.

Aristotle raises the following hypothesis: If there are no substances other than those by nature--and some modern thinkers would take this position--physics would be first philosophy. If this were so, then physics would not be his *Physics* as we have it, and this conclusion would follow from his principles. For physics then would include his *Physics* and his *Metaphysics* as we have them, but with the exception of those parts which are concerned with separate and immaterial objects and whatever depends on or follows from those objects. The active intellect of man, too, would be excluded.

Concerning the order in the *Metaphysics*, we notice that an analysis of physical substances precedes the discussion of separate and immaterial substances, and this is what we should expect. For, as Aristotle states

elsewhere, knowledge proceeds from what is more familiar to what is less familiar, from what is more evident to what is less evident. Now physical substances are more evident to us than are both mathematical objects and substances which are separate and immaterial; hence physical substances and their principles should be discussed first, and in general they are so discussed. But should books M and N, which are concerned with mathematical objects, be placed at the end of the *Metaphysics*? I doubt that Aristotle would do this. Perhaps they were placed there by those who inherited the scattered manuscripts of Aristotle. With respect to evidence and clarity, mathematical objects seem to lie between physical substances and immaterial substances. Consequently, Books M and N should be placed between Books Theta and Iota, for Book Iota applies partly to mathematical and partly to physical objects, although there are arguments which favor the priority of Book Iota over Books M and N. In either case, Book Lambda should then be the climax of the *Metaphysics*.

Another problem of priority concerns quality and quantity. Aristotle seems to place quality before quantity in Book Lambda, whereas Thomas Aquinas does the opposite. But quality is indivisible whereas quantity is divisible; or else quality is more indivisible than quantity, if the various senses of divisibility are considered. Further, a physical substance *qua* substance is indivisible and is closer to its differentia, which is indivisible, than to its quantity which is divisible; and a differentia is closer to quality than to quantity, as indicated in the *Categories*. Other arguments may be added. Anyway, quality is prior to quantity according to Aristotle's principles; but if quantity is to be given priority over quality, a principle contrary to some of Aristotle's principles will have to be introduced. By "prior" here I mean prior in substance or essence and hence in nobility and honor.

We may now summarize. The subject of the *Metaphysics* is being *qua* being. In the order of nobility, the prime being is the prime mover, and this being is separate and independent without qualification, eternal, unchangeable, uncaused, and a cause of other things; and it is followed by other material movers, and these by the celestial objects which are eternal. The next kind of being is separate but independent in a qualified way, and is changeable with respect to various kinds of change; and by being changeable, it may exist potentially as well as actually and may take on accidents. The

categories other than substance make up the next kind of being, and these are inseparable from substances. Finally, there is being as truth, and in one sense this being is a quality as knowledge and so inseparable from man, but it is important because of its relation or correspondence to all other senses of being, and even to itself. Thus the expression "being *qua* being" signifies not univocally one subject but analogically many subjects which are related in certain ways.

The unity of the *Metaphysics* follows the unity of the corresponding subject, for the term "being" is convertible with the term "unity"; and just as the kinds of being cannot come under a single genus univocally, so the parts of the *Metaphysics* cannot be called parts of a single whole. Thus the *Metaphysics* has less unity than the science of man, for all men are univocally called by the same name. And it has less unity than a spatial geometry, whose axioms of equality and inequality and division and the like are analogous in meaning; for, in spite of such meaning, the objects of spatial geometry are parts of a unified whole, whereas the objects of metaphysics which are destructible and indestructible substances come under genera which are not different but distinct.

The method in the *Metaphysics* has many aspects but differs only in degree from the method Aristotle used in other treatises. Historically, he chose to study the past, to profit from what was stated truly, to guard against what was stated falsely, and to proceed forward; for he regarded progress, not as a starting point from the beginning of an investigation without a study of the past, but as additions to what was already done well. Dialectically, his method was to start with statements which would be most known to the serious learner before proceeding to what would be scientifically known, to state the problem, to use arguments for and against both sides of an issue, and to use examples, induction, analogies, syllogisms, and other such devices which would tend to lead to conviction or acceptance of what he regarded to be true.

Grinnell College
Grinnell, Iowa

Galileo, Aristotelian Science, and the Rotation of the Earth

Eric A. Reitan, O.P.

In 1610, at the age of 46, Galileo fulfilled one of his lifelong dreams by being appointed the court Mathematician and Philosopher of Cosimo II, Grand Duke of Tuscany. This new position allowed Galileo to devote the bulk of his energies to researching and writing about the physical constitution of the universe and the mathematical problems of motion. By this time he had already amassed a great deal of experimental data concerning the motions of heavy bodies, and he had just begun to perfect the telescope, which revealed a vast array of new and wonderful things in the heavens.

Over the next three decades, Galileo's observational, mathematical, and rhetorical skills enabled him to play a signal role in what we now call the "Scientific Revolution." In his *Dialogue on the Two Chief World Systems*, published in 1632, Galileo championed the cause of Copernican astronomy; and in his *Discourse on the Two New Sciences*, first published in 1638, he used what later thinkers would call the "law of inertia" to prove various mathematical properties of motion. These two massive accomplishments have earned for Galileo the title of "Father of Modern Science." Through his relentless and untiring efforts, Galileo destroyed the medieval Aristotelian distinction between the heavens and the earth, and he set the science of moving bodies on secure mathematical foundations. No longer was the earth the sole center of falling bodies in the universe; no longer were the planets perfect spheres moved uniformly by angelic spirits. Galileo had succeeded in moving the earth. By combining his astronomical observations with his own philosophical understanding of motion, Galileo convinced the world that the earth was a planet, rotating once upon its own axis in 24 hours and moving about the sun once every 365 days.

As I see it, Galileo's astronomical discoveries convinced him of the truth of the Copernican system. His telescopic observations cleared up several difficulties that had plagued Copernicus. The greatest obstacle remaining on

the path towards accepting Copernican astronomy was the motion of the earth. How could the earth move with circular motion, if its natural motion was down? How could objects keep from flying off of a rotating earth? How could a heavy body fall down to an earth that was not fixed in the center of the universe? These questions proved to be essentially insoluble to the medieval Aristotelian mind. It was the scientific genius of Galileo, however, that solved these difficulties and seemingly cleared the way for the Newtonian synthesis of the late 17th century.

It will be my contention throughout the remainder of this paper that Galileo's solution to the difficulty concerning the rotation of the earth is only intelligible within the Aristotelian framework that gave rise to it. Only by understanding the Aristotelian heritage of Galileo's early intellectual formation can we properly interpret Galileo's attempts to solve one of the most pressing problems of his time. It is my contention that Galileo's so-called "restricted" principle of inertia, only makes sense within the context of the Aristotelian philosophy of nature to which he was an heir and within which he labored throughout his life.

First, I will discuss the details of Galileo's solution to the difficulty of the earth's rotation.

Second, I will make clear the origin of this solution in Galileo's early writings and the writings of his contemporaries.

Finally, I will show how this solution fits into the general framework of medieval Aristotelian natural philosophy.

Galileo and the Rotation of the Earth

In his *Dialogue*, Galileo presents the merits of the Copernican system and the shortcomings of the Ptolemaic system. In the First Day he shows that the heavens and the earth are made of a single matter, and that both are equally changeable. In the Second Day he argues against the impossibility of the earth's rotation. In the third day, he makes a reasonable case for the annual revolution of the earth about the sun. And, in the Fourth Day, he

argues that only the rotation and revolution of the earth can adequately account for the phenomena of the tides.

In the Second Day Galileo argues against the Aristotelians who claim that the rotation of the earth is impossible. The principle stumbling block, for the rigid Aristotelians, is the vertical fall of heavy bodies. According to the Aristotelians, if the earth rotated on its own axis, then heavy bodies would not fall straight down, but would fall at an angle as the earth itself moved out from underneath them; however, we see that heavy bodies do in fact fall straight downward; therefore, the earth does not rotate. So, if the earth were to be rotating, then when one dropped a stone from the window of a tower, the stone would not land at the base of the tower, but would lag behind as the tower moved forward with the earth. The stone, no longer within the tower or in any way connected with it, would fall down to the earth and be left behind by the tower, which would continue to move with the earth.

Galileo is convinced, however, that all events on the earth will happen in the same way regardless of whether the earth moves or rests. The Aristotelians err, according to Galileo, in failing to understand the indifference that heavy bodies have to motion or rest in the horizontal plane, and hence the indifference that the earth has to rotation or rest about its own center. According to Galileo, the upward and downward motions of bodies are completely unaffected by the horizontal motion of those same bodies. Bodies move naturally towards the center of the earth, and they move away from that center only by force or violence. Hence, these bodies are completely indifferent to motion around their center of fall, since such motion moves them neither closer to nor farther away from that center. Such "motion" is equivalent to rest for these natural bodies, since it does not affect their relationship to the center, that is, their relationship to their natural place. Such "motion" is undetectable, from the vantage point of the earth, and it is as if it did not exist.

According to Galileo--and according to the medieval Aristotelians--a heavy body has a natural tendency to downward motion, and moves spontaneously towards the center of the earth unless impeded. Every heavy body likewise resists upward motion, which is directly contrary to its own natural tendency. Therefore, reasons Galileo, a body will remain at rest in the horizontal plane or remain in uniform motion along that plane so long as no

external force impedes it, for there is no internal natural reason why it should either begin to move or cease to move in the horizontal plane. Rest and motion in the horizontal plane are equivalent: neither one helps or hinders the moving body. Therefore, the moving body is completely indifferent to such motion or rest.

The important point here, and the crucial breakthrough in physical reasoning is the notion of a body's indifference to motion or rest on the horizontal plane. Because of this indifference to motion or rest, a body will remain at rest or in continuous uniform motion unless acted upon by some external force. These two conditions of the body -- rest and uniform motion -- are equivalent to one another on the horizontal plane. Furthermore, this notion of indifference leads Galileo to recognize the compatibility of motion towards or away from the center with motion around the center. He is able to distinguish clearly the vertical component of motion from the horizontal component. Each distinct component has its own independent effect on the moving body. Each acts entirely independently of the other; they are not contrary to one another and are in no way incompatible with one another. The upward and downward motions of bodies, therefore, will occur in exactly the same way, regardless of whether the earth rotates or not.

This insight into a body's indifference to motion or rest on the horizontal plane led Galileo to recognize the physical possibility of the earth's rotation. By using principles common to himself and to the professedly Aristotelian scientists of the time, Galileo solved one of the major scientific difficulties hindering the acceptance of Copernican astronomy.

Galileo's Early Works

The origin of these later developments is located in Galileo's early writings. In his *Letters on Sunspots*, published in 1613, Galileo enunciates clearly what Stillman Drake calls his "restricted" principle of inertia: restricted, that is, to the cases of spherical rotation and of heavy bodies moving near the surface of the earth. In his *Mechanics* and his *On Motion*, both completed before 1600, he uses the notion of a body's indifference to motion or rest along the horizontal plane, and he discusses the peculiar character of spherical rotation, which he says is neither natural nor forced. Furthermore, in his early

notes on Aristotle's natural philosophy Galileo discusses the perpetual circular motion of fire in its sphere. It is these earliest writings that help us to understand Galileo's own insistence that he receive the title of Court Mathematician *and* Philosopher when he was assumed under the patronage of Cosimo II. He claimed at that time to have studied as many years of philosophy as he had months of pure mathematics! Galileo was intent on being known as a philosopher, that is, a natural philosopher, or natural scientist, and not merely as a mathematician. He was concerned with understanding the structure of the actual physical universe and not simply with devising convenient mathematical hypotheses "to save the appearances." His earliest inertial concepts were developed for precisely this purpose.

Through his historical and paleographical studies, William Wallace has shown that Galileo's early notes on Aristotelian logic and natural philosophy were written "around 1590," when Galileo was a young professor of mathematics at Pisa. Galileo was then in his mid-to-late twenties and probably just beginning to form his own philosophical opinions. In these early notes, Galileo discusses questions concerning the nature of the heavens, the motions of elements, and the requirements of scientific demonstration. All the questions deal with specific problems deriving from Aristotle's *Posterior Analytics*, *On the Heavens*, and *On Generation and Corruption*. These notes show a young mind grappling with the difficulties of understanding Aristotelian principles of scientific reasoning. The notes contain references to several hundred primary texts and commentaries, and they resemble in both style and content lecture notes used by Jesuit professors at the Collegio Romano. It seems likely that Galileo obtained one or more sets of these lecture notes around 1588 from the Jesuit mathematician Christopher Clavius, with whom he was corresponding at the time. He probably based his own original composition on these notes, which provided him with a ready source of arguments and standard opinions. In any case, these notes show that Galileo took seriously the basic principles of Aristotelian logic and natural philosophy. In fact, he used many of the concepts discussed in these early notes in his two most famous and revolutionary works, the *Dialogue* and the *Discourse*: "nature" as a principle of naturally accelerated motion, the possibility of more than one center of fall in the universe, the use of mathematical suppositions in physical

reasoning, and the peculiar character of spherical rotation, which is neither natural nor violent.

In the question concerning the incorruptibility of the heavens, Galileo discusses whether the heavens might be made of fire. He says that if they were, then their circular motion would be neither natural nor violent, for the circular motion of fire in its sphere is neither natural nor violent. Such motion is not natural because the natural motion of fire is up, and a simple body has only one natural motion. However, neither is such motion violent, because it does not remove fire from its natural place, and nothing violent is perpetual. He describes the circular motion of fire in its sphere as "above nature" (*supra naturam*).

This question of fire's circular motion the source of Galileo's later concept of a body's indifference to motion or rest, and thus the origin of his own "restricted" principle of inertia. It is the non-natural and non-violent character of circular motion (that is, spherical rotation) that leads Galileo to recognize the neutral or non-existent nature of such motion. Such motion is as if it did not exist; it is equivalent to rest around the center. This notion, however, is certainly not original with Galileo, and it goes back at least to Aristotle, as Galileo himself remarks.

Galileo and Medieval Aristotelian Science

Throughout the Middle Ages, scientific thinkers discussed the nature of fire's circular motion. This motion presented a difficulty, because it seemed to be neither natural nor violent. On the one hand, fire's natural motion is up, and a simple body has only one natural motion; therefore, such motion is not natural. On the other hand, this circular motion seems to be a permanent fixture in the universe, for the sphere of fire and the upper part of air are continually borne around with the motion of the heavens, as Aristotle notes in his *Meteorology*; but, nothing violent can be perpetual. Medieval thinkers from Albert the Great and Thomas Aquinas, to John Buridan and Nicole Oresme, down to Renaissance thinkers such as Antonius Zimara and Jacopus Zabarella, all describe this circular motion as neither natural nor violent. They describe it in various ways as "above nature," or "beyond nature," as "outside of nature," or as an "intermediate motion," or as "irrelevant" or

"indifferent." By the end of the 16th century, it is the "common opinion of many" that the circular motion of fire is neither natural nor violent, neither according to nature nor contrary to nature. This question is also discussed in detail in several sets of Jesuit lecture notes, to which Galileo might have had access. Regardless of where Galileo first encountered the difficulty of analyzing fire's non-natural, perpetual motion, it is clear that it was a common difficulty and that Galileo solved it in the usual way.

Galileo's innovation in this area lies in his later application of these principles of motion to the problems of the earth's rotation. For the most part, medieval thinkers had failed to see that just as fire can move both up and around, so earth could move both down and around. It was Galileo's genius that first successfully applied these medieval Aristotelian notions to the earth and first clearly discerned the earth's indifference to such rotation. By clearly delineating the vertical and horizontal components of motion, Galileo was able to see the possibility of a rotating earth -- a possibility that was entirely consistent with Aristotle's own principles! In fact, in his *Dialogue*, (through the character of Salviati), Galileo chastises Aristotle who failed to see this very real possibility:

> Aristotle himself admits that fire moves naturally upward in a straight line and also turns in the diurnal motion which is imparted by the sky to all the element of fire and to the greater part of the air. Therefore if he saw no impossibility in the mixing of straight upward with circular motion, as communicated to fire and to the air up as far as the moon's orbit, no more should he deem this impossible with regard to the rock's straight-downward motion and the circular motion natural to the entire globe of the earth, of which the rock is a part.[1]

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[1] Galileo Galilei, DIALOGUE CONCERNING THE TWO CHIEF WORLD SYSTEMS – PTOLEMAIC AN COPERNICAN, translated with introduction and notes by Stillman Drake (University of California: Berkeley, 1967), p.141.

Here Galileo himself shows that he is squarely within the Aristotelian tradition of natural philosophy. He was trained in that field as a young man, and he was faithful to its methodology throughout his life. He consistently maintained that heavy bodies fall spontaneously and naturally downwards towards the natural center of heavy things. And it is precisely because of this innate natural tendency towards the center that such bodies are indifferent to motion around that center. According to Galileo, there is no difficulty in the earth's rotating and carrying with it all that lies within its "natural sphere of influence." This rotation in no way affects the upward and downward motions of bodies, for such motion is as if it did not exist; those motions would occur in exactly the same way on a resting earth.

To Galileo's mind, the Newtonian "law of inertia" would have been almost unintelligible, for it disregards the natural downward tendency of bodies. According to Galileo, a body is indifferent to motion on the horizontal plane precisely because it has a positive tendency downward and a natural resistance to motion upward. Only motion on the horizontal plane moves the body neither towards nor away from its natural place. For Newton and his successors, there is no natural motion, no natural place, no natural physical qualities at all. For the Newtonian scientist, "body" is purely geometrical, and so, is indifferent to motion in any direction whatever: there is no intrinsic reason why it should begin to move or cease to move, accelerate or why it should slow down.

One of Galileo's major scientific innovations -- namely, rotating the earth -- was developed within the context of a progressive Aristotelian philosophy of nature. The rotation of the earth, as Galileo conceived it and argued for it, did not necessitate the abandoning of Aristotelian principles of motion; on the contrary, his rotating of the earth depended upon those principles and was devised as a solution to a difficulty perceived within the framework of those principles. Had other thinkers of Galileo's time grasped the meaning and context of his thought and seen clearly the possibility of moving the earth in the Aristotelian universe, perhaps we could have avoided the radical split between "science" and philosophy that took place in the 17th and 18th centuries. If other Aristotelian philosophers of nature had been able to adapt the fundamental principles of change and motion to the new observational data of the 17th century, perhaps a progressive Aristotelian

philosophy of nature could have kept pace with the discoveries of "modern science," instead of being overrun and displaced by Descartes' mechanical philosophy and Newton's mathematical way.

What I am suggesting is that an historical and philosophical analysis of the problems facing 17th century thinkers within the context of their medieval heritage could perhaps lead to a reinterpretation of the historical events surrounding the so-called "scientific revolution," and thereby lead to a more scientifically and philosophically complete interpretation of our contemporary world, an interpretation based in part on Aristotelian principles of nature and motion.

Aquinas Institute of Theology
St. Louis, Missouri

Afterthoughts on my Carus Lectures[1]: Philosophy as Anthropology

Hilary Putnam

In my Carus Lectures I said that our "values"--duties, virtues, and the like, generally come in complex packages. These packages are integrated by what I called "moral images of the world" (I had originally written "moral images of man"). These images themselves are usually ambiguous, and frequently capable of being interpreted so as to support more than one "package" of values. There is a dialectic between the production of moral images and the production of interpretations of moral images, as there is a dialectic between the production of texts and the production of interpretations of texts, to use a currently popular analogy. I think that even philosophers who work in areas far from ethics often contribute to the production or the interpretations of one or another moral image of man and of man's world. Quine's insistence that physics and only physics tells us the true and ultimate structure of reality is, for example, a *re*-interpretation--in some ways a very radical reinterpretation--of seventeenth century Objectivism, and seventeenth century Objectivism is in part a moral image of man in the world, Man as The Being Who Has Finally Figured Out How the Whole Thing Works, the creature who has stripped the mystery from the face of the Universe. Goodman's insistence that the arts are as much a contribution to *understanding* and *cognition* as the sciences is an important attempt to change contemporary moral images of man and the world, insofar as they rest on Objectivism. I say this because, when one says that both the dream of Ontology--that is, the dream of a description of what *really* exists, in the metaphysician's sense of "really exists," and the dream of Epistemology--that is the dream of a general method for showing those who are right that they are right, the dream of a Universal

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[1] The lectures of mine to which these afterthoughts refer were published by Open Court (1987) under the title THE MANY FACES OF REALISM.

Method--when one says that both Ontology and Epistemology, in the senses that we have inherited from the seventeenth century, are pipedreams (and that's what I'm saying!); when one says this, one is often accused of saying that philosophy is "over." When I gave a series of lectures at Princeton University a couple of years ago, I heard to my surprise that the graduate students had reported those lectures by saying that I was "pessimistic" about philosophy.

Well, I'm not pessimistic about philosophy at all. I'm just pessimistic about Metaphysics and Epistemology. Metaphysics and Epistemology are done for. But that's not at all the same thing as saying that philosophy is done for.

I know that some readers are going to ask, "Well, if Epistemology and Metaphysics are done for, *what's left*?" The answer is that Kant was right when, late in his career, he said that all the questions of philosophy are summed up in Plato's question, *What is man*? Any other view of philosophy leads to conceptions such as philosophy as an adjunct of computer science, or philosophy as an adjunct of linguistics, or philosophy as an adjunct of physics, or to a "replay" of all the polemics and positions that were familiar to Kant *before* he started to write the first Critique (or to a combination of the foregoing--e.g., Computer Science as Epistemology, or Physics as Metaphysics). If philosophy is an attempt to provide meaningful, important, and discussable images of man in the world, then philosophy has room not only for my beloved colleagues, Quine and Nelson Goodman and John Rawls, but also for "literary" philosophers like Kierkegaard and Nietzsche. What Kierkegaard and Nietzsche did was precisely to compare and contrast fundamentally important moral images of man in the world.

Let me add a further afterthought. We cannot do metaphysics and epistemology in the traditional sense, but that isn't to say that we can't discuss many of the issues that were discussed by metaphysicians, or many of the issues that were discussed by epistemologists and philosophers of science; rather it is to say that we cannot construe our discussions as we used to construe them when we thought that they were, respectively, giving us the Canons of Scientific Inquiry and the True and Ultimate Furniture of Reality. But neither can we discuss images of man in the world as we did when we thought that there could be a *Wissenschaft* of "Philosophical Anthropology."

Afterthoughts on my Carus Lectures

I remarked in my Carus lectures that we live in a culture that *prematurely* calls itself "Postmodernist." Calling itself "Postmodernist" is premature, because in fact we are still much more "Modernist than *Post-*modernist; but the very fact that we anticipate a "Postmodernism" is something that I take to be significant. Part of Postmodernism is a recognition that we *have to return* to certain Pre-Modernist issues, but without the Pre-Modernist innocence. We may discuss issues in Moral Philosophy and Philosophy of Science; but we can no longer discuss them with Premodernist innocence. The mistake, I think, of current French philosophy, is to suppose that the opposite of Premodernist innocence is adolescent Relativism. The real importance of Wittgenstein was precisely in the idea of a philosophy that shows us that in many areas we cannot explain (or "give a foundation") for much that we pretended we could, a philosophy that challenges the enormous intellectual pretensions that we have wallowed in since the seventeenth century. His insistence that we *see* where our justifications run thin, *see* where our explanations run thin, *show* where our spade is turned was a very good idea indeed. As I said at the end of my first lecture, it is time that we recovered some of our sense of the mystery of the world.

The trouble with our present idea of Postmodernism, however, is that current Postmodernism uncritically continues the obsessive self-reflection that is the worst fault of Modernism. The task I see is to transcend philosophy's pretensions without falling back into excessive self-reflection, to build a philosophy that will realize that the problem for philosophy is not the nature of philosophy but the human situation.

Harvard University
Cambridge, Massachusetts

Ross, Promises, and the Intrinsic Value of Acts

Susan K. Brennan

Pleasure is the only good acknowledged by many traditional utilitarians. Yet, though pleasure may be good, it is not the only good. Traditional utilitarianism conflicts with our basic moral intuitions. Many people feel very strongly that there are certain types of actions which simply ought to be performed and other types of actions which never ought to be performed. This sentiment has encouraged many to accept deontological theories which define or identify what is right independently from the good. Intuitionists such as H. A. Prichard and W. D. Ross argue that we intuit which actions or sorts of actions are right. Though I believe that we have a moral intuition, I believe that this intuition is of the good, not of the right. Ideal utilitarianism is the combination of the basic utilitarian principle - the right act to perform in a given situation is such that no alternative act open to the agent would promote/produce more good - with a theory of the good which states, minimally, that pleasure or desire satisfaction is not the only good. I shall argue that a sophisticated ideal utilitarianism can explain our tendency to hold that certain types of actions always or usually ought to be performed. I shall argue that, in addition to other goods, many human actions have intrinsic value apart from their motives or their causal consequences. I shall consider an excellent example of a deontological theory, that of W. D. Ross. Ross acknowledges our beliefs that certain types of actions tend to be right. I argue, however, that Ross's theory has no advantage over a version of ideal utilitarianism which recognizes the intrinsic value of some actions.

Ross holds that we have certain special moral obligations in addition to the duty to produce good. According to Ross, utilitarianism cannot account for the belief most people share that promises should be kept. Ross's theory of *prima facie* and absolute duties is open to differing interpretations. On some plausible interpretations, it seems that Ross's view does not mandate any different actions than would a sophisticated version of ideal act utilitarianism. If the act of keeping a promise has intrinsic value itself, there may be an explanation of why it is usually right to keep promises even if a utilitarian view is correct. I shall argue that Ross's deontological view has no advantage over a version of ideal act utilitarianism which recognizes the intrinsic value of some actions.

It seems that there must be some *one* principle to decide which action of the alternative open to the agent is right. The basic utilitarian principle would seem to be that principle. Ross believes, however, that we have certain special obligations in addition to our obligation to produce good for others. (Ross does not cite explicitly a general obligation to produce good, but he cites duties of beneficence and self improvement.) The special duties include duties of fidelity, reparation, gratitude, justice, and non-maleficence.[1] If the ideal utilitarian is correct, than these are not duties independent of the duty to produce good. Yet, Ross and others believe that our moral intuitions tell us that we have, for example, a special obligation to keep promises. Ross allows that in some cases it is one's duty to set oneself to do an act, A, that is likely to produce less good than is an alternative, B, because A is the fulfilling of a promise. The utilitarian cannot allow this. One could simply dismiss Ross's appeal. Yet, most people do not think that one ought to keep one's promises. The focus on promise-keeping by moral philosophers seems warranted given the strong beliefs people have about keeping promises. Even though the ideal utilitarian holds the basic utilitarian principle to be self evident , she cannot ignore popular moral beliefs which may in the end point to something of value.

Ross's position complicates the question, because "keep promises" is not, in his view, an absolute moral rule; promise keeping is a *prima facie* duty. A *prima facie* duty is a parti-resultant attribute.[2] An act might be *prima facie* right insofar as it is the keeping of a promise and *prima facie* wrong insofar as it is the injuring of someone.[3] One's absolute duty in the situation will depend upon all the characteristics of the possible acts. In some cases the

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[1] W.D. Ross, THE RIGHT AND THE GOOD, (Oxford: Clarendon Press, 1930), p.21.

[2] IBID., p. 28.

[3] Ross specifies that an act does not include its motive, but an action does. In referring to Ross's view, I shall attempt to preserve this distinction, but in reference to my own, I shall use neither term to include the motive.

duty to produce good will override the duty to keep promises.

Ross presents his theory of *prima facie* and absolute duties in *The Right and the Good*. There are some potential difficulties for his view, however. The notion of *prima facie* duty is not unproblematic. The various alternative actions have not yet actually occurred. My apprehension of the *prima facie* duties they involve would require me to imagine the various acts and their consequences and base my judgement on this imagining. Yet, utilitarianism requires this as well. Ross considers several accounts of rightness including the view which is stated as: "I ought to do that which will actually produce a certain result" or "the reason why I ought to do it is that it will produce a certain result."[4] He rejects this consequentialist account, however, on the grounds that it implies that what we consider our duty is only what we do directly. But if I have promised to return a book to a friend, he would not describe my duty as the packing and mailing of the book. My duty would be to fulfill my promise - to put the book into my friend's possession.

The Description of the Act

There are different ways of describing the same act. Ross argues that the fact that an actual duty depends upon the whole act. The question arises, of course, what description of the act describes the whole act. The act Ross describes, the *securing* of his friend's possession of the book, is a complex act. If we consider merely the packing and mailing of the book, than it seems as though the reception of the book by Ross's friend is a consequence of the act of packing and mailing. It would seem that the consequences of the act (most importantly the reception of the book by the friend) make the act right. It would appear that Ross is gaining the advantage of a vaguely consequentialist view while still claiming that it is the kind of act it is, not its consequences, which make it right. Ross seems to be incorporating at least some of the morally relevant consequences into the description of the act. The act itself includes what we might *ordinarily* call (some of) its consequences.

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[4] Ross, THE RIGHT AND THE GOOD, p. 43.

Yet, according to Ross, it is the more complex act that is one's duty. Ross writes: "And if we ask ourselves whether it is *qua* the packing and posting of a book, or *qua* the securing of my friend's getting what I have promised to return to him, that my action is right, it is clear that it is in the second capacity in which it is right; and in this capacity, the capacity in which it is right, it is right by its own nature and not because of its consequences."[5] Though Ross does not use the expression, the packing and posting of the book could perhaps be called a "subact" within the larger act. The whole act includes some of the consequences of the subact of mailing the book. If Ross and the utilitarian dispute about the right course of action, and the utilitarian is thinking of the mailing of the book as the act in question, then Ross and the utilitarian are not considering the same act. When the act in question is better specified, it becomes clearer that consequences do matter for Ross, though not in the same way that they matter for the utilitarian. Ross's view is not so far away from the utilitarian's view as Ross sometimes suggests.

Ross claims that no matter how carefully I pack and send off the book, if it does not reach my friend, I have not done my duty. If it is impossible for me to fulfill it, there may be complications. Ross acknowledges a possible criticism.[6] Even in this simple case, there is the problem of the post office. No matter how carefully I pack the book, people at the post office might prevent the book from reaching my friend. Ross says, however, that he has excluded this case. He is dealing with the case in which I secure my friend's receiving the book. If the book reaches its destination, then the transportation system being what it is and the other people "being as they are, having the motives they have and being subject to the psychological laws they are subject to, my posting the book was the one further thing which was sufficient to procure my friend's receiving it."[7] He claims that the attainment of the result proves the sufficiency of the means. Ross seems to suggest that the criticism is based on the theory that human actions (i.e. those of the

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[5] IBID., p. 44.

[6] IBID., p. 45.

[7] IBID., p. 45.

postmen) are uncaused. Yet one need not hold that theory in order to offer the above criticism. The important point in the criticism is that I have no control over the actions of the post office employees. Whether their choices are uncaused or not, I do not cause their choices. Despite my efforts, my mission might fail due to the intervention of others. How can the fault for not fulfilling my duty possibly lie with me?

There is, of course the distinction between "right" and "morally praiseworthy". Perhaps I have not completed the *right* act, but my action is praiseworthy or I am praiseworthy for my attempt. Ross admits that the careful person deserves more praise, but says that this is a separate question.[8] He believes that we can see his point if we acknowledge that if the carelessly dispatched book fails to reach him, I still have not done my duty; I must send another copy. Even while he is mailing the book, Ross will not know whether the act he is performing is his duty until he hears from his friend that the book arrived, and perhaps not even then.

The actual consequence act utilitarian will not be able to know with certainty that his act will have the good consequences which make it right, but Ross does not even know what he is performing while he is performing it. Ross's view in *The Right and the Good* has epistemological complications at least as great as those of actual consequence act utilitarianism.

In sympathy with H. A. Prichard's "Duty and Ignorance of Fact",[9] Ross changes his theory in *Foundations of Ethics*. One's obligation is to set oneself to fulfill the promise, set oneself to return the book, rather than to put the book back in the lender's possession.[10] Ross's theory in *Foundations* is a more careful one.

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[8] IBID., p. 45.

[9] H.A. Prichard, "Duty and Ignorance of Fact," MORAL OBLIGATION, (Oxford: Oxford University Press, 1968), especially pp. 33-4. Prichard's reasons for his view are complex and I shall not discuss them here.

[10] Ross, FOUNDATIONS OF ETHICS, (Oxford: Clarendon Press, 1939), p. 108.

Conflicting Duties

The most dangerous potential problem for Ross would be a conflict between one's various duties. Yet it seems that though *prima facie* duties can conflict, Ross believes that he avoids any conflict of *absolute* duties. How are we to understand *prima facie* duties? In *Foundations of Ethics* Ross writes that the type of act that is *prima facie* right is a type of act that *tends* to be right.[11] In this way, he avoids the charge, made by the ideal utilitarian W.A. Pickard-Cambridge in response to *The Right and the Good*, that two duties may conflict,[12] e.g., I might injure someone if I tell the truth.

P.F. Strawson criticizes Ross's view. He writes that when we say "swans tend to be white," we are not ascribing the property, tending to be white, to each swan; we are saying that the number of white swans exceeds the number of swans that are not white.[13] "All *A*'s tend to be *B*'s" means "Most *A*'s are *B*'s" according to Strawson.

Does Ross simply mean that most acts which are cases of promise keeping are right? McCloskey argues that Ross errs in describing *prima facie* duties as tendencies to be duties. McCloskey wants to borrow the notion of *prima facie* duty, but offers an alternative explanation of it. He claims absolute duty should be explained in terms of prima facie duty, rather than explaining *prima facie* duty as tendency to be absolute duty. According to McCloskey, "...the expression 'absolute duty' is simply a shorthand way of referring to the largest sum of fulfillable *prima facie* duties in a given moral

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[11] IBID., p. 89.

[12] W.A. Pickard-Cambridge, "Two Problems About Duty," MIND, 41, 1932, pp. 150-1.

[13] P.F. Strawson, "Ethical Intuitionism," PHILOSOPHY 24, 1949, p. 29.

situation, where the sum may be one or many such duties."[14] McCloskey does not specify how the largest sum of fulfillable *prima facie* duties is determined. Presumably, the goal would be not merely to fulfill as many *prima facie* duties as possible in the situation, but to fulfill the most important ones. Perhaps the absolute duty is the set of compatible, fulfillable *prima facie* duties the fulfillment of which would constitute more good than any other set. If so, McCloskey's interpretation of *prima facie* duties would be particularly close to a version of ideal utilitarianism which recognizes the intrinsic value of actions.

A.C. Ewing explains the notion of tending as "the notion that, other things being equal, *A* will be *B*, though this may be prevented by counteracting circumstances, the tendency being regarded as based on something positive in *A*."[15] Ewing seems to hold that even if one prima facie duty is overridden by another, the former obligation still affects me. It still seems to place a moral demand on me;[16] perhaps I am now obligated to do something in the future for the person to whom I made the broken promise.

Yet, the idea of a *prima facie* duty placing moral demands on one seems problematic. If the *prima facie* is a real moral demand, than what becomes of that demand when another *prima facie* overrides the first one? How do the various *prima facie* duties determine the absolute duty? Does the winning act have the most *prima facie* rightness and do all other *prima facie* duties simply become unimportant in that situation? What makes one *prima facie* duty override another? Robert Shope argues that it seems there may be exceptions to moral principles.[17] Yet, Ross probably would not want to

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[14] H.J. McCloskey, "Ross and the Concept of a PRIMA FACIE Duty," AUSTRALASIAN JOURNAL OF PHILOSOPHY 41, 1963, p. 344.

[15] A.C. Ewing, SECOND THOUGHTS IN MORAL PHILOSOPHY, (London: Routledge and Kegan Paul, 1959), p. 109.

[16] IBID., p. 110.

[17] Robert Shope claims that since a PRIMA FACIE duty places a moral demand on the agent, Ross is inconsistent when he says that in some cases there is no actual moral demand when the whole act is considered. Yet, it is not clear that Ross ever says that incompatible PRIMA FACIE duties can result in no moral demand being placed on the agent. Robert Shope, "Prima Facie Duty," JOURNAL OF PHILOSOPHY

say that there are exceptions. The overridden *prima facie* is still a real *prima facie* duty. Though it may be appropriate to break a promise, one may still owe an explanation to the promisee. The utilitarian is tempted to say that the winning *prima facie* duty overrides because more good will result from it than from the other. Since one still has the obligation to promote as much good as possible, however, and other things being equal, one should try to do what one can to compensate the promisee. (The act which one performs to compensate the promisee might be intrinsically good in itself, neutral, or it might involve certain evils.)

Given Ross's theory of *prima facie* duties, the utilitarian will have trouble refuting Ross with a counterexample. One could show that in this or that instance it is right to break a promise, but Ross will admit that a special obligation may be overridden by utilitarian considerations if the good to be produced is sufficiently great. If Ross can find one case, however, in which it would be right to keep a promise even though more good could come from breaking it, he has refuted act utilitarianism.

In *The Right and the Good*, Ross offers this case: the fulfillment of a promise to person *A* would produce 1,000 units of good for *A*, but another act would produce 1,001 units of good for *B* to whom I have made no promise.[18] Ross assumes that the other consequences of the two acts are of equal value. (Presumably, the units are of very small value.) He claims that we really think it is right to do the former act rather than the latter.

Pickard-Cambridge directs his criticism towards the assumption that the other consequences are equal. He claims that the other consequences generally will not be equal. Broken promises will have a negative effect on the general institution of promise keeping. Ross does acknowledge this fact, but replies that the effect of one broken promise is exaggerated by utilitarians.[19] Pickard-Cambridge, however, responds that we should not consider one breach of promise as an exception to the general practice, but

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62, 1965, p. 281.

[18] Ross, THE RIGHT AND THE GOOD, p. 34.

[19] IBID., p. 39.

rather consider what would happen if the general practice were abandoned.[20] The appeal to these possible consequences would allow Pickard-Cambridge to add a large amount of good on the side of promise keeping.

Yet, is he entitled to do this? He seems to be considering whether the general rule of promise keeping should exist or not; he is not considering the effects of one particular act in the particular situation. In *Foundation of Ethics*, Ross argues that the utilitarian may ask only in what particular way the particular act might contribute to the breakdown of the practice of promise keeping.[21] If promise keeping is a practice, an institution, however, perhaps it must be considered as such.[22] If so, promise keeping would be an exceptionless rule (but with utilitarian justification). A rule utilitarian might say that since the effects of everyone (or at least most people) keeping promises are so much better than not having the practice of promise keeping, "keep promises" is an exceptionless rule of morality. (Some rule utilitarians would specify the right to act differently by arguing that since more cases of promise keeping are productive of the most good possible in a situation than are cases of promise breaking, "keep promises" is a rule of morality. This view is more like act utilitarianism and is really very similar to Ross's supposedly non-utilitarian view.) Yet, Pickard-Cambridge does not want to appeal to exceptionless rules of morality, nor does Ross, nor do I; some promises ought to be broken.

Effects on general practice aside, however, Ross can still appeal to his desert island and death bed promise examples.[23] Two men are dying alone and if the promisor does not fulfill his promise before he dies, no one will ever know. Breaking the promise would have very good consequences and would not affect the general practice. The effect of a broken promise on the

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[20] Pickard-Cambridge, p. 154.

[21] Ross, THE RIGHT AND THE GOOD p. 93.

[22] John Rawls, "Two Concepts of Rules," PHILOSOPHICAL REVIEW 64, 1955, p. 30.

[23] See Ross, THE RIGHT AND THE GOOD, p. 39.

individual's habits and social relationships may also be taken into account, but none of these considerations is likely to be very significant if the promise is broken for an altruistic reason. We still must consider whether if breaking the promise were to produce more good than keeping it, one should still keep the promise.

As I have already noted, in *The Right and the Good* Ross also asks whether he should keep a promise to *A* that would bring *A* 1,000 units of good or do another act that would bring A 1,001 units; Ross says he should do the former act. Pickard-Cambridge counters with a discussion of the subjective value for *A* of receiving what was promised.[24] *A* has some extra pleasure in receiving it because it was promised, and some pain if it is not received. It might be better for him to see a play, 100 units (pleasure is *not* the only good involved), than a baseball game, 90 units, but the subjective value that *A* receives from being taken to the promised game may outweigh the purely objective difference. Pickard-Cambridge is merely trying to show that more good will usually be produced by keeping promises.

Ross argues for the special obligation of justice as well, and advocates producing 1,000 units of good for the good man rather than 1,001 units of good for the bad man.[25] Pickard-Cambridge offers an example in which more good would come from what Ross would call an unjust distribution.[26] He does not argue that more good will be produced by just distribution procedures. There are probably sociological and political arguments for the utility of just distribution procedures (as well as arguments against increasing the number of people in order to maximize happiness), but this is perhaps one of the most dangerous problems for utilitarianism. Pickard-Cambridge does not present the best ideal utilitarian defense against problems relating to justice. The intrinsic value of some actions and relationships needs to be discussed.

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[24] Pickard-Cambridge, p. 154.

[25] Ross, THE RIGHT AND THE GOOD, pp. 328-329.

[26] Pickard-Cambridge, pp. 328-329.

Pickard-Cambridge gives numerous examples of cases in which it would be right to break a promise. These would be relatively uninteresting if it were not for Ross's response. If *A* has promised to put a new string on *B*'s violin by five o'clock, but at four-forty-five *B* is evidently dying, is *A* obliged to keep his promise? Both men, of course, say no. Ross's explanation, however, is an appeal to the *spirit of the promise*. He claims that there was an underlying assumption that *B* would be well enough to play the violin.[27] If a rich miser disguised as a poor man persuades me to pay him $1,000 in six months, but I discover his deception before the time arrives, both Ross and Pickard-Cambridge agree I am not obliged to pay the money. Ross says the underlying assumption was that the supposedly poor man was telling the truth. Ross suggests that when a promise is made, there may be a tacit understanding the keeping of the promise would fulfill some purpose of the promisee.[28] Ross may have made a tactical error in appealing to the spirit of the promise. He seems to say that the promisor assumed some good would come from keeping the promise; if so,it may become apparent, however, that more good would come from breaking the promise. Circumstances may change so that the maintenance of a promise becomes "unreasonable".[29] The spirit of the promises seems to involve the assumption that good would come from keeping the promise. Ross also agrees that promises have different degrees of bindingness. Perhaps this is due to the different intrinsic values of keeping them.

Ross does argue, however, that the duty to fulfill a promise is the duty not to let down someone who has trusted you.[30] If the promisee no longer wants the promise kept, the *prima facie* duty is gone. Is this not an argument in favor of the utilitarian view of promises? If the only good result expected from the fulfillment of the promise is some pleasure that the

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[27] Ross, FOUNDATIONS OF ETHICS, 94.

[28] IBID., p. 96.

[29] IBID., p. 99.

[30] IBID., p. 110.

promisee would not experience if he does not want what was promised, then it makes sense on utilitarian grounds that the promise be broken. Yet, if more good would still result from keeping the promise than from breaking it, I think most would agree that it should be kept.

Why Keep Promises?

Is production of the greatest possible good the reason why we ought to keep promises? The general practice of promise keeping, as an institution, certainly does help to maximize the good for society. Yet, utilitarian considerations inspire both keeping and breaking particular promises in particular cases. It seems that Ross's *prima facie* duty theory places his view much closer to ideal act utilitarianism than he would like to admit. *Prima facie* duties can be overridden by utilitarian considerations. Perhaps they are akin to the general guidelines that an act utilitarian would be willing to use and teach children. The question is really how much good does it take to override these duties. Most utilitarians, however, would not be concerned with *overriding* the duties, but simply with weighing good consequences. Yet, there is a sentiment most people have that the good consequences of breaking a promise must be considerable before the breach is justified. The good effects on the general practice of promising and on an individual's habits do not seem great enough to account for this sentiment. (If the breaking of the promise merely encourages the promise breaker to view promises as capable of being overridden while reinforcing his general disposition to do good, there is little or no harm to his character. If the broken promise weakens his respect for others, however, the harm may be very significant.)

Why should one keep the promise? Perhaps the act of keeping a promise has *intrinsic value*. This value would explain why it is right to keep a promise even when there might be slightly more good produced for *B* by breaking the promise than good produced for *A* (and society - e.g. by reinforcing the general practice) by keeping the promise to *A*. If the disparity of goods produced is great enough, however, it would be right to break the promise. If breaking the promise yields 1001 "units" of good and keeping the promise yields only 1000, one ought to break the promise. The value of the

action is another addition of good to the side of promise keeping and the good produced by breaking the promise might still be greater; yet, the value of the action may be great.

Is this an artificial move? Have I manufactured intrinsic value for acts in order to make it right to keep promises? I do not think so. I am not saying that the act has value because it is one's only duty to do it. If it had value only because it was a duty, the value could not be the ground of the duty. In addition, though the act has value, it will not always be my duty to do it if another would have better consequences. The act is right because no other alternative act in that situation would produce more good. We may say that one of the good consequences is a logical "consequence" of the act - the act itself.

Nor am I saying that the act has value because the agent had a good motive. The value of the motive is a property of the agent, not of the act. It is important to keep distinct three questions: 1) is the act good, evil, or neutral?; 2) is the act right or wrong?; and 3) is the agent morally praiseworthy or morally blameworthy?

The intrinsic value of promise-keeping is the reason for our hesitancy in responding to Ross's desert island and death bed promise examples. Even if it seems clear that the causal consequences of breaking the promise are better than those of keeping it, there is some reluctancy to say one should break the promise. Am I advocating following a rule, "keep promises" (other things being equal)? Is my view simply a variant of rule utilitarianism? No, it is not. 1) Rule utilitarianism is fundamentally flawed and collapses into act utilitarianism[31] and 2) I am not claiming that the actions are right or *prima facie* right, but they are good. It is possible that more often than not it is wrong to keep a promise, but yet, promise-keeping is still an intrinsic good. The value of the act must be taken into account even though in some cases the intrinsically good act is not the right act. (We can, however, feel certain

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[31] Rule utilitarianism is burdened with a number of problems. The most destructive is the possibility of conflicts between rules. Two or more rules, for example, "tell the truth" and "do not injure other people", may conflict in a given situation. It then seems as though one must appeal to the general-principle of utility in order to adjudicate between the rules. Rule utilitarianism becomes act utilitarianism.

about the logical consequences occurring, though not about the likelihood of the expected causal consequences occurring. This will help to increase the reasonableness of keeping promises.)

Have I artificially attached intrinsic goodness to acts themselves? Why would one act be intrinsically good and another not? One cannot prove that something is intrinsically good, but one might discover that all intrinsically good acts stand in a certain relationship to human life, to human nature, or to the human situation.

The fact that promise keeping has intrinsic value, of course, does not mean that one should always keep promises. The ideal act utilitarian must weigh the causal and logical good consequences of each possible action and the various probabilities of the occurrence of the former. Yet, a recognition of the value of the act helps to account for the intuitionist's supposed intuition that certain types of acts are *prima facie* right. I am not rejecting the notion of intuition, however. It is via intuition that one knows what sorts of things, including what sorts of acts are intrinsically good and via intuition that one knows the basic utilitarian principle.

Boston College
Boston, Massachusetts

7 + 5 = 12 Analytic or Synthetic?

Ronald Keith Tacelli, S.J.

Kant's answer is well known: '7 + 5 = 12' is synthetically true. His critics have been divided in their assessment of that position--and divided in sometimes surprising ways. H.A. Prichard, for example, was a critic of relentless hostility; he seemed to view the Critique of Pure Reason as an extended display of false premises and absurd conclusions. But in this particular matter he held that "Kant is obviously right."[1] And yet others have remained unconvinced; many of them far more sympathetically disposed than Prichard. Even D.P. Dryer, one of Kant's most confident and aggressive defenders, has maintained without a trace of hesitation that here, at least, "Kant...is mistaken."[2] Was Kant mistaken? Or was he right--perhaps even "obviously right?"

Before we can determine whether 7 + 5 = 12 is analytic or synthetic, we must know what Kant meant by an analytic judgement and what he meant by a synthetic one.

An analytic judgement is one in which the thought of the predicate is contained, though covertly in the thought of the subject. E.g.: 'All bodies are extended'. The notion of extension is contained, though not explicitly, in the concept 'body', we understand that the thought of extension is involved in that meaning. And so, says Kant, the judgement 'All bodies are extended' is cogitated through identity: i.e., we can understand, when we think what we mean by 'body', that extension is part of what we mean by it. Hence: If I deny a true analytic judgement, I fall immediately into contradiction. If I say 'x is not y', and being y is part of what is meant by x, then my statement amounts to saying 'x is not x'--i.e., the subject is not identical to itself. And this cannot be true.

A synthetic judgement, on the other hand, is one whose predicate is not contained in the subject--where the metaphor 'not contained in the

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[1] H.A. Prichard, KANT'S THEORY OF KNOWLEDGE, (Oxford: at the Clarenden Press, 1909), p. 6.

[2] D.P. Dryer, KANT'S SOLUTION FOR VERIFICATION IN METAPHYSICS, (London George Allen and Unwin Ltd., 1966), p. 53

subject' means: not itself thought when we think what we mean by the subject-term. Kant uses the example, 'All bodies are heavy'. All bodies may be heavy, but to be heavy is not a part of the meaning of 'body': is not already, though implicitly, thought when we think the concept 'body'.

Now consider '7 + 5 = 12'. Is '12' thought already, though implicitly, in the expression '7 + 5'? This is what Kant denies. What '7 + 5' means is this: To so many units already counted I add so many others. And through this process I can see the number 12 come into being. Must the adding of these numbers always yield this result? Yes. But why? The rest of the Critique was written to answer that very question. But whatever the explanation of the fact, the fact remains: the judgement '7 + 5 = 12' is synthetic a priori.

Or is it? One recent writer has said that '12 = 11 + 1' is true analytically (for we mean by '12' the number which is one more than 11); and therefore that '12 = 7 + 5' must also be true analytically.[3]

But this is wrong. What does '12 = 11 + 1' mean? Not that this sum '12' is this process of addition. What then? If we write '11 + 1 = 12', we can see a meaning more easily--viz.: If to 11 units I add 1, I get the sum '12'. But from 12 I do not get any process: 12 is neither identical with, nor does it generate, the process of adding 1 to 11; it is simply the name of the sum which is thought of as having been reached that way.

Now in the series of natural numbers, the name '12' is used for what comes after 11 and before 13. And since the number-series is generated by the addition of units, we may speak of 12 as '11 + 1', meaning that 12 stands to 11 as the next higher in the series of natural numbers. But in this sense, '11 + 1' must be understood in terms of a sum already having been reached, viz: 12. That is why the '12' is written first. When you say '12 = 11 + 1', you are using an arithmetical form to state the place of 12 within the series of natural numbers. You are not doing arithmetic.

Other objections may be raised against Kant. For example: In '7 + 5 = 12', there are 12 units on the left side of the equation and 12 on the right. We can picture it this way:

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[3] IBID., pp. 51-2.

111111111111 = 111111111111

And so the 'predicate'(12) is contained in the 'subject' (7 + 5). Therefore '7 + 5 = 12' is analytic.

The objection is misconceived, however. An analytic judgement is one in which the predicate is thought, though covertly, in the subject. But we must have the predicate in the subject in order to think it there. In what sense do we have '12' on the left side of the equation? We have it if the units add up to 12. But how do we know that they do? By counting, and by seeing the concept of the sum of these units generated by that process. In other words: the units on the left side of the equation are a 'picture' of '7 + 5', if by counting we have already determined that 12 results from 5 being added to 7.

Note: the picture itself is a little odd.

111111111111 = 111111111111

This is certainly a way of visualizing '12 = 12'. But equally, then, of 10 + 2, 8 + 4, 9 + 3, 6 x 2, 4 x 3, etc., etc. It is not, however, a way of visualizing 20 - 8, or 24/2, or infinitely many other combinations, necessarily resulting in 12. This alone should make us suspect that '7 + 5 = 12' is not equivalent to the identity '12 = 12'. And of course it is not equivalent. For the '12' on the left side of the identity is really the '12' on the right side of the equation. Until this or that operation on these or those combinations of units has been specified, then there is no result to be equivalent to anything. But once the operation and the units have been specified, and the result reached, then we know that the result is necessarily what it is. It is also, of course, necessarily identical to itself.[4]

But the counting is this process of summing units, you may object; and yet we see that adding 5 more units to what is counted as 7 must always

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[4] Cf. Kant's letter to Johann Schultz (Nov. 25, 1788) in KANT: PHILOSOPHICAL CORRESPONDENCE, 1759-99, ed. and transl. by Arnulf Zweig (Chicago and London: University of Chicago Press, 1967), pp.129-30.

= 12. Yes; certainly. This is what Kant means by calling arithmetical truths synthetic a priori. They are not empirical generalizations. If we agree that they are not but reject Kant's answer, we are forced to say that '7 + 5 = 12' is true by definition: that '7 + 5' is--what? Not the definition of 12. For any numerical formula whose result is 12 will equally be a definition of it. A definition, then? But in that case there will be infinitely many definitions of 12, all of whose parts will themselves be infinitely many. And that cannot be right.

Briefly: '7 + 5 = 12' is not an empirical generalization. Nor is it true by definition. But if not, then Kant has been right all along: '7 + 5 = 12' is synthetic a priori.

Boston College
Massachusetts

'Intuition Pumps'and Contemporary Philosophy

Laurie MacLean-Tollefsen

In recent philosophical writing a particular method of argument frequently occurs. Daniel Dennett calls this method the "intuition pump" in his book on free will *Elbow Room*[1]. Intuition pumps, in a broad sense, are employed to reinforce an important point in an argument by appealing to one's intuition, rather than reason. This method is by no means new to philosophy, but its use in recent philosophy may have significant consequences. The intuition pump is found in various forms, e.g., a thought experiment, an appeal to the extraordinary, a hypothetical situation, or an analogy. In this paper I will summarize two opposing views concerning intuition pumps, one by Jerry Fodor in his article "On Knowing What We Would Say,"[2] the other by Patricia Kitcher, "On Appealing to the Extraordinary."[3] I shall discuss the nature of intuition pumps in a broad sense, and then, by focusing on some particular examples, point out some dangers which accompany this method of argument.

For Jerry Fodor, the intuition pump is a "...what would you say if...?" question. He points out that the meaning of a word, or how a word is used, is the issue in these types of arguments. In one case, conditions according to which a word is used are "criterial;" that is, they are necessary in order for that word to be used. The other conditions are "symptomatic:" these are not necessary conditions, but they generally accompany occasions when the word is used. Having made this distinction, Fodor summarizes the "...what would you say if...?" question in this way:

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[1] Daniel Dennet, ELBOW ROOM, The MIT Press, Cambridge, MA., 1984.

[2] Jerry Fodor, "On Knowing What We Would Say," PHILOSOPHICAL REVIEW, Vol. 73, April, 1968, pp. 198-212.

[3] Patricia Kitcher, "On Appealing to the Extraordinary," METAPHILOSOPHY, Vol. 9, April, 1978, pp. 99-107.

> "if F is a feature that you know to be perfectly correlated with regular occurrences of W, but which you suspect may not be logically characteristic (criterial) of W, ask your informant whether he would be willing to use W even in the absence of F. If so then F must be only empirically characteristic (symptomatic) of W, since something could count as a regular occurrence of W from which F was absent. If not, then F must be logically characteristic (criterial) of W, since nothing could count as a regular occurrence of W from which F is absent."[4]

Fodor goes on to describe two types of "...what would you say if...?" questions. The first kind asks about situations which are relatively normal, even if they have not been directly experienced by the informant. The second type asks about situations which will probably never occur, or would only occur rarely. An example of the first type is this: "If your brakes fail when you come to an intersection and you hit a child and the child dies, would you say you are responsible for the child's death?" An example of the second type is this: "If a patient in a dream study showed signs of a peaceful sleep, no rapid eye movement, no increased heart rate, no classical signs of dreaming or technical signs of dreaming, but when he awakes he reports to have had a night full of nightmares, would you say that he had dreamed?"[5] As Fodor sees it, the intuition of a person answering the second type of question need not be trusted, because our knowledge of language will not allow us to reliably answer such a question. Fodor argues that what a person is doing in answering such a question is predicting what beliefs he would adopt if a situation arose in which his current beliefs about something proved false. We cannot really know how we would actually react if a situation like that arose, and we cannot really know what might be involved were we to find that we

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[4] Jerry Fodor, PHILOSOPHICAL REVIEW, Vol. 73, April, 1968, p. 202.

[5] IBID., p. 204.

need to adopt new beliefs. Therefore, the results of such questions cannot be relied upon to establish a point.

In response to Jerry Fodor, Patricia Kitcher claims that the cases which fall under Fodor's description are actually a small rather insignificant number. She begins with a practical point: if one is not willing to accept fictional examples, one will not have much current philosophy to read. She continues with a description of the issues which differs from Fodor's. Kitcher claims that the purpose of such examples is to aid in understanding the "common tacit view about what X is," not to determine something about the characteristics of the occasions on which a word is used. These 'tacit views'are sets of beliefs about X which do not have to do with the meaning of words. This is a rather looser description than Fodor's. Kitcher's own words best describe how she believes that appeals to the extraordinary further our understanding of what our tacit views about X are: "...our judgement about an hypothetical situation involving Xs provides further data for a theory of our common view of X beyond what we say we think about X or Xs."[6]

For Fodor we cannot reliably make a judgement about situations involving the denial of what we believe to be true. Kitcher responds to this by claiming that the utility of such examples does not rely on our ability to place ourselves in such a situation, but rather on assessing our judgement of the situation *as* an hypothetical situation. Kitcher agrees that there is not much use in trying to say something about a situation which we do not understand, but she claims that there are not nearly as many cases of these as Fodor suggests. Only the most extraordinary examples fall into this category. Kitcher concludes that the use of extraordinary examples can really "only be excluded one at a time" after careful examination, and then, only those which cannot be understood need be eliminated. Her final conclusion is that although it may not be unusual to wonder at this method, there is no reason that it cannot be philosophically useful.

Although Fodor and Kitcher reach opposite conclusions, their differences lie primarily in their approaches to the problem. For Fodor, appeals to the extraordinary are problems dealing with language, while for Kitcher the issue concerns the value of the intuition provided by such examples. So long as we

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[6] Patricia Kitcher, METAPHILOSOPHY, Vol. 9, April, 1978, p. 102.

can imagine an extraordinary situation we ought to be able to learn something about our beliefs. Fodor, on the other hand, thinks that judgments about our beliefs are more complicated than Kitcher suggests.

Intuition pumps, as the name indicates, are meant to stimulate the imagination to produce feelings, which support a point in an argument. Some intuition pumps are quite powerful, and easily achieve their ends. Fodor's and Kitcher's concerns with the legitimacy of appeals to the extraordinary point to the significance of allowing an important point in an argument to rest on an anomalous example. This may reflect something about such examples. To refuse to accept a hypothetical situation as relevant to the issue at hand usually seems unreasonable, yet to accept it is, in some cases, to admit more than one cares to. This, I believe, is due to the nature of intuition pumps themselves. By their nature, hypothetical examples, analogies, appeals to the extraordinary, etc. tend to simplify the issue, and carry with them assumptions which may beg the question.

An example of such a case is a hypothetical situation used to make the point that there can be no universal ethical standards. The situation is as follows: suppose that Martians came to earth, and it turned out that the constraints of your ethical system caused them extreme pain. What would you say about your ethical system? The hypothetical situation is meant to produce the intuition that if an ethical system can cause pain in any way to another form of rational being, that ethical system cannot be considered universal to rational beings. The obvious objection (Fodor's) is simply that the situation exceeds any normal situation and therefore carries little weight. But the force of the argument is already established. This example leads one to imagine that there might even be human beings who are pained by our ethical system. Looking further, it seems that if this possibility exists, there can be no universal ethical standards.

If we look closely at the assumptions behind this hypothetical situation, however, we can see where an illegitimate jump has been made. Someone who holds that there are universal ethical standards believes that all human beings are rational, and that all rational beings, arguing correctly from the proper premises will arrive at the same conclusions. The example, by bringing Martians into the picture, introduces a new factor: we might be tempted to believe that Martians do not share our rationality. From this, the example

attempts to make us admit the possibility that some human beings also may not share in our rationality, or practical reasoning. But this assumes the very point being established, i.e., that human beings, although sharing the name, 'human beings' do not reason in the same way, and thus cannot be bound by the same ethical standards. The example oversimplifies the issue, and surreptitiously assumes that which it is trying to prove.

Daniel Dennett makes a similar point in his discussion of intuition pumps(IPs) in *Elbow Room*. Dennett does not say that all IPs are misleading, and he thinks that of those that are, not all are intended to be so. Dennett's point about IPs is one I have mentioned in connection with Fodor: that such devices are misleading in their simplicity, and that it is the simplicity that we distrust. Dennett refers to the example of the sphex. The sphex is a wasp which, after bringing food back to its nest, places it outside the door, then goes inside to check for any danger. If, while the sphex is inside, someone moves the bundle a short distance away, the sphex will go find it, place it in front of the door, and go back inside the nest to look around before bringing the bundle in. The sphex will continue to do this as many times as the bundle is moved while the sphex is inside the nest. This example is used to support the idea that we may be like the sphex, with someone fooling around with our lives in such a way that we were not aware of it, thinking as we do that we are in control. Dennett states of this case that it is not just that the wasp's behavior is caused that makes the example dreadful to us, but that it is caused so simply.

In the case of the sphex, we are right to suspect that a trick is being pulled: our behavior is being compared to that of an insect -- we really could not be so simply fooled. Is their any value, then, in drawing an analogy that limits human nature in such a way? There is the possibility that when we realize in what way the example limits human nature, we may learn something about our beliefs (Kitcher). Some may perhaps come to think that they *are* being controlled by something more intelligent than we are. But *should* we abandon our beliefs that we are not being controlled in the face of this example? It seems that this would be a foolish practice in light of the simplicity of the example, and the lack of evidence it provides.

A final example which points to the danger of IPs may be found in Gettier examples. A Gettier example presents a hypothetical situation in which it is

shown that someone who thinks he has a justified true belief really does not. Such an example runs as follows: Mr. Smith has worked with Mr. Jones over the past year at a large corporation. Everyday Mr. Smith has seen Mr. Jones arrive in a blue Buick. Mr. Smith has an apparently justified true belief that Mr. Jones owns a blue Buick. Actually, however, Mr. Jones is a private investigator for the company, working for the last year on an embezzlement case. The company owns the car which Mr. Jones drives. Mr. Smith therefore does not have a justified true belief, even if Mr. Jones *actually* owns a blue Buick (which he keeps at home). The point of the Gettier example is to show that objective knowledge is not possible. Like the ethical example, Gettier examples assume too much of what they try to prove.

In this example, Mr. Smith is deprived of the knowledge that Mr. Jones is an undercover agent for the corporation. If he were to know this, he might realize that the blue Buick does not belong to Mr. Jones. That factor, that Mr. Jones works undercover, renders Mr. Smith's belief false, or at least unjustified. Mr. Smith does not have access to that factor which is relevant to the truth or falsity of his belief. Yet, to prove that Mr. Smith's belief is false, *someone* must have access to that factor: the reader. Thus the reader is given a privileged view of the situation, a view which is not reflective of the reality of the situation. The point of the example is that we may be in the situation of Mr. Smith, yet for the example to show this, it must place *us* outside of Mr. Smith's situation, something the example attempts to prove cannot be done.[7] Therefore, Gettier examples are not reflective of actual situations, yet their force relies on their supposedly accurate reflection of reality.

Using these examples, I have tried to point out the difficulties involved in intuition pumps. Although I stated that intuition pumps are meant to appeal to the imagination to produce intuitions, rather than to reason, I do not mean that reason should not be called on to judge an intuition pump. In the examples I have given, it can be seen that the resulting intuitions are illegitimately solicited by the assumptions at work in the examples. This is not to say that all intuition pumps are traps for our imagination, or that there are

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[7] S.G. Schreiber, "The Illegitimacy of Gettier Examples," METAPHILOSOPHY, Vol. 18, January, 1987.

no cases in which they may be helpful in establishing a point, but that intuition pumps should be approached cautiously with an eye for possible oversimplifications, and an attempt to uncover the underlying assumptions involved.

Saint Anselm College
Manchester, New Hampshire

Some Reflections on Contemporary Epistemology

Olaf Tollefsen

One might characterize contemporary epistemology as an attempt to steer a course between extremes; say, between the extremes of skepticism/relativism on the one hand, and foundationalism on the other, or, alternatively, between "metaphysical" realism on the one hand, and thoroughgoing conventionalism on the other. Other oppositions may also suggest themselves, but what the debates about these issues also suggest is that the navigation of the waters in question has proved far more difficult than expected. Fablism and antirealism, although adamant in their rejection of epistemological absolutism, seem always to collapse into one or the other version of skepticism or conventionalism (if the two are to be distinguished). The middle course seems difficult to steer.

There are, of course, a great many reasons that might be (and have been) advanced to account for this, but in the present essay I shall argue that the best account is the simplest: there simply is no middle course. There is no place to stand between skepticism and foundationalism, between realism and conventionalism. In making the case for this thesis, I intend to follow the very useful idea Mary Mothersill applies to her analysis of philosophical aesthetics in her *Beauty Restored.*[1]

Mothersill argues (to be brief) that if inquiry is to succeed, it is crucial that it begins with the right questions, with what Mothersill calls the "primitive" questions. These questions arise because human beings consistently find in their experience certain facts or states of affairs that raise those primitive questions. Two easy illustrations are at hand. In ethics, the primitive questions are, "What should I do (now)?" and "How should I live?" They arise because human beings, as agents, constantly find alternative and mutually exclusive courses of action open to them, each in its own way having some point, something which makes each desireable, thus compelling the agent to ask what really is to be done (now, or in general). In aesthetics, the primitive questions are "Why is this work of art good, and in what way(s)?" and "What is it that makes works of art good?". These questions arise

[1] Mary Mothersill, BEAUTY RESTORED, (Oxford: Clarendon Press, 1984). esp. p. 72

precisely because human beings repeatedly find that particular works of art are good, and impressively so.

Now, note that in both cases if this primitive or foundational experience is lost sight of in the inquiry it generates, the inquiry will go astray, for the very legitimacy or validity of the foundational experience will itself become a matter of doubt, and when that happens, the inquiry looses its order; which question or questions are taken as central in the inquiry becomes a matter of convention or even personal preference. The inquiry then becomes disordered, and is characterized by long and vigorous but largely fruitless debates (one need only think of all the papers written on the questions of why one ought to be moral). I want to suggest that this is that state of contemporary epistemology, that it is in a state of disorder, because it has lost sight of the foundational or primitive questions that generate epistemology.

Of course I can't make that point by simply pointing to what anyone will immediately recognize as the relevant foundational experiences for epistemology. If it were that easy, it would have long since have been done. Epistemology has been with us for some time-it was already in bloom when Plato set out to answer the Sophists-and has generated a very large set of difficult questions: the questions one tries to cover in a survey course, so that the student will have a rough but broad knowledge of the field. Philosophers debate the relative centrality of those questions, so any claim that some set of experiences are the relevant foundational experiences for epistemology is sure to beg the question against someone's thesis about human knowledge. The trick here, I want to argue, is to figure out which questions ought to be begged, and which must be confronted and answered.

But why should it be legitimate to beg any questions? Well, we can divide the questions that are typically grouped as belonging to a certain field of study into two kinds: those that are questions about the possibility of the inquiry, and those that presuppose the possibility of the inquiry. Questions of this second sort are usually asked in great number before questions of the first sort are, for it is often the difficulties in answering questions of the second sort that make people wonder whether there really is any point in trying to answer them-maybe the whole enterprise has been misguided from the start. Now, notice that when one is asking and trying to answer questions of the second

sort, one has for all practical purposes set aside, at least for the sake of further inquiry, questions of the first sort. This happens, if I am right, because the foundational experiences that generate the inquiry seems unproblematic. In epistemology, it comes to this: one doesn't worry about whether knowledge is possible at all if one is going to do epistemology, i.e., one begs the question against the skeptic. One doesn't worry that perhaps in the end the whole enterprise has been a mistake from the beginning; if that really were one's worry, one wouldn't do epistemology, i.e., one wouldn't be trying to understand and give an account of the relevant foundational experiences. One would instead be busy trying to understand and give an account of skepticism as a philosophical phenomena-a very different sort of enterprise.

Now, my contention is that contemporary epistemology has gotten these two kinds of questions dreadfully muddled, and has gotten rather silly as a result. Since time does not allow me to make a case for this thesis by examining all the relevant examples, I'm going to concentrate on just one, but it illustrates, I believe, just how the two questions have been muddled.

To do this, we need to look first at some very mundane facts about how we think and talk. Ordinarily, if we claim to know something, we think that we have some sort of grasp on the way things really are, that our beliefs about the world are more or less in line with the way the world actually is. We don't worry too much about how this could be so, it seems that we are able to distinguish fairly regularly, at least in some departments of human affairs, between what is true and what is false. How we can do this turns out to be more than a bit of a philosophical puzzle.

Let's consider just on relevant difficulty here. One's beliefs, whatever they are, seem to be radically different sorts of things than the things about which they are beliefs. My belief that the rock in my back yard is grey doesn't seem to be anything like a grey rock. To put the matter crudely, meanings and physical objects seem to be worlds apart ontologically. And this simple observation leads, quite easily, to asking whether the two types of things really can be connected, never mind connected in such a way that there being a grey rock in my back yard just is what makes my belief that there is a grey rock in my back yard true. Now, depending on how much philosophy has corrupted your mind, you will find my last statement more or less puzzling: after all, what else could possibly make my belief that there is a grey rock in my back

yard true other than there being a grey rock in my back yard? How could anything else be relevant? What else could it mean to say that my belief in this case was true but that it didn't mean, necessarily, that there was a grey rock in my back yard? And yet, that is precisely the direction in which contemporary epistemology has gone, getting the cart before the horse in a serious way. For what the contemporary epistemologist has done is to call into question that it is the grey rock in my back yard that makes my belief that there is a grey rock in my backyard true, and he has done so because he can't see how that could possibly be the case. More precisely, he takes his failure to find an adequate explanation of the relevant phenomena to be good grounds for supposing that the relevant phenomena-his explandum-isn't really there after all. The explanations fail because there's nothing to explain.

In making this move, the contemporary epistemologist commits himself to skepticism, even if he doesn't want to. For he has really ceased to do epistemology, and has slid over into something quite different, something I would like to describe as testing the limits of the philosophical dialectic. I take this to be a very part of the philosophical enterprise, but I also think that it is crucial to be clear that it is a different part of the philosophical enterprise than epistemology, or, for that matter, ethics, or aesthetics. It is a different part because in the end it has a very different subject matter than any of those other parts of the philosophical enterprise: its subject matter is philosophical inquiry and argument itself. It is dialectic about dialectic, about the foundational facts and experiences of philosophy itself. And those are in some important ways different from what one is studying when one is trying to understand how it is possible that the grey rock in my back yard is what makes my belief that there is a grey rock in my back yard true. In short, metaphilosophy and epistemology are different critters, and confusing the two has very bad results.

Why this is so is perhaps clearest if we realize that when one confronts skepticism, one isn't doing epistemology; the nature of human knowledge isn't the issue at all. When one confronts the skeptic, one is not engaging in some sort of mutual effort to get at the truth, to understand what human knowledge really is. No such project is compatible with skepticism. Any skeptic who has not left himself open to an easy self-refutation (by claiming to know that no one can know anything) has given up doing

philosophy and has settled for persuasive rhetoric; nothing else is possible (assuming, for the sake of charity, that even persuasive rhetoric is possible). He has no arguments to offer that he takes to be rationally compelling in any way, no truths he expects any evidence can warrant, and so forth. All he can hope to do when speaking to someone still caught in the belief that knowledge is possible is to undermine that belief by uttering what another individual might take to be an argument, but which the skeptic takes to be no more than mere words. After all, there isn't anything else if you're a skeptic. Now, note the crux of the matter: once one entertains the possibility that skepticism is a philosophical position on the nature of human knowledge, epistemology is dead, because to entertain that possibility is to adopt it. Once one has opened the question of whether it is possible to know anything, one has answered the question, for if one is uncertain one knows anything, there is no ground on which to show that one does. If there are no premises one knows to be true, there are no arguments with rationally compelling conclusions. Indeed, there are no arguments at all, since even the very rules of logic are themselves without any final warrant. Yet it is just this that contemporary epistemology regularly does. In it's post-positivist horror of foundationalism (which it seems to understand only by reading all foundationalists by way of Descartes), it is fully prepared to search for some alternative to a rational epistemology. Thus the contemporary epistemologist, when he raises skeptical questions about human knowledge, has already lost the battle. He can't do epistemology, but only a very sophisticated kind of rhetoric to disguise, or make attractive, as the case may be, the skepticism into which he has fallen.

He would not fall into that skepticism if he dept his epistemology and metaphilosophy straight. It's perfectly reasonable to ask what's wrong with skepticism (I've been doing it all my life) for the sake of understanding what is and isn't a sensible metaphilosophical position to hold, for the sake of knowing just where one can't tread philosophically without dismantling the whole enterprise. But that's not epistemology, and if one thinks it is-if one thinks, as the contemporary epistemologist so often does, that the question of skepticism is an epistemological question-then one is lost.

I said at the beginning of this paper that the reason I would offer for the difficulty in finding a middle ground between foundationalism and skepticism was that no such middle ground existed. It should be clear from

my analysis why I think this is so. Once one considers skepticism as an alternative position to take on the nature of human knowledge, one is a skeptic, and out of the philosophical ballgame. The middle course contemporary epistemology has tried to follow is the end of an illusion because one cannot escape skepticism from within skepticism any more than one can ask pertinent questions about knowledge from within skepticism.

St. Anselm College
Manchester, New Hampshire

Olaf Tollefsen

Dr. Olaf Tollefsen, Professor of Philosophy at St. Anselm College, died on September 13, 1989, in his home in New Hampshire, surrounded by his wife Maureen and their seven children.

Born in New York City, Tollefsen was educated at the University of Scranton and Georgetown University, where he earned his Ph.D. in philosophy with a dissertation on "Verification Procedures in Dialectical Metaphysics," a work on F.H. Bradley and G. Marcel. His director was Germain Grisez. He taught at Mt. St. Mary's College in Emmetsburg, Maryland, before coming to St. Anselm in 1975. He also taught part-time at St. Joseph's College, Philadelphia, at New Hampshire College, and at the Merrimack Valley Branch of the University of New Hampshire.

Tollefsen's publications reveal his broad interests and expertise in many areas of philosophy--including ethics, theory of knowledge, aesthetics, and the philosophy of religion. He co-authored *Free Choice* with Germain Grisez and Joseph Boyle. This work, widely regarded as a major contribution to the debate between determinism and libertarianism, shows that all determinist arguments are ultimately self-refuting. In Tollefsen's writings on ethics, he argues that any adequate moral theory must be based upon certain self-evident principles concerning those goods which are fundamental to human flourishing. In his article "Crosby on the Origin of the Prescriptive Force of Moral Norms," he rejects the divine command theory of morality, arguing that to describe man's relationship to God only in terms of obedience is inconsistent with a fundamental good at the heart of Christian doctrine, man's friendship with God. In "Practical Solipsism and Thin Theories of Goods," Tollefsen argues that any moral theory which fails to recognize fundamental human goods, appealing instead to common human needs, also fails to provide objective criteria for right action. He identifies aesthetic experience as one of these fundamental goods. In much of his work on the philosophy of art, Tollefsen shows that art has intrinsic value precisely as art. For him the value of art lies not in the truth happens to express but in its very aesthetic excellence. In his paper entitled "Realism, Art and *Republic* Book X," he rejects the Romantic tradition's view that art serves as a vehicle for truth. He rejects Romanticism as an obstacle to clear-headed thinking and as a degradation of the real value of art. In his epistemological writings, he

shows that, like the determinists's arguments, the arguments of subjectivists and skeptics are self-refuting.

At the time Dr. Tollefsen became ill, he was writing a book on aesthetics, coauthoring a fantasy novel with Dr. Johann Moser of the St. Anselm English department, and doing research on Kant's conception of practical reason.

Possessed of remarkable stamina, he also found time, while a full-time member of the St. Anselm Philosophy Department, to serve as Director of the Summer and Evening School. Among the many awards and honors recognizing the excellence of his scholarship and teaching were several Summer grants from the National Endowment for the Humanities (one for an institute on ethics, the other on the philosophy of science), an NEH Bicentennial Grant, the Presidency of the Northern New England Philosophy Association (1987-88), the Presidency of the St. Anselm Faculty Senate, and the AAUP Award for Excellence in Teaching.

A devoted husband and father, he was married to Maureen (Foley) Tollefsen and was the father of Christopher, Eric, Jenna, Ian, John, Sarah and Maurya Tollefsen.

Endowed with a remarkably keen intellect and a deep commitment to the pursuit of wisdom, he will best be remembered by his academic colleagues and his students as a genuine philosopher. The comparison to Socrates, often made during his life, is fitting: in his habit of asking searching questions, his intolerance of sloppy thinking, his suspicion of conventional views, his constant focus on what is essential in a dispute, and his dogged pursuit of an argument to its logical conclusion, he offered to students and colleagues an exceptionally high standard for the practice of the intellectual life.